

Typological research in the architectural practice

How can methods of architectural typology be recognized in the research process of my graduation studio and what is the relevance of type for the architectural practice today?

ABSTRACT

This thesis will explore the epistemology of typology through analysing the writer's personal studio research. It encounters the studies done during the Heritage graduation studio analysis on the former military base of Hembrug, where the historical value debate lied within the frame of geometrical and spatial relations, and how the tools of type could aid in this design approach. Through this thesis the methodology of typological research is examined, in order to investigate how the particular method formed the outcome of the given inquiry. For this, scientific theories, developments and lectures on typological research were studied, in order to form an individual position that will discuss the relevance of type for today's architectural practice.

I INTRODUCTION

The practice of architecture requires you to make well-informed decisions in a short timeframe. Conducting practical methodologies in architecture can provide assistance with making these quickly informed design choices, such as heuristic techniques. A definition of the term according to the Oxford dictionary explains; Heuristic; Enabling a person to discover or learn something for themselves.¹ These techniques are not optimal, but already give you a good indication on how to address given problems. Further research informs that a heuristic technique can be described as a mental shortcut. Shortcuts that are based on an uneducated guess, an intuitive judgment, or by simply using common sense in order to make a scientific jump. Jumps that will help us make informed design choices in a short time frame, enhancing the efficiency of the architect. However, it has to be understood that heuristics are not optimal, rough assumptions based on intuition to speed up the process. It is not scientifically proven and therefore it has to be considered to communicate this acquired knowledge.

Secondly, it is important that there exists a universal system for collecting and presenting knowledge. A universal methodology that can help extend knowledge on a global scale in an effective manner. By all means, our science is still a human construct, that is based on truth. It's about what we believe, and we build on what we consider is the truth. A question that arises is when can we say something is the truth? Epistemology, a philosophical term derived from the Ancient Greek addresses this question; "What makes justified beliefs justified?".² Belief, which is based on a global system of gathering and presenting the ontological (what is a thing?) findings. However, one could say that our world is based on a paradigmatic perspective, because our truths are based on coherent models and theories created by our beliefs; defined as truth. Given facts, for example "the earth is round" can always find a better or more precise description. Therefore, the expansion and gathering of knowledge never stop, as it is always open for discussion when confronted with new beliefs.³ The practice of architecture, but naturally all professions gain benefit through a global organized system of gathering and presenting knowledge, as it helps us bring these practices further while being enforced with a scientific explanation.

The courses on Architectural Research Methods have been of importance as it helped to explore and broadened my view on the global procedure of gathering and presenting knowledge. Moreover, a thorough study has been done into investigating the theory on typology. Therefore, the course and readings on Research Methods in Architecture also helped me gain new insights that could be applied for the graduation studio, as well as it proved a beneficial understanding of informed design approaches. Additionally, I have also been fascinated by the readings on Finnish architect J. Pallasmaa's book "The Eyes of the Skin", and K. Haviks reading on "Urban Literacy", which helped me understand the importance of the narrative and power of words and imagination that can help give structure to your project. They also helped me explore the role of architecture and the environment and its influence on the human senses through experience. Our practice focusses on the sight but often neglect the other senses. The site I am investigating for my graduation studio, a natural environment within a zone of industry, can take benefit from unlocking those senses if transformed correctly.

Nonetheless, the practice of Heritage based design also leans on a strong methodology, considering the cultural assessment. Heritage, a form architectural assessment that is a relatively young practice, will result in strong starting points that can be taken into account for a transformation of the building. A key approach towards Heritage based design is the extensive research taken into the historical, conceptual and technical backgrounds of a building or area. This approach serves as a 'research-based' design method that is scientifically appropriate when applied according to the given cultural research methodologies, such as prescribed by W. de Jonge.⁴

¹ (Oxford Dictionary 2018), accessed on nov 16th, 2018

² (Steup 8 September 2017)

³ Architectural Research Methods lecture week 01 on Heuristics

⁴ (Kuipers en de Jonge 2017), p. 99

The challenge of the Heritage studio design research lies in the objective of the transformation of a former military area in the Netherlands called Hembrug, which bears a lot of historical value although it will have to adapt towards a new program. So what do you preserve, and where can you extend? And how far can you go without losing the historical character and qualities? A more thorough description of the conducted studio case study is given in the Appendix.

One of the important aspects that came to recognition during this study is that structures built around 1900 contained a similar pitch-roofed shape, built according to Neo-Renaissance architecture. This is opposed to the structures built around the 1950s, with a completely different form, containing a concrete structure allowing for large space and light, recognized by a shell-roofed shape. This idea of typological recognition by generation interested me in the importance of typology because when considering the new transformation of this zone, it is important to think about the typology of the “next generation”, in order to maintain a historic continuity. Attempting to solve this research challenge it intrigued me to investigate the origins behind this epistemological concept of typological research and what the episteme of typology means for today’s architectural practice. Therefore, an attempt will be made to answer the following research question:

How can notions of architectural typology be recognized in the research process of my graduation studio, and what does the theory mean for architectural practice nowadays?



Figure 1: Historical continuity by typology in the Plofbos, Hembrug terrain Zaandam

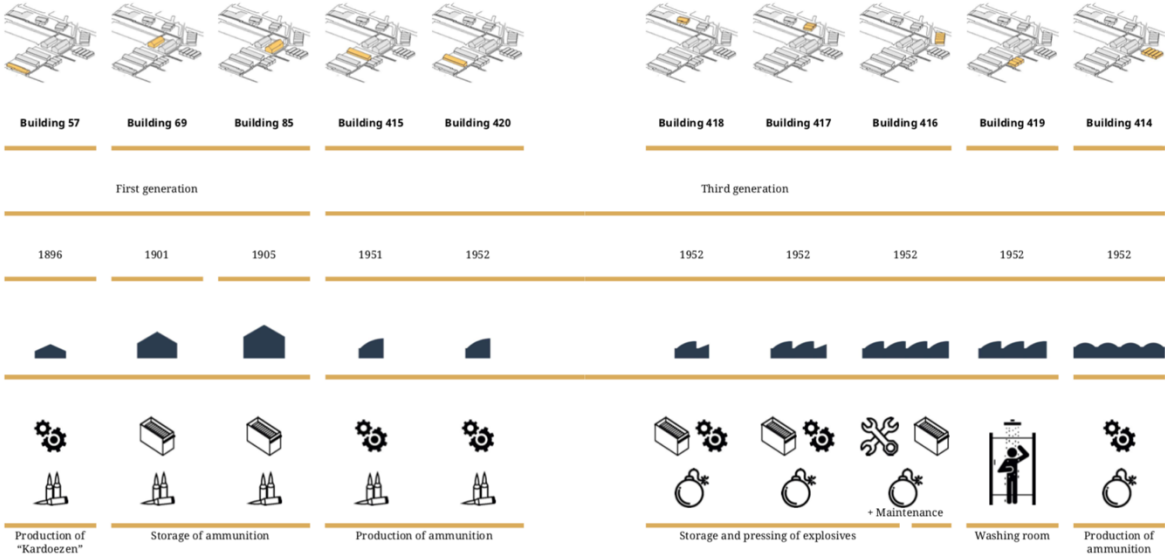


Figure 2: Typological study and relationships of the Hembrug area



Figure 3: Types of natural spaces on the site.

II RESEARCH-METHODOLOGICAL DISCUSSION

In order to describe my graduation research approach, I will have to go back towards my first visit in Hembrug where I started gathering my first impressions. We were asked to not only make photographs, but also to sketch many quick drawings of impressions and diagrams. This is important, because perspective drawing not only describes, but conditions perception, according to J. Pallasmaa.⁵ What is meant by this is that when you draw, you sketch the relevant forms and objects. The scene that is defined by the important elements which you observe. It is completely different that redrawing a photograph from behind your laptop, taking all the time to add the irrelevant details, and therefore of huge contribution to your analysis. What can be concluded is that the first part of this research has been done according to a context-led approach. Through analysis, site visits, sketches, diagrammatic thinking, ontological findings could be presented. This led to the accumulation of observations, patterns, elements and historical perspectives, ready to be assessed: *what do you want to preserve, and why?* Relations and differences between architectural form, program, elements, but also spaces and their relations were studied (fig. 2). In this stage, the idea of typology acted as an organising tool in order to find their corresponding qualities and differences and how that contributes to the area as a whole. Also important during this analysis is, in order to value the cultural importance of these observations, the application of architectural strategy tools for conservation was applied, e.g. the Heritage Value Matrix.⁶ With this method, aspects on both the macro, meso and micro scale are assessed in order to define how valuable a certain element is. Undertaken heritage-based methodologies are served as a principle source of 'research-based' design, as they critically reflect on the original design intent in order to make use of what is offered by the building. The second phase of the graduation studio involved the proposition of presenting a new program for the existing site. The existing architecture has to be transformed into a new type of dwelling. The concept of younger generations living together with elderly brought me to the concept of Kangaroo housing. An architectural typology providing rules, configuration and aspects to take into account for the design but by no means creates a geometrical example that should be imitated. The type supplies ideas and concept, which considered uses of practice that can be translated into your own design. Therefore, typology performed as a reference tool, rather than a solid example to be imitated.

⁵ (Pallasmaa 1996), p. 16

⁶ (Kuipers en de Jonge 2017), p. 88, 89

When observing the research that was taken during the analysis one can recognise that typology was used as an organisation tool, as a coherent categorisation of buildings, their elements, the types and identities of their surrounding spaces were created. This was all investigated in order to find relations or differences which were later translated into written descriptions or diagrams that formulate a comparison in order to achieve a better understanding of the underlying principles. During the second phase of the project a program was chosen. In this case elderly-proof housing, creating architecture that allows elderly to live independent for a longer time, using younger generations to assist them with small chores or social control. One of the first steps taken during this stage were studying references such as Kangaroo housing or family court concepts in order to learn from given examples. This method of reference study can also be considered as a form of typology, as it acts as a reference tool that enriches knowledge which can be used for future design. Geometrical translations of practical uses are given as evidence that such translations can work. However, this practice is also where one of the main critiques on typology emerges. It is important one should not become 'blind', which means that a typological study should not merely become the act of an exact imitation or copy of the given reference, as architects should always endeavour uniqueness. The theory on typology helps us to recognize and discover basic types of the built environment. Understanding the matter of typology and types helps us architects to see the differences and similarities among architectural elements.

Moreover, it should be emphasized that the analysis of the studio research has acted upon an etic approach, which is described by R. Lucas as a study of how architecture operates in the world by taking the role of the observer. Analysis is based on single interpretations of site visits and a thorough translation in the office. In this method, the culture or activity in question is studied from the outside, instead of a person placing himself within the studied context for a longer period of time which will result in different outcomes of the study.⁷ Observations would have differentiated when acting upon the emic approach, truly understanding what it is like to live in Hembrug for a longer period of time.

Readings by historical writings on the discipline of typology, such as Pevsner, Durand and Quatremère will be studied in order to understand the origins that formed the concept of Typology. First these typological concepts acted as an important methodology in the field of architecture, as a classification system for buildings. Additional readings by Rafael Moneo and Nicolas Pevsner have been studied, who both share their opinions on the matter of typology. Lastly, this study is consults writers of the modern day such as S. Jacoby and W. Oechslin in order to understand where the relevance of this concept is heading towards, as well as it seeks to attain insights and knowledge given in the presentation on Typology.

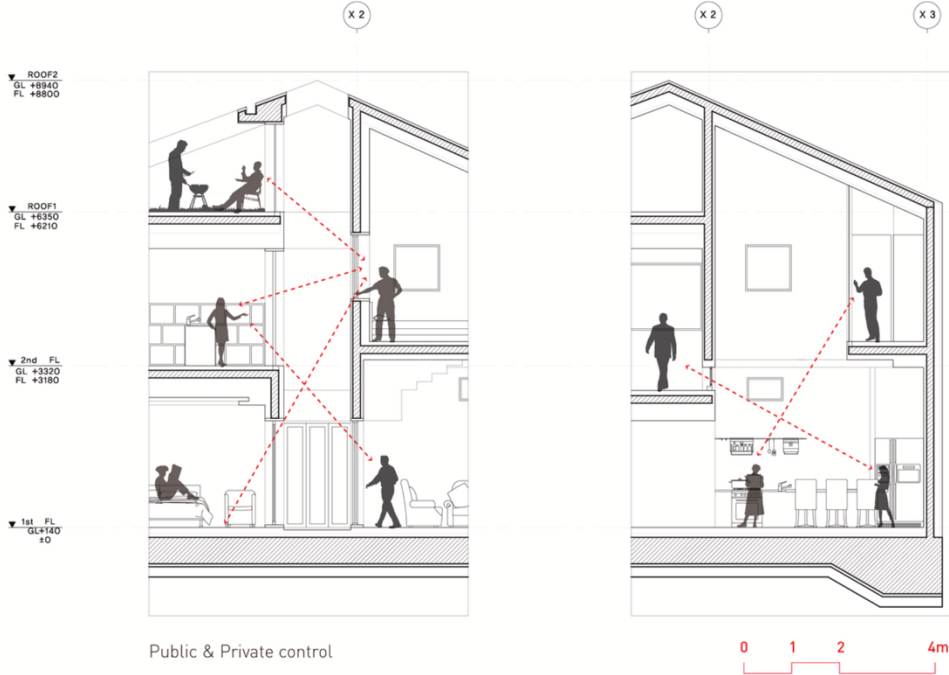


Figure 4: Typological reference study into Kangaroo housing concept. By Hyunjoon Yoo Architects, South-Korea

⁷ (Lucas 2016), p. 10

III RESEARCH-METHODOLOGICAL REFLECTION

The following paragraph will endeavour to summarize the developments in the theory of typology through the writers own comprehension, up to the point of present day theory. This is done to gain a better understanding of the matter on typology in order to form an individual position on the case.

First a brief definition of the term Typology, which is derived from the Ancient Greek word tupos, meaning the logic of types. Oxford dictionary further explains: *The study or systematic classification of types that have characteristics or traits in common.*⁸ In architecture the concept of typology is used as a classification system in order to distinguish buildings from each other based on their form and functional traits, such as how a warehouse differs from a hospital. However, the concept of typology can be recognized in many professions, and can be seen as a metaphor for the categorisation and relationship between certain elements. The term is often described as an assistance tool for architects, allowing for starting points so architects would not have to reinvent buildings from scratch.⁹ Jacoby describes the term as a classificatory study of buildings with shared functional and morphological traits. A formulated description on the theory is given by Spanish Architect R. Moneo, stating that a typology is distinguished from another when it differs in one of the following elements; function, organization, character and history. Together they form a unique combination; a typology. When a new set of given formations is found, a new typology emerges.¹⁰ However, this description on typology can be considered very limiting and raises critical thoughts on how this theory should be considered, which will be approached further in this paper.

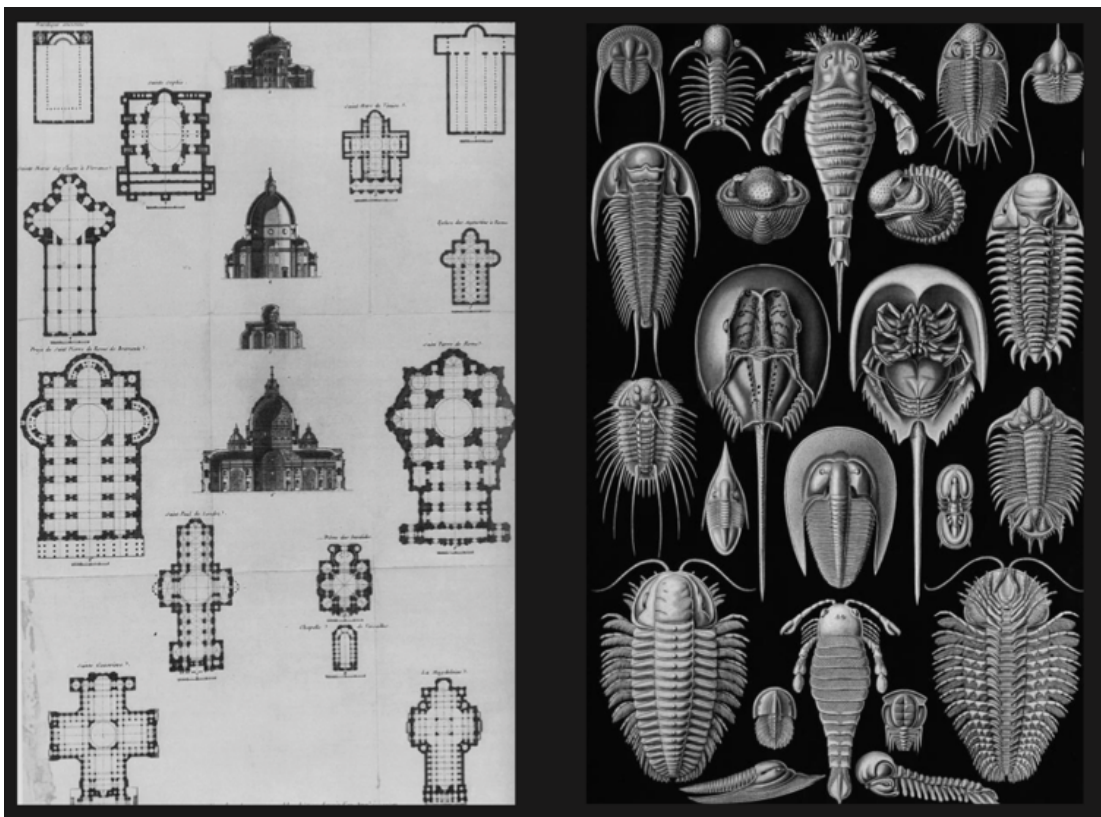


Figure 5: History of different forms of the plan the Christians gave to their temples by D. LeRoy, Right: Comparison study between relationship of Natural elements and imitations towards architectural form, E. Haeckel (1904).

⁸ (Oxford Dictionary 2018), accessed on nov. 23rd, 2018

⁹ (Scheer 2010), p. 66

¹⁰ (Moneo 1978), p. 28

It is necessary to study the historical developments on the theoretical practice of typology, in order to understand the relevance of the theory today. Historian and critic A. Vidler, described three stages of the theory over history. The origins of the concept date from the Age of Enlightenment (1750-1860), a time of rational philosophy. Imitations of nature defined the general form, structure and character, that distinguished a type from another. Natural laws became the starting points for the design (fig. 5). Imitation was the basis for invention, meaning it assembles the constructive, formal, functional and ecological principles from nature into architectural design.¹¹ Durand was the first architect to make a relation between architectural configuration and its economic limitations; stating that it would reduce the geometric form. These thoughts can be seen as the foundation of the second period; the modernist ideology. Here, mass production formed the model for architectural design. The standardised repetition of type became anti-specific and globally applicable, which had a negative impact on the necessity of type. The significance of type was lost, and became a stereotype instead.¹² A brief study in the etymology of the word explains further; stereotype is derived from the Greek words 'typos' and 'stereos', meaning a stiff, rigid or inflexible type; unappropriated for alternations. O Bohigas explains stereotype as an instrument of type that is conceived as a supply of certain model forms.¹³ It discourages the emergency of creating new formal structures, and allowing no space for architectural creativity. The study of the context and the unique is here often neglected. To underline the problematic modernistic conception of typology, it is important to understand the difference between type and model. Quatremère described it as *"A type does not present so much an image of something to be copied or imitated exactly, as the idea of an element which should itself serve as a rule for the model."*¹⁴ A model should be repeated as it is, whereas a type can conceive works of art that may have no resemblance at all. Therefore, a model is precise and given, while a type is metaphorical entity, such as a concept or thought. For Quatremère, the 'type' is the idea or symbolic meaning that is embodied in an element, an object or a thing. It presents a rough idea of something to imitate, which allows for creative development while continuing in the domain of the typical. Modelling on the other hand, is a conscious attempt at systematization of concepts and relations.¹⁵ Quatremère already stressed the importance between both differences in the 18th century. We should understand the notion of type and its difference from model in order to understand how it can contribute to form character, identity and resemblance of time so it can push architecture further, instead of limiting the practice in a stereotypical prescribed world.

However, the theory on typology reclaimed its significance during the Neo-Rationalism in the 1960's. Italian Architect A. Rossi introduced the methodology of typo-morphological analysis, where the idea was established that a typology should emphasize the continuity of form and history, something that was lost in the former modernistic period. According to Rossi, this continuity can be established by underlining the relationship between the element and the whole. Instead of focussing on momentary differences such as historical periods, economics and former function, similarities were investigated.¹⁶ This focussed on the permanent, the character of the city through comparing study of urban form. He rejected to divide history into pieces, because by doing so it would lose the universal and the whole. Rossi also separated typology from the famous statement Form Follows Function, as he argued that function is independent of form.

This historical summary by no means covers the complete theory on typology but sought to provide a good comprehension of the topic. While the theory on typology has undergone quite some developments on the theory over the years, it is aimed to focus on how the developments on typology have proved not to be completely irrelevant for today's practice. Typology is still widely used today, and classification systems still helps to determine specific design choices, regulations as well as they can provide guidelines and examples for new designs.

¹¹ (Güney 2007), p. 7

¹² (Gregotti 1985), p. 510

¹³ (Bohigas 1985), p. 509

¹⁴ (de Quincy 1788), p. 155

¹⁵ (Noble 2000), p. 157

¹⁶ (Rossi 1982), p. 22

IV POSITIONING

I agree with Oechslin on how misunderstood the theory on typology sometimes is conceived; *Typology is merely an act of a collection of buildings, ordered in neat rows, distinguished between form and function.*¹⁷ It is important to highlight that typology is not a concrete tool, but rather a metaphorical understanding of a conceptual classification, organising relations between given objects. Typological relations can be recognized in anything; it is not bound to just buildings. Whether it be foam-model studies or laser-cut models, or ways of sketching, such as perspective drawing, diagrammatic thinking and so on, they all can be considered as different forms of types. They can be considered as the same element although they distinguish themselves in the specific, and bring different qualities within them.

During the talks on typology, the urban redesign of Casablanca by the GAMMA movement in 1953 was discussed. In this case, the modernistic architects attempted to revise their design approach by integrating anthropological knowledge to the design method. Specific living conditions were studied relating to migrants that lived in self-made huts before. Anthropologically, the status of living conditions was misrecognized and turned out to be much more complex in order to assign appropriate space and architecture to the case. A typological ideal would have never provided proper architecture for this specific target group. What we can learn from this case is that the problem of modernisation, with standardised production and following ideal models of modernistic urban planning proved that it can't be forgotten to design site specifically. A type is not a method of prescription that should be copied or imitated exactly, as it would not provide the necessary solutions completely for the given case, because every place in the world is unique and demands different solutions. De Carlo stresses his critique on this matter by calling it the stereotype, a misrecognition of type that contains no variations and is formed by a reproduced design.¹⁸ The context, target group and site specific problems that it brings with it will always have to be considered and it will eventually result in unique, creative and accurate solutions. As W. Oechslin argues is that standardisation and typification neither improved our living environment nor that it helped the architectural design process.¹⁹ Type should not be applied in a global way, because creative freedom, context and site specific circumstances become merely integrated in the design. The typological theory should not be a matter of simplification or standardization, but instead be an intelligent reciprocal construct of the limitations of architecture.²⁰

However, that does not mean that typology is irrelevant as of today. Typology did prove to be beneficial for my studio research, it just needs to be understood how to be applied as well as it is important to be aware of the limitations of typology. While there is much knowledge to be distilled from typological references, the design always needs to continue and to be assessed to the contextual circumstances, because only then architecture can become of practical significance. Utilizing the theory of typology should be considered as a design starting point, acting as knowledge that will provide the architect design strategies by being informed on how different problems were tackled in the reference, rather than typology formulating a design outcome, oppressing the creativity of the designer. Only then significant architectural design can be developed that can also push the knowledge on the architectural discourse further. Therefore, it is stressed to find a right balance between research (the study of existing typology) and the research through design (testing contextual conditions in order to fit typological elements into the case), only then typological research can push results into better architecture.

¹⁷ (Oechslin 1986), p. 51

¹⁸ (De Carlo 1985), p. 46-52

¹⁹ (Oechslin 1986), p. 39

²⁰ (Oechslin 1986), p. 51

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Appendix

During the Heritage and Architecture graduation studio the challenge is taken upon transforming a former military base by the name of Hembrug. A site that has only recently been opened for the public, full of historical remnants to explore. A district of unique character and space to discover, all which are formed by strict military design choices. The Hembrug district is characterised by a dense industrial area, consisting of large compact buildings, built for logistic efficiency of ammunition and weaponry production, and the contrasting forest area surrounded by it.

My case rests on the transformation of this former military test site and explosive storage zone, by the name of the Plofbos. A space that contrasts tremendously to the surrounding industrial zone, with diluted plots, buildings under the trees, small in scale, open space in between the buildings. Even the shape of the buildings would steer an accidental explosion into the woods, and canals were laid out, acting as fire compartments. Open spaces were planted with trees to reduce the impact of shockwaves occurring in the military test zone, and earthen walls would protect buildings containing highly dangerous storage of material. All design design so that in case of an emergency, the risk of impact was reduced. This highly intentional military design for risk management now brought (a 100 years later) some highly unintended qualities with it. Qualities of a natural environment, a restful ambience in the hearth of the Dutch's 20th century military base, filled with historical evidence. This unique setting to me is very interesting. Because the Plofbos itself, while contracting so much with the industrial zone, it is formed upon not just one single space, but the accumulation of many different types of space within this zone (figure 1 and diagram I).

It is the role of this experience of transition, together with the presence of historical evidence and recognition of building typology by generation, that makes the Plofbos interesting and unique. It is the objective to preserve and enhance that role of experience in future redesign. What intrigued me about this area is that it is not only the role of vision that defined the experience of the area, but also the elements that unlocked the other senses that were at play.²¹ Therefore, it is the challenge to understand the role of the spaces towards the human senses accordingly. Characteristically for this research is the relevance of types, to be recognized both in architectural as in natural elements, which have intrigued choosing the topic of typology.

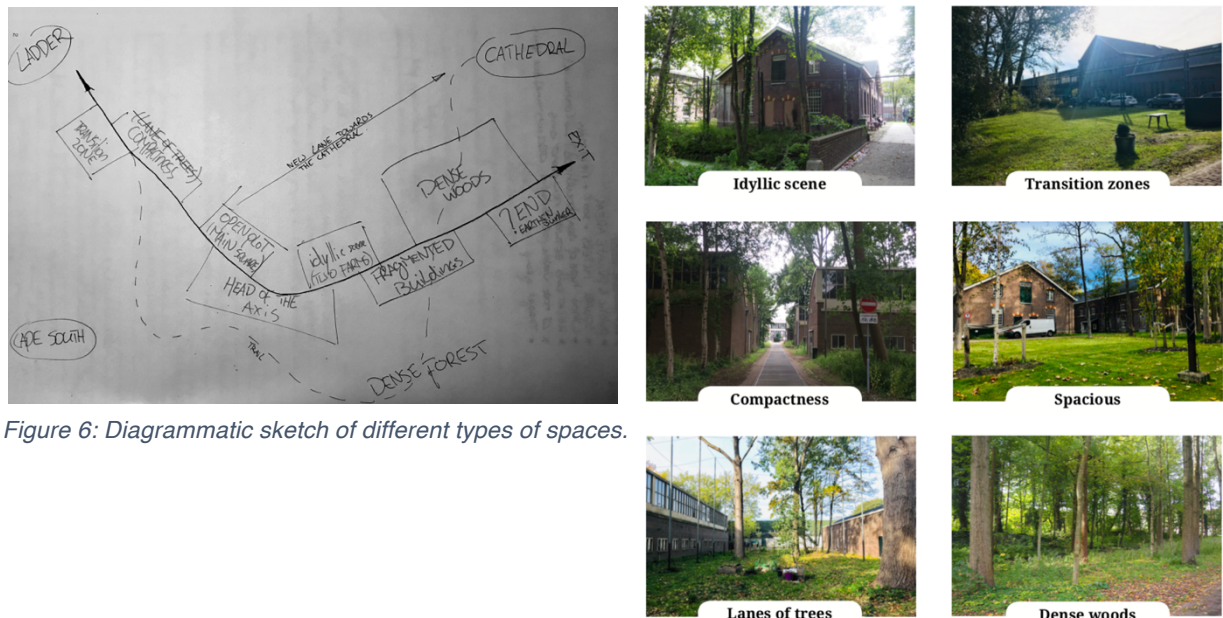


Figure 6: Diagrammatic sketch of different types of spaces.



Figure 7: Photographs of the different types of space in the Plofbos.

²¹ (Pallasmaa 1996), p. 16