

TYPOLOGIES: BEYOND CLASSIFICATION

The value of typological research for the design of family housing in high-rise

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I INNOVATIVE WAYS OF HOUSING FAMILIES

Every building is unique. When architects start the design of a new building, they have to take into account several specific circumstances. The particular context, special wishes of the target group and limitations on time and budget are examples which cause a large variation between projects. An effective method for designing one building, could therefore be highly inconvenient when designing another one. And even if all projects had the same conditions, other factors change over time, such as technical advancements and the increased importance of sustainability. Discrepancies, in time and space, make it necessary to keep rethinking the specific methods used for research in the design process. Subsequently, this also influences methods used when designing a building.

It is tempting to use the same method for each project. After several projects, routines start to emerge. Designs are made without actually thinking about the method being used. The Research Methods course requires students to take a step back from the gradually developed habits during the Bachelor and Master. Taking distance from the applied method, creates the opportunity to become more conscious about design decisions. Not only for oneself, but it also helps to better argue to others why certain design decisions were made. The audience has to be taken into account when constructing the research¹. In addition, the suggested methods in the course differ from the approach that was taught during former projects in the curriculum. Especially techniques to demonstrate perception, such as drawing or using literature, are eye-opening methods to do research from an alternative perspective. These realizations will be implemented in the research of the design project of the graduation studio. In former projects, my research process was not well-structured. Being more deliberate about the method, could improve the process and subsequently the outcome. Moreover, design decisions become more clear, which makes the project more understandable for the audience.

For this particular graduation studio of the chair Architecture & Dwelling, the assignment is to design housing in the western docklands of Amsterdam. The site, 'Minervahaven', used to accommodate industrial buildings, but is currently being transformed into a mixed-use environment as part of the larger 'Haven-Stad' area. In the upcoming decades, between forty and seventy thousand new dwellings are projected for Haven-Stad². This corresponds with the nationwide problem of the housing shortage. New and innovative forms need to be found to solve this problem. One of these is more inner city high-rise, on which a strong debate is conducted at the moment. Minervahaven is, due to its absence of historical buildings and high land value, a suitable location for high density high-rise. The hypothesis for the graduation project is to design housing within this building form for a specific target group: families. Families are leaving the city, despite having the wish to stay, as a result of the inability to find suitable housing. This is a problem, because of their substantial economical and social impact on the city. Therefore, the graduation project is centered around the question on how to house families in high density high-rise in Amsterdam. As residential towers are relatively uncommon in the Dutch context, especially for families, the design will need innovative solutions. Investigating relevant typologies is part of the research. In this paper, the following question is addressed: how can typological research be used for the design of a residential tower for families in Amsterdam?

II RESEARCH ON FAMILY HOUSING

To develop the design of a residential tower suited for families in Amsterdam, research on the target group and housing type is conducted, including typological research. An obligatory element of the first semester of the graduation studio is analyzing the plan of four precedents, on specific aspects related to the topic of the graduation project.

Lucas states that every research project has three fundamental building blocks; context, methodology and theory, with one of these aspects being the driving factor. Considering the topic of

¹ Linda N. Groat and David Wang, *Architectural Research Methods* (Hoboken: Wiley, 2013), 104.

² Gemeente Amsterdam. "Haven-Stad: herontwikkeling gebied." Accessed May 18, 2019. <https://www.amsterdam.nl/projecten/haven-stad/>.

families in high-rise, the research project fits the context led strategy. Within this strategy, a typical context can be set which gives an example for other circumstances. According to Lucas, the context describes the research subject, with its specific location and boundaries. Studying the context of a type, with different conditions and same guidelines, can result in the discovery of a repeating pattern. This deconstruction therefore leads to the formation of a typology.³ Housing families in residential towers is currently not common in the Netherlands. Consequently, it is not possible to research precedents of similar high-rise buildings for families in the Dutch context. However, dividing the topic into these three aspects (families, high-rise and the Dutch context) gives the opportunity to research the corresponding types and its patterns. First, most families are housed in other building forms, such as single-family homes or apartments for families. By investigating different types of housing which are suitable for families, similarities and variations can be found. Second, several high-rise residential towers exist and are currently being built in the Netherlands. However, most of these towers are targeted at one- and two-person households. Nevertheless, analyzing the typical plan of these buildings helps to understand the characteristics of high-rise residential buildings in the Dutch context, as building regulations and economic factors have a large influence on the design. Third, housing families in high-rise is more conventional in other countries, such as in Asia, Canada and southern Europe. The outdoor spaces and connections will be investigated by a plan analysis, to find equivalences in opposite contexts. Hence, by investigating these three aspects, similarities and variations can be found and consequently form three typologies.

Groat and Wang describe several research strategies⁴, of which typological analyses fall into the category of correlational research. With this type of research, several variables are analyzed to highlight a wide range of spatial correlations, resulting in the definition of types.⁵ Correlational research rather gives a broad than a deep understanding of the topic. It can provide relationships which are predictive, rather than causal.⁶

III TYPOLOGICAL RESEARCH

Typology is formed by the Ancient Greek words 'typos' and 'logos', and is literally translated as 'the study of types'. Typology is applicable to multiple disciplines, of which architecture is one of them. Sam Jacoby states that the first concept of 'type' in relation to architecture was described by Antoine-Chrysostome Quatremère de Quincy. Quatremère defined the type as a category of epistemology, metaphysics and aesthetics, as opposed to the model.⁷ The type is, according to Rossi, the idea of the architecture, touching upon its essence. The model represents and embodies this idea, and could therefore be imitated.⁸

Jacoby criticizes the way type and typology are used in architecture since Quatremère. According to Jacoby, the use of typology is mostly seen as classifying functions in a describing way, due to Neo-rationalism's discourse in the 1960's. He states that when typology is used as an analytical frame, the tool is more functional for the design. Attempts to make this shift in the use of typology have failed.⁹ Jean-Nicolas-Louis Durand's images are seen as a key figure in the discourse about typology. However, he represents buildings by their genre (e.g. function), instead of diagrams of organization and structure. According to Jacoby, Durand was therefore not dealing with typology. Furthermore, the Modern Movement eliminated the distinction between type and genre, as well as type and typology.

³ Ray Lucas, *Research methods for architecture* (London: Laurence King Publishing, 2016), 11-12.

⁴ Linda N. Groat and David Wang, *Architectural Research Methods* (Hoboken: Wiley, 2013), 18.

⁵ Linda N. Groat and David Wang, *Architectural Research Methods* (Hoboken: Wiley, 2013), 300.

⁶ Linda N. Groat and David Wang, *Architectural Research Methods* (Hoboken: Wiley, 2013), 309.

⁷ Sam Jacoby, "Type versus typology Introduction". *Journal of Architecture* 20, no. 6 (2015): 931.

⁸ Robert Alexander Gorny, "On types and Typology: A critique of typological thinking". Lecture slides, Lecture Series Research Methods, 2019.

⁹ Sam Jacoby, "Type versus typology Introduction". *Journal of Architecture* 20, no. 6 (2015): 932.

Typology was merely seen as a simplified graphic representation of the building.¹⁰ This becomes clear in the way typology is described in Leupen's and Mooij's book on the design of dwellings. They state that the types are used to systemize knowledge about past experiences, to learn from them for the future. The area of expertise about these types is called typology.¹¹ According to them, the designer makes adjustments to existing types to get to the design. A new type is constructed due to several kinds of transformations. Over time, the type may gradually evolve, causing the development of a 'typological chain'. After the first phase of transforming the type, the designer 'dresses up' the type, to provide the design with its architectural expression and unique characteristics.¹² This way of building upon types for the design may be useful. Various types may have proven to work in certain circumstances, hence are likely to work in new buildings. However, this likewise may limit creativity in the design process. Substantially new and innovative types are unlikely, as existing types are the starting point of the design.

De Moneo offers a different perspective on typology, in line with Jacoby's view. De Moneo emphasizes the importance of context: "*the architectural object can no longer be considered as a single, isolated event because it is bounded by the world that surrounds it as well as by its history. It extends its life to other projects by virtue of its specific architectural condition, thereby establishing a chain of related events in which it is possible to find common formal structures*".¹³ When dealing with typological explanations, the observation of relationships between types makes its use valuable.

Jacoby's and De Moneo's statements present the importance of context when dealing with typology. Subsequently, the examination of the connection to this context makes it possible to establish a typology. On that account, one should not only consider 'what' types are identifiable, but also 'why' these types have a certain appearance. When comparing different types, similarities and differences emerge. Detecting why these come apparent in a specific context, gives the typological research meaning.

IV THE VALUE OF TYPOLOGIES

The main question in the graduation project is the design of high-rise for families. In my opinion, typological research is valuable for the design process. However, the way this is conducted influences the added value for the research.

There is an ambition of designing a completely new and unique type. This specific housing form for the target group is an uncharted territory in the Dutch context. However, every 'new type' is probably built upon an existing type. Such types are 'prototypes', according to Van der Voordt. It is remembered as a unique and individual type, but the amount of types is immense, not all types are known to everyone.¹⁴ Nonetheless, there does not seem to be an available type to reduce to a simplified image and directly build upon, a method Leupen and Mooij advocate. First, there is only one comparable example in the Netherlands (the Familyscrapper in Rotterdam), which is currently being built and has therefore not yet proven to be successful. Furthermore, building upon existing precedents limits in my opinion the open view towards an innovative design. The eventual dwelling types in the design will probably fall into a certain 'typological chain'. However, using this as a starting point directly eliminates a large amount of potential outcomes.

The analysis of plans of existing buildings and reducing them to simplified images is part of the graduation studio. This exercise forces students to thoroughly investigate specific plans and understand its features. Therefore this is beneficial when there is little knowledge about certain

¹⁰ Sam Jacoby, "Typal and typological reasoning: a diagrammatic practice of architecture". *Journal of Architecture* 20, no. 6 (2015): 938.

¹¹ Bernard Leupen and Harald Mooij, *Het ontwerpen van woningen: Een handboek* (Rotterdam: NAI Uitgevers, 2011), 37.

¹² Bernard Leupen and Harald Mooij, *Het ontwerpen van woningen: Een handboek* (Rotterdam: NAI Uitgevers, 2011), 53.

¹³ José Rafael Moneo, "On Typology". *Oppositions*, no. 13 (1978): 44.

¹⁴ T. M. De Jong and D. J. M. Van Der Voordt. *Ways to study and research: urban, architectural and technical design* (Amsterdam: DUP Science, 2008), 103.

dwelling types. In my case, the plan analysis involved family housing in high-rise in other countries. Unfortunately, there was a low amount of newly gained knowledge, as I only highlighted specific aspects of the design. I did not ask myself why these features were different in distinct contexts, like the way De Moneo and Jacoby regard typology. This would have required me to possess knowledge about those specific contexts. Researching these contexts did not justify the invested amount of time to get to a desired outcome.

Besides family housing in high-rise, two other aspects are researched using precedents, as stated in the second chapter of this paper: high-rise residential towers as well as family housing in the Netherlands. As I have little prior experience with high-rise, investigating the plans gives more understanding of this building type. A pattern appears, as almost all towers consist of dwellings around a core. Additionally, the cores are configured in similar ways, mostly due to financial and fire safety reasons. Building upon these types seems logical, as this is a legitimate way of building high-rise in the Netherlands. Nevertheless, examining why a certain type of core was used, still remains an assumption. The third aspect, family housing in the Netherlands, faces the same problem. One can investigate floor plans of Dutch family housing, and reduce them to types. Regardless, the reason for the arrangement of the plan remains a hypothesis. Building upon these existing types may be illogical, as the sociocultural context changes every decade. For instance, most dwellings in the center of Amsterdam were built without a bathroom. As all dwellings nowadays require bathrooms, building upon these does not make sense. On the other hand, it is difficult to detect the reason for certain design decisions, especially when these are caused by traditions.

Investigating examples and reducing them to simplified images is not per se wrong. It can generate understanding of precedents and is therefore valuable. Nonetheless, understanding why types are different in distinct circumstances, gives more value regarding the use of typologies in the design process. This way, the designer can recognize the influence the context of the assignment has for its design. This is also applicable to other research methods, as understanding the 'why?' instead of only the 'what?' prevents thoughtless imitation, helps with explanation of the design and allows for deliberate decisions in the design process.

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