

DESIGNING FOR PEOPLE WITH DEMENTIA

The use of typological research during the design process for people with dementia

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I INTRODUCTION

From heuristics, social and spatial practices till the typologies and territorial scale, all different fields of the research methodological are made clear during the lecture series of Research Methods. The focus of these lectures was on the architectural design process and the practical part of designing. During the lectures of this course, similarities became clear with the course Research Seminar. Both courses explained about the difference of doing research and to become aware of the different aspects and values of research for the design. Also, both Research Methods and Research Seminar, based on the book of Richard Sennett, described two design approaches, the top-down and bottom-up approach. According to Sennett, the top-down approach was used by the designer as design approach whereby the designs were in full control of the designer. The bottom-up approach was the opposite; the users were involved in the design process. This way of designing created an important interaction between the designer and the (final) users. The role of the designers changed, from total control of the design process towards a more advising role during the design process.¹

During the lecture series of Research Methods, the bottom-up approach is a leading aspect and is connected to several (new) types of doing research. The focus was on the methodological approach, different methodologies in the design process. In a critical way, different aspects of the methodological research approach were made clear by hardly reflecting on methodological questions.²

Since the start of the graduation studio 'Dwelling; Dutch Housing', several methodologies were taken into account during the design process. For my own design, the topic 'designing for a dementia friendly living environment' has been chosen. Hereby, also the 'healthy' elderly are integrated in the design. During this design process, research is done by finding different types of elderly housing, in particular housing for people with dementia, even with intensive care. The relevance of this topic is quite interesting, because of the increasing obsolescence.³ Because of the increasing obsolescence, the need of care for elderly will also increase. According to the RIVM, 70% of the elderly from 65 years old will have chronic diseases.⁴ Dementia is part of these chronic diseases and will increase with 94% till 538.000 people in 2040.⁵ However, despite the increasement of the obsolescence and people with dementia, people are forced to live longer at home.⁶ Because of this, the architecture needs a new housing typology for elderly and people with dementia. A housing typology where they can get dementia and still life in a pleasant and safe environment. Sadly, these kind of typologies do not exist.

Nowadays, architects tries to know and imagine the wishes and needs of the target groups. However, for some target groups it is hard to imagine what they need, for example people with dementia. Besides the loss of memory, also the cognitive aspects will collapse, such as speaking, hearing and seeing.⁷ Because of this, it is hard to understand if the architects are designing in a pleasant way for the people with dementia.

During the lectures of Research Methods, several methodologies were introduced for the design process. One of these topics which interested me was the lecture about typologies of mister Gorny. The housing typology became very important for people with dementia, because they have to life longer at home. It is hard to understand their wishes and needs because of the lack of communication with these people. The role of typology could be very interesting for designing a pleasant living environment for people with dementia. For this reason, I have formulated the following research question: *What is the value of typologies by designing for people with dementia?*

1. Sennett, R. (2018). Building and dwelling: Ethics for the city. London: Penguin Books Ltd

2. Research Methods. (2018). AR3A160 Lecture Series Research Methods. Retrieved from: <https://brightspace.tudelft.nl/d2l/home/124944>

3. CBS. (2017). Bevolkingsprognose 2017-2060: 18,4 miljoen inwoners in 2060. Retrieved from: https://www.cbs.nl/-/media/_pdf/2017/51/bevolkingsprognose-2017-2060-18-4-miljoen-inwoners-in-2060.pdf

4. RIVM. (2007). Vergrijzing en toekomstige ziektebelasting. Retrieved from: <https://www.rivm.nl/bibliotheek/rapporten/260401004.pdf>

5. Alzheimer Nederland. (2018). Factsheet cijfers en feiten over dementie. Retrieved from: <https://www.alzheimer-nederland.nl/factsheet-cijfers-en-feiten-over-dementie>

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7. Alzheimer Nederland. (2018). De tien symptomen van dementie. Retrieved from: <https://dementie.nl/symptomen/de-tien-symptomen-van-dementie>

II RESEARCH-METHODOLOGICAL DISCUSSION

Describing the research process is an important aspect to be able to validate the process and the result of the produced work. By the use of methods, a certain framework can be set up for the research, while aspects and issues of this research can be explained, discussed and compared.⁸ According to Lucas, there are several combinations of context, method and theory. 'These are the fundamental building blocks of any research project, allowing you to determine which aspect is driving your work'.⁹ One of the available literature was the book *Architectural Research Methods*, written by Linda Groat and David Wang. In their book, they introduced several methods of doing research in relation to the architectural world. The most well-known and recognizable method, for me as a student, was the strategy of doing 'case studies'. Both during the graduation studio of *Dwelling Dutch Housing* and the sub-course *Research Seminar*, the 'case study strategy' was used to obtain information and knowledge about several projects. With these studies, various elements of the projects became clear and useful.

In their book, Groat and Wang described five particularly salient characteristics:

1. a focus on either single or multiple cases, studied in their real-life contexts
2. the capacity to explain causal links
3. the importance of theory development in the research design phase
4. a reliance on multiple sources of evidence, with data converging in a triangular fashion
5. the power to generalize to theory¹⁰

The case studies could have different approaches, from clarifying to describing and exploring approaches. The 'chosen' approach(es) depends on the purpose of the case study for the research and the design. Hereby, it is possible to use different approaches at the same time. It should be clear that each of these approaches has their own purpose which should protect against unnecessary and undefined results and outcomes.¹¹ The outcomes and results of the case studies could be very important. They could define some important elements of the case studies which could be important for my own design project of the graduation studio. Interesting patterns, routings or other elements, such as floorplans and housing types, of the case study projects could be implemented in my own graduation design project.

Not only the case studies are important for the development of my graduation design. Also the sub-course *Research Seminars* has its influence on the design. Different case studies were introduced for research of the projects. 'During this course, students read a series of texts and analyze some historical and contemporary case studies. The analytical method is based on deconstructing each case in different typological/morphological layers'.¹² In several weeks, different presentations and analysis were made to show the research of typologies and morphologies of these case studies. The use of this theoretical research was important to obtain information about the 'unknown' projects. This shows the value of both theoretical as practical research, whereby both aspects had their influence on the knowledge about how to design different housing typologies in an city.

This way of doing research is also implemented in the research process of the *Dutch Housing* graduation studio. On the one hand, the analysis of different case studies should give you a certain pattern or framework with architectural elements, useful for your graduation project. During the case studies, the student is searching for certain types (and even typologies) which can be used and transformed in their own graduation studio. On the other hand, the analysis of a certain typology can influence the important design questions, based on the obtained knowledge from this case studies. Both are important. In particular during the *Quick Start* week, the case studies are used to come up with an concept design, by superimposing different aspects of these case studies.

As part of this paper, some mandatory texts should be used for the reflection on the research methodology. These texts are used at the graduation studio of *Dutch Housing*, but also during the *Research Seminar* course. The most important source for this reflection will be the text 'On Typology' written by Rafael Moneo. This text explains about the historical development of different types in the world of architecture. For this paper, additional information will be obtained from the article of Sam Jacoby, 'Type versus typology' and the book 'Het ontwerpen van woningen', written by Bernard Leupen and Harald Mooij.

8. Lucas, R. (2016). *Research Methods for Architecture*. London: Laurence King Publishing

9. Lucas, R. (2016). *Research Methods for Architecture*. London: Laurence King Publishing, p. 11

10. Groat, L., Wang, D. (2013). *Architectural Research Methods*. New Jersey: John Wiley & Sons, p. 418-419

11. Groat, L., Wang, D. (2013). *Architectural Research Methods*. New Jersey: John Wiley & Sons, p. 423-432

12. Sedighi, M. (2019). Handout *Research Seminar*. Retrieved from: <https://brightspace.tudelft.nl/d2l/home/124947>

III RESEARCH-METHODOLOGICAL REFLECTION

With the expectations of an enormous increase of people with dementia in 2050, the value of well designed housing for these people become important.¹³ According to Leupen and Mooij, every human being needs protection against dangerous situations in their nearby living environment. The gated living environment, protected from the outside world makes it possible to create your own living environment.¹⁴ The role of the architects by creating these own, protected living environment is important. The architect creates certain places where people can live, but creates at the same time restrictions. On the one hand, the realized design could show opportunities for the arising of certain types of housing and living. On the other hand, the design limits other forms of living. The architect should already know in an early phase which opportunities he wants to show and which he want to restrict.¹⁵

An architect wants to be original and innovative, but should always use elements which are already defined or developed in the past. We are not redefining the wheel in every new situation. A lot of possibilities or solutions are already developed and successful tested by other people.¹⁶ Leupen and Mooij described two definitions, typologies and types. Typologies can be described in several ways, depending the approach. Typology means a systematic arrangement, an intellectual construction with a specific approach. A type is described as the foundation of the design experiences, the genes of the design solution.¹⁷

The typology has already a long history in the world of architecture. 'The use of the word 'type' can be traced back to the formation of the ideas about typology by the French architecture historian de Quincy and the Italian architectural historian Argan'. The definition 'type' descent from the Greece word 'typos', which has a very common meaning and can be used for several nuancing and variants with the same idea. Since the 18th century, the word 'type' is used as theoretical tool for the classification of notions, such as the well-known classification of plants, made by Linnaeus. With this definition of 'type', the word was also introduced in the world of architecture, for the first time, by Quatremère de Quincy. He described the word 'type' as: 'the word type is sometimes used as the synonym for the word 'model', while the difference between both words easily can be understood.'¹⁸ He explained that 'type' created the connection between an architectural element or object and its history by explaining its reasoning and shaping its form, whereby the kind of types could change during a period. The 'type' was not a primitive form or reshape of the nature anymore. The 'types' were elements whereby their form or shape were based on their materials and use. The architectural knowledge was based on the history and worked as a database of previous examples and elements made in the past.¹⁹ During the Modern period, the opinion about the 'type' has changed. According to the people during that period was the 'type' an limitation which caused less freedom of designing for the designer. The architecture should not be based on typologies or historical aspects anymore, but on the contextual situation.

As explained in part one of this paper, there are no typologies for people with dementia. Already in the 20th century moved people with dementia to care houses. They lived together with other elderly with several affections. Most of the time, people with dementia were placed in an environment, closed from their environment and other residents.²⁰ Nowadays, this way of living for people with dementia has not changed. Still in the 21st century, people with dementia are living in a care house, without their partner or family. According to an article in the newspaper Parool are the needs and wishes for this target group not available in the care houses. It causes an unpleasant living environment for this 'special' target group.²¹ People with dementia are still prognosed based on the ZZP-score. The ZZP-score means the 'zorgzwaartepakket' and shows the level of care people need, based on their affections and disease. Nowadays, people with dementia are prognosed by this ZZP-score and shows the possibility to live at home during their disease. However, from a certain ZZP-score, they are prognosed as people who cannot live at home anymore. From this moment, they are automatically traced to move to a care house.²² Sadly, several scientific research and experiences from the past shows that this way of living not connects with the wished and needs of this target group. There is a lack of typology for these people with dementia. So, doing research in typologies for other elderly and aging people can bring us new ideas about typologies for people with dementia with the focus on living instead of care giving.

13. OTIB. (n.d.). Dementiewoning. Retrieved from: <https://technologiethuis.nu/Upload/Brochure%20Dementiewoning.pdf>

14. Leupen, B., Mooij, H. (2011). Het ontwerpen van woningen. Rotterdam: NAI Uitgevers. p. 18

15. Leupen, B., Mooij, H. (2011). Het ontwerpen van woningen. Rotterdam: NAI Uitgevers. p. 32

16. Leupen, B., Mooij, H. (2011). Het ontwerpen van woningen. Rotterdam: NAI Uitgevers. p. 37

17. Leupen, B., Mooij, H. (2011). Het ontwerpen van woningen. Rotterdam: NAI Uitgevers. p. 38-41

18. Leupen, B., Mooij, H. (2011). Het ontwerpen van woningen. Rotterdam: NAI Uitgevers. p. 41

19. Moneo, R. (1978). On Typology. Cambridge: MIT Press. p. 26-29

20. Wikipedia. (2018). Verzorgingshuis. Retrieved from: <https://nl.wikipedia.org/wiki/Verzorgingshuis>

21. Van der Aa, E. (2016). Verpleeghuis met dementerende ouderen is de schuur van de losers. Retrieved from: <https://www.parool.nl/nieuws/verpleeghuis-met-dementerende-ouderen-is-de-schuur-van-de-loosers-b31cef79/>

22. De Vijverhof. (2019). ZZP indicatie. Retrieved from: <https://www.hsbdevijverhof.nl/zorg/zzp-indicatie>

IV POSITIONING

The research phase of the Dutch Housing graduation studio was mostly based on the methodology of doing case studies. Hereby, the focus of these case studies was the designed typologies for two target groups, two projects of elderly housing and two projects for elderly housing and dementia. The projects for the case studies were selected on a set of criteria, such as different scale of densities. Besides the selection of case studies, also a research question was formulated based on the topic of the studio to limit the scope of research. Because of the different selected case studies, the theory of Groat and Wang, published in their book *Architectural Research Methods*, became clear for my research methodology. They explained that by the use of different case studies, the choices for certain case studies should take place carefully.²³ That was something I experienced during the search for relevant case studies which was quite complicated and challenging.

By researching the different typologies of two different target groups, several elements and architectural aspects became visible. Out of the case studies, based on the examples of typological research published in the book of Leupen and Mooij 'het ontwerpen van woningen', the value of care in the dementia case studies become clear. Both case studies, focused on the housing of elderly and people with dementia were care typologies. Hereby it is remarkable that interesting elements, out of the case studies from the elderly housing, are not implemented in the housing typology of people with dementia. Why are these architectural aspects not implemented in the housing for people with dementia? In particular, because of the scientific knowledge of the mismatches of housing for people with dementia which are published nowadays.

In my opinion is the 'case study strategy' an important aspect of the research process and methodology. Based on the research of several case studies, architectural knowledge can be obtained. However, is the 'case study strategy' enough research for the topic of people with dementia. In particular by designing for people with dementia, people with brain affections, it is important to imagine the wishes and needs of this target group. Fieldwork, as mentioned by Groat, could be important for a well developed imagination. By doing the 'case study strategy', only the deskwork is used. Hereby, we as designers, are placing our self outside the world of people with dementia while it is important to understand and experience these people with dementia. The 'case study strategy' only shows the architectural foundations and elements of the case study projects, instead of also showing the people, the psychological and sociological aspects. According to Groat and Wang, 'fieldwork can produce results that would not necessarily be replicated by other researchers. Because of the nature of in – depth studies, the themes, results, and conclusions are real and accurate, primarily within their original context.'²⁴ By doing literary analysis, the research can show or came up with social issues of certain topics. 'Through fieldwork and qualitative study, the research offers an empirical basis to a broad philosophical discourse on social space.'²⁵

I agree with the opinion that 'types' are a crucial aspect for the communication and understanding, and even for studies within the architectural world as explained by Bernard Leupen. My own research during the sub-course Research Seminar and the Dutch Housing graduation studio showed the value of the 'typology' during the 'case study strategy'. I came up with more knowledge and understanding of several design choices by the case studies. The research of typologies, based on the 'case study strategy' should not give regular patterns, but shows starting points for the design which should be tested with a reflective and critical view.

During my research phase of the Dutch Housing graduation studio the use of the 'case study strategy' was an important aspect. Because of the 'case study strategy' I obtained more knowledge about architectural patterns and elements by housing typologies for elderly and people with dementia. The typology should not only be focused on the care but also on the experience and way/quality of living. However, because of the 'case study strategy' I obtained architectural elements which can be used as conceptual starting points for my graduation design project. With the value of the typology, the outcome of the different types can be seen as conceptual starting points which can be used for the start or support of my own graduation design project. Hereby is the need of field work also important. Based on this information, the research question of this paper *What is the value of typologies by designing for people with dementia?* is made clear.

23. Groat, L., Wang, D. (2013). *Architectural Research Methods*. New Jersey: John Wiley & Sons, p. 423-432

24. Groat, L., Wang, D. (2013). *Architectural Research Methods*. New Jersey: John Wiley & Sons, p. 97

25. Groat, L., Wang, D. (2013). *Architectural Research Methods*. New Jersey: John Wiley & Sons, p. 120

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