

LIVING THE ZERO-WASTE LIFESTYLE

A bottom-up approach for investigating a zero-waste lifestyle

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Thesis 'Zero-waste home'

I INTRODUCTION

Master of Science, the title one may hold after finishing the Master of Architecture at the University of Technology Delft. This indicates that one is “*skilled in the acquisition of (architectural) knowledge*” as Jorge Mejia presented in his lecture on methods of architectural exploration, evaluation and discovery¹. “*Architecture is an ever-developing body of knowledge concerned with how we use space: how we dwell and occupy, establishing meaningful places and giving form to the world around us. How we build is informed by how we understand the world, and how we understand the world is framed by what we have built there.*”² The lecture series of research methods focusses on research methodological awareness in the architectural design process and design practice, as doing research is an important role of the architect as well.

During the last phase of the master Architecture at the Faculty of Architecture and the Built Environment, I've chosen to do my graduation project in the Chair of Dwelling, Dutch Housing. The Dutch Housing graduation studio focusses on the question ‘how do we want to live in the future, and what kind of buildings do we need, to make that possible?’ Knowledge about how we dwell and how we occupy are for that reason very important in the Dutch Housing graduation studio. The lecture series on research methods have given me insight in the importance of involving the actual user into the process. How else would the architect be able to strive for the best design that suits the needs for the user of the building. Especially the lecture of Marieke Berkers caught my attention on how important it is to involve the human voice in architectural projects³. In my opinion it is a very important to incorporate the user in the design process. Something which Richard Sennett writes about as well in his book ‘Building and Dwelling, Ethics for the city’. In his book he argues the importance to engage the gap between the *ville* and the *cit *, consecutively the built and the lived. Sennett writes that by incorporating the user, a more truthful and a more democratic building will be designed as he writes “*the public is trusted rather than treated*”⁴.

This paper examines the methodological design approaches which can be used in the graduation project for Dutch Housing. My graduation project focusses on zero-waste, in lifestyle and building design. The field of zero-waste lifestyle is very new, and no typologies nor houses have been built for this way of living. My graduation project focusses on investigating the lifestyle of people that live zero-waste and come up with a new building typology to house, them. I especially use the word ‘to house’⁵ as in my point of view housing people is based on their wishes and needs, while accommodating people is based on how architects tell them they should live. For that reason, although within the Chair of Dwelling a commonly used research methodology is investigating typologies, it is more interesting to find a research methodology in which the behaviour of people that live a zero-waste lifestyle can be investigated as this is a very new field in the architectural practice. The research question that will be answered in this paper is: ‘how can the behaviour of zero-waste communities be researched by using a bottom-up research approach?’

¹ Mejia, J. (2019, 02 28). *Lecture Methods of Architectural exploration, evaluation and discovery.*

² Lucas, R. (2016). *Research Methods for Architecture.* London: Laurence King Publishing Ltd.

³ Berkers, M. (2019, 02 21). *Lecture on Social Practices.*

⁴ Sennett, R. (2018). *Building and Dwelling - Ethics for the City.* Milton Keynes: Penguin Random House UK.

⁵ S. Pink, K. L. (2017). *Making Homes: Ethnography and Design.* Bloomsbury Publishing Plc.

II TOP-DOWN VS BOTTOM-UP

The design process can be distinguished into two approaches; the top down approach and the bottom up approach.⁶ In the top-down approach, the architect makes a design that in its point of view suits to the needs of the user. In this way the architect can be seen as the *etic*, he gathers his information from the point of view of an observer who is outside the culture or activity in question.⁷ Using the bottom-up approach the user is included in the design process which makes it possible for the architect to investigate the needs of the user in a very different way, namely by producing knowledge from within a culture or an activity, which makes the architect the *emic*.⁸ As mentioned before, my graduation project focusses on investigating the lifestyle of people that live zero-waste to come up with a new building typology to house them. For that reason, using the bottom-up approach, in which the architect becomes the *emic*, is the key element to investigate the life-style of people. Another reason to choose this approach, is because the field of living zero-waste is very new in the architectural practice, which means that their social behaviour needs to be investigated very well as there are almost no projects that can be analysed in a top-down approach. It is thus important to get grip on this target group by gaining as much knowledge, insights and awareness as possible. However, investigating the needs of a new target group in architectural practices to find new typologies to house them, isn't that easy. How does one collect knowledge? The best way would be to 'just' ask people. But how many people do you talk to? And what do you ask them? How do you deal with the information they give you? Just a few out of thousand questions that need to be asked by using the bottom-up design approach.

Some of these questions can be answered by using ethnographic research, a qualitative research method which its disciplinary origins from sociology/anthropology⁹. Ethnography aims to describe life as it is lived and experienced by people. The downside of this method, is that the researcher mostly should spend months or even years living with the people, talking to them and understanding them and observing them. However, it also relies on interviewing and informal conversations to gather data, and thus knowledge¹⁰. As there is not a lot of time to do research during the graduation studio, having informal conversations and interviewing the target group will be used for this project. In this way knowledge can be gained about the target group. The zero-waste communities are not living together, yet, as that is what I want to achieve during my graduation project. However, there are a lot of Facebook communities in which the people talk about their lifestyle, which can be used to collect data as well in an informal way. Instead of placing myself in a physical community, I will place myself in an online community. The target group will be investigated on different subjects, such as their behaviour in the kitchen, the bathroom, the living room, the bedroom, the garden or balcony and the way they do groceries. The data which is collected by doing interviews, analysing the target-group in the Facebook community and taking surveys, will be summarized by analytic writing and diagramming.

⁶ Sennett, R. (2018). *Building and Dwelling - Ethics for the City*. Milton Keynes: Penguin Random House UK.

⁷ Lucas, R. (2016). *Research Methods for Architecture*. London: Laurence King Publishing Ltd.

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

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

¹⁰ Jackson, J. (2005). *Ethnographic preparation for short-term study and residence in the target culture*. Elsevier.

III RESEARCH-METHODOLOGICAL REFLECTION

To find out what the needs of the users are, it is first important to look back on how this is done in the past. The term 'user' was one of the last terms to appear in the modernist discourse.¹¹ Only from the 1950's and 1960's the term became used widespread in the field of architectural practice. The French philosopher Henri Lefebvre, wrote in *The Production of Space* "*the word 'user' has something vague about it. "User of what..." one tends to wonder... The user's space is lived – not represented (or conceived)*".¹² In Lefebvre's point of view the word 'user' can be seen as an abstraction of the human being. He sees the user as the inhabitant who uses the space, instead of the one that represents it. Also, the Dutch architect Herman Hertzberger, wrote in a lot of his articles about users and how they should be connected to a certain space. He states that the whole purpose of architecture is to "*enable user to become inhabitants*" and to create "*the freedom for the inhabitants to decide for themselves how they want to use each part, each space*".¹³ What the term user is meant in architecture is clear, it is the person or the persons expected to occupy, or better to say, live, in the project. But how does one investigate the needs for the user in architectural practices? The English School architect Henry Swain, announced in 1961 that "*to evolve techniques to help us analyse the needs of the users of buildings is the most urgent task of our profession*"¹⁴ Also the Dutch architect N. John Habraken was aware of the fact that the needs of user needed to be incorporated more into the architectural practice. Habraken wrote the book 'De Draggers en de Mensen', which was a reaction to the mass housing principle. In 1918 H. P. Berlage proposed in his brochure 'Standardization in Housing' a solution to the massive shortage of affordable housing, in which he argues that no matter which architects designs a house, it always comes back to a monotone plan and only the structure and the façade make difference in the units.¹⁵ However, Habraken disagrees with this point of view as he states that "*we no longer house, we are being housed*"¹⁶. In Habraken's point of view the influence of the user has completely been cut off due to the introduction of mass-production. Space is needed for diversity in architecture and housing, as Habraken concluded with "*If you only want to exploit human relations and don't want to use the modern technologies, the only way is backwards. If you only want to exploit the technical possibilities and don't want to integrate human relations, you end up with mass-housing*"¹⁷

Over time it thus became important for many architects to incorporate the user, or better to be said, the needs of the user, into their architectural designs. At the same time, the ethnographical research has evolved as well. Classical anthropological ethnography is characterized by long-term, at least for two years¹⁸, participation of the researcher in the field of the target group, and exists already for a long time¹⁹. However, over the year's ethnography has evolved and new forms of ethnographical research started to be used. For example, in the last decades Urban Ethnography, which involves studies in neighbourhoods, has grown in popularity. Also, in 1972, the text *The Cultural Experience: Ethnography in Complex Society* of Spradley & McCurdy's broke new grounds as they offered four phases of ethnography, namely acquiring conceptual tools, entering the field, doing fieldwork and describing a culture focussing on own communities.²⁰ Especially the introduction of Urban Ethnography became important for architects to use. So important that university's over the world introduced courses in Architectural Ethnography. In today's world another form of Ethnography positions itself in our society, namely Virtual Ethnography, which is the research approach in which the researcher looks at the online setting. As ethnography is mostly related to fieldwork, bringing in the Virtual Ethnographical research method into practice, the researcher focusses on the virtual community. Kozinets describes Virtual Ethnography as "*conducted on the Internet; a qualitative, interpretive research methodology that adapts the traditional, in-person ethnographic research techniques of anthropology to the study of online cultures and communities formed through computer-mediated communications*".²¹ With this new form of ethnographical research, it makes it a lot easier to do research in communities. However, disadvantages of this method can be that people wear an 'online-mask', which will make that they want to occur differently to impress others for example. Also, no physical cues can be taken into account in the research, which can be important to describe as well using the ethnographical research method.

¹¹ Forty, A. (2000). *Words and Buildings: A Vocabulary Of Modern Architecture*. London: Thames & Hudson Ltd.

¹² Lefebvre, H. (1991). *The Production of Space*. Oxford: trans. D. Nicholson-Smith.

¹³ Hertzberger, H. (1991). *Lessons for Students in Architecture*. Rotterdam: Uitgeverij 010.

¹⁴ Forty, A. (2000). *Words and Buildings: A Vocabulary Of Modern Architecture*. London: Thames & Hudson Ltd.

¹⁵ Berlage, H. (1918). *Normalisatie in woningbouw*. Rotterdam: W.L. & J. Brusse.

¹⁶ Habraken, N. (1961). *De dragers en de mensen: het einde van de massawoningbouw*. Eindhoven: Stichting Architecten.

¹⁷ Habraken, N. (1961). *De dragers en de mensen: het einde van de massawoningbouw*. Eindhoven: Stichting Architecten.

¹⁸ Jackson, J. (2005). *Ethnographic preparation for short-term study and residence in the target culture*. Elsevier.

¹⁹ Wall, S. (2015). *Focused Ethnography: A Methodological Adaptation for Social Research in Emerging Contexts*. Volume 16, No. 1, Art. 1.

²⁰ Jackson, J. (2005). *Ethnographic preparation for short-term study and residence in the target culture*. Elsevier.

²¹ Kozinets, R. V. (2006). *The sage dictionary of social research methods*. London: Sage Publications.

IV POSITIONING

The research question that will be answered in this paper is: 'how can the behaviour of zero-waste communities be researched by using a bottom-up research approach?' The upcoming design task for architects, designing one million homes by 2030, it is more than ever important to incorporate the needs of the user into housing design in order to find a solution for mass production based on human needs, as I mentioned in the past paragraph that mass-production might lead to standardization in which the user's needs aren't taken into account. Between standard and ideals, as the chair of Dutch Housing calls it, is the task we as architect will face the coming years in order to find a balance between the needs of the users and the standards in housing architecture. Using ethnography as a research method can be very useful to find this balance, as the ethnographical method focusses on the one hand on the needs of the people and on the other hand on how this can be implemented in data, for example for housing typologies.

As I mentioned in the introduction, in the Chair of Dwelling; Dutch Housing, typological research is used often. However, in my point of view, it is very important to also look at the needs of people and try to implement this in a certain typology as the goal of the studio is to find solutions between standard and ideal. Sennett writes about this as well, as he talks about type-forms in architecture which create an urban version of theme and variations, just like themes and variations in music. This form is very useful for the architectural projects, just like in the Chair of Dwelling, in which the needs of the users should be incorporated in the design. However, it is not possible to design something different for every single user, so introducing the type-form can create architecture between standard and ideas as the target group, has the option to vary their needs within their adjustable houses. To do so, it is thus important to collect data and implement this in a housing typology. Using the ethnographical research method, data collection about human beings is made easier. One could still argue if this is really about the needs of the user, as the ethnographical method focuses much on data collection. In my point of view this is exactly the role of the architect designing housing typologies should be like, as designing houses is about numbers as well as the user's needs. The architect should somehow collect data out of fieldwork and implement this. As I described in the past paragraph, ethnography has evolved over time, which makes it possible to do also short research in communities and even research in an online environment. This is important for my research as well, as there isn't much time to do the research. However, I think there is a downside on doing short-term ethnographical research, as maybe not enough information will be gathered. So, I would always give priority to long-term research over the short-term research, unless there is no other option, which is the case in my project. Another point of attention, using the Virtual Ethnographical Method, is that people might wear an 'online-mask' which makes it hard to distinguish fake information from non-fake information. Also, one could argue that an online research environment isn't so much about ethnographical research, as the researcher doesn't place itself in the physical community. However, the advantage of using an online-environment as a research fieldwork, is that some people do exactly say what they mean, while in a physical conversation this might be different as the interviewer could steer the interview or conversation, which makes it that people can't say what they really want to say. In my project most people of my target group are gathered in an online community, as the field of living a zero-waste lifestyle is very new. It is thus important to do a lot of interviews as well, to be able to filter the information.

I want to conclude by answering on the main question, 'how can the behaviour of zero-waste communities be researched by using a bottom-up research approach?'. In my opinion a balance must be found between bottom-up and top-down, change and stability, order and chaos, radical breaking and gradual growth.

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