RE-ASSEMBLED DIVERSITY.

By Mauric Bohle, 4135288

Positioning Paper - Lecture Series on Research Methods

Successfully completing the master's course of Architecture at the TU Delft grants you the title "Master of Science." This indicates you are *"skilled in the acquisition of (architectural) knowledge"* (Meija, 2018, p. 14). This inclusion of science is what distinguishes the architect from someone that is just skilled in the making of pretty sketches. Research methodological awareness allows the architect to delve into the current problems of society and has the power to actively display those problems or laying the foundations for starting the conversation. One of the oldest examples of this are the Greek Agora, a place for debate by sharing opinions and ideas. During my last semester in Melbourne I often paid a visit to the Federation square, a modern example of the agora, developed in 2001. It gave *"the chance to celebrate ideas of 'identity' and 'place' through a much needed civic and cultural space"* (Bishop, 2018) as a place like this was not yet present in the city center. Although often voted as one of the ugliest places on earth it has become very successful as it is now one of Melbourne's busiest places. The architects managed to do one thing right. It addressed the necessity of people to gather and share their cultures and habits.

This lecture series showed me the importance of involving the needs of the actual user into the process. Too often a building is designed for a generic assumption of an imaginary person. This lecture series has offered multiple options to deal with this problem. In her lecture on praxeology Marieke Berkers explained the necessity of the human voice in architectural projects. In one of her case studies, the affordable housing project in Casablanca, she pointed out the three steps that need to be taken to create quality in the neighborhood. Firstly, start the conversation with the inhabitants. Secondly, conduct a thorough observation of the area including the old and the new parts. Thirdly, analyze *"how the indigenous or native voices are variously silenced and erased by landscape representation"* (Berkers, 2018, p. 57).

This paper examines the methodological value of my graduation project through methods that have been used in the past and methods that are being used now. This graduation project, provisionally titled: "A circular economy as catalyst for sustainable behavior" focusses on the incorporation of a circular economy in Amstel III. This is an office-district in the southern suburbs of Amsterdam. This research is conducted within the chair of architectural engineering which implicates a more technical approach to architecture. However, technology and human behavior, the praxeology, must go hand in hand to create a meaningful solution. This thesis picks one of the main drivers for a circular economy, the design for disassembly (Jensen & Sommer, 2016, p. 36), and connects it to the current urban situation of Amstel III. This thesis tries to address two problems; Firstly, the current building stock in the area has to be redeveloped. This, more technical, part focusses on the potential of re-using the materials currently in the area. Secondly, human behavior towards the climate must change more dramatically. This, user centered part, focusses on solving the climatological problems through individual and communal engagement by better addressing their needs.

Human behavior.
Addressing the needs of the users is the main hurdle to take in the built environment. To do this, we need to understand how the mind works. A great many psychological studies have been conducted within this field. Two of those theories are the 'hierarchy of needs' and 'short-term thinking'. The hierarchy of needs is based on a 5-layered pyramid of needs (Maslow, 2013). The first two layers describe the basic needs. From layer three and onwards they can be related back to architecture. The third layer, belongingness and need for love, refers to the social needs and interaction. Something that can be reached through a circular economy and this is something that is much needed in our current isolation of society (Weiss, 2017). The fourth layer, esteem needs, requires the possibility to distinguish oneself. Something that is not possible when living in one of the thousands of static houses. The fifth layer, Self-actualization, is reached when you no longer have to worry about yourself, but instead start

to help others to cross their boundaries. However, this does require the autonomy of the user, which is currently not possible in our static dwellings. Short-term thinking, the result of our capitalistic economical model, further visualizes this. We tend to discard products way before they are worn out. As an example: buying a new car every 4 years because it emits less CO_2 than the previous car, doesn't mean it's better for the environment that sticking to the original car for 12 years. It would be much better to just update the engine. Something that is not possible due to the lack of flexibility or autonomy. The same goes for housing. As soon as you and your partner decide to get a baby, you have to move because it fails to provide the flexibility the user needs.

European relevance.
The only way to deal with the behavioral problems to get rid of the short-term benefits of products. Or in this case buildings. For a long time, this was a problem we were unable to deal with as the solution had to be economically viable. But now research has shown that it is impossible to maintain the current economic growth in Europe without addressing the material stock by closing the loops (EU, 2014, p. 13). The European union tries to address this by adopting a circular economy. A business model that makes the short-term benefits less relevant as the long-term management of materials and energy is added into the equation. This opens the door for closing the waste streams and designing for re-assembly. The design for re-assembly on its turn provides natural room for flexibility in the buildings. No more waste is coming from the building and the elements that get released have the potential to be re-used on component level. This means that there will be room for flexibility as the main costs are removed. This flexibility will allow the users to get involved into the (re-) development of their dwelling allowing it to change to their needs, while in the end it contributes to the answering of the environmental challenges. My graduation plan is to allow these behavioral needs into the built environment.

Standardization without uniformity.
For many years architects have tried to get the human behavior back into architecture. This is visible in the quest for modular, adaptable housing, a topic that makes its return every decade. One of these architects was N. John Habraken. His book, which is a reaction to the mass housing principle, an idea originally introduced by H.P. Berlage in 1918 through a brochure titled "Standardization in housing," that was proposed as a solution to the massive shortage of affordable housing in this period. In this book Berlage claims that no matter which architect designs a house, it always comes back to the same idea, the same monotone plan. Only the façade and structure are what differentiate the units (Berlage, 1918, p. 14). Habraken opposed the idea of the mass housing and wrote his book '*De Dragers en de Mensen.*' In his book he addresses the problem of the influence of the user, that has been completely cut off to make room for mass-production. "We no longer house, we are being housed" (Habraken, 1961, p. 17). Consequently in 1964 he erected the SAR, Foundation for Architectural Research. A group consisting of the 10 most influential architects of the Netherlands. Their goal was *"to achieve self-determination for end-users, which is to say openness throughout the system. At the same time, the SAR established clear rules about joining the parts together. These rules created the possibility that the end-user, rather that some individual decision maker, would determine the 'constellations' of decisions that occur within the individual sphere."* (Erlebe, D. in Schwartzpictures, 2014, 50:50). The SAR speaks about the self-determination, one of the main psychological needs for human behavior (Deci & Ryan, 1985).

One of these places where self-determination is still clearly visible, is the barriada of Lima. In his article the squatter settlement, J. Turner goes into detail of the continuous development of the living conditions the barriadas. To allow for economic growth, first a safe haven is created by providing safe ground within communities to build a house on. This safety is one of the key examples as earlier described by Maslow. These basic needs can then be expanded to allow for the self-determination of the dweller: *"The person, as the member of a family and of a local community, finds in the responsibilities and activities of home-building and local improvement the creative dialogue essential for self-discovery and growth (…) The man who would be free must build his own life. The existential value of the barriada is the product of three freedoms: the freedom of community self-selection; the freedom to budget one's own resources and the freedom to shape one's own environment"* (Turner, 1968, p. 357). Besides the clear need to

develop yourself J. Turner speaks about the three freedoms. These can be traced back to the three principles of housing: The location of your house, the interior finishing of your house and the shape of your house. Especially the shape of the house is of crucial importance to create a habitable place *"The most important architectural advantage of the squatters' procedure is the consequent adaptability of space and structures the changing needs and behavior to patterns of the family"* (Turner, 1968, p. 359)*.*

This means we need space for diversity in architecture and housing. Haskell (Avermaete, 2010, p. 52) posits that *"a crucial task for the architect is to meet the desire of the masses for more romance and popular decoration–the architectural counterpart of jazz. The thematic play of jazz was 'more fun and better sense' and offered a potential 'relief from [modern architecture's] thin flat one-one-one-one rhythm.'"* This rhythm could potentially be restored by the engagement of the common man into the design and the building process. Because that is when the most successful projects were built, as *"the people were experts on their own situations and were given freedom"* (Avermaete, 2010, p. 59)*.* A similar trend is happening in the redevelopment of Amstel III area. Here one of the most important points to address is to include the current inhabitants into the design process, as they have made the area to what it is now, and according to them that culture has to stay (Jadnanansing, Griffioen, Bajnath, & Barsoum, 2018).

Even in the barriadas, a place that is at first sight so distant from the center of Amsterdam, the people appear to be quite similar. In psychological aspect they need to be addressed the same way and they function best when given the freedom of self-determination. However, this is a situation that is no longer possible in The Netherlands, Habraken himself 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"* (Habraken, 1961, p. 129)*.* So what we are looking for in the future of housing is to address the human relations with the technical possibilities of today.

The Praxeological approach
Marieke Berkers explained in her lecture (Berkers, 2018) a real-world approach to incorporate the praxeology into architecture. This is based upon three steps that have to be followed to get an understanding of the people living on the site. First the architect requires a more thorough observation in the design process. We have all been taught the classic ways of analyzing the local area in diagrams and photographs to get a feeling of the neighborhood. Berkers stresses that in order to get a feeling for the needs of the area, this observation must not only include the new area that is to be developed. But it should also always address the older quarters of the cities that were not yet prone to the mass-produced housing. I can completely agree on this as it is important to get the region-specific culture back into the design process. But I also think that as we have entered a new period in time it is important to observe the building after it has been completed. Architects and constructors are often criticized for marking a project as a success and as finished as soon as the key has been handed over to the new owner. In my opinion this takes the science from architecture. In biology a hypothesis (the design) is written followed by a period of intensive testing. A big challenge, if we claim to take the user into account, is to provide them a way of feedback through flexibility, that can be observed. One of these possibilities is mentioned in her second point: the interviewing of the current and future inhabitants of the neighborhood. This is to get a better understanding of the actual needs of these individuals. A similar trend is developing in The Netherlands through the collective private commissioning (CPO). With an CPO the users take over the role of project developer. During the design process and building process they make the decisions to create a housing block that is tuned to their personal wishes and situation. They have the power to choose the architect and the contractor and work directly together with all professional parties throughout the building process. Thijs Asselbergs, head of the Intecture graduation studio at the TU Delft, often mentioned this as the future for architecture. The third point she brings forward is answering to the needs of the indigenous and the native voices that have been silenced in the past decades. *"The production of housing today ranges from the hyper-customized singular house for a distinct user to completely mass-produced manufactured housing and repetitive builder models"*

(Anderson, 2009, p. 54). These voices can come back if we allow the inhabitant to have influence on their building. There is a trend of mass-customized building systems that allow for these changes. In combination with the demand for a circular approach to housing and the wide adaptation of the design for re-assembly, this old dream finally has the potential to become a reality. When these three cases are handled, we must return to the role of the future architect. What is my role in the future? We are specialized in making habitable spaces and we definitely need to continue making these and lead the design process. But we do need to give the user space for diversity and thus adapt their dwelling to their own cultural needs. The challenge lies in continuously providing this adaptability for the individual, even after the buildings has initially been built. Now with a circular economy we have the tools to do it, so we should act like it.

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