

# A PRAXEOLOGICAL APPROACH TOWARDS RESEARCH INTO HEALTH AND ACTIVE DESIGN

## Self-Assessment on Research Methods

TEUN KAKES | 4653025

TU DELFT | Lecture Series Research Methods

MSc 3

### INTRODUCTION

Architecture and research are inextricably linked to each other. Research within the field of architecture has been conducted throughout history. For example, the research into the development of the flying buttress by William Clark and Robert Mark.<sup>1</sup> In this research they validate the design of the original buttress by combining archaeological reconstruction and structural analysis.<sup>2</sup> The connection between research and design makes it apparent to look into the methodological approach in architectural research. The research in the architectural profession influences the outcome and quality of the design.

By reviewing my personal research methods, it helps to understanding the different ways to research and the importance of it. It is a way to get a broader perspective into the possibilities of research methods and generate more depth in your research. For my personal thesis it helped me understand and systemize my research result into a framework that can be applied in the design phase. By writing this essay I altered my design method based on my findings.

My graduation project is part of the chair of Dwelling. The topic focusses on developing a plan for the new housing planning in the minervahaven, Amsterdam. My research focus lays on the different relation between the building, space and people in relation to health and well-being. This paper describes my research approach into these relations and what kind of research method I used to create a framework that is applicable in the design phase.

I started my research with a hypothesis which is: Implementing a pedestrian precinct in the building which provokes informal encounter stimulates health and activity for the inhabitants of the building. From this hypothesis it is clear that I have to study the movement of people in the pedestrian precinct and what elements provoke formal encounter. This study of human action makes it evident to look into the different approaches towards the study of human action and conduct in my position paper. The goal of this essay is to understand the research method and how it helps to identify possible strengths and weaknesses of the design method and to understand my personal position in the field of research.

## II RESEARCH-METHODOLOGICAL DISCUSSION

To define my research approach, it seems obvious to first define research. A commonly accepted definition is the one from author James Snyder: “systematic inquiry directed toward the creation of knowledge”.<sup>3</sup> This definition makes it clear that it is about the systematic inquiry of knowledge which suggests that there is a demarcation in how we categorize, analyze and present information.<sup>4</sup>

In order to understand what stimulates people to become physically active and provoke informal encounter the research phase is divided into two parts. First a literature study which involves the study of human action and conduct, also known as praxeology. The study is done by logical argumentation which entails the framing of broad explanatory theories.<sup>5</sup> This logical argumentation is combined with quantitative research based on statistics about the movement of people. In this phase the focus lays on inquiring information which can be categorized and analyzed. The goal in this phase is to understand the movement of the user in the building and understand what stimulates the user to make certain choices. In the second part the acquired information is used for case studies to see how the information is presented within the built environment. To keep this essay feasible the focus will be on the former.

The first phase is based on a praxeological approach to systematically obtain information. It starts by categorizing active movement in four domains namely: routes, destinations, activity program and building surroundings. Within these categories' different intervention methods in different scales form the framework of the research. These categories are based on a research into active design in buildings.<sup>6</sup> According to the World Health Organization (WHO): ‘health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’.<sup>7</sup> Since the research about active design focusses on physical and mental health I added a fifth domain namely informal encounter.

Within this study of human behavior, the acting human is the subject of activity because his goal determines the course of his conduct and the tools he will use.<sup>8</sup> According to professor Wojciech W. Gasparski: ‘human behavior should be explained not in the terms of cause, but purpose, since all conscious human action is subordinated to purpose clearly’.<sup>9</sup> To understand and study human behavior he describes that praxiological analysis should consist of:

1. Classifying the action under consideration as one of the action types;
2. Taking apart the action in terms of the elements of its structure and in terms of the relations between those elements.<sup>10</sup>

To understand human movement the focus of the research will be about the purpose since the acting human is the subject of activity. To implement a praxiological analysis you first need to categorize the human action. Secondly the human action should be taken apart into elements of its structure. the first step corresponds to subdividing the research into five domains. within these domains the elements of human behavior have been placed within these domains. The research results can then form a toolbox that can be implemented in the design phase.

### III RESEARCH-METHODOLOGICAL REFLECTION

In the beginning praxeology was used as a means for standardization. The most famous form of standardization can be traced back to the beginning of industrialization. One of the first form of a praxeological approach was scientific management, also known as Taylorism named after its founder Frederick Winslow Taylor.<sup>11</sup> Its main objective is to improve economic efficiency by applying science to the engineering process. By studying the process and movement of people the process could be designed as efficient as possible. It was the start of the assembly line which was further explored in Fordism. This form of standardization also made its introduction in the building industry with the mass production of standard building elements. The focus for development in the building industry was mostly functional and economical orientated.

The use of praxeological studies have also been applied in different kind of studies within the field of architecture. A well-known example is the book *die neue wohnung* by Bruno Taut.<sup>12</sup> An important topic of the book is the function of women within the household. It describes a well-considered household management, especially in the kitchen, which focused on the rationalization of the design of the household. A similar example is "The Frankfurt Kitchen" by Margarathe Schütte-Lihotzky. For this design the study looked at the typical routines within the kitchen and aimed to arrange everything in the most efficient configuration. The approach focus is mainly about standardization of small elements that can be configured in different ways.

Later in the CIAM-conference a praxeological approach for urban planning was introduced by Le Corbusier's grid "grille", which helped to systematically organize different approaches. This grid can also be considered a form of standardization. Tom Avermaete describes the method used at the conference about the bidonvilles in Africa as differently gathering information about the way the living forms are used in everyday-life.<sup>13</sup> They try to identify and systemize general patterns of human behavior and integrate the existing living patterns into a design than can provide an economic structure based on the standardized system from western conception.

This form of analyzing patterns became more popular in the field of architecture. The study by Christopher Alexander, Sara Ishikawa and Murray Silverstein named *A Pattern Language* had a significant influence.<sup>14</sup> This study tried to systemize patterns in the build environment in an order of scale. The different patterns that are connected form a language. This way it forms a systematic inquiry and study in the build environment and human action about the connection of patterns to achieve desired goal.

A praxeological research method was firstly applied as a way of standardizing and was mostly functional and economical orientated. Later it was also applied to study different patterns in human behavior to identify characteristics that can be applied in the design phase.

For my research I used a similar research method as the grid introduced by Le Corbusier in the CIAM conference. The grid is used as a system to sort information about human behavior, instead of a tool for a standardized design. In my research the aim is to create a system to analyze and categorize obtained knowledge and find out which elements are connected. By firstly categorizing five domains and divide them in different scales it is possible to create a similar structure like the grid of Le Corbusier. This forms a kind of toolbox with possible intervention methods that can be applied in different scales. The different findings are based on general patterns of human behavior. The system of the grid helped me to systemize the different aspects of human behavior in relation to active design that can be applied and reinterpreted in the new context.

Afterwards, to systemizing the different elements in the grid, a system was used to connect the different elements together. This system is based on the connections through different scales from the book a pattern language. To give the design its own identity it is important to prevent to develop a standardized element, the aim is to look at each situation and its use separately and provide possible connections which can be reinterpreted so that every applied element in the design can be uniquely applied to its surroundings.

If we look back the goal of this essay is to understand the research method and how it helps to identify possible strengths and weaknesses. It is clear that by applying a structure like the grid it helps to systemize and connect different elements in the design. Although the treat of this system lays in the standardization which can form generic elements that loses its relation to its context.

#### IV POSITIONING

There is an interesting relation between this idea about standardization in relation to praxeology and the lecture by Jorge Mejía on heuristics. In his lecture he discusses heuristics as a set of problem-solving techniques. It enables a person to discover or learn something for themselves. Where the grid forms a set of defined answers that can be applied in different situation. A heuristic technique is open to interpretation opposed to authority by defined answers. They seem to oppose each other although the heuristic approach can also be of added value. By implementing the structure of the grid but leaving the elements free to interpretation which may vary by variables like context. This causes for the results to not be a fixed problem and solution which will result in a generic solution that is applied in all situations independently from its context.

The discourse about standardization is related to a bigger and more pressing discourse in the field of architecture namely globalization. In the contemporary society globalization provides an opportunity that extends beyond geographical borders. Globalization increases scale, speed and effectiveness of social interactions across the geographical borders.<sup>15</sup> Although the process of globalization has its benefits for contemporary society there is also critique in the field of architecture. Daniel Rosbottom in his essay *towards a Congruent Architecture* describes the pressing need for contemporary architecture to re-situate itself in response to place.<sup>16</sup> Another point of critique comes from architect Michiel Riedijk who argues that every city wants to have its own icons but this ostensible triumph of city branding leads to a paradox: "by articulating the identity of a particular place with the same kind of icons all over the world, everything becomes the same".<sup>17</sup> Although both with a different approach that can be interpreted differently they address the relation between globalization and architecture with the loss of identity. The problem of loss of identity is also apparent for the standardization through the grid system.

If we combine the heuristic technique with the discourse of globalization in relation to standardization it indicates the problem of loss of identity with the use of the grid system as a toolbox with fixed answers. Although the grid system helps to systemize the study into human action and conduct the toolbox needs to be formulated open to interpretation. The toolbox that I created led to a standard catalogue that created rules for the whole site without any relation to the context. By using praxeology as the only episteme, I created a system that is orientated towards standardization without free interpretation.

In general, the most products come in a standardized systems and sizes. As a result, a lot of our build environment is starting to look the same. It is important to question these methods and to adept to the ever-changing contemporary society. By writing this essay I became aware that the grid system can

provide a good basic structure to categorize and analyze. To further develop my research, I want to integrate variables that make the elements in the grid system free for interpretation. This means that for each implementation the location, culture, function and other variables will be different. This will ensure a certain value of identity so it can be related to the city while a certain form of standardization is still feasible.

By changing my research position, it made me aware of my position in architecture that the design for my graduation should have a certain relation with its surroundings and not be merely be a combination of generic elements which provokes informal encounter to stimulate health for the inhabitants of the building.

## V LIST OF REFERENCES

- 1 William Clark., Robert Mark., *The First Flying Buttresses: A New Reconstruction of the Nave of Notre Dame de Paris (Art Bulletin 66(1) , 1984)*, 47–65.
- 2 Groat, L., Wang, D., *Architectural Research Methods* (New York: John Wiley & Sons, 2002), 6.
- 3 James Snyder, *Architectural Research* (New York: Van Nostrand, 1984).
- 4 Groat, L., Wang, D., *Architectural Research Methods* (New York: John Wiley & Sons, 2002), 6.
- 5 Groat, L., Wang, D., *Architectural Research Methods* (New York: John Wiley & Sons, 2002), 379.
- 6 BETA, *Active Design in Buildings* (Amsterdam: City of Amsterdam, 2016)
- 7 WHO constitution, *International health conference* (New York: 1948)
- 8 Wojciech W. Gasparski, *Ergonomics and praxiology, Theoretical Issues in Ergonomics Science* (2000) 367.
- 9 Wojciech W. Gasparski, *Ergonomics and praxiology, Theoretical Issues in Ergonomics Science* (2000) 369.
- 10 Ibid., 369
- 11 Mitcham, Carl and Adam, *Briggle Management in Mitcham* (2005) 1153.
- 12 Bruno Taut, *Die Neue Wohnung* (Leipzig: Klinkhardt & Biermann, 1924).
- 13 Tom Avermaete. 'CIAM, Team X, and the rediscovery of African settlements: between Dogon and Bidonville.' Lejeune Jean-François and Sabatino, M. *Modern architecture and the Mediterranean: vernacular dialogues and contested identities*. (London: Routledge, 2010)
- 14 Christopher Alexander, Sara Ishikawa, Murray Silverstein., *A Pattern Language* (Oxford University Press, 1977).
- 15 Gerald Grootelaar, *Globalization: architecture without craftsmanship* (TU Delft repository, 2014) 1.
- 16 Daniel Rosbottom, *Towards a Congruent Architecture* (TU Delft, 2017) 169.
- 17 Michiel Riedijk, *Raw steak on the drawing board: On conventions and identity in Architecture* (TU Delft, 2017) 33.