

Expressing Energy Storage

Phenomenology as principle for communicating the intangible

I. INTRODUCTION

The relation of architecture and research can be described as ambiguous. Creative and practical elements differentiate it from hard sciences such as physics and chemistry. However, all architectural exploration can be considered as a heuristic process to create and build upon knowledge about the built environment. In design processes the design phase is often preceded by research where the task or problem is specified and studied. The way in which this research is done is rarely reflected upon, although it inherently affects the results of the research and therefore the eventual design. Awareness of methodological frameworks can therefore aid a designer in framing and studying a problem in a systematical way, which helps to reach the desired goal.

The “Lecture Series Research Methods” has provided me with a better understanding of how different disciplines of architectural knowledge work to create results. Beforehand I tended to look at research in a naïve manner with the assumption that it could be whatever you wanted it to be. This has to do with my building engineering background at the University of Applied Sciences. The research that I conducted usually was shaped by sum of information that I could find related to a certain topic. This information then was processed to distill some conclusions. This directionless venture often led to results which had little value in relation to the specified goal. Now I know that certain problems can be arranged in different methodological approaches, which give an established way of doing things to at the goal.

My thesis in the chair of architectural engineering focuses on energy storage in the landscape of Parkstad. The location is an abandoned mining site on a central place in the combined city of Parkstad. The goal is to create a building here which can communicate the process of energy storage in an expressive way. The research question for this study is: *“How can energy storage artefacts expressively be integrated into the Parkstad environment?”*. The emphasis lies on the expression because this is important to translate energy from an abstract concept into a perceptible product. The focus on this aspect ties to a bigger search within the chair of architectural engineering on how new energy artefacts can be integrated in the environment. My approach differentiates from the general approach within the chair by focusing on the experience of the system itself rather than on the societal aspects a technology can solve.

This paper aims to explore the knowledge systems used to obtain the information for the eventual design. My research project can be divided in a *quantitative* part and a *qualitative* part¹. The quantitative part focuses on the technology of energy storage system, which can be positioned in the field of physics and engineering. The qualitative part of the study focuses on the experience of the object and belongs in the field of architectural research. This paper therefore focuses on the qualitative part of my research. The question for this paper is: *How can the experience of a space be studied to provide effective research outcomes for the design of an expressive object?*

¹ Ray Lucas, *Research Methods for Architecture* (London, Laurence King Publishing), 36.

II. RESEARCH-METHODOLOGICAL DISCUSSION

The phenomenological approach deals with the experience of the world by people. Applied to my project approach could provide knowledge about the perception and recognition process of the energy storage process at the proposed location. This architectural inquiry can be cut up into two pieces. Case studies of comparable phenomena can provide insights into the recognition of meanings and messages in the built environment. Additionally the physical context has to be analyzed through sensory methods to establish how the area is currently experienced, which provides foundations where to ultimately purposefully intervene.

The selection of case studies relies on establishing a definition of what the energy storage process is. If it is defined as the dynamic process of charging and discharging of a storage system, similar dynamic processes in the built environment can be analyzed. For this the constructs of Amos Rapoport can be used to dissect the recognition process into the perception and association of the observer². A thorough analysis of dynamic processes in the built environment on the basis of these experiential phases can distil results which can be used to strengthen the communication of the energy storage process.

Secondly the physical context in Parkstad can be analyzed to provide understandings about how and where to purposefully intervene in the area to communicate the desired message. The context can be studied through drawings and mappings like the mental mappings by Kevin Lynch in *The image of the City*³. These visualizations, based on interviews of people in the area, provide an understanding into the experience of place through visual media. Additional to that, other sensory notions can be documented through written documentation. A combination of this visual and written documentation creates a complete description of the experience of the place.

Phenomenological approaches continue to be matter of interest in the contemporary architectural practice. Renowned Swiss architect Peter Zumthor is one renowned practitioner of the phenomenological approach in research and design⁴. In *Thinking Architecture* he recollects intimate moments of his early life through literal descriptions of what he experienced at that time. Juhani Pallasmaa⁵ and Steven Holl⁶ are other practicing architects who have developed knowledge about the phenomenological episteme. Within recent research methodological literature the phenomenological episteme also remains relevant. Ray Lucas⁷ elaborates on sensory urbanism and sensory notations in *Research Methods for Architecture*. Lucas presents sensory notations as a threefold stepped system to analyze a context based on experiential visual and written observations. Reevaluations of historic works of Heidegger recently have been developed by Nader El-Bizri. The extensive recent written record about the phenomenological episteme attests to a widespread set of apparatuses of looking at a phenomenon even when it comes to the episteme itself. This variety challenges the goal to synthesize intersubjective knowledge about the experienced.

² Amos Rapoport, *The meaning of the built environment* (Tucson, University of Arizona Press, 1982)

³ Kevin Lynch, *The Image of the City* (Cambridge: Harvard University Press, 1960)

⁴ Peter Zumthor, *Thinking Architecture* (Basel: Birkhauser, 2006), 7.

⁵ Juhani Pallasmaa, *Eyes of the Skin* (London: Wileys, 2005)

⁶ Steven Holl, Juhani Pallasmaa, Alberto Gomez Perez, *Questions of Perception* (Richmond, William Stout publishers, 1994)

⁷ Ray Lucas, *Research Methods for Architecture* (London, Laurence King Publishing), 160.

III. RESEARCH-METHODOLOGICAL REFLECTION

Phenomenology is the field of study which deals with the experience of the world. Phenomenological theory was established in the beginning of the 20th century by German philosopher Edmund Husserl. Husserl described phenomenology as pure looking at a phenomenon and viewing its essence⁸. He also stated that to study something through a phenomenological method the observer must set aside all pre conceived ideas and fully rely on his/her imagination and intuition⁹. Martin Heidegger proposed phenomenology as “the science of the phenomena”. He substantiated his notion through its etymological logic, namely giving account to the way things appear¹⁰. A more elaborate description of phenomenology was given by Maurice Merleau-Ponty in the introduction of his 1945 work *Phenomenology of Perception*. He defined phenomenology as:

“Phenomenology is the study of essences; and according to it, all problems amount to finding definitions of essences: the essence of perception, or the essence of consciousness, for example. But phenomenology is also a philosophy which puts essences back into existence, and does not expect to arrive at an understanding of man and the world from any starting point other than that of their ‘facticity’.”¹¹

The works of Christian Norberg-Schulz established phenomenological inquiry as an episteme in architecture. In *Genius Loci, Towards a Phenomenology of Architecture* Norberg-Schulz defined phenomenology as a method of inquiry rather than solely a philosophical principle¹². He stated that the role of architecture lies in assisting us to establish a meaningful relationship with the world¹³.

My thesis project aims towards the phenomenology approach as described in the works of Norberg-Schulz where he describes architecture as to establish a meaningful relationship between people and the world. Specifically in my project it aims to establish a meaningful relationship between people and energy, which is an essential part of the modern world. Problematic in this search is the lacking of sensory qualities of energy. The architecture should therefore serve as an intermediate carrier to establish this relationship. This aspect could be developed upon in the phenomenological approach, since intangible aspects of modern life like energy and data have become increasingly important for the world to function. Perhaps these imperceptible phenomena could (or should) also be addressed in architecture to provide a relationship between them and people. My research perhaps will touch upon that, but surely does not develop it in its entirety.

⁸ Beata Sirowy, *Phenomenological Concepts in Architecture* (Oslo: Arkitektur- og designhøgskolen i Oslo, 2010), 93.

⁹ Linda Groat, David Wang, *Architectural Research Methods 2nd edition* (New Jersey: Wiley, 2013), 228.

¹⁰ Beata Sirowy, *Phenomenological Concepts in Architecture* (Oslo: Arkitektur- og designhøgskolen i Oslo, 2010), 91.

¹¹ Maurice Merleau-Ponty, *Phenomenology of Perception* (Paris: Gallimard, 1945), 7

¹² Christian Norberg-Schulz *Genius Loci, Towards a Phenomenology of Architecture* (New York: Rizzoli, 1980)

¹³ Beata Sirowy, *Phenomenological Concepts in Architecture* (Oslo: Arkitektur- og designhøgskolen i Oslo, 2010), 133.

IV. POSITIONING

The nature of my research relies heavily on the human experience of currently intangible aspect of the world. I found the presentation of Klaske Havik on spatial narratives to be very illuminating for my research project. Since I was also involved in the response presentation of this talk, I found this talk to provide some interesting insights into my own approach. Before this talk I tended to rely mainly on the visual media with added notes to study spaces, while afterwards I was also aware of the possibilities of written text in itself. This set of methods provides a holistic lens to capture the world as it is. It also gives the opportunity to add information that is not derived from the experience itself but from second hand sources. The method of capturing the world is unconsciously always active within all of us, while architects develop and refine this apparatus more consciously as they go along. Juhani Pallasmaa is an architect who thoroughly treats this in his writings. He describes the experience of architecture as following:

“Every touching experience of architecture is multi-sensory; qualities of space, matter and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. Architecture strengthens the existential experience, one's sense of being in the world, and this is essentially a strengthened experience of self. Instead of mere vision, or the five classical senses, architecture involves several realms of sensory experience which interact and fuse into each other.”¹⁴

Pallasmaa states that the different senses interact and fuse into each other. I adopt this position since it touches upon the interrelation of different senses. In my project the intangible aspect of energy has to be experienced through another sensory carrier like a visual one. Steven Holl noted that:

“While sensations and impressions quietly engage us in the physical phenomena of architecture, the generative force lies in the intentions behind it”¹⁵

This describes how physical phenomena as constructed by architects have intentioned meanings behind them. I think this intentionality can be constructed in architecture, but should be exploited with great prudence as might overpower other aspects. In *Thinking Architecture* Peter Zumthor states that architecture should not care any meanings beyond its essence.¹⁶ He explains that in an inessential world architecture should speak its own language. Although I agree in spirit to this, some meanings can and should be carried out through architecture and the built environment. If we look at the relatively modern integration of time indication in our built environment, we can recognize that it transcends the essence of the often used church towers.

My elaboration on the phenomenology in my graduation project results in a mixed set of feelings. Within the chair the credo is “If technology is the answer, what is the question”. This does not entirely grasp the nature of my research approach, since I am also sensitive towards the experiential factors of the technology. When not taking these experiential factors into account, the research and design lacks the sensibility for people for whom it is originally intended. I often catch myself thinking this when I look at projects within the chair.

¹⁴ Juhani Pallasmaa, *Eyes of the Skin* (London: Wileys, 2005), 41.

¹⁵ Steven Holl, Juhani Pallasmaa, Alberto Gomez Perez, *Questions of Perception* (Richmond, William Stout publishers, 1994), 41.

¹⁶ Peter Zumthor, *Thinking Architecture* (Basel: Birkhauser, 2006), 10.

When taking all factors into account it becomes clear that my research project cannot solely rely on phenomenology as an investigative method. The splitting up of a quantitative and qualitative part in the beginning makes that clear already. Coming back to the initial research question “*How can the experience of a space be studied to provide effective research outcomes for the design of an expressive object?*” we can conclude that phenomenology provides the tools and methods to analyze the questions of the experience of the expressive object. The entire scope of the project however does not consist exclusively out of the experience of object. Additional research from a perspective of praxeology can aid in understanding more about the relation to human behavior as a result of their experience.

As a growing architect with a background in architectural engineering I am familiar with the complementary effects of combining architecture and building technology in design. I feel that the same complementary effect occurs when combining research methodologies. The architect ultimately has to balance this combination in the right quantities to find or create meaningful results and spaces. For me the sensory aspects are key in architectural exploration, although other ways necessary as well. Besides that I always keep an intense sense for technological aspects of a task. Therefore I cannot exclusively position myself in the episteme of phenomenology.

V. LITERATURE

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