

# **Research Plan**

**Borders and Territories Graduation Studio**

**AR3A010 Research Plan  
MSc Architecture, Technische Universiteit Delft**

**Friso van Dijk  
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**Academic year 2021/2022**

## In Shadows we Boogie

The space and atmosphere created within the shell of architecture has always been of particular interest to me. It appears that way one processes space might be based on less physical elements than architects seem to usually imply. In this vein the words of Endell resonate strongly with me: *"Whosoever thinks of architecture initially always thinks of the elements of the building, the facades, the columns, the ornaments and yet all of that is of second rank. What is to most effect is not the shape, but it's inversion, the space, the emptiness that spreads out rhythmically between the walls, is delimited by them, and that vibrancy is more important than the walls."* (August Endell, 1995, p199). If we pose our perception of architecture as a consequence of the phenomena, that it causes. What then are the phenomena that shape the way we process the world we perceive?

When talking about light pollution one imagines greenhouses and cities taking away the stars. Yet, lately I have noticed that most buildings built after the advent of modernism are flooded with light from all directions, effectively banishing shadows. Is it possible that light pollution has infiltrated not just the natural world, but also our artificial ones? In the pursuit of functional optimization it seems we have lost the appreciation for contrast. Yet this super-luminance does not just allow one to see their handwriting better, it also flattens all texture and reduces spaces to two dimensions. Spaces dominated by light in this manner lose all atmosphere and potential for intimacy or personal attachment. Could it then be, that shadows are intrinsically linked to the way one processes the world?

Time is an element imposed on any structure or landscape, yet it is only rendered visible by the movement of light and shadow. From the dramatic elongated silhouettes cast at sundown to the small outline present at noon, shadows allow us to subconsciously understand not just where we are, but when we are. This might then signify shadow's importance to perception, other than as means of visual contrast.

Shadows are almost omnipresent, if there is light, there is also its dark counterpart. Yet it seems that the (western) architectural design process has largely ignored the existence of shadow. Window placement is based on how much façade area has to consist of glass and how much Lux you manage to drag into the building within this percentage. Or vice versa, how much light needs to be kept out to keep the interior climate in check.

How then do we switch gears and construct space from the way one processes the world? How do we design with an intangible material, with shadow?

**Key Words:** shadows, perception, space, phenomenology, non-objective photography

### **Rationale: Space is Processed and constructed from shadows**

The human eye is theorized to create a two-dimensional impression, mostly consisting of discontinuities in luminance, to relay whatever is presented in front of it to the brain (Brandi & Brandi, 2002, p12). Then there would be no way around the fact that these differences in luminance are at the very foundation of our understanding of space, matter and time. These differences can be expressed in all sorts of ways, from gradient like shade or stark shadows, to the brightness of the sun.

Yet it takes a considerable measure of concentration to consciously experience shadows and consequently study them. Considering the speed with which we perceive the world it then seems that we somehow process shadows by comparing them to a model or database of previously found situations, rather than concluding anything from them in the moment (Brandi & Brandi, 2002, pp. 12-13). This occasionally leads to a phenomenon where the cartesian understanding of space from its shadows is broken by the very shadows that usually create it. Especially when viewing intricate patterned or layered shadows the depth of an object is eclipsed by the depth and detail

present in the shadow cast upon it. Effectively creating a multidimensionality in the shadow that overshadows the three dimensions of the object.

This overruling of the traditional understanding by shadows can also happen in reverse, as it seems all visual capabilities work at the same time and overrule each other when deemed appropriate. Casati found examples of this when turning images upside down, turning concave shapes into convex shapes. Which he presumes to be caused by our brain consistently assuming that light comes from above (Casati, 2002, p48). Another example of this is when looking at an image of a mask from the front or the back, both appear to have the shape of a normal face, even when the shadows of the back of the mask correspond to the inverse shape of a face (Casati, 2002, p48).

In order to use shadows as an element of architecture an understanding of their behaviour in different situations must be gained. Especially if one would purposefully challenge a cartesian understanding and invite a more phenomenological perception of space. Would it then be possible to somehow construct a database of situations that can be accessed as the brain would? To gain an understanding of how they are, at once, two dimensional projections of three dimensional objects as well as multidimensional entities that have their own depth. To what extent can shadows flatten the perception of a three dimensional space to create their own multidimensional experience? What characteristics of the casting object add to the multidimensionality of the cast shadow? Do certain spatial elements force an override by the perceptive systems, like the example Casati found in facial recognition, and if so, which elements?

### **Methodology: Reconstructing shadow as measure for processed space**

To approach shadows from a phenomenological angle and to separate shadow from architecture we restrict the measure to the very base element that characterizes shadow: luminance. In doing so placing the photography within the frame of non-objective photography, where *"... photography is able to extract itself from dealing only with questions of truth..."* (Rubinstein, 2013. p9) and where *"The visibility of the image is inherent in its unique visuality and is embedded in the ways it is looked at."* (Rubinstein, 2013. P260).

The approach adopted to attempt to gain insight into shadows as they are processed will start with the construction of a framework through photography. Specifically the imagery will be reduced to a black and white, analog photographic impressions of found situations. This would reduce the image to luminance, texture and composition, disregarding the option for post processing found in digital tools. Posing photography not as a faithful reproduction of the world, but rather as a reproduction of the world as processed by the viewer. Further, the use of analog photography has a second benefit, the time shift between taking of the photo and final viewing creates a degree of separation between the situation remembered as a 3D space and the image created that reduces the situation to its luminance.

The ensuing photographs can subsequently be analysed and spatialized through a number of techniques like photomontage, drawing or collage. The resulting imagery would create an understanding of the boundary conditions that could be created in the later design stages.

### **Reflection**

Through the act of photographing shadows on site during the excursion to Marseille the importance of shadows to our understanding or misunderstanding of space was highlighted. I firmly believe that they are pivotal in our perception of the world and therefore should be considered during the design process. As it stands it seems that they are mostly left out in favour of inviting as much light in as possible in most modern buildings. Walking around whilst actively studying shadow and light led me to noticing the role shadows play in occasionally disrupting our cartesian understanding of the space they were present in. This reinforced the idea that I wanted to approach the subject from a phenomenological point of view.

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