

Acknowledgments

I feel deep gratitude for three great authors among many others. These three have expanded my understanding of architecture and the world: the Finnish architect Alvar Aalto; American psychoanalyst and Jungian student, Robert A. Johnson; and last and not least the Italian physicist Carlo Rovelli.

I saw Aalto's architecture one to one for the first time as a young student of architecture travelling one month by Interrail across Scandinavia. I visited all of the places with Aalto's architecture, studied the relation between the sites and the architecture, and explored the interiors of the buildings wherever this was possible. Maybe at that time I didn't understand his architectural theory, but his buildings in relation to nature, to urban places and landscapes, and to light, moved me deeply. Later, I saw a lot of world famous modern and contemporary architecture, but there were just few among them that moved me so deeply as he did with so many of his buildings. In this essay on light, I focus on his studio in Helsinki and try to show how he modulated the architecture with sunlight, as sunlight would be his chisel for sculpting the building. The architect's result of working with sunlight is an astonishing piece of art.

Aalto claimed that architects need to work for people and that we need to understand them when they are at their weakest. Why? I believe, the only reason is to empower people. Similarly, Robert A. Johnson empowers people with his many books. One of them is *Owning Your Own Shadow*. While I was interested in what light is and what impact it has on architecture, it became automatically obvious that I needed to consider shadows and darkness together with light. I already read the book before I had an exhibi-

tion of my works in February 2024 and titled it: SPACE = LIGHT (+ SHADOWS). It was one of the photographic exhibitions on my research of micro natural structures through the eyes of an architect. Which is to say, I have tried to understand the relations between volumes and voids of the micro structures. I observed them through a simple lens. The research revealed the beauty of relations between different layers and elements of the structures, and the beauty itself hidden in unusual proportions, a kind of universality on other scales, and that there were no symmetrical patterns in the observed structures. They cannot be observed without light and shadows. Even more, changing sunlight shows different relations between elements of the structures, and of course different shadows. According to Robert A. Johnson and Carlo Rovelli, we can pose the question: how big is the cloud of different possible relations between light and shadows in which we still find a balance – not only in natural structures, but also in architecture, urban design, and in landscape architecture.

Professor Rovelli most probably would not agree with the metaphoric equation I have used for the exhibition's title. I encountered the famous physicist for the first time in his interview for the Slovenian newspaper *Delo, Sobotna priloga* in September 2024. From the time I pursued my PhD and much later since 2010 when I started researching micro natural structures, interpreting them in paper models, I tried to understand what space is. Usually, we build architecture in space. But I think that a consideration that we should work with space not just in space is much more important than to simply build in space and ignore its existence. In the Rovelli interview, I liked so many thoughts he expressed. However, there was one sentence that attracted my attention the most. He said that in the smallest scale of observation, space shows a granular subatomic structure. I am probably one of many thankful readers of his books who enjoy reading them because we are mathematical amateurs and simple lovers of the magnificent universe. With the help of Rovelli, we understand a lot more than we did before. Through his books we can

feel his enthusiasm for exploration of the world, its reality, and its beauty. We can imagine the complicated mathematical equations we have no ability to understand, and we can believe him when he talks about the beauty and simplicity of final formulas. Most of us are deeply thankful for giving us this knowledge in a simplified version that we can understand. So, I have found an answer to my two questions in his book *Reality Is Not What It Seems*. The questions what is space and what is light are probably the most difficult questions. Understanding the mathematical equations for both is absolutely beyond my abilities, but the professor's answer is simple: the reality of all things is relational. A physical system manifests itself only by interacting with another. What a relief for an architect! Architecture can therefore manifest itself only by interacting with another architecture, with an open urban space or landscape, but even more importantly, it can manifest itself only by interacting with space itself, and with light in the space.

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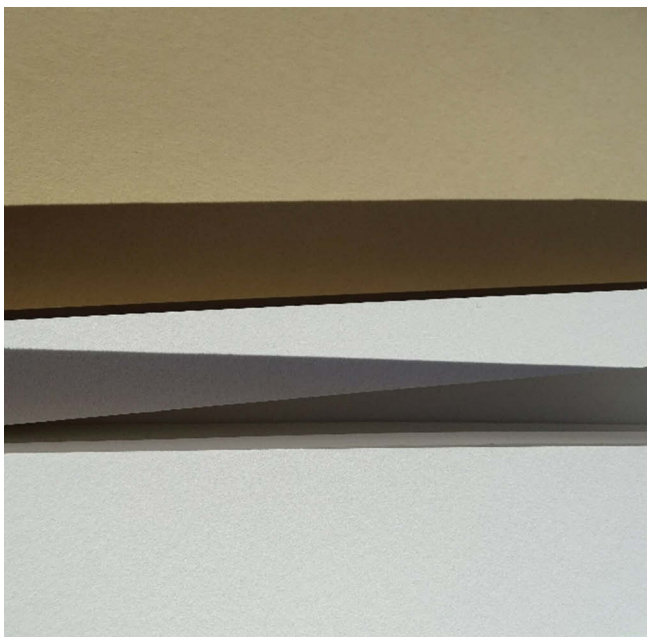


Fig. i: paper model of micro natural structure and photo:

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From the exhibition SPACE = LIGHT + (SHADDOW), DLUL, Ljubljana,
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