Exploring Light Qualities in Sustainable Homes

Part of the PhD project: “A Method for Holistic Evaluation of Sustainable Buildings”

Light anatomy

“Only wish that the first really worthwhile discovery of science would be that it recognized that the unmeasurable is what they’re really fighting to understand, and that the measurable is only the servant of the unmeasurable; that everything that man makes must be fundamentally unmeasurable.”

– Louis Kahn

Project description of PhD project

“Measuring qualitative and quantitative aspects of sustainable homes can help demonstrate that its occupants experience benefits of a healthier indoor climate and effects on the surrounding environment. Qualitative performance is mapped through measurements on occupants’ registered and verbalized experiences and through questionnaires, blogs and field conditions. Quantitative performance in sustainable homes can only be determined through both technical, functional, and aesthetic aspects of the house. Methods for measuring the performances are intended to develop a holistic evaluation method that can compare sustainable homes and buildings. Now, more than ever, a holistic approach to sustainable buildings is needed to compare the aesthetic and qualitative aspects of sustainable buildings with the value of either of them.

Research set up

The research project consists of measuring, registering, and recording the conditions and experiences of the technical, functional, aesthetic, and qualitative qualities of the sustainable buildings. The qualitative performances are mapped through measurements on occupants’ registered and verbalized experiences and through questionnaires, blogs and field conditions. The project focus on inter-disciplinary research design and methodology to explore, a literature study in quality aspects of buildings and sustainable buildings, analysing and comparing seven houses and occupants – through observations, monitor and registre the technical and functional aspects of light utilisation, and the aesthetic aspects if used and integrated intelligently in the design of the sustainable buildings. The project focus on exploring the technical, functional, aesthetic and qualitative aspects of sustainable buildings and how can we determine light qualities in sustainable homes? How can we determine light qualities in sustainable homes? Light is a complex matter embracing both technical, functional, and aesthetic aspects of the sustainable buildings. How can we measure the technical and functional aspects of light utilisation, and the aesthetic aspects of light, within a sustainable building? How can we determine the aesthetic and qualitative aspects of sustainable buildings, not distinguishing the value of either of them.

Research hypotheses

The research project explores (among others) the hypothesis:

How can we determine light qualities in sustainable homes?

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