



Situating the light: Methodology for sensory and spatial fieldwork

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Knowledge of the situated light and its dynamics is crucial for understanding how aging and vision loss affects everyday life. The sensory and spatial are entwined in our experiences of our surroundings, but how to develop a methodological framework for exploring the role of light as vision changes?

Methodology development

How to design a methodological framework that can allow us to explore sensory and spatial experiences of visually impaired in their luminous home environment? How do we talk about light when the phenomena of aging and vision loss constitute a dynamic variable to how we perceive and use our surroundings?

The act of mixing methods, such as numbers and narratives is a delicate matter, one providing facts and the other providing meaning [1]. The project "The role of light when vision changes" [2] draws on knowledge from the field of low-vision rehabilitation and aims to translate the knowledge to architectural research and lighting design. The paper presents the development process of the methodological framework of the project's first phase, including an analysis of a) the research paradigms and tools represented in the project group, b) the synthesis and adjustment with the approaches from low-vision rehabilitation [3] in a toolbox, and c) the hands-on testing of the tools.

New shared technological frame

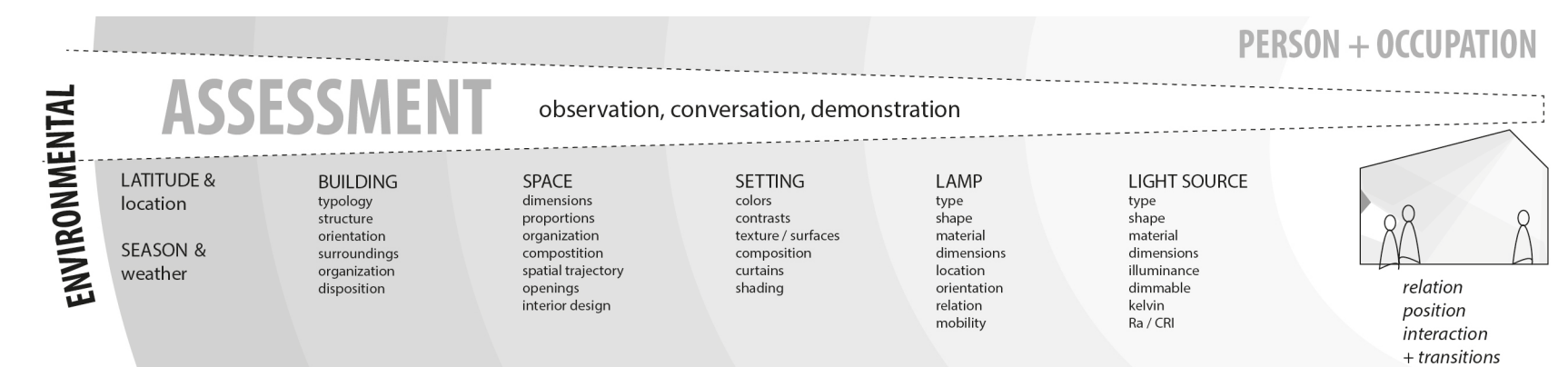
Technological frames (TF) is a theoretical concept that describe how a technology is understood in a social group [4] of goals, key problems, theories, rules of thumb, and testing procedures, structures the use and/or design of the technology.

In the method development the different TF's of the project group are identified and brought together in a new common TF, combining architectural, philosophical, and sensory ethnographical approaches which we believe will support the identification and mapping of spatial and sensory knowledge in our fieldwork.

We do expect more iterations with the methodology as we proceed in the project, especially regarding the lighting measures and the different roles of the photography. Furthermore, we have identified *transitions* and *thresholds* as particularly relevant categories for further exploration, as they can embed the dynamic and fluctuating character of both the spatial and the sensory in human-environment interaction.

Research paradigms	Tools – spatial perception	Tools – sensory perception
1 Autoethnography	Narratives – Needs and (dis)abilities regarding light levels, direction, magnification, distance, and contrast.	First-person personal observations related to situations and the trajectory of impairment.
2 Science and technology studies practice theory, and architectural anthropology	Observations/descriptions of everyday practices and socio-material interactions. Mapping, drawing, and photos.	Second-person (walk-along) interviews and third-person observations.
3 Phenomenology	Observations and architectural assessments – Orientation, rhythm, context, windows, relationship to space function, contrast, reflections, and photos.	First-person personal observations – How do space and things look? Second-person interviews.
4 Meteorology and phenomenology	Observations and mixed-method lighting assessments. Luminance mapping, daylight factor, lux levels, and photos.	First-person observations of dynamic daylight.
5 Ethnography and lighting engineering	Observation of atmospheres, photography, illuminance mapping, and luminance-based uniformity assessments.	First-person assessment and design process and second-person interviews.

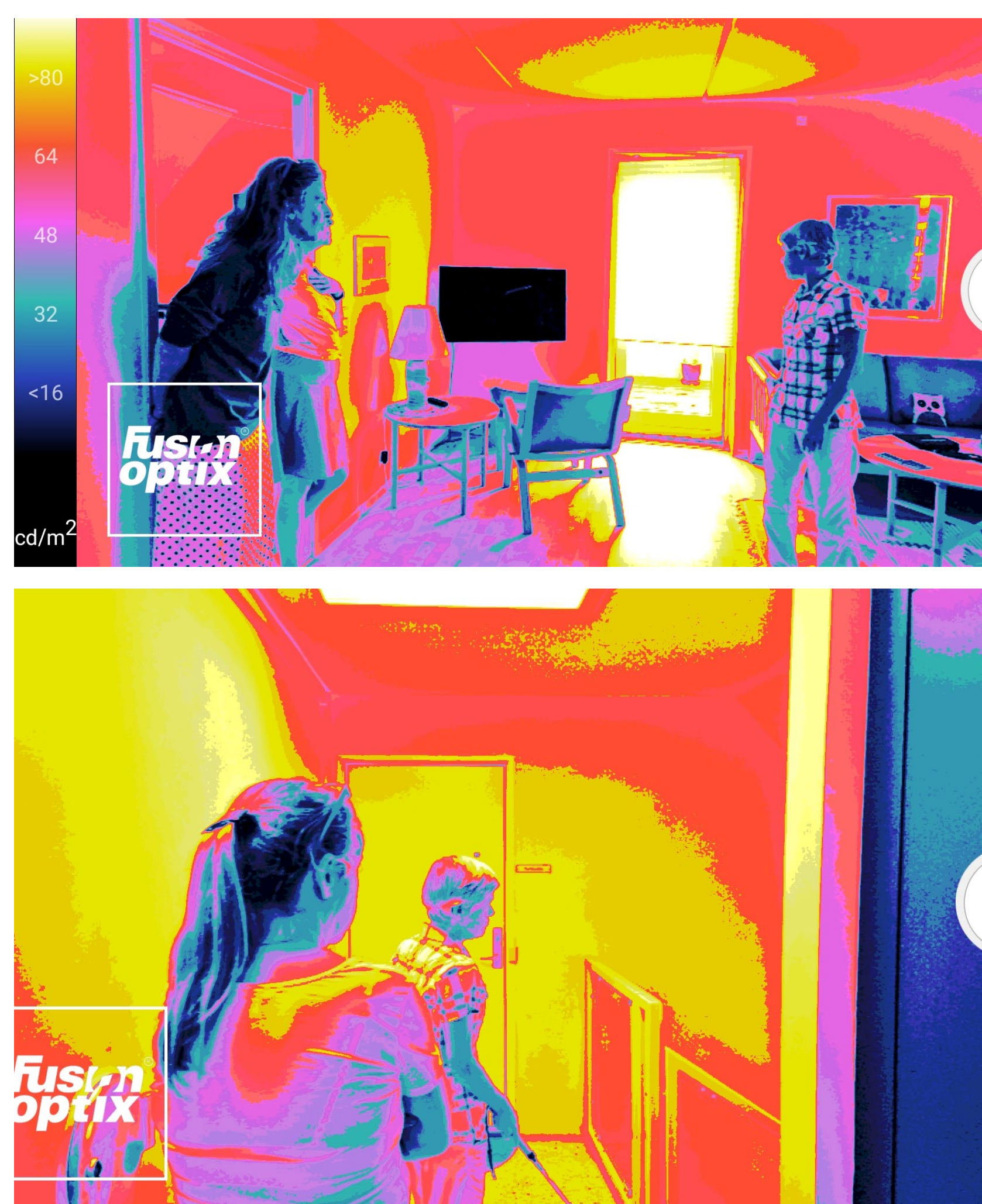
Paradigms and tools of the individual group members.



Model for assessing the spatial setting of the building environment and its lighting technologies.



From testing the toolbox in an home environment. Photo of the participant demonstrating aspects of her everyday practice. Foto: Senja Ruuhonen.

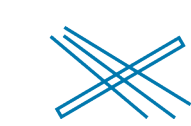


From the fieldstudies of testing the observation and interview method. Photos and luminance recordings from the demonstrations and discussions. Fotos: Senja Ruuhonen and Turid Borgestrand Øien.

Aknowledgements

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VELUX FONDEN



Referencer

- [1] Norman D 2023 *Design for a better world. Meaningful, sustainable, humanity centred* MIT Press
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- [3] Øien T B 2022 A study of environmental factors in low vision rehabilitation *Frontiers in Rehabilitation Sciences* 3 829903
- [4] Bijker W E 1987 The social construction of Bakelite: Towards a theory of invention Eds W E Bijker, T P Hughes and T Pinch *The social construction of technological systems* MIT Press

