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RESEARCH AMBITION

The yet recent development of solid-state technologies such as light-emitting diodes and microprocessors is slowly reshaping the architectural practice. New spaces can be conceived, featuring dynamic, responsive, and furthermore adaptive qualities. The aesthetic experience of people navigating these spaces is thus transformed. It is necessary to develop a fine knowledge of these new forms, in order to comprehend their possibilities and limits better.

RESEARCH PROCESS

This explorative research work went through the design of an experiential instrument. This full-scale device is an architectural prototype which opens for staging one or several human agents, in order to witness their aesthetical experience in situ. Some participants are invited to physically navigate the space formed by the instrument – one by one or two by two –, and to express their perceptions and sensations throughout the experiment.

EXPERIENTIAL INSTRUMENT

This research work was focused on responsive forms of lighting, according to the following specificities of the device: Five kinetic lighting fixtures are able to emit white light beams in various directions, with variable intensities and color temperatures. A computer application allows different lighting behaviors to be staged. Variations in the lighting then depend on the position or the orientation of a person in the space. This information is informed in real time by a human agent, who simulates the device's sensibility.

OUTCOMES

This work's ambition is larger than what was achievable during the project. Defining a coherent aesthetical paradigm for responsive lighting design would require a further exploration of some experiential situations (perception of depth, movement, or distance between agents…) and of some lighting parameters (inclination, beam width, spatial configuration…). This work nonetheless allowed for clarifying some explorative directions, at least in the framework defined by the device's parameters. Furthermore, some observations were discussed in the light of established notions: directionality and perceptual constancy, questioning new implications when architectural lighting reacts to presence and movement of agents in the space.

SOME REFERENCES

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