Chapter 20
Corporeal Architecture: A Methodology to Teach Interior Design and Architecture With a Focus on Embodiment

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ABSTRACT

This chapter describes a teaching method, corporeal architecture, which uses performance art and neuroscience to teach interior design and architecture with a focus on embodiment and experience. The method sets new approaches to teach design, as it integrates design, neuroscience, and performance art and brings awareness to the importance of multi-sensory experience. The interaction with design objects at different scales is taken as an opportunity to investigate how the human body relates to space and allow the exploration of affordances through movement. Students are instructed with physical exercises and encouraged to design, build, and perform with objects such as chairs, cabinets and tables, installations, existing buildings, and public spaces. The performances explore narratives which reveal or subvert expectations we have around design objects. The methodology has a background in phenomenology, Maurice Merleau-Ponty and Juhani Pallasmaa; Antonio Damásio in neuroscience; and Oskar Schlemmer, Marina Abramovic, and Stelarc in Performance Art.

INTRODUCTION

This chapter describes the teaching method Corporeal Architecture which has been initially developed as Maria da Piedade Ferreira's doctoral thesis (2016), exploring the topic of the body and architecture, integrating ideas on embodiment (Varela, et. al, 1991), neuroscience (Eberhard, 2009) and performance art (Marshall, 2008). Corporeal Architecture is a teaching method that aims to develop somatic self-awareness and creativity by the use of performance art as a tool to teach design. In this sense, students are invited to design from a body-conscious perspective, aiming for solutions that address the human

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body holistically and promote health and well-being (Ruggles, 2017). As part of the method, students work directly with their bodies in movement and with the senses to discover design possibilities.

The designs are developed through the use of different media including analog and digital tools and are built as mock-ups, prototypes, large scale models and installations. The performances also take place in already existing interior spaces, buildings and urban settings, in oder to explore through play how they become alive through human action. Video is used as part of the performances as documentation and as an extension of the human body's sensorium, in order to investigate with multi sensory modalities and narratives.

Corporeal Architecture explores the idea that the whole design and learning process is embodied and proposes that working with objects at human scale, especially in the context of interior design, allows a more playful experimentation with design possibilities, while letting the body move freely and explore through haptics and movement the affordances of the materials and of the design solutions themselves. The concept of affordances was introduced by James Gibson (1986) and has regained interest recently through the work of cognitive and neuroscientists such as Alva Noë (2004). The incorporation of neurosciences as part of the theoretical support of the practical work of Corporeal Architecture aims to sensitise students for how the built environment and design objects in different scales, inevitably condition how we act and think, while guiding the actions of our bodies and therefore shaping our brains (Goldhagen, 2017). Students learn to pay attention to how the qualities of a room, a building, a street, a city but also of a chair or table shape their habits and represent narratives and protocols of interaction in the world. They are encouraged to analyse their own patterns of interaction with such objects or spatial situations and through this reflection understand how this methodology can be used during the design process itself, and not only to make a posteriori evaluations of the success of a design.

Neuroscience, especially in the work of Antonio Damásio (1999, 2003) and Michael Arbib (2015), suggests that understanding our emotional responses to the built environment is not only a matter of decoding the mechanics of our nervous system, but of understanding the biological embodied nature of the human organism as a whole. The purpose of this chapter is to present a set of experiments in teaching where the Corporeal Architecture method was applied by integrating neuroscience and performance art.

BACKGROUND

Inspired by new developments which integrate architecture and neuroscience (Mallgrave, 2010), Corporeal Architecture also integrates emotion measurement tools (Kim, et al, 2015) and questionnaires (Bradley, Lang, 1994; Lang, 1998) to evaluate the experience of the body while interacting with the designs. Such methodologies are frequent in the fields of neuroergonomics, computer science and marketing, in order to understand through psycho-physical evaluation how the body/ brain reacts to certain stimuli, but only recently such practices have started to be incorporated in the design process as well (Sussman, Hollander, 2015). Emotion measurement machinery is frequently used in medical contexts, or for the purposes of physical evaluation, for example in physical training/conditioning for competitive sports. Corporeal Architecture takes reference from the work of performance artist Stelarc, who has incorporated technology in his performances interpreted as an extension of the human body. For Stelarc the human body has always been prosthetic, revealing our interdependence with technology. Stelarc uses emotion measurement machinery to aesthetically translate into quantifiable means the impulses that the body produces, while performing under certain conditions. This is also a reference to the methods of Taylorism,