



RABBITHOLE RESEARCH (RBT_H0L) TOWARDS A HYBRID MODELING TECHNIQUE IN ARCHITECTURE

AILEEN IVERSON

What if there were a way to design with models in the computer similar to the way that we design with them in physical space?

As architects we are problem solvers through the making of objects; a highly physical design process similar to sculpting methodology, engaging a rich field of encounters and information seen and unseen – sensed; a process of understanding-through-doing that is capable of reaching complex levels of comprehension beyond the cognitive.

What if we can bring this level of engagement into the digital design environment with all of its power of parametric manipulations?

This research project is designed to examine these questions: first, how to bring aspects of physical modeling into the digital design environment. Second, examining what this brings to the design process, to

architecture and theory.

This research uses the relatively new technologies of DIY sensors and micro-processors, adding their sensory data capability (pressure, flexion, weight, etc.) into the 3D environment, thus creating a hybrid physical-digital modeling technique. The goal is to achieve workability that approximates haptic methods and associated inherent material understanding, on which architectural practice is founded.

By focusing on modeling, the research specifically targets architectural design process, the early stages of design analysis and investigation, seeking maximum impact affecting the way we make/ think about architecture.

The project is motivated by writings of Juhani Pallasmaa and works of Classical Sculpture in identifying

the act of modeling/ sculpting/ designing as one requiring the complex metric of physical systems necessary to examining questions spatially:

In the writings of Juhani Pallasmaa, specifically identifying the problematic that contemporary architectural design practice is dominated by a visual-based/ image-oriented methodology.

Classical Sculpture, specifically contrapposto, which deliberately initiates the figure in an off-balance pose, thus necessitates design as direct mitigation of physical properties.

Lastly, this research is influenced by my 20+ years of architectural practice, one congruous with the shift in architecture from analogue (physical drafting and modeling) to digital; sensitizing me to what has been lost and gained in this shift.

