

Exquisite Drawing Machines: A Tinkerer's Guide

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Declaration

I hereby certify that the work embodied in the thesis is my own work, conducted under normal supervision.

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Timothy Burke (27 August, 2018)

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Abstract

Through an exhibition, creative work, and exegesis, this practice-based doctorate will examine a tinkering practice that explores architecture through the assembly and deployment of experimental drawing machines. These *Exquisite Drawing Machines* are made to operate in unexpected ways. This involves a deliberate negation of the process of generating architecture and repositions the aim toward generating critical processes of design. Here, drawing machines offer architects new avenues of working, shifting the architect's role from drawing to tinkering. By designing through making, tinkering offers an alternative mode of practice that critiques the orthodoxies of normative architectural design procedures and explores the transformative possibilities latent in objects. Through methods of play the *Exquisite Drawing Machines* demonstrate qualities of indeterminacy, irrationality and novelty which invite readings into the machines – how they are made, how they function and the drawings they produce.

This thesis is structured in three parts, which break down the ways in which I practice. The three parts are: modes of criticality, modes of tinkering, and modes of playing. I will investigate the categories of criticality, tinkering and playing in order to develop an expanded model of practice. Each part will explore the *Exquisite Drawing Machines* through a series of essays, reflections and guide-books to offer a tinkerer's guide to architecture. Here, the contribution to new knowledge is through an understanding of how drawing machines can provide an explorative framework for speculating in architecture, particularly in developing a practice of tinkering that contributes to the expanded field of machine-architecture. Demonstrative of the overall argument, this exegesis contributes new knowledge through a body of creative work associated with the creation of seventeen drawing machines, a critical theory of the machine applied within creative practice, the application of tinkering as a model of architectural practice, the development of play as an investigative drawing procedure, and a series of illustrated guides for application in research, practice and education. There is an opportunity to draw upon the discoveries that emerge from tinkering and play to expand the limitations of existing systems of design.