

Drawn Out...

parametric techniques for ~~representing~~ constructing architectural space

Part One: Projectile

Description

Anamorphic projection is a long-standing representational technique closely linked to the abstracting methodologies of perspectival construction. Historically, anamorphosis was used to cloak discursive content – often erotic or political in nature – within an image. The illusion was only to be revealed from a privileged vantage point (e.g. a throne). The technique continues to fascinate, and also suggests new currency for architects, less as a strategy for concealing content or visual trickery and more as a method for disrupting spatial presuppositions thereby pushing physical space to the foreground of perception amidst our overwhelmingly technologically mediated experience. The use of parametric modeling software to study projection also suggests the possibility of multiple viewpoints within a spatial continuum as opposed to a singular privileged view.



an example of catoptric projection

Design Problem

In teams, students will construct a parametric drawing machine based on historic modes of projection in visual representation. Students will use these parametric machines to construct material projections in physical space that are legible from multiple viewpoints.

1.1 look

Projectile begins by asking you to take stock of your everyday surroundings. In particular, you are asked to locate a spatial sequence in the built environment that forces a well defined vantage point. Look for spaces that are: directional, long / tall, have a terminus, and contain peripheral attractors. Also consider spaces which encourage movement through and / or stopping and looking at (circulation, transitional space, seated vs. standing). As you investigate be cognisant of existing perspectival clues (grids, repetitive elements, strong vanishing lines).

1.2 construct

Using images and basic field measurements, build a surface model of your chosen space and locate potential views within the space of the model. Map views in the digital model based on known vantage points from the physical location you are documenting (for instance a stoplight would suggest finding the view of a seated viewer, or a nearby parking deck might suggest a series of views from each level looking down toward the street). This may entail a base layer of annotative markings and constructed views in the digital space of your file (e.g. construction lines, points in space, cones of vision...). The map should foster awareness of the mechanics of perceptual possibilities within the space of the model.

parametric modeling

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1.4 scaffold

Using the perceptual map of your model as an ordering framework, construct an anamorphic drawing machine within the space of your model. The drawing machine should be parametric (use Grasshopper) and afford the potential of multiple projections / vantage points for viewing.

1.5 project

Using your parametric drawing machine project into the space of your model. Your projections may consist of lines, surfaces, and patterns. When producing projections in your model consider the tension between: recognizable geometry and the skewed forms of anamorphic projection, filmic vision during circulation and fixed vision while stationary, projections that resolve at a single location and projections that incorporate multiple vantage points.

1.6 construct

Based upon your experimental projections, construct three (in a series) physical models of your projectile. You are encourage to use the tools of the fabrication lab in this workflow. Many of you may find that 3D printing is the best option. These models should be displayed within a minimal representation of the context of your chosen site. In addition to the physical models create animations to document the experience of walking through / around your projectile.

Schedule:

Working Discussion with Groups: 11.07

Projectiles due: 11.14

Deliverables:

3 x physical models with context

Supporting animations