Proyectos 6 /// Prof. Elena Fernandez /// UPC /// Primavera 2015
Instructor: Philip Speranza, Assistant Professor, University of Oregon

Exercise 03: Purpose
Integrate topics covered and work flow developed in the Media course and apply to a design project.

Project 3 Description /// Material Affect: Parametric Wall System
As a final exercise you will apply your cumulative understanding and skills from the Media course to develop a performative wall / ceiling system for your Studio project. You will begin by defining the needs and intent for your project proposal, including location, activities, and material, then develop the proposal utilizing the tools we have learned in the Media course.

Before beginning to design, it is important to think about the method and framework for your system:

Unit + Organization + **Variation** (external force) = System

Be able to answer **what** is it, **why** it is important, **who** it affects; design intent **sentence** and **two-word title**.

Herzog + de Meuron Basel, De Young Museum, Golden Gate Park, San Francisco

Exercise 3a: Performative Seating Part 1, Designing the System from the Bottom Up, Analog Parametrics

Individually, develop a single, horizontal tabloid (A3) sheet to describe your application of the system method above. This sheet should include the following elements:
• **Purpose, Two-word title** // Describe what it is (Affect)
• **Location** // What is your module wall area?
• **Design Intent Paragraph** // Use a 10 or 12-point font and describe the overall affect (think quality, activity) and **5+ conditions** of that affect. What will the wall system do? What is the unit, what is the operation/variation (i.e. how does it achieve the intent, how does the system adapt to different conditions)? Who is this for and why is it important? Identify your **external inputs** (sun, view, internal program). Use qualitative (feeling, ideas, intent) and quantitative (measurements, numbers) language to precisely describe your design intent.
• **Material and Construction Method** // Choose from: Chapa perforada (surface), Bloques (bricks), Lamas, Ventanas, Huecos (Boolean Subtraction)

Affects:
light
view out
view in (privacy)
thermal
ventillation
solar orientation
radiance
sound
structural (lateral)
imagery
human fit

Shift

Motion

Wane

• **Generative Diagrams** // Catalog the conditions with simple 1-d diagrams (5+; see **SHoP Dunescape**). What are the implications of these for the unit/material/operation you have selected? Show in simple diagrams how the system adapts to different conditions. These diagrams should align with your written paragraph, and be simple but clean and very high quality digital drawings.

• **Multiple diagrams may come together** in one, more complex 4D diagram that overlays multiple conditions and spatial data.

• **"Dumb" 3D Model** // Using Rhino, begin to explore the 3D implications of your design ideas. Work at human scale as you integrate the abstract ideas and test conditions in different iterations. Export your work as a Make2D line drawing or drawings, use lineweights and one tone or color (Illustrator) to communicate your design. Include a scale person. Use the analog design tool to test the parametric operation. This may be an opportunity to test lighting with V-ray, if that is important to your affect statement.

Consider layout and typography in your submission, as well as the overall composition of images and text copy.

Exercise 7b: Rendering and Collage

Develop your performative wall system with digital parametric tools (Grasshopper) in groups of two. Use one of the provided definition templates as a starting point, then develop your script utilizing the skills you have learned this term. Create design drawings and renderings of your final proposal (see below).

Elevation Study

Interior Elevation

Tutorial:
Vray for Rhino
Rhino 3 (Camera setup)
Grasshopper 1-3

Deliverables
Exercise 7a: A3 [1]
Exercise 7b: A3 [1]
perspective rendering showing your project being used (e.g. with people); 3 diagrams showing close-ups of different conditions (Make2D with tone and people); scaled **partial** plan and elevation drawings of your project (small scale); tasteful image of your final Grasshopper script.
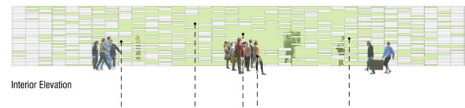
Learning Objectives
• To learn a practical application of parametric system design.
Evaluation Criteria:
• Ability to creatively connect design intent to experience
• Ability to develop and apply an analog parametric design workflow
• Ability to develop and apply a digital parametric design workflow

Sectional Perspective

Schedule:
Assigned: Monday, March 16
7a Due: Monday, March 23
7b Due: Thursday, November 26