

Architecture Studio: 1st Year Spring

Spring 2014, CMU, Arch #48-105, M/W 12:30-4:20
Class Website: www.andrew.cmu.edu/course/48-105

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(1/17/14)

Project 1A: TECTONIC SYSTEMS: Sticks & Planes

Proj.1a, ASSIGNMENT 4 - IN CLASS & HOMEWORK (due Wed. 1/22, 1:30pm)

Based on your experiments and designs with paper and sticks up to this point, create a new structure combining paper, sticks, glue and wire that allows a marble to move, and stop. Present your work as the culmination of a series of well-crafted models that explain your intent and design process clearly. If necessary, revise your previous models to make them more obviously part of the series.

Follow the assignment of your instructor, or use these suggestions to move forward:

1) ITERATE STICK MODEL: Consider doing another iteration of the stick model, based on the feedback and learning from studio today, and knowing what the next assignment is.

2) SYNTHESIS: In combining paper and wood, do not merely combine, conflate, or overlay your paper model with a stick translation. Rather evolve something that is "improved" with respect to "performance" and "intent," perhaps also something surprisingly new. Synthesis should lead to innovation.

3) MARBLE PERFORMANCE: This model must function with the marble. Although the movement of the marble can change from your first model to the next, be sure to retain the emphasis on "performance" of the marble, both as a choreographed spectacle or idea, as well as the functional criteria that guided the design of your paper structure. How can the marble's performance be enhanced or magnified with the introduction of the new, albeit very different wood system? What attributes or ideas can be furthered or maximized? What aspects might fall away or be edited out of your design to make it more clear?

3) JOINTS: Experiment and create an exhaustive catalogue of the many different ways that paper and sticks can be joined, from skewers that puncture perpendicularly through a plane, to ribs or frames that are glued flat onto the paper to give rigidity and structure. What other connections can you invent? How can connections and joinery lead to a new solution?

4) STRUCTURAL SYSTEM: Relationship of structure and form can vary greatly. Often structure is hidden inside the form, as in the steel skeleton of a building, or the skeleton inside of an organism. Other times the structure is on the outside, an "exo-skeleton," and helps determine the form and "performance" of the building or organism. In buildings, it is often a hybrid: parts of the structure are visible and form-giving, others are hidden. What are the different ways that your wood and paper systems might relate to each other? Are they woven seamlessly together, is one dominant, or is one being supported by the other? Can the sticks be combined to create planes? Can the paper be cut/folded to act like sticks? Do the different systems perform different functions? Do they contribute to the performance in the same way? Make several study models to test several different relationships.

5) SPATIAL DEFINITION: Think back to your work on "clear spatial definition" from your three-planes or cube house project last semester. Although most of you are now working in non-orthogonal geometries, the principle of architecture as space-making still applies. Apply some of those same principles to this structure. What are the "implied" or "defined" spaces in your project? Where are the overlapping or more ambiguously defined spaces? How to the sticks and planes contribute differently to the spatial ideas and experience of your project?

6) DRAWINGS: Create a drawing, or a series of drawings to reveal the integration of different systems in your final model(s). Consider making a series of drawings that correspond to the series of models you will present. Axonometric drawings, drawn either on the computer or by hand, are often used for this purpose, either as "exploded axo" drawings, or through some sort of multi-layered drawing technique to distinguish the systems (color, line type, line-weight, etc.). All drawings should be flat, and should NOT need to be touched or manipulated to see the layers of information.

NOTE: You have 5 days to complete the assignment. Document all your work! Don't worry about ideas that change: follow the flow of ideas. But also, don't abandon early ideas. Always learn from the previous steps; starting over is not an option. Remain flexible, and open minded. Be ready to discover something new and surprised by what you make.

