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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(2/5/14)

Project 1B: TECTONIC SYSTEMS: Blocks

In assignment #6 you were given a <u>kit of parts</u> (blocks & splines), a few <u>rules</u> (no cutting blocks, no glue or joinery, no splines at first), as well as <u>performance criteria</u> (height, area & affect), and asked to develop various stacking <u>configurations</u> to achieve these criteria. We encouraged you to take advantage of <u>repetitive</u> nature of the blocks, the power of <u>geometry</u>, and the generative force of <u>rules</u>, to develop <u>patterns</u> and create stacking <u>systems</u> that could be expanded. In order to maximize the amount of work, creative exploration, and systematic thinking that is possible, you should continue to:

- collaborate and work in <u>small teams</u>
- work in a <u>variety of media</u>, including sketches, drafted drawings, Rhino models, physical models, photography, Photoshop, color... Work in 2D and 3D representations. Work at a variety of scales, and at a variety of speeds: from quick intuitive, gestural sketches, to precisely crafted, technical prototypes, in miniature/model and life-size.
- create <u>more rigorous</u>, more systematic, more sophisticated, and higher performing stacking patterns and structures. Keep focused on the same goals/criteria.
- reveal and make more clear your <u>design process</u>, as well as the design thinking that underlies your stacks. Leave more traces of your work flow.
- articulate your patterns as a <u>shape grammar</u> or transformation rules by which you move your blocks into patterns. Diagram the moves.
- declare the underlying <u>geometric framework</u> that defines your forms. Highlight the formal scaffolding. Include more of the construction lines.
- be rigorous about <u>part-to-whole relations</u>: Does the block determine the system? How can the system help determine the best block shape(s)?
- be more specific about the <u>performance criteria</u> and issues you are most interested in pursuing, focus on 1-3 of them so you can be rigorous. Create multiple solutions, and use iteration as a method of improving the design or intensity of affect you are seeking.
- consider both <u>"local"</u> and <u>"global"</u> geometries, design both the repetitive, expandable system, and ways to "deform" or accommodate specific situations.
- begin to articulate outside <u>architectural performance criteria</u> for your system: How does it create an <u>opening</u>? How does it turn the <u>corner</u>? How does it span a <u>space</u>? How can it create <u>shade</u> or <u>privacy</u>? How does it touch the <u>ground</u> better?

Proj.1b, Assignment #7: ARTICULATED BLOCKS (Due Sun. Feb. 9, midnight)

Read Mark Garcia's article "Prologue for a History, Theory and Future of Patterns of Architecture and Spatial Design" (<u>Arch.Design</u> 2009) and research patterns in architecture (e.g. http://onlinelibrary.wiley.com.proxy.library.cmu.edu/doi/10.1002/ad.v79:6/issuetoc).

As a team explore / research the following systematic transformations of your blocks and the effect they have on the patterns, performance, and affect:

ONE CUT: Establish a single straight cut that would improve your block system, and apply it to some (or all?) the blocks. Be systematic in experimenting with the orientation, angle, proportions, etc.   Consider both the shape of the remaining block, and the "waste" or cut-off pieces. What if there are multiple shapes in the system? Determine and record what systematic change and principles are possible with only one cut, and how it improves performance and complexity.

TWO CUTS: See what is possible with two straight cuts; either two cuts all the way through your blocks, or partial cuts that connect to remove chunks of the block. How do compound geometries influence your block system? What added "performance" is possible with more compound geometries that was not possible with simpler shapes?

COMPLEX NOTCHING: Remove complex chunks of wood in a subtractive process to enhance performance and improve the interlock between modular, repeating units. Remain focused on stacking blocks, rather than making complex joinery.

ADD SPLINES: Add splines and sticks of various dimensions to hold together, span between, and connect your structures.

DUE: Record the results of your team's research and design efforts in a well-designed 11x17 booklet. Upload to: \\archpcserver\Studios\S14_48-105\