

# Architecture Studio: 1<sup>st</sup> Year Spring

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

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Off. Hr: by appt. in MM302

(2/20/14)

## Project 1C: TECTONIC SYSTEMS: Sticks

### LEARNING OBJECTIVES

- Build on your thinking about the role of tectonics, systems, geometry, and performance in the design process, in this case with “sticks” and “frameworks”
- Explore how construction details, in this case wood joinery, even a simple intersection, can drive a design process and become both functional and expressive, approaching the original definition of tectonics as articulated by Frampton as “poetic construction,” or Sekler as “a certain expressivity arising from the statical resistance of constructional form in such a way that the resultant form could not be accounted for in terms of structure and construction alone.”
- Understand constraints as drivers of creative imagination and problem solving
- Continue to work in an iterative, feedback loop manner, in multiple media, at various scales, from small sketches and models, to drafted construction drawings, to full-scale prototypes to test the performance of your designs.
- Continue to investigate the unique insights of working on 1:1 prototypes and “learning by making,” reflect on and be critical of early attempts, to enrich your final design.

### Proj.1C: Assignment #9: A PARSON'S TABLE

This assignment is about details, and their relationship to performance and larger systems. Read the article by Marco Frascari, “The Tell-the-Tale Detail” (1984), which discusses the role of construction details as generators of architectural ideas, design and interpretation. Other suggested readings include M. Caldwell, Strange Details (2007) esp. Ch.3; E. Ford, Five Details, Five Houses (2009), E. Ford, The Architectural Detail (2011) and books on 3<sup>rd</sup> year “Comprehensive Studio” carrel in the library.

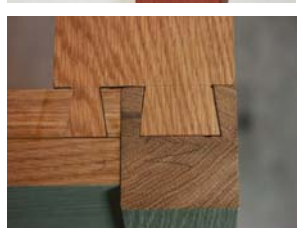
Your charge is to design a variation on a “Parson’s Table”, one of the most classic pieces of modern furniture, said to have been invented by J.F. Frank while teaching for the Parson’s School of Design in Paris in the 1930s. The original Parson’s table is a rectangular table that consists of four square legs the same thickness as the top, connected at the outside corners, and generally constructed out of solid pieces.

For this assignment a looser definition will be employed. The basic components will remain the same, however the legs, rails, and top may be either solid, or a composite assemblage of multiple pieces, glued or interlocking. Observe the following constraints:

- a) use only poplar wood, and wood connectors (work without glue at first)
- b) the table will be made only of straight members (sticks) that meet orthogonally
- c) the pieces may include tapers, notches, folded planes, and curves as detail
- d) retain a rectangular footprint, the length of two adjacent sides not to exceed 6ft.
- e) joints at leg and top should remain visible and become a major visual element
- f) the structure must withstand the forces of racking typical for all tables

### Workflow:

- 1) Design, and construct three basswood models 1 ½”=1’0” of the following joint types:
  - i) Solid leg to solid rail/top
  - ii) Solid to composite
  - iii) Composite to compositeFirst Iteration Due: Fri. Feb. 21, 12:30pm
- 2) Sketch two variations and construct one model at 3”=1’0” (quarter size)  
First Iteration Due: Mon. Feb. 24
- 3) Construct a full size prototype of one joint, including a full-height leg, and enough of each rail & top to express it completely. Revise as needed, several times to improve.  
Final Due: Mon. Mar. 3.
- 4) Create construction drawings for the entire table using Autocad  
Final Due: Mon. Mar. 3





Through Dado



End Rabbet



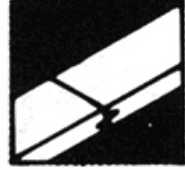
End Lap



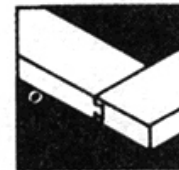
Groove



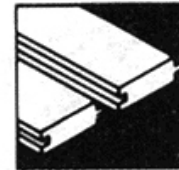
Half Cross Lap



Glue Joint



Dovetail Groove



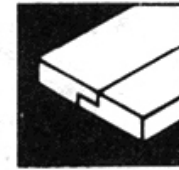
Tongue & Groove



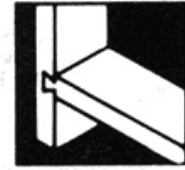
Spline



Drop Leaf



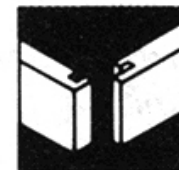
Rabbet



Dovetail Dado



Dado & Rabbet



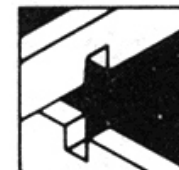
Dado Tongue & Groove



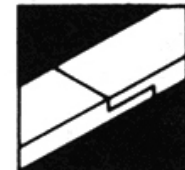
Blind Mortise & Tenon



Through Mortise & Tenon



Edge Cross Lap



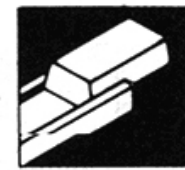
Half Lap



Tee Lap



Half Blind Lap



Door Glide & Slider

**FRAMES**

06, 18, 19, 20  
21, 22, 24, 25  
20, 29

27, 28, 30

14, 15, 16

**TABLES**

01, 06, 10, 11, 13, 17

21, 23

18, 19, 20, 21, 22, 23

25, 26, 29

<p>11 MITRED CORNER BRIDLE JOINT page 38, 20, 37</p> <p>2           E   E</p>	<p>12 CANVAS-STRETCHER JOINT page 39</p> <p>2           D</p>	<p>13 HAUNCHED MORTISE &amp; TENON 70, 78-80</p> <p>1           D   E</p>	<p>14 RABBETED MORTISE &amp; TENON 75, 78-80</p> <p>1           D   E</p>
<p>15 GROOVED-FRAME MORTISE &amp; TENON 74, 78-80</p> <p>1           D   E</p>	<p>16 MOULDED-FRAME MORTISE &amp; TENON 76, 78-80</p> <p>1           D   E</p>	<p>17 DOUBLE MORTISE &amp; TENON 66, 78-80</p> <p>1           D   E</p>	<p>18 STOPPED MORTISE &amp; TENON 69, 78-80</p> <p>1           D   E</p>
<p>19 WEDGED MORTISE &amp; TENON 72, 78-80</p> <p>1           D   E</p>	<p>20 THROUGH MORTISE &amp; TENON 64-5, 78-80</p> <p>1           D   E</p>	<p>21 TWIN MORTISE &amp; TENON 67, 78-80</p> <p>1           D   E</p>	<p>22 TWIN MORTISE &amp; TENON 67, 78-80</p> <p>1           D   E</p>
<p>23 LOOSE-WEDGED MORTISE &amp; TENON page 73</p> <p>1           D</p>	<p>24 BUTT JOINT page 18</p> <p>3   4         E   E</p>	<p>25 T-HALVING JOINT page 60, 61</p> <p>2           E   E</p>	<p>26 DOVETAIL HALVING JOINT page 62</p> <p>2           E</p>
<p>27 CROSS HALVING JOINT page 56</p> <p>2           E   E</p>	<p>28 OBLIQUE HALVING JOINT page 58</p> <p>2           E   E</p>	<p>29 T-BRIDLE JOINT page 40</p> <p>2           E   E</p>	<p>30 GLAZING-BAR HALVING JOINT page 57</p> <p>2           D</p>