

BUILDING STUDIES: SPACE & STRUCTURE: SUMMER 2009

MINDSET

The single most important source, and tool, for learning about architecture, is architecture. Experiencing and analyzing (good) buildings in person, and over an extended period of time, remains the best way to understand the complex art we call architecture. When travel is not possible, acquiring deep understanding through drawings, photos, and text becomes an essential skill for all architects. The goal of this assignment is to build on your skills from 1st year, and to help prepare you for the upcoming 2nd year "Composition" studio by expanding your ability to analyze and understand iconic works of modern architecture. Your mission is to discover and expose the underlying compositions and resultant experiences of assigned buildings so that they become part of your "visual library" of ideas.

Particular emphasis will be placed on the relationship between solid and void, between space, structure, enclosure, and mass as the basis for composition. For each building, you should ask: how does the structural system help shape the space, sensual experience, and movement through the building? How does space help reveal and clarify structure and enclosure? Seek to understand *WHAT* the architect intended with the overall design and each detail, and *WHY* the architect "composed" it that way.

YOUR WORK & PROCESS

Research the three modern architects listed on the next page, and select five buildings according to the directions provided. Then use any resources you can locate about your buildings, including internet, libraries, and bookstores, and take LOTS of (visual) notes in the form of sketches (avoid words).

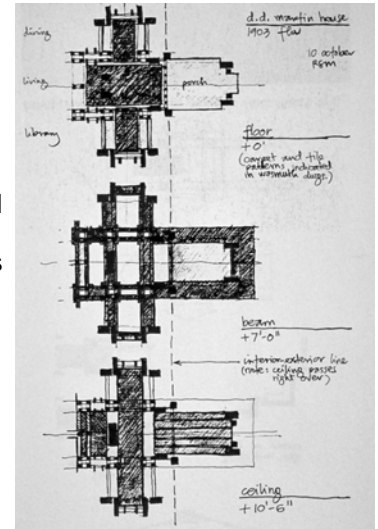
Think about, analyze, and seek to understand the design and composition of these 5 building, particularly the relationship of space and structure. Investigate your buildings at different scales, from construction details and materials, to major axes and site context. Imagine yourself walking through the building, and how your senses would be stimulated by both the space and the material structure. This process takes time, effort, and focus: start early, work iteratively, over time.

Search for compositional "principles" in order to discover the architectural "language," and the arrangement of important spaces and architectural elements (entry, walls, thresholds, openings, geometry of spaces, circulation, poche, etc). Then go beyond, by focusing on the materiality of the architecture that creates spaces and experiences through structure and mass. What is the primary structural system? Is the structural system visible? Why? What is it made of? Is it a "load-bearing wall" made by piling up materials, or a "skeletal" system made of interconnected vertical posts and horizontal beams? Is it "assembled" or "poured"? What is the relationship of the structural system to the "skin" and planes that define space? How does the geometric configuration of the structural system affect spatial experiences and movement through the building? What effect does the material, mass, and opacity of the enclosure system have on experience? Why?

Sketch the architecture, diagram separately the major structural and enclosure systems, draw important building elements, transitions, and details. Compare buildings by the same architect, and seek to find underlying design principles or "research agenda," but also differences between buildings.

ASSIGNMENT: DUE: Mon. Aug. 24, 2009, 1:30pm

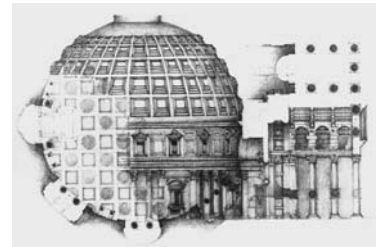
- 1) Choose from your sketch notes, and determine the clearest way of representing the unique composition and architectural intent with regard to the relationship of space and structure underlying each of your 5 buildings.
- 2) Using a soft but sharp wood pencil, create *freehand, but precise* drawings of: the main *plan(s)*, major *section(s)*, the *structural system*, the *enclosure system*, ingenious *details*, and how they relate to each other. Avoid simple "views" or perspectives; choose instead a variety of "architectural drawings" (esp. sections and axon!!) and diagrams of the physical elements of the architecture. Feel free to



Space vs. Structure in F.L. Wright's Martin House



Schematic model of Renzo Piano's AIC addition.



Pantheon Analysis



Holl, St. Ignatius, "Bottles of Light"

borrow from any photos, existing drawings or analytical diagrams you can find that present the most significant design qualities of each building; or create your own interpretations, being sure your representation reinforce the ideas.

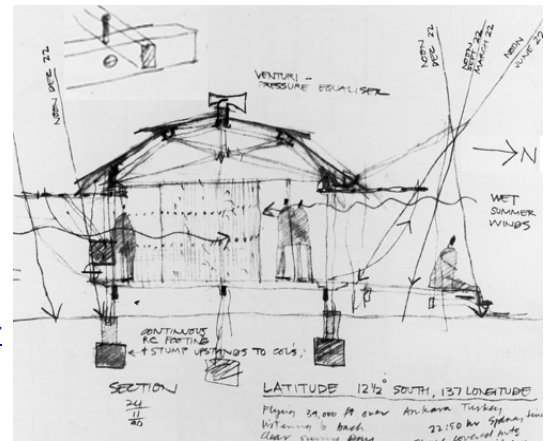
3) Carefully select, edit, and *compose* the most informative drawings (plan & section & structural system req'd) of each building on a separate, landscape-oriented, 8.5"x11" page

4) Create a cover sheet with your name.

5) Scan all six pages (5 buildings + cover) and create a single medium-resolution pdf file named: "lastname_summer study".

6) Submit to archpcserver 2nd Year Studio Documentation folder: [\\Archpcserver.andrew.ad.cmu.edu\studio_documentation\Second Year Studios\48-200 Fall 2009\Summer Building Study F09](http://Archpcserver.andrew.ad.cmu.edu/studio_documentation/Second Year Studios/48-200 Fall 2009/Summer Building Study F09)

7) Submit high quality hard copy of all 6 pages (stapled!) to the 2nd year coordinator on the first day of classes, Mon. 8/24/09.



BUILDING SELECTION

Study all four buildings by the architect assigned to your last name below, then select three buildings to analyze in depth. In addition, select one building from each of the other two architects listed below. This should lead to a total of FIVE buildings to research, analyze, and draw according to the directions on the previous page.

	Architect	Building Name	Location	Date
Students with last names A-G	Mies van der Rohe	Barcelona Pavilion	Barcelona, Spain	1929
	Ludwig	Farnsworth House	Plano, IL	1945
		Lake Shore Drive Apts.	Chicago, IL	1948-51
		New National Gallery	Berlin, Germany	1962-68
Students with last names H-M	Le Corbusier	Villa Stein at Garches	Garches, France	1929
	(C.E. Jeanneret)	Millowner's Association	Ahmedabad, India	1951
		Villa Sarabhai, Ahmedabad OR Maisons Jaoul, Paris		1953
		La Tourette Monastery	Eveux, France	1957
Students with last names N-Z	Kahn, Louis	Trenton Bath House	Trenton, NJ	1954-59
		Richard's Medical Center	Philadelphia, PA	1957-61
		Kimball Art Museum	Fort Worth, TX	1967-72
		Exeter Library	Exeter, NH	1967-72

BOOKS / BIBLIOGRAPHY / RESOURCES:

You should gather information from multiple reputable sources; no one source will have all the different kinds of information you need to "know" your building. As an aspiring architect, you should also begin to get in the habit of reading about, and collecting resources about architects and buildings that inspire you. It is thus highly recommended that you purchase AND READ three small books on these architects in the "Basic Architecture" series by Taschen (available at bookstores & online for less than \$10 each, www.amazon.com; www.bn.com; www.taschen.com; www.bookfinder.com):

- 1) Rosa, J. Louis Kahn: Enlightened Space
- 2) Cohen, J.L. Le Corbusier: the Lyricism of Arch.
- 3) Zimmerman, C. Mies v Rohe: Structure of Space

In addition, look for the following good sources:

- McCarter, R. Louis I. Kahn (2005)
 - Gast, Louis Kahn: the Idea of Order (1998)
 - Brownlee & De Long, Louis Kahn: In the Realm of Arch (1992)
 - Le Corbusier, Oeuvre Complete 1910-1965 (1965)
 - Curtis, W. Le Corbusier: Ideas & Forms (1986)
 - Baker, G. Le Corbusier: an Analysis of Form (1984, 1996)
 - Gast, Le Corbusier: Paris - Chandigarh (2000)
 - Lambert: Mies in America (2001)
 - Bergdoll & Riley, Mies in Berlin (2001)
 - Wiseman, C. Mies v.d. Rohe at Work (1974, 1999)
 - Blaser, W. Mies v.d. Rohe. The Art of Structure (1964, 1993)
 - ** Ching, Fr. Architecture: Form, Space, Order (1996)
 - ** Eisenman, P. Ten Canonical Buildings 1950-2000 (2009)
- <http://andrew.cmu.edu/user/ma1f/48-200.html> (research help)

