Architecture Studio: 2nd Year F'07

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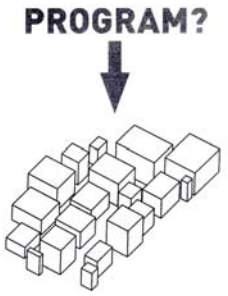
Off. Hr: M/W 12:30-1:30pm & by appt. in MM307

Fall 2007, CMU, Arch #48-200, M/W/F 1:30-4:20
Class Website: www.andrew.cmu.edu/course/48-200

(10/15/07)

PROJ. 4 – PROGRAMMATIC MASSING MODELS - Assignment #2



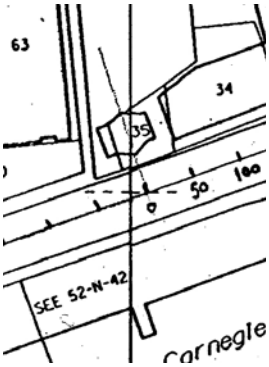
Mindset: The basic intent of this assignment is the reverse of the last one, working to create a first massing model for your "Light Museum" in the context of the Forbes Ave. site, ideas about light, and experiences for a museum visitor, using abstract, blocky program masses. **DUE: Wed. Oct. 17, 2007**. The suggested work process:

1) **READ** carefully the detailed program for your "Light Museum" on the back of this page. Note the larger categories (galleries, study center, entry, support). Note the number of detailed spaces described within each category. Note the different ways that each room has been defined in terms of size (some by square footage, some by number of people, some by furnishings), and the light conditions for each space. Consider how this museum compares to or differs from the museum you studied in Assignment #1.

2) **TRANSLATE & SKETCH** as you read the program, take VISUAL NOTES of ideas for each space that comes to your mind in terms of LIGHT conditions, LOCATION in relation to the street, roof, and other spaces, the SIZE in plan and in section, and perhaps the kind of ART you would like to see exhibited in each space.

Use some sort of system to chart relative sizes of each space. The simplest one is drawing a series of separate boxes with correct square-footages on paper or on the computer. Another way would be to start with a series of "volume blocks" (perhaps 100sf. X 12ft high each), and begin to group them, then pile them according to your ideas on spatial sequence, etc. Are there other ways to do this even more creatively? Try to include ideas about light (direction, amount), adjacency (what is next to what), and general spatial quality (long and skinny, tall, dark, welcoming, etc.) in your first sketches.

As you create each program space, keep coordinating it with the overall intent. How big is your whole museum footprint (2500sf max)? What is the overall sq. ft. of programmed space (ca. 7000sf + outdoor spaces)? How high is your building (3+ stories)? How "porous" (20%)?



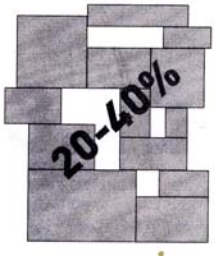
3) **ABSTRACT & ORGANIZE** the great complexity of the program, and the great number of separate rooms and spaces, into a smaller set of "blocky" masses that will begin to define your "Light Museum." Avoid merely duplicating the program groups: start to include your own more specific ideas for a Light Museum on Forbes Avenue. Should each gallery be its own "block? Why? How will each space be proportioned in your first sketch? Why?

As you abstract the groups of spaces, you should confirm a HIERARCHY (which is/are the most important? which is/are the biggest?), as well as SEQUENCE (which comes first, how does it lead to the next, where does it end, what is the "return trip" for the visitor), and the LIGHT conditions required and allowed in each space. Stay ABSTRACT.

Your process of reducing the complexity, abstracting the program, and organizing the pieces should eventually translate into a DIAGRAM of some of your spatial and programmatic thinking--hopefully more than just a bubble diagram.

4) **BUILD** a 3D programmatic massing model from your sketches that includes adequate "void" or "open" space to fit other subsidiary pieces of your program: build in a certain "POROSITY." As you "pile" the blocks, choreograph the kind of spatial and light experiences you want visitors to have. Remember: this is NOT about the SHAPE or FORMS.

This will require several attempts, several "drafts." You should devise a flexible 3D block system that you can rearrange several times. Consider working with small "chunks" of space (e.g. 100sf x 6 ft – using a 6ft height block may help relate it to (tall) human scale, and when doubled to 12ft will yield a good floor-to-floor height for support and study spaces, or when tripled to 18ft., starts to define a minimum height for a decent gallery space).



Work quickly and flexibly at first. The first 3D models can be done as sketches, or on the computer, but must at some point be translated into a physical model. Work without permanent glue at first (perhaps double-stick tape at first) so you can rearrange easily. Document or keep several of these "drafts," so you can remember your own creative process. You will be expected to create several updated versions of this massing model over the next few weeks, always revising existing ideas, beginning to incorporate more inspirations and constraints and produce a richer, more sophisticated set of spaces and experiences.

The model should follow the same guidelines as in Assignment #1, except that you should build it on an expanded version of the SITE PLAN. It must be solid, ideally of rectangular blocks, except for dimension, proportion, and orientation, and each of the main spaces should be identified through color, material (orientation of grain), or with words. .

5) **DRAW** a series of vignettes to describe the QUALITIES of each of the main programmatic spaces you have identified, much like in Assignment #1.

Program:
Your building MUST contain ALL of the following programmatic elements:

1) **GALLERIES**: A series of four flexible exhibition spaces for rotating installations dealing with light in art, architecture, and the world around us, according to the following criteria:

a) a 1000sf gallery that receives NO NATURAL LIGHT, and can be completely closed and dark, to be used for showing very sensitive drawings, or appropriate light art (e.g. neon), or video installations. The room must have an entry sequence that prevents all light from entering the space, using either two sets of doors, or a snaked entry space.

b) a 1000sf gallery that receives only INDIRECT LIGHT from ABOVE, some of which must be natural daylight that filters through a plenum space, or clerestories, screens, filters, or baffles.

c) a 1000sf gallery which has EXTENSIVE DAYLIGHT, and has direct access to exterior walls from at least two directions, through separate surfaces of the room (ceiling and wall, or two separate walls).

These three gallery spaces (a-c) must be a fully enclosed rooms, secure, and conditioned (heated, cooled, and humidity controlled) to exacting museum standards. The three indoor exhibit spaces should be flexible to allow a great variety of installation types, including plenty of tall wall surfaces for wall-mounted objects, and open space to place partitions, sculpture, or display cases.

In addition, these spaces should be clearly linked horizontally, vertically, or diagonally into a carefully choreographed sequence for the museum visitor. Where the above-mentioned light-requirements allow, they can be open to each other, or separated by a moveable partition, door, or short circulation space such as corridor, stair, or elevator. Although you have access to the loading dock and storage faciltities of the main museum, you should consider how large artworks will enter your spaces. Will a large sculpture fit through your front door? If not, how else might it get in?

d) an OUTDOOR exhibit space, exposed to (some of) the elements, either on the roof or large balcony, or an open space partially nested in the "porous" building volume, but still outside. It must be secure, accessible only through the museum entry, and thus likely not at street level on our tight site. The outdoor space can be any size, though it should be large enough to hold a reception for 25 people alongside some art pieces.

2) **STUDY CENTER**: A series of four linked rooms that together make up a museum-quality study center for art and artifacts related to light in art, architecture, and the world around us, according to the following criteria:

a) a "reading room" for viewing art that includes: a) two large reading tables (each at least 5ft x 10ft) with accompanying chairs; a) a large vertical wall surface for hanging a painting; c) two computer stations. The room must receive indirect daylight, though the computer terminals must be screened from glare.

b) a room with no natural light to hold and access 6 large plan-file drawer cabinets, each 60" wide x 48" deep and 48" tall. Be sure to allow enough room to fully open the drawers and stand in front of them.

c) an art and artifact storage space with no natural light, to include 25 linear feet of shelving units, and appropriate racks to hold at least 25 large (at least 5ft x8ft) paintings in frames.

d) a curatorial office for at least two museum staff and requisite office desks and equipment.

3) **ENTRY HALL**: Access to the museum should be choreographed through a small but memorable museum entry hall, a node that connects the neighborhood and other Carnegie Museums to your gallery spaces, with the following criteria:

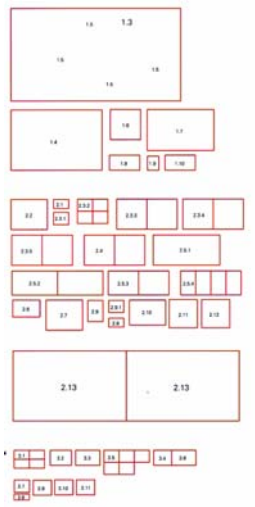
a) it should be no more than 500sf., a small, efficient space that leads to generous galleries.

b) include a ticket and information counter.

c) include open floor space for a group of 25 people (such as a group of school kids) to stand without restricting the accessibility of the counter, entry, or galleries.

d) clear entries to galleries and to all requisite support and circulation spaces (elevators, etc.)

e) the entry space must be primarily daylit, and must be able to be naturally ventilated or partially opened to the outdoors in a secure way on nice days. Because of the daylight and natural ventilation amenities of this space, access to the galleries must be through doors or an airlock system to prevent humid air and harmful light from reaching the art works.



Koolhaas, Ca' Musica Program

4) **SUPPORT SPACES**: Since the "Light Museum" has access to specialized support spaces in the main museum across the street, you will be able to keep these to a minimum. Nonetheless, you must include the following in your building:

a) a coat-room directly adjacent to the entry space with 10 linear feet of coat and bag racks and a desk for the entry hall staff.

b) at least one women's, and one men's handicap accessible toilet;

c) ADA accessible circulation space to ALL the main rooms and spaces in the museum, with vertical circulation either through an elevator, or ADA-approved ramps.[1]

d) mechanical spaces (a total of approx 400sf).

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[1] "The Americans with Disabilities Act (ADA) guidelines recommend a slope no steeper than 1:12 - 1 ft. change in elevation for every 12 ft. of length. This means you need 1 ft. of run for every inch of rise. There's nothing to say that you can't make a ramp longer, with a more gradual slope. The degree of slope depends on the user's physical abilities. For example, if a person has a motorized wheelchair, the 1:12 slope might be fine. But if the user relies on his or her own power to wheel up or down a ramp or walk up with crutches or a walker, a more gradual slope is easier to negotiate, such as a 1:16 or 1:20 slope."

Ordinarily, a museum like this would be subject to many more code regulations, including having a fire stair or escape that ensures two means of egress from all primary floors of the museum. Because this is your first complex program, you are encouraged (but not required) to investigate and include all such architectural requirements in your building.