

Architecture Studio: 2nd Year F'07

Fall 2007, CMU, Arch #48-200, M/W/F 1:30-4:20

Class Website: www.andrew.cmu.edu/course/48-200

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

(11/6/07)

PROJECT 4 – LIGHT MUSEUM ANNEX

Mindset / Objectives / Agendas: In Project 4 we will move from the relatively quick design of a small, simple park structure, to an extended exploration of a larger, more complex cultural program dedicated to observation and the arts in a tight urban setting.

In addition to our general studio charge of creating rich and memorable spatial experiences, there will be three primary agendas in this project:

- 1) a focus on DAYLIGHT (or its absence), how to amplify and control light, and the effects it can have on observation and experience, particularly in a museum;
- 2) a focus on the role of PROGRAM and the process of determining the hierarchy, adjacency, and quality of each space as an integral part of the design & inspiration process;
- 3) a focus on the URBAN setting, the implications of context, and understanding the influences of architecture from and onto the surrounding city context.

It will be crucial to develop a rich and effective design process that will allow you to understand and synthesize solutions for a wide array of complex issues in a systematic, gradual, and progressive way, making and sticking to important decisions along the way. With such a complex program, you can't wait until the end to bring all the ideas together.

Project Brief: Based on the success of the Carnegie Museum's 2001 "Light!" exhibit, and the rich tradition and continued importance of "light" in modern and contemporary art, the museum has decided to expand its Oakland building complex with a "Light Museum," an annex across Forbes Ave. that will be purpose-built to explore light in art and architecture.

Your charge is to design a small but innovative exhibition and study center for a growing collection of modern and contemporary art that relates to "light" in a broad variety of ways. The building must enrich the visitor's and observer's understanding of light as central to how we see and understand all art, architecture, and the world around us.

The increasing use of digital and electronic technologies in the conception, design, realization, and experience of architecture today, combined with the mandate that architects marshal resources and energy-use in an increasingly responsible and sustainable way, makes the savvy use of light, and especially daylight in architecture, all the more urgent.

To encourage creative and in-depth explorations of daylight by young architects, the Velux Corp. will sponsor a small competition in our studio related to the theme of "Light in Architecture." With the help of personal research, discussions with your studio, as well as a series of studio lectures, you are expected to develop a sophisticated and detailed proposal about light in a "Light Museum" that will be judged by invited critics and publicized by Velux.

The annex will require three primary programmatic elements with support spaces: 1) a series of linked exhibition spaces, each with specific light requirements, and some minimal support and staging areas; 2) a study and art storage center that will allow curators and a select public to study a greater array of art works more closely; 3) an entry space that facilitates access to these two spaces, but also conceptually and physically connects the "Light Museum" to the main museum, the street, and neighborhood. The annex will have access to all of the of the existing CMoA resources, support, and administrative spaces, but should serve as a relatively self-sustaining exhibit and work space. More detailed program requirements will be developed and released in the course of the project.

The annex should be created as part of larger and ongoing effort to improve the Oakland Cultural Corridor, and continue to reinforce the importance of culture and the arts for Pittsburgh more generally. It must thus strive to become an integral part of the street, neighborhood, and Pittsburgh region, to engage the urban context and the existing CMoA building in a manner that ties in closely to the concept and program.

Process: The design process will begin with research into existing museums, into the contingencies of the urban site, and the construction of programmatic massing models in order to shape the optimal adjacencies, opportunities for enhanced light conditions, open spaces, and exciting museum experiences. Further research will investigate the use of light, ideas, and space in the work of several important modern artists. After introducing very detailed program requirements, students will be expected to work methodically towards satisfying the primary agendas of the project while insuring memorable observations and spatial and light experiences.

Requirements & Due Date: All projects will be **DUE Sun. Dec. 2, 10:00pm**. Computer printouts will be due SEVERAL DAYS EARLIER! The overall presentation should be carefully composed of an integrated set of "technical" and "experiential" drawings, as well as computer & physical models, likely at 1/4" scale. All presentations will be on 44"x88" panels. A list of final presentation requirements will be distributed after the mid-review.



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 facilities 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.

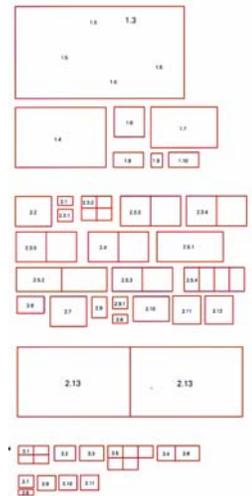
4) **SUPPORT SPACES:** Since the “Light Museum” has access to specialized support spaces in the main museum across the street, you will be able to keep these to a minimum. Nonetheless, you must include the following in your building:

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).



Koolhaas, Ca' Musica Program

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.