4: Space From Form

What:
A simple architectural form consisting of a gathering space, a transitional space (vestibule), and a path between them.

Why:
Architectural designs develop in response to many different criteria. Some of these are:

- **Function**-the requirements that determine a project's usefulness
- **Context** – the physical, social, and cultural location
- **Tectonics**-the implications of technological and material characteristics
- **Concept**-the overall idea that shapes all other decisions and allows the composition to become architecture as an artistic composition.

The ability to identify, organize and, especially, prioritize these various, and often, conflicting requirements is fundamental to the design process.

How:
This project will explore all of these areas in a small structure based on one of your 3” shapes. You will use your shape as a root form for the plan organization of your space.

The space will be extruded from the shape composition according to a set of tectonic rules to create vertical and horizontal planes, walls and roofs, as well as columns and other positive and negative masses and volumes.

The space exists in a open, park space with a specific compass orientation to allow you to incorporate daily and seasonal sun patterns in your design.

To be able to make effective decisions you must start with a clear concept. Identify what character you want your form to have and what you want the occupants’ experience of the space to be. Begin by asking yourself fundamental questions about the experience you wish to create. Is it peaceful, exciting, clear, complicated or even scary and intimidating? All of these choices are valid possibilities. What kinds of shapes and forms will generate the experience you are trying to create?

What designers show themselves affects the designs they create. You will initially use the plan view to organize your design. You will then express it in plan oblique to explore the design in three dimensions. In the final presentation you will include orthographic drawings of your design to more completely describe the design. Orthographic drawings are the conventionalized, two dimensional diagrams that architect’s traditionally use to communicate their designs; **plans, elevations and sections**.
Objectives:

- To be able to generate a design concept and use it to guide the development of a composition
- To be able to express a design concept graphically
- To be able to generate a solution and develop it through a series of explorations and revisions
- To be able to develop design solutions that follow a set of design requirements
- To be able to construct drawings that exhibit a high level of craft and precision using traditional drafting media and tools
- To be able to construct orthographic drawings that accurately represent a design
- To be able to define spaces explicit and implied spaces
- To be able to define architectonic form using a combination of linear, planar and volumetric elements
- To be able to develop and accurately represent a design solution using plan oblique drawings
- To be able to shade surfaces of a plan oblique drawing to represent the relationship of surfaces to an assumed light source.
- To be able to incorporate figures in plan oblique and perspective drawings to communicate scale.

Problem:

You are to design an architectural form that includes a transitional space (vestibule), path and gathering space. The form will be developed from the geometry of one of your 3” shapes and be based on a clear, defined concept.

Each programmatic component of the design will be developed to meet its functional requirements, respond to the environmental context, conform to the tectonic guidelines of the problem, and to contribute to your overall concept.

- **Function** – Your space is an open air structure in a park setting. It will contain a gathering space that is reached after following a single, defined path. There will be only one way into and out of the space so that the visitors’ have a consistent controlled experience. The path begins with a transitional space that shapes the initial impression of the design and establishes a seam between the park and your composition. The path will be designed to maintain the visitors’ interest and to reveal the composition in a specific and controlled manner.
  - **Transition Space** – This space serves as an introduction to your design. It should establish the character of the spaces which will follow and guide visitors into your path. The entrance may be obvious or subtle but needs to allow for easy passage. The ground surface must be a continuous level surface with a minimum width of 30” and a minimum clear height of 6’-0”
  - **Path** – The path is an opportunity to raise expectations of what will follow. It must maintain the same level surface and minimum passage dimensions as the transitional space. The path may be direct or convoluted but it must give a glimpse of the gathering space and then conceal it.
Gathering Space – This is the main space in your composition. It must allow various sized groups to occupy it comfortably through out the day and the year. To accomplish this it must be responsive to sun patterns and provide surfaces for sitting and leaning. These should not be benches or other furnishings that are placed in the area but should be forms that are part of the basic composition.
- 600 square feet maximum
- Closed edge section
- Open edge section
- Simple shape
  - Circle, pie section, rectangle, triangle, ellipse

Context – The right-hand side of your plan oblique is assumed to be the south side. The shape can be rotated or flipped so that you have south on the most effective edge. The site exists within an open, grassy park in the Chicago region. There is a path that leads to the entrance of your space the rest of the site is surrounded with lawn.

Tectonic 6 elements minimum
The architectural elements that are available to you are derived from the geometry of your original shape and any additional lines that you add to it. You can eliminate any lines that you choose to. New lines can be added according to the original rules with one variation, mid-points of lines, straight or curved, can be used in the same way as intersections. Assume a continuous neutral material without texture or color. There are no other materials, such as plants or water.

- Vertical Planes 1 minimum
  The lines of your shape define the centerline of 2' wide walls. They may be up to 24' tall in one foot increments. They can end one foot beyond an intersection or merge into another element. Their sides are vertical and their tops are horizontal.

- Columns 1 minimum
  Columns may be either 2' diameter circles or 2' square. They are defined by an intersection. They have the same height standards as walls. They must be vertical with horizontal tops

- Positive Volumes 1 minimum
  These are solid masses. They are defined by any closed shape. The sides of the volume occur one foot outside the lines of the shape. The sides must be vertical and the top horizontal. They have the same height standards as walls. A positive volume may be raised off the ground and supported by any combination of walls, columns or other positive volumes to form roofs.

- Negative Volumes 1 minimum
  These are holes. They are defined by any closed shape. The sides of the volume occur one foot inside the lines of the shape. The sides must be vertical and the bottom horizontal. They may be no more than 4' deep in one foot increments.

Concept – The concept is the idea that you will use to evaluate your decisions. It should define the experience that you want to create for the visitors. This may include formal and contextual considerations.
Process:

1. Define your concept verbally and graphically, these will be included in your presentations.
2. Select a design.
3. Redraw the shape at double its original size, 6” square. Assume the shape is at 1/8”=1'-0” scale which will make the space 48’ x 48’.
4. Explore various possible locations for the Gathering Space, Transitional Space and a route for the Path.
   a. Use the space effectively
   b. The entire site must be used
   c. There are no additional spaces allowed, if you find you have left over space you are not using your site effectively, add it to one of the other required spaces.
5. Develop elements to articulate and control that sequence
   a. What can you see that draws you forward
   b. How is your experience enriched by disclosure and surprise
   c. How do you occupy the space
6. Review your decisions in terms of Context, sunlight, and Concept.
7. Explore how to develop the design based on the various Tectonic elements available to you. Spaces may be separated by short or tall wall, columns, positive volumes or negative volumes. Each has a different characteristic of separation and enclosure.
8. Begin by working quickly and loosely in plan view. Do not draft your ideas and work to a general sense of scale.
9. Develop your ideas using multiple flimsy overlays.
10. Draft the plan in pencil on flimsy.
11. Using a flimsy overlay develop a plan oblique view of your design.
12. Draw a finished version of your plan oblique for the preliminary presentation.
13. Revise your design after the preliminary presentation.
14. Prepare finished drawings using drafted pencil forms with free hand traced ink lines.

Requirements:

Preliminary Presentation—Do not mount these drawings, you will need to include them in your final presentation.

Concept Description:
Include a verbal and graphic description of your concept. The verbal description should be no more than 3 sentences. The graphic description may be a sketch or diagram(s) that communicates your idea. You may use any media or mixture of media that you choose including collages of images to communicate your concept.

Plan Oblique

- Plan Oblique
  - Material: Drawing paper
  - Media: Drafted pencil with freehand ink
    - Primary/Profile lines are heavy
    - Secondary lines are medium
    - Hidden lines are shown as thin, dashed lines
Construction lines are very light pencil lines that may be left as part of the final drawing.

Orientation: 60º/30º
Scale: 1/8"=1'-0"
- Graphic Scale
- Scale Figure
  - Trace figure from the Entourage book in the classroom and the library or scale figures from magazines and newspapers

**Final Presentation:**

Include all of the above drawings and elements in addition to those described below.

**Shadow Plan Oblique**
- Material: Drawing paper
- Media: Pencil
- Technique: Drafted with freehand tones
- Tone Language:
  - Surfaces are to be shaded to represent their relative orientation to an assumed light source located above and to the right of the form.
  - The following values are for unshaded or shadowed surfaces:
    - Horizontal surfaces, including the ground must be white.
    - Vertical surfaces facing the 30º angle (south) are light gray.
    - Vertical surfaces facing the 60º angle (west) are medium gray.
    - Using vertical surfaces that face the 30º angle as a reference. Vertical surfaces get darker as they rotate to the left and lighter as they rotate to the right.
  - Tones should be smooth and distinct except on curved surfaces where they should transition smoothly from one value to the next
  - Shadows should be at least three values darker than the surface they land on
- Graphic Scale

**Orthographic**
- Required Drawings:
  - Floor Plan
    - Cut between 3’ and 5’ above the path
  - South Elevation
  - West Elevation
  - One section
    - Cut parallel to a side or the original shape and through the major space to show important elements above and below the ground plane
- Roof Plan
- Material: Vellum or Drawing paper
- Media: Drafted pencil with freehand ink
  - Primary/Profile lines are heavy
  - Secondary lines are medium
  - Hidden lines are shown as thin, dashed lines
Construction lines are very light pencil lines that may be left as part of the final drawing.

Typography: Hand lettered titles and graphic scales on all drawings.
- North arrows on plan views
- A minimum of one figure in each elevation and the section
- Show negative volumes as dashed lines in elevations
- Show overhead elements as dashed lines in the Floor Plan

Layout

Compose the Plan Oblique, Shaded Drawing, Orthographic Drawings, Concept statement and Concept diagram/drawing into a final presentation.

The mood and character of the composition should reinforce the character of your space.

- All drawings should include a graphic scale
- Plan drawings should include a north arrow
- Include scale figures as specified above
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