BETWEEN SOLID AND VOID

by

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This book is dedicated to .
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ABSTRACT

Too often, space or void, has been considered an a priori condition. Rather than using it and its relationship to solids to create a harmony and balance of form, void has been unconsciously disregarded as a virtual non-element in design.

This thesis attempts to bring a tangible character to the void; to design the void as if it were a solid form. In doing so, the limiting properties of solid are broken down. Defining characteristics of solid and void are shared and boundaries are blurred.

What was once known becomes unknown.
THE FOUNDATION

A wall provides an opening... becomes a bench... evolves into a column. How is it that a single wall can be so many things? How is it that something so ambiguous can be so wonderful?

When viewing this cardboard model, it quickly became apparent that the solid to void relationship had a primary role in the model's composition. Further studies ensued, including exploring the possibilities of using acute angles to smoothly guide the eye along shared surfaces and edges between solid and void. It was found that where one element was gradually making a transition to another element, the void was constant, drawing the eye through an unbroken transformation. Clearly separate elements could not be discerned, as the boundary from one element to another was extended.
STUDIES AND INFLUENCES

Positive and negative plaster models provided a tangible means to better understand the relationships of solid to void and their potential architectural implications. Changes in scale and orientation were made on many levels to study if and how perception of these forms changed. It was discovered that when the void was treated as an equal formgiver to the solid, or as material, the ambiguous composition became more successful.
Early in my formal architectural education I became enamored of this stair. Though never studied seriously, it came to mind more frequently as time passed. As my thesis was becoming more clearly defined, I was compelled to study the stair's components more closely, and its relationship of solid to void.

There were several clearly separate unions of solid to void, but the void extending back from the frontal plane was what held the entire composition together. Its qualities were intriguing... how one element was ingeniously woven into another with the utmost ease through the conscious employment of the void.

Another influence outside of the solid and void relationship that had a major impact on the form of my thesis was the site. It is linear with a ruin and lake that bound the far end. It was my desire to have the ruin effect my design.

Ruins have been depicted throughout art in basically three different ways: by forshadowing impending doom or disaster; being employed as a stage set; or as a picturesque view, where the ruin is set off in the distance. The latter was the most coincidental with my own architectural intentions and impressions of the site. Therefore the decision to employ the ruin in this manner led me to study many architectural applications of accentuated perspective.
The Rennaisance and Baroque periods were when the most architectural efforts directly explored perspective, as it had just recently been discovered. Most of these projects naturally dealt with axial plans and primarily used transparencies, rhythmic elements and angled surfaces as ways to accentuate the perspective views.

The Campidoglio is a prime example of these conditions. The stairs leading up to the courtyard are slanted upward from the front to back and are accented on the front edge with a marble strip to ensure their visual perception. The stair gradually opens up on its ascent, passing the angles off to the flanking buildings on the courtyard, while the statues and finials continue the stairs marked progression. Upon reaching the courtyard, the angled surfaces of the Capitoline buildings and the elongated starburst pattern on the courtyard floor bestow prominence to the head building. Every element in the composition adds to the procession, sense of grandeur, and anticipation of arrival.
The Scala Regia is yet another example that explores accentuated perspective. This staircase extends itself between St. Peter's and The Vatican in Rome, and connects directly to the Sistine Chapel.

As the stair ascends, the column placement becomes more frequent while the columns and adjacent outside walls taper inward to create an elongated effect. This utilization of space makes little rooms or pauses possible on each side of the stair.

The natural light accenting the end of the lower flight of stairs further reinforces the perspective as it reflects from a small length of each column, rhythmically striking the cadence from one column to the next. Each element further enhances the experience of the length of the stair.
Located in the Finger Lakes Region of New York State, the village of Aurora overlooks the east side of Cayuga Lake. This area was originally inhabited by the Cayuga Indians until 1789 when they were forced out by white men settling the region.

Following its settlement, Aurora became a natural stop for lake travelers and suppliers to the area, as it lay approximately halfway down the length of Cayuga Lake. With increasing growth and commerce, many new buildings were erected, including a steam mill (1817) and Inn (1833). The land between these two buildings became a major thoroughfare, as the mill and village docks lay at one end, and the Inn and the rest of the business district at the other. As time passed, however, two major sources curbed the use of this connection from lake to town.

First of all, the invention of the train and then automobile greatly reduced lake travel and the use of the village docks, and then secondly, there was a major fire in 1919 which destroyed much of the business district.

This project attempts to reestablish this lost connection that once had such a major influence on the development of the town.
The face of the ruin is oriented parallel to the lakeshore, while the stores, Inn, and main street lie at a 3 1/2 degree angle off that of the lake and ruin.

Using this information, lines were extended perpendicularly from the face of the ruin, and from the opening between the stores, to provide controlling lines for the project. A mathematical progression was then applied across these controlling lines to round out the factors that would effect accentuating the perspective.

There was one other limit to be placed on the project that concerned the site. There was a clear, 25' wide walking path that ran parallel to the lake the entire length of Aurora, and ran directly between the ruin and main street. It was desirous to keep this view unobstructed, as it featured extended views through a canopy of trees for distances of 1/2 mile or more.
The walkway is a marriage of opposites whose only limits are time and space.
The mold for a portion of the lower walkway enabled the study of solid to void as a direct reversal of the end cast.
Continuous element...boundary between contained space (solid/void union) and infinite space...defines upper limit of container...mediates between existing conditions and conceals the outside surface of the floor...

Rhythmic element...where the solid/void unions occur...provides structure...marks visual cadence...

Floor...container...defines volume...inside surface is its ultimate characteristic: surface shared by both container and contained...outside surface is never revealed...sets the boundary between contained and limitless space...
As the rhythmic divisions of time and sound in music find an echo in the deepest recesses of the mind, so do the spaces, the light, the shadow, and material of architecture.
"Ignorance is a treasure of infinite price that most men squander, when they should cherish its least fragments; some ruin it by educating themselves, others, unable so much as to conceive of making use of it, let it waste away. Quite on the contrary, we should search for it assiduously in what we think we know best. Leaf through a dictionary or try to make one, and you will find that every word masks a well so bottomless that the questions you toss into it arouse no more than an echo."
SOURCES OF ILLUSTRATIONS


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