Computer Drawings, Tangible and Intangible

by **Thomas Heltzel**

This project explores a film festival in a sleepy, (hypothetical) English village, Slowtown. The annual Slowtown Horror Film Festival descends on Slowtown's High Street in the last week of October. The citizens of Slowtown anticipate the arrival of the ceremony; a weeklong viewing of the town's most venerated horror films revealing themselves within the center of their homes. This project investigates the entwinement of the festival's architecture with the visual and audio sensations of the ceremony.

The appearance of counterweights signals the beginning of the event's weeklong procession and allude to what will emerge later that evening. Rough, pale concrete blocks with a complicated system of pulleys and levers are positioned along High Street's cracked sidewalks, announcing the festival's arrival. These grounded masses seemingly become the only existing connection that the architecture has to the street, tying the structure to the people below and representing the tension between the existing environment and the festival's architecture. Movie projectors are placed in the windows of host buildings and project the classic horror films onto the opposite buildings' facades.

As night falls, vertical theatres lurch out from above the buildings to over the street. Large, flexible lattice trusses extend and cantilever over the counter-weights below. Plush red theatre seats and speakers are suspended on a pulley system running between the rooftop trusses and the street level counter-weights. For each film, the speakers are set to varying, unique heights. The projectors then project the movies onto the opposite building's facades. As the film progresses, viewers reposition their chairs vertically to find the best combination of sound and sight. During a showing of Hitchcock's, The Birds, speakers are placed high, skimming the rooftops. The viewers move their chairs up the building to gain the best sound, while also enhancing the fear of height and isolation. Expandable trusses and theatres allow for an expansion of the ceremony by night and reclamation of the street by day. The structures rise from the shadows and the festival is re-born every evening as the ceremonial qualities of the event emerge. When morning approaches, the architecture retracts to its' hiding position, leaving behind the counter weights as the only trace of activity during the night. The architecture is not merely a setting for the ceremony; rather it is the facilitator of the festival's ceremonial qualities.

The second part of the project entails the Slowtown Horror Film Club Headquarters. This building acts as an archive for the club's film collection, as well as a meeting place and bar. Most importantly, it establishes a visual focal point for the film festival. It occupies a major intersection above Slowtown High Street. Perched on slender columns it produces a new public plaza. The first floor contains the public and social program of the club. An undulating concrete honeycomb tops the structure, while the walls are constructed of semi-translucent folding movie screens, further evolving the public space as the movie projects through the screens and the interior's activities are witnessed on the street.

On another level, the project explores various ideas for representation of the design. Specifically, it attempts to challenge the idea of the generic computer rendering. The decision to use the computer is not always appropriate. Likewise, the computer should not be trusted to provide a final image. With the diverse opportunities provided by computer modeling and rendering, a good drawing should represent something more than just visual information of the tangible aspects of the project. It could do more. A good drawing could

describe the tangible and the intangible, the rational and the unconscious, the collective and individual dimensions of architecture.

In the process of constructing a computer model, hundreds of bits of information are compiled. Decisions about design are constantly being made such as the height or the position of individual objects. The encoding process within the computer can be much more complex and a tremendous amount of information can be computed rather quickly compared to traditional media. Likewise, the computer is capable of rapidly changing and updating the design. Therefore, all quantifiable aspects of the design (height, radius, position of the sun) can be constructed or changed within the computer quickly and easily. This process opens infinite new possibilities in the design process. Interaction with the media becomes magnified and changes in design can be clearly recognized. These new types of interaction transform the design process and should be communicated in new ways. According to Gerhard Schmitt, founder of the Chair of Architecture and CAAD at the ETH Zurich, "*the means by which the machine can help us externalize previously hidden mechanisms, making the invisible visible and in the process expand human design capabilities, beyond that what was and will be possible by hand, are. To be very clear, these instruments will not replace conventional design interactions between humans and external media but will enrich them tremendously in qualitative ways.*" (p. 6, Engeli, 2001). However, problems arise from being trapped within the dimensions supported by the individual computer programs. The ease with which we could compile the quantifiable and tangible aspects of the design overrides the unique qualities of each project. Ideas such as the

change in light from one moment to the next or an exploration of scale as one moves through a space are lost when we fail to realize the scope of an individual program. Likewise, many processes of each computer program are taken for granted, and often overlooked. For example, the naiveté of just hitting the render button without critical engagement blurs the expressive potential of each drawing. The challenge of the "Slowtown Horror Film Festival" project was how to use **form·Z** to demonstrate the special, qualitative aspects of the architecture along with the quantitative.

Architects draw to communicate ideas. To manage the complexity of computer modeling, we must again examine why we draw. Simon Herron of the Bartlett School of Architecture explains that, "*Once they decide the 'why'- what the drawing has to do- the 'how' becomes clearer… You draw not to illustrate but to discover, to uncover the project. It is a device for speculation, a tool rather than an end product. It can be with a rapidograph, with an Epson printer, with light on photosensitive paper, with gunpowder. All media are valid so as long as there's an intention*" (Pg 119, The Bartlett Book of Ideas). A new relationship between the 'why' and the 'how' must be developed. Is the drawing communicating the light at 12:43 on the 15 of May, or should the drawing express grander ideas about the changing light through the course of the day? The course of the year? Any of these could be relevant, however, this intention could be hidden by interaction through a modeling program.

To understand the importance of a drawing's intentions, we can look to traditional media. With the washes of light on small notebook pages, infinite qualities of intangible aspects are observed in Steven Holl's watercolors.
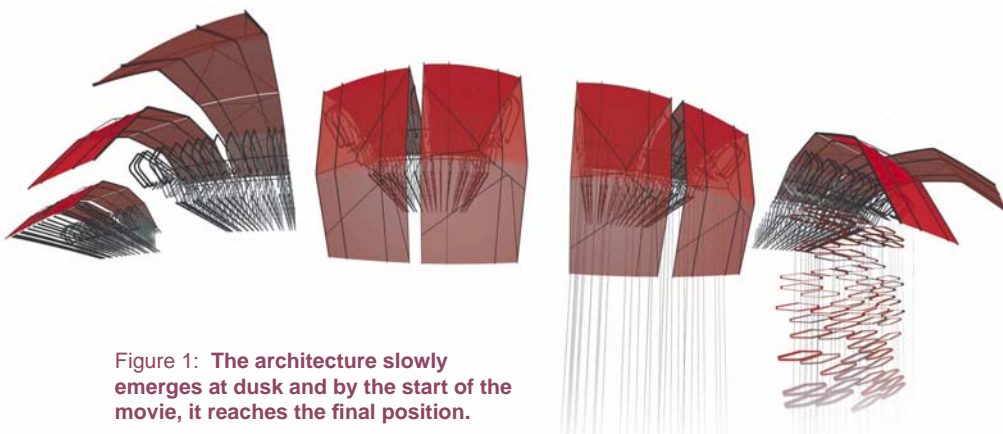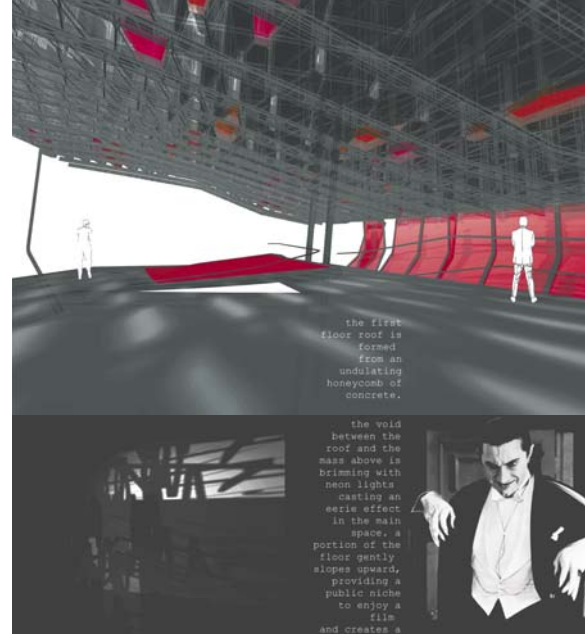

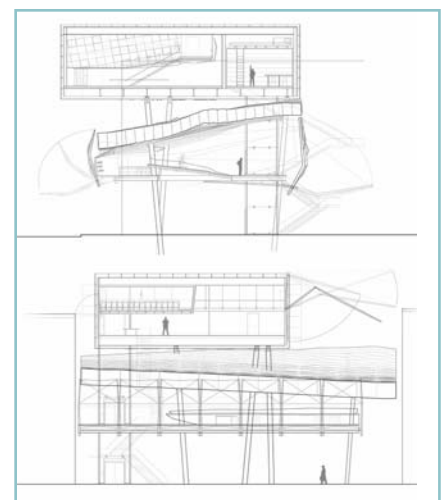Figure 2: **Interior perspective.**

Figure 3: **Sections of film club headquarters.**

"*The diversity of techniques – the infinitely varied rendering of appearances – introduces the permanence of the links which are reenacted in the ceaselessly renewed experiences we can have with architecture.*" (Garofalo, 2003, pg. 14) The depth of information contained in Holl's renderings clearly communicates the architect's intentions and consequently reassures us, "about its 'authenticity' and its correspondence to the concept, and thus his ability to predict in abstract the perceptual and phenomenological effects of his works of architecture" (Garofalo, 2003, pg. 13). Holl's work shows the importance of the connection between representation and a final architecture. However, the crude use of a computer's ability usually masks this primary connection in a common computer rendering. Consequently we don't learn much about the artist's intentions from them. They
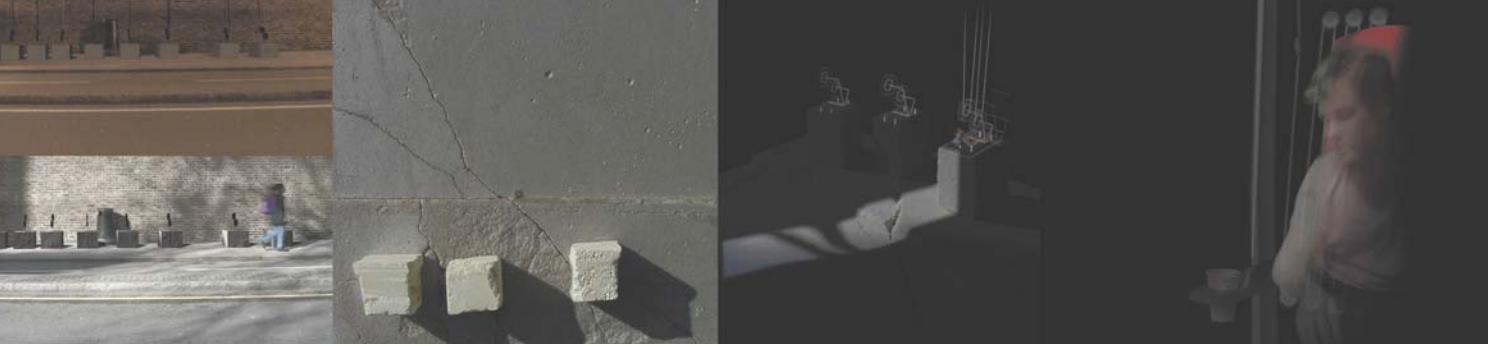

Figure 1: **The architecture slowly emerges at dusk and by the start of the movie, it reaches the final position.**

Figure 4: **These various images attempt to freeze intimate moments of the festival, such as the beam of light from the projector illuminating the base pulleys, and a viewer slowly moving his chair vertically through the night.**

are representations, not investigations. To manage the complexity of interaction brought through computer modeling and to communicate the architect's intentions, a new process of representation must be utilized. Thus, the task becomes to force the modeling program to become a means to an end, not the end itself. Once we decide each drawing's intention we can go about modeling in an appropriate way. In this way we can state a goal for the final outcome, and then through the process to reach that goal we can learn much more than simply attempting to build the complete model and export an image for presentation. Accordingly, the interaction process becomes amplified; not only do we lean from the actual process of modeling, but also rendering, interacting with the design from start to finish.

In the Slowtown Horror Film Festival, I used this method to produce two drawings with contrasting time scales. They each attempt to show a specific quality of the project over a varying length of time. The drawings are used to connect the mood of the ceremony - at varying durations - with the specific qualities of architecture associated with that moment of the festival. The first drawing (see Figure 4) is of the base pulleys at night. The drawing shows the bottom counter weights of the theatres during a show. A beam of light cuts through the darkness, revealing the architecture, yet only for a split second. Time is frozen and we understand the spontaneity of the light cutting through the street, the elusiveness of the architecture. To produce this drawing, the **form·Z** model was only one of several constituent parts for the final image. The extensive detail of the model was used to contrast the vagueness of the photograph. The image investigates the project by compiling the model with the photograph and understanding the specific qualities of light. Similarly, the other drawing (Figure 5) uses a sense of collage to demonstrate a series of events. Here, an entire street block of rooftop theatres is shown in various positions throughout the night. The collage reinforces the idea that we are not capturing just one moment but a collection of complex events. A single model was manipulated many times, indicating the temporality of the architecture. Instead of relying on the computer to produce a final image, the model and various other media investigates the festival throughout the course of the night.

In these cases, the computer does not increase to breadth of information contained within the drawing; it increases the depth of the drawing. The drawing is part of the creative and design process, not a representation of it. In this way we are constantly learning and interacting with the design.

Notes

Cook, Peter (Ed.). (2000) *Bartlett Book of Ideas*. London: Bartlett Books of Architecture.

Engeli, Maia (Ed.). (2001) *Bits and Spaces*. Basel: Birkhauser.

Garofalo, Francesco. (2003) *Steven Holl*. New York:Universe Publishing.

Holl, Steven. (1996) *Interwinning*. New York: Princeton Architectural Press.

Pallasmaa, Juhani. (2002) *Thought, Matter, and Experience*. El Croquis,108, p. 6-27.

Figure 5: **Slowtown High Street throughout the first night of the horror film festival.**

Thomas Heltzel is currently a senior architecture student at Miami University. He pursues an architecture grounded in materiality and technology and is interested in the political dimension of architecture. He was an affiliate student at the Bartlett College of Architecture and Planning at University College London in 2005-2006 and participated in an Italian traveling studio with Studio Urquiola in 2005. He has worked at VOA Associates in Chicago, and is currently working with Mile[2] Lab in Oxford, Ohio. Email: heltzetg@muohio.edu.