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Patterning Temporary Atmospheres: Installations for the Experience of Sound and Light

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In negotiations between spaces, experiences and effects developed through interventions of 'intelligent, layered objects, surfaces, and skins,"[1] the generators of atmospheric performance become prevalent. Discussing a series of interior installation projects (created as strategic, iteratively developed working modalities leveraged within the context of scenographic experiences designed for music, sound, and spoken performance) this presentation engages with an approach toward the activation of atmospheres both as the concept and as the by-product of processes. The generative framework is discussed as the patterning of tactical, operational deployment methods that are shared between projects. Buttressed with images and diagrams that un-pack the process-based approach and outcomes, this presentation will clearly link with the sub-theme of research in action.

In the context of these projects, design becomes a process of outlining desired effects, selecting material qualities (reflectivity, lightness or durability), materials that express those qualities (such as mylar), and actualizing potentials through installation. Additional qualities such as standard finishes, size, and length are engaged to minimize the amount of pre-fabrication or site-fit tailoring required, maximizing effects using minimal means of time, money, and material while exhibiting an evolution of approach. Operational logics (ex: draping, twisting, cutting, lining) are appropriated as site-specific tactics for actualization facilitating deployment with an appropriate looseness of fit that only come through active, real-time engagement with idiosyncrasies of actual building conditions. Moments of attachment become interfaces between the existing interior and the interventions. The spaces between attachment points are areas where effects become maximized and the intervention becomes most autonomous. In this mode of working, operations and emergent qualities of assemblage enhance inherent qualities of material in service of atmosphere as concept. Finally as Gregg Lynn states in *Animate Form*, "form is therefore shaped by collaboration between the envelope and the active context in which it is situated."[2]

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[1] Winka Dubbeldam, "Thing Shapes," in *Intimus: Interior Design Theory Reader*, ed. Julieanna Preston and Mark Taylor (West Sussex: John Wiley and Sons, 2006), 99.

[2] Greg Lynn, *Animate Form* (New York: Princeton Architectural Press, 1999), 10.

Reclaiming Space

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Visions for interactive architecture have existed for decades. However, the majority of the proposals remained speculative, like those produced by Archigram in the 60's. Very few projects, like Inter-Action Center in Kentish Town by Cedric Price, were materialized as physical architecture.

In many cases these provocative proposals relied on cybernetics and computing technologies to sense user's needs or desires and make the architecture adapt to accommodate those needs. While inviting the user's interaction and improvisation in the shaping of their environments, responses were generally focused on the functional performance of a machine-like architecture, and on the kinetic and mechanical adaptation of a flexible architecture to a variety of uses and comfort, rather than to the range of spatial experiences afforded by it.

At present, in addition to this subservient role of an architecture that responds to functional needs, implemented responsive technologies act as discursive devices that not only invite the inhabitant to participate in the production of mediated mirror-like reflections of him/herself, but also respond to the socially networked audience that has come to expect "total involvement" the shaping of its environment.[1]

This paper will present the responsive installation *Between the Pyramid and the Labyrinth,* erected in, and occupying the black box theatre in the Center for the Arts at Virginia Tech and sponsored by the Institute of Creativity, Art, and Technology. The project is one in a series that aims to discover effective implementations of responsive technologies in architecture. While these technologies, similar to "material innovation and new methods of production cannot lead directly to a new architecture,"[2] their implementation seeks visitor interaction that, beyond returning self-centered responses, will heighten the awareness of the spatial experience, and consequently augment the "lived experience" of architecture.[3]

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[1] Marshall McLuhan, Quentin Fiore and Jerome Agel, *The Medium is the Massage: An Inventory of Effects* (Corte Madera, Ca: Gingko Press, 2001).

[2] Adam Caruso, *The Feeling of Things* (Barcelona: Ediciones Polígrafa, 2008), 31.

[3] Neil Leach, *The Anaesthetics of Architecture* (Cambridge, Mass: MIT Press, 1999).

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Push, Pull, Bend, Bind: Enacting Architecture Through Behaviour and Consequence

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With the recent advancements in digital and automated tools for the fabrication of materials and structures, the orthogonal prescription of 20th century design and construction industry has become dramatically transformed. Through these advances a biologically inspired formal vocabulary has emerged suggesting a more synthesized approach of form finding and construction processes. Yet despite this, industrial-era tools and orthogonal construction techniques are still being used to build designs that employ the complex geometries of digital designs when they are assembled at a 'building-scale'. This incongruity between tools, methods, and construction techniques results in redundant technologies, unorthodox challenges in construction, complex workflows, and inefficient material and energy usage.

Arguably the appeal to produce "organic" forms in design is not purely aesthetic, as these forms offer the opportunity to achieve greater efficiencies in energy and materials when explored in concert with the full realities of constructing a building at full-scale (not only virtually).

This paper will describe the research of the author aimed at establishing a reciprocal approach to design and construction where the design and construction process are explored simultaneously at both model and building scales. This approach is based on the idea that design with materials can be collaborative, a conversation between *actions* and *reactions* (both physical and conceptual), between the designer, building materials, and the techniques of constructing. These *actions* are in fact provocations that reveal unexpected dimensions of understanding including a fuller range of other senses (touch, smell, sound, etc.) not commonly explored in industrial design and construction process. In this research, drawing, modeling, and building become mutually congruent and contribute to the speculation of how architecture might arise out of behaviour and consequence rather than aesthetics or technology alone.

The Lightest Material

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To upend default thinking in architecture, colleagues and I began teaching a sophomore studio with investigations into light as generator of form and space. A three-dimensional approach resulted in perceptual and phenomenal discoveries grounded in the actions of researching through making, transforming and imagining. "Action" is therefore interpreted in terms of agency: being invested in actively making discoveries rather than approaching design problems through mundane issues such as code or program.

As Juhani Pallasmaa has noted in his book *Eyes of the Skin,* "[i]n our time, light has turned into a mere quantitative matter…" This exercise offers one way to consider light in all of its *qualitative* potential. As mentioned, pedestrian quantitative issues were given secondary status. Qualitative investigation requires action—forming, molding, shaping, distorting—rather than a passive, arms-length analysis of the quantitative. The action of making unites thinking with discovery.

Employing a subtractive process, students carved plaster or foam models and lit them in several ways to study the effects. (A subtractive rather than additive method targeted space-making, not object-making). Expectations of light and material interactions were challenged; resulting implications, both tangible (tectonic) and intangible (atmospheric), could be drawn upon in future studio projects. Models were then turned into images, with human figures representing scale and inhabitation.

As a final action, students translated observations into words, with poetic results. Often students begin with a "concept statement" (words); move to drawing, usually plan (two dimensions); and then make a model (three- dimensions). Our converse sequence of actions demonstrates that engaging space in light first can strengthen architectural investigation. The act of making provides for broad experiential exploration, resulting in a concept rather than starting with one.

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Inhabiting Difference: Integrating Rule Based Design and Cultural Ritual

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The sukkah is a temporary hut fabricated for the Jewish festival of Sukkot. This hut or booth is symbolic of the shelters used by the Israelites in the wilderness. In recent years the sukkah, which is typically quite simple and utilitarian in its design and construction, has been the focus of numerous design competitions. These competitions have incorporated the celebratory nature of the holiday and the rule based system that governs the design of a kosher sukkah into their frameworks and produced a dizzying array of proposals.

This paper presents the work of students at the University of Calgary's Faculty of Environmental Design that explored how the traditions, rules and themes of the festival of Sukkot and the sukkah itself could drive a series of proposals that engaged the local Jewish community as clients. The projects included in this paper form a part of a growing body of design research at the Faculty into embedding the power of digital media and custom digital fabrication into community based projects.

This paper describes the engagement process between the local Rabbi and architecture students (most of whom are not Jewish and were unfamiliar with the festival), as well as the design process of integrating rule based design criteria with ritual based criteria, and the final constructed sukkahs. The methodology for the design process was a combination of typical design studio critiques focused on typical beginning design conversations about scale, materiality and function and a competition. Projects were critiqued by designers, a rabbi, and local Jewish community members throughout the process, and each year one project was chosen to be built. Each selected project included in its design a component of community engagement by encouraging participation in the assembly of the sukkah by the community itself.

This paper catalogs and analyzes the built and unbuilt designs, describes the engagement between two realms of expertise (design/making and religious), and presents a model for increased community engagement through immersive design/build projects.

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Apocalyptic Architecture: Designing Within Resilient Detroit

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The shrinking city represents a confounding inversion of the conventional understanding of continually growing urban centers. Confronted with such uncertainty, opportunities for action can be presented in times of risk. Current trends in popular culture have embraced the theme of the Apocalypse, reflective of a vibrant obsession among North Americans for the consumption of doomsday scenarios. This cultural expression of the Apocalypse parallels a sense of paranoia and pessimism, rooted in the perception of the uncertain future. Yet this obsession with Apocalypticism is not solely recent, with a presence that extends throughout North American history. Throughout history, architecture and design were reflective of the Zeitgeist, and optimistically responded to a popular perception of impending apocalypse with design actions of resistance.

The amazingly resilient city of Detroit, USA has survived and regenerated itself throughout multiple "apocalyptic" scenarios. *Apocalyptic Architecture*, an interdisciplinary research and design initiative, explored the richness and potential of Detroit's historic, cultural, and spatial conditions - seeking to identify sensitive design opportunities in the face of the Apocalypse. The research initiative produced design actions responsive to both the current manifestation of apocalyptic paranoia and the context of the city of Detroit. Utilizing critical research and analysis of prior historic conditions and solutions, and a sensitive engagement of contemporary social and urban issues, varied and approachable interdisciplinary designs offered potential solutions of optimism. In the spirit of Kenneth Frampton - they produced a new "architecture of resistance" against Apocalypticism.[1]

This presentation intends to demonstrate how the action of collaborative interdisciplinary approaches facilitated responsive research and design goals. The research focused on activated design solutions for the unique spatial and demographic conditions of Detroit - a city ever resilient and innovative in the face of the "Apocalypse." Research themes included post-industrial landscapes and brownfields; sustainable design practices through self-sufficiency, preservation, and adaptive reuse; and relevant history and theories - and developed a clear understanding of real-world design opportunities to address the perception of the Apocalypse.

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[1]   Kenneth Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance" in *The Anti-Aesthetic: Essays on Postmodern Culture*. Hal Foster, ed. Seattle: Bay Press, 1983.