

THE TARP

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Workshop Summary

In the search for meaning through the medium of architecture, we strive to implant our structures deeply into the soil of context. The phenomenological qualities of the climate - the rain, sleet, hail and snow - provide depth to our architectural narrative. The elements that shape the landscape shape our architecture in kind. Placed within the global context of a collective environmental awareness we believe that our regionally-inspired architecture should evolve beyond its traditional role as a barrier against the natural elements, towards a more integrated model wherein these elements participate with and drive the form of the architecture itself.

The workshop promotes the idea that any formal architectural solution should evolve from a deep *connectedness*, exhibiting a tightly-knit symbiotic relationship between us and our environment.

Water will be our focus. Together, we will explore how basic strategies for diverting, mitigating and integrating water - in all its forms - can reshape our notions of how architectural form may develop through a close relationship to the natural world.

Background

In her essay entitled "*Lawless Sustainability*", Rachel Armstrong, Co-Director of AVATAR (Advanced Virtual and Technological Architectural Research) in Architecture and Biology at the University of Greenwich, London, presents an alternate view of matter itself and of architecture's ecological ambitions which will inspire and help to guide our investigations with water and its role in the development of alternate architectural forms. She writes:

The flow of matter through the urban environment actually represents only a tiny fraction of the global exchange of material that occurs on a daily basis through living systems such as seas, soils and rain forests. Natural networks enable this flow through environmental cycles that draw on a much larger 'standing reserve' of creativity than that which is

present in our man-made urban fabric. Indeed, according to Jane Bennett, matter possesses differing degrees of 'agency' that can shape human events, characteristics that are not appreciated by industrial modes of thinking.¹ My view is that to develop a design approach for truly ecological architectural practices, in which matter can be attributed with 'agency', **we need to think much more broadly about the performance and the innate creativity of the materials we use.**

Architecture represents the human presence in natural systems, and its ecological ambitions to integrate human communities with Nature are long-standing. Throughout the ages, architects have looked for inspiration from Nature to ally with the incredible creativity of the natural world... Each of these engagements with Nature is informed by a philosophical view of reality and its material expression. Yet in practice, architecture's ecological ambitions are constrained by the inert materials and industrial modes of construction that predominate in urban environments, which are literally organised to produce 'machines for living in'. The issue with industrialization is not simply its object-centred obsessions, but that **its inert materiality creates impermeable barriers between things, rather than connecting them...**

1. Bennett, J. *Vibrant Matter: A Political Ecology of Things*. Duke University Press (2009). p. xvii

Guiding Principles and Concepts

- Accumulating Small Change (Dawkins)
- Simplicity begets Complexity (Dawkins)
- Development of Solids (3d forms translated to 2d via orthographic projection / mechanical drafting / physical and computer modeling)
- Operations: fold, warp, stitch, cut, puncture, stretch, hem, mend, array
- Imagine an alternate history for the development of architectural form - start from elemental concepts and program requirements and gradually increase complexity.

- field research.
- Biomimicry

Workshop Format

DAY 1: In the Field - Field Work - The Blind Watchmaker

The workshop will begin with an exercise in the field on specific snow covered site. This will be a group study. The students will be given a large tarp which they will manipulate in order to achieve basic criteria: shelter, security, sunlight, windbreak, adjacent zones for growing food (sustenance) and the diversion, mitigation and integration of water. Students will record the end results through drawings, sketch models and photography back at the studio.

DAY 2: In the Lab - Lab Work - The Scientist

Students will study the form from the day earlier digitally using parametric modeling. This will be performed in small groups. Using modeling the architectural form will be pushed further - from a single manipulated plane to a more complex envelope with performance characteristics such as transparency, porosity and thickness.

DAY 3: The Raconteur (Storyteller) & The Architect

Students will be asked to further manipulate or adapt their form based on the requirements of a narrative. This narrative (given by the instructors) will introduce a character and her/his requirements. The adaptation will take shape through plan and section drawings.

DAY 4: Study Model

Student will spend then next 1.5 days building a sectional model of a building or portion thereof focusing on primary aspects of the scheme as it relates to water. The scale of the model will be appropriate to the object being modeled.

DAY 5: **Testing**

As a large group the finale of the exercise will be to test the ideas - using water, ice or snow.

Outcome

Students will have experimented in the field as a group, have a series of process models in both digital and analog format, sketch plans, details and finally a building section model which will be used for testing concepts for diverting, mitigating and integrating water.

Reference Material

"*Lawless Sustainability*"; Rachel Armstrong, Architecture Norway

Vibrant Matter: A Political Ecology of Things; Jane Bennett

Studies in Tectonic Culture; Kenneth Frampton

The Blind Watchmaker; Richard Dawkins

Flatland: A Romance in Other Dimensions; Edwin Abbott Abbott

Praxis 13: Ecologics

On Weathering; David Leatherbarrow