



Janette Kim Studio. Core One. Fall 2011

Field Test

What's better: a *RoundUp Ready*® tomato in a value meal sandwich or a \$7/lb. heirloom tomato salad susceptible to fungal blight? So-called Frankenfoods have potentially disastrous effects on human health, biodiversity, and world hunger; but alternative methods can also be resource intensive and expensive. From the genetically modified crop to the organic, and from the multi-national corporation to the victory garden, all models of food production engineer ecological processes in ways that produce their own risks and rewards.

This studio will design an urban, hydroponic research facility for The Monsanto Company, a multinational agricultural biotechnology corporation infamous for producing Agent Orange, RoundUp weed-killer, and Bt corn (corn crossed with the *Bacillus thuringiensis* toxin for pest resistance). Monsanto scientists in traditional laboratories test the benefits and side effects of products to get approval by the Food and Drug Administration. They work in hermetic spaces for contemplative experimentation: triple-paned glass, enormous ventilation mechanisms and smart security systems keep sensitive test samples away from social or environmental interference. But often, due to insufficient knowledge or loose regulation, products are released into the market are tested in real time and space. Supermarkets on main street and corn field connected to groundwater supplies and butterfly migration paths are labs in and of the world. They construct new landscapes and alter ecosystems through Monsanto's strategies of environmental control. Meanwhile, users stay tuned for recall notifications and more impartial analysts measure impacts on biodiversity and food supplies. As much as Monsanto scientists try to hide behind tilt-up concrete walls on corporate campuses, the lab is also a site for public relations, publication and dialog. Here, scientists engage with economists, policy makers, marketers and (at times) citizens, sparking rigorous dialog about the implications of biotechnology.

The charge of this studio is to offer speculations on the ecological and public potential of test landscapes. What new ecosystems can we construct? How can we recharge and reframe ongoing public debates over biotechnology?

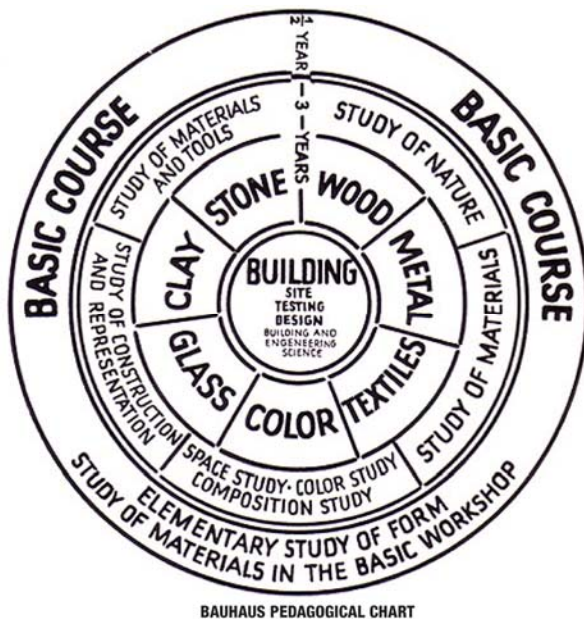
Objectives and Criteria

Strategies

As a core curriculum design studio, this course experiments with methods of design that connect the technical and aesthetic language of architecture with contemporary cultural issues. We will work with the pedagogical chart outlined below, drawn as a revision of the Bauhaus version to the left. This chart proposes that the 'foundations' of architectural knowledge are found in the context of a range of disciplines, from ecology to building technologies to economics. Each project in the studio is asked to articulate its own agenda within the broader issues framed in this brief through a systematic and rigorous set of logics and architectural strategies as noted below.

Tactics

Design and representational techniques, in turn, are tools of identifying and articulating these larger logics. Students will generate experimental techniques of research, visual communication, and design. It is a goal of this studio that students gain fluency with conventions of architectural drawing and model-making while approaching these same conventions with a critical eye and eagerness to reinvent, in order to best explore the concepts and effects of each project. Different media, drawing types, and scales will be cross-referenced, mixed, and used to produce another.



Process

You are asked to address the broader scope and challenges presented by the studio by following a rigorous, open-ended working process. We will follow an iterative working process in which multiple possibilities are explored, executed, and then evaluated once they have been tested. Design ideas will be evaluated by their ability to produce desired effects according to the project's larger conceptual framework.

You are expected to take a high level of initiative in your work, process, and development of techniques. In addition to responding to challenges offered by your critic, you are expected to connect your work to research, writing, projects, and other influences beyond the studio environment by exploring materials recommended below and through independent exploration.

It is crucial that students learn to produce both Quick and Slow work. Quick work can be done in multiples, with each iteration providing a clear but limited intention (technique, activity, effect, etc.) to sketch ideas still in formation. Slow work requires a greater level of precision and complexity, often synthesizing the broader scope of the project's many intentions.

It is expected that you will work in the Avery Hall studio space. All students must be present during the entirety of all reviews and pin-ups.

Projects



1 STEM: Producing Climate

Produce a new micro-climate or counter-climate for a given plant. Create a drawing that analyzes the relationship between this plant and its environment, with a focus on the impact of environment on the decay, preservation or survival of the plant. Identify spatial and material themes about the adjacencies, relationships, and envelopes that impact this found organism.

Strategies: Material, Conditioning, Enclosure

Techniques: Orthographic Drawing, Layout, Analytic Diagram

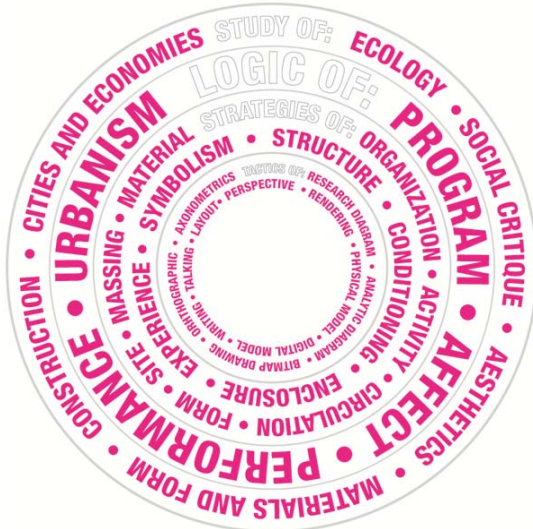


2 CELL: Reconfiguring Systems

Design a research station for Monsanto researchers in a publicly accessible, urban site. We will cover critical readings and produce research drawings to develop each project's conceptual interests in biotech research, using existing practices of agri-business production, consumption and/or research as a starting point. We will then develop material/spatial ideas through physical model studies to explore new possibilities for the research station's public presence.

Strategies: Enclosure, Conditioning, Material, Experience, Activity

Techniques: Research drawing, Physical model, Orthographic Drawing (section)



3 LAB: Designing the Field Test

Design a laboratory for Monsanto Corporation and Columbia University researchers at the border between Morningside Heights, Harlem and Manhattanville in New York City. We will develop concepts and design strategies directly from project 2 with increasingly complex speculations on Monsanto's practices, relationship to the New York City site, and by experimenting and developing structural and envelope ideas at the scale of the building and beyond. Design strategies and techniques used throughout the semester will be synthesized and cross-referenced at a higher level of complexity and broader scales of influence, from the material, program, building, and urban scales to the global.

Strategies: all

Techniques: all

Readings and References

Drawing and Diagramming

Envisioning Architecture: Drawings from The Museum of Modern Art, Museum of Modern Art
The changing of the avant-garde : visionary architectural drawings from the Howard Gilman collection, Terence Riley
Envisioning Information, Edward Tufte
The Visual Display of Quantitative Information, Edward Tufte
The Metapolis Dictionary of Advanced Architecture, ed. Manuel Gausa

Drawing Examples

<http://www.slideshare.net/janettekkim/programsections>
<http://www.slideshare.net/janettekkim/programdiagrams>
<http://www.slideshare.net/janettekkim/presentationmedia>
<http://www.slideshare.net/janettekkim/diagrams>

Design standards and reference books

Architectural Graphic Standards, Ramsey and Sleeper (also avail. On CD ROM)
Detail in Contemporary Landscape Architecture, Virginia McLeod
Details in Modern Architecture, Volumes 1 and 2, Edward Ford
Details in Contemporary Architecture, Christine Killory
Time-saver Standards, Joseph DeChiara (multiple volumes and subjects)

Material

Material ConneXion: The Global Resource of New and Innovative Materials for Architects, Artists and Designers
Transmaterial: A Catalog of Materials That Redefine our Physical Environment, Blaine Brownell

Structure

Informal, Cecil Balmond

Site

Mark Wigley, On Site, 'Lotus international', 1997, n.95, p.6-21

The science laboratory

Laboratory life: The construction of scientific facts, Bruno Latour
Pandora's Hope, Bruno Latour
"The world wide lab / Research space: Experimentation without representation is tyranny." in *Wired*, Bruno Latour
"Reproducing Nature: The Museum of Natural History as Nonsite" in *October*, Ann Reynolds
The Architecture of Science, Peter Galison and Emily Thompson

On Environmental Control and Regulation

Banham, Reyner, *Architecture of the Well-Tempered Environment*
"Haacke's condensation cube: the machine in the box and the travails of architecture" Mark Jarzombek
Architectural Design, "Energies" Issue May/June 2009
Anker, Peder, *From Bauhaus to Ecobouse: A History of Ecological Design*
Clement, Gilles; Rahm, Philippe; and Borasi, Giovanna, *Environ(ne)ment*.
Harwood, John, *The White Room: Eliot Noyes and the Logic of the Information Age Interior. Grey Room*. Summer 2003, No. 12
Tze Tsung Leong with Srdjan Jovanovic Weiss, "Air Conditioning: Life Support for the Consumer," in *Harvard Design Guide to Shopping*.
Zaera Polo, Alejandro, "The Politics of the Envelope: A Political Critique of Materialism," in Volume 17.

On Atmosphere

Wigley, Mark (1998) *The Architecture of Atmosphere*. Daidalos 68, pp. 18 - 27.
Bohme, Gernot (1995) *Atmosphere. Essays zur ein neuen Asthetik*. Frankfurt a. M: Suhrkamp Verlag

On Aquaponics and Hydroponics

http://www.slideshare.net/janettekkim/nutrientcycle?from=ss_embed
http://www.slideshare.net/janettekkim/hydraulics-3016177?from=ss_embed
http://www.slideshare.net/janettekkim/waterandair?from=ss_embed
http://www.slideshare.net/guestc4bfa05/lighting-3075439?from=ss_embed

On food and consumption

Rem Koolhaas. Harvard Design School guide to Shopping.

Keller Easterling. "Tomato World," in Praxis Issue 4.

Keller Easterling. *Enduring Innocence: Global Architecture and its Political Masquerades*.

Michael Pollan. *Botany of Desire*.

Erik Schlosser. *Fast Food Nation: the Dark Side of the All-American Meal*.

Meredith Tenhour, "The Architect's Farm," in *Above the Pavement – the Farm!*

www.ediblegeography.com

On New York

Kate Ascher, *The Works: Anatomy of a City*

Eric Sanderson, *Mannabatta* and <http://welikia.org/>

Ecology and Environmentalism

Nature's Economy, Donald Worster

Discordant Harmonies, Daniel Botkin

Stern, Robert. *New York 1880, New York 1930, New York 1960, and New York 2000*.

Political Ecology

"Biotechnology and Empire: The Global Power of Seeds and Science," Sheila Jasanoff

"A Cautious Prometheus? A Few Steps Toward a Philosophy of Design," Bruno Latour

Politics of Nature, Bruno Latour

"Networks and Spheres: Two Ways to Reinterpret Globalization" lectures by Bruno Latour and Peter Sloterdijk,

GSD <http://www.gsd.harvard.edu/events/webcasts/>

"Globalization: Which Globe? Which Politics?" lecture by Bruno Latour

http://www.columbia.edu/cu/alliance/Photos/Video/sipa_bruno_latour_857.htm

Art and biotechnology:

<http://www.yougenics.net/agriart/projects.html>

Critical Art Ensemble