ARCHITECTURAL THEORY ELECTIVES

Spring 2015
Although nature is often seen as antithetical to urbanism, city making has always been inflected, whether intentionally or not, by biophysical processes and performances. Since Enlightenment and industrial modernity (which supposedly ‘tamed nature’), architectural and urban design has increasingly drawn power from nature, either as a uniquely authentic source of certain aesthetic and corporeal experiences, or as a source of inspiration and guidance in theorizing the use, functioning, and planning of cities. This faith in nature as ‘agental other’ continues in the growing embrace of urban ecology as a way to address different kinds of environmental crisis.

Usually reduced to the “intrinsic character, quality or behaviour of some place, person or creation,” nature is not only not as natural as it seems, it also encodes a great deal of history. While the bio-physical realm definitively exists, it changes constantly, both of its own accord, and due to human actions. At the same time, because it is based on current modes of description, calculation and imagination, the idea of ‘nature’ is always socially constructed, infused with taken-for-granted values and assumptions, and often complicit with the interests of particular groups or individuals -- what some call a ‘socio-nature’. And it is precisely in cities, where the distinctions between nature as biophysical fabric and nature as cultural projection are hardest to discern because both conditions co-occur, that nature becomes most saturated with political and ideological power.

Broadly anthropocentric in perspective (ie oriented towards to human understanding, health and welfare), this course explores the meanings and affects produced by relations between biophysical processes, people and cities, and how these relations are mediated by different scales of the built environment -- buildings, open spaces, infrastructures, and territories. Taking into account the differences between thinking about nature through the lenses of landscape vs environment vs ecology, we will trace the historical and ideological origins of received notions of ‘urban nature’, and the formations through which they emerged and/or are mostly associated. These classes will form the basis of a mid-term assignment, in which students will trace the co-evolution of the morphology of a particular city and its socio-nature in relation to ambient bio-physical processes, patterns and rhythms. We will then test these relevance of received ideas about cities and nature, using alternative ways of parsing this relationality suggested by deep ecology, eco-revelatory design, landscape urbanism, political ecology, urban metabolism, environmental justice, human/non-human relations etc, as well as new kinds of challenges (ie energy production, global warming, water shortages) and spatial morphologies (ie. green infrastructure, informal settlement, urban agriculture, ‘terrain vagues’). These classes will form the basis for the final, case-study oriented, assignment: the research, analysis and critique of a proposed or realized contemporary architecture or urban project or initiative (possibly in the city studied earlier), using one or more of these discourses and practices.

To facilitate discussion about specific locales and formations, students will be expected to read, and participate in discussion about ca. 50 pp. of readings each week; also, to engage these readings in their research assignments. The class is open to upper level undergraduates and graduate students in Architecture, Landscape Architecture, Urban Studies, Planning and others interested in the spatial articulation of environment and society.
This seminar outlines changes in the discourse and practice of architecture following crisis or turmoil as an opportunity for new potentials, exploring the social, political, and economic context and their influences on architecture and urbanism. Most recently, the disruptive events of the last 12 years contribute to the latest Post Bubble era, with a dramatic financial collapse compounded by socio-political conflicts, and the realization of predictions in climate change. These crises and turmoil upended traditional notions of the typical processes of architectural production and question top-down and bottom-up hierarchies, public and private realms, ownership, and the architectural program. The course will study the current practices of the architecture of crisis as well as the historical significance of previous post traumatic yet productive periods from post-World War II, the late 70s and early 80s, and other seminal moments that projected and shaped the modern environment.

Examining a selection of initiatives and their geographies, the course will investigate architecture in the context of the new economic landscape of post-bubble conditions, excess, neo-liberalism, vacancy, informal architecture, re-use, and resilience. The seminar will engage texts and projects from Roemer van Toorn, ANT Farm, Henri Lefebvre, Cedric Price, Teddy Cruz, Dana Cuff, Beatriz Cololina, Alejandro Aravena, and Reinhold Martin among others. The seminar will be comprised of lectures, readings, discussions, as well as a final project that will intervene in the existing context of selected cities.
ARCH 3308/6308: Special Topics in Theory of Architecture: **IN FEELING:**
**STORYTELLING and EMAPTHETIC ARCHITECTURE IN THE AGE OF SINCERETY**

Elective course instructor: Eric Ellingsen
Wednesday 10:10-12:05pm 144 Sibley Hall

“Every day we deal with people who occupy posts in the established social systems where behaviors are socially defined and sanctioned… to trust you is to go beyond what I know and to hold on to the real individual that is you… trust short-circuits across the space where we represent socially defined behaviors and makes contact…” Alphonso Lingis, Trust

“Let us all be heads of lettuce.” Velimir Khlebnikov

For a time in the 19th century, empathy framed part of Western architecture and aesthetic discourse. In Germen, empathy is *Einfühlung* (Robert Vischer). *Einfühlung* translates as *in-feeling*, or *feeling-into*. The idea is that *in-feeling* things, sympathies with things emerge, vibrate. The vibrations entangle fields of perception and place, people, species, and systems. Today, the turn to philosophic discourses, vibrant matters and object oriented ontologies are reengaging the agency of emotions and empathy as a technique for connecting and a tool for understanding differences. Today from turtles to termites, human cultures to yeast cultures, trust to tea, things matter differently when we feel them out.

This seminar will *post-hole* (Richard Sennett) across disciplines from philosophy to ethnography, from colonies (species) to colonized (species), interrelations of power, culture, cultures, yeast cultures, from orientalisms, master narratives, hegemonies, sticks to ants to ANT theory (Latour) to ant geometries (Poincare) to pig worshippers and cultural riddles, to police. We will investigate the social construction of knowledge by constructing knowledge together. We are after *thick-descriptions* (Clifford Geertz); architecture as the design and experience of TRUST SPACES. We will look at examples from the social neurosciences. We will conduct table-top experiments to practice feeling experiments experiences. We will look at the role of ritual, storytelling, shamanistic practices, phenomenology, myth making through which history and life perpetuate structures in which forms and spaces and cities are mapped and materialize. Structures through which meaning emerges, as well as a sense for spaces and time.

This seminar will place a heavy emphasis on storytelling.

This seminar requires a lot of reading and discussion.

You will have to research and write about the geopolitics and structures of a type of material system which repeats in different site sensitive ways around the world.
The industrial revolution of the 19th century unleashed a number of forces which disrupted and disaggregated the organic unity of the city. New technological, economic and social constructions threatened the traditional life world in the city. The many urban theories, projects and practices immediately following this period were preoccupied with covering up the loss, trying to restore the organic unity of the city. They, however, rarely dealt with how this traumatic transformation has been experienced by the man of/in the crowd, the flaneur, the ragpicker, the dandy, the beggar, the detective, who were critical of modernity and felt threatened by the accelerated urban development.

Melancholy, as Freud described it, is the inability to come to terms with loss. The goal here is to address the loss, which has been experienced during this traumatic period on the way to modernity, the transformation of the city into the metropolis. It is the intent of the seminar is to investigate the effects of these transitions on the city’s inhabitants, not as a pathological condition but use melancholy as a refined reflective emotion with its own qualities. The seminar intents to look how melancholy with its reflective trait found its way into cultural representations in literature, social studies, art, film, urbanism, where melancholy emotions serve as an explanatory model providing additional insight.
Interfaces and the Production of Space

This seminar will explore notions of interface and, in particular, the influence of interfaces on the production of space. Whether physical, geometric, or social, spaces are increasingly understood, designed, navigated, and experienced through interfaces of various kinds. In culture, interfaces play an ever greater part in constituting what Henri Lefebvre called “that social space wherein language becomes practice.” Yet the interrelation of interface and space—as between airplane cockpit and flight trajectory, design software and architectural form, or media platform and social space—is at once obvious and obscure, ubiquitous and difficult to locate and trace. Even as interfaces provide means of knowing space, they also occupy a kind of non-space, a transient and contingent space that emerges through the interaction of human and machine.

In this seminar, the problem of the interface will provide a way into contemporary spatial concerns and the contexts of their historical, cultural, and technological development. We will treat the interface not as a technology, but rather as a way of relating to technology that encompasses gestures, expectations, training, social formations, and habits of thought. A particular focus will be on notions of agency, mediation, and embodiment. Course readings will situate the interface with respect to cultural theory, architecture, interface design, and the history of technology, while course projects will explore technological lineages as a way of making visible what the operation of the interface often renders invisible.
At Grade
Investigations of Above and Below
ARCH 3308/6308: Special Topics in Theory
Michael Jefferson
Tuesday 10:10-12:05
261B Sibley

Premise: The seminar will explore architecture’s relationship to the ground plane through the examination of visionary proposals that elevate above it. These projects, artifacts of manifestos and speculations, share an unlikely bloodline with a contemporary condition, albeit in an unexpected territory: suburbia, in which typical houses along the coast are raised in response to rising seas. Here, the forbidding nature of the territories left behind (underneath) by elevated houses begs for a revisitation of past proposals, uncovering their intentions and considering the ground plane that they too left behind, reformatted, and superimposed upon.

Content: Through a series of thematic groupings, including Modernism, Anthropology, and Ecology, we will investigate a series of projects both unrealized, from Le Corbusier’s Ville Contemporaine to Constant’s New Babylon, and built yet unglorified, from Chicago’s multi-level streets to the raising of coastal houses. In these investigations we will uncover the ideologies and motivations that drive their necessity to elevate, while subsequently analyzing the resulting ground plane condition.

Output: While readings and discussions are the foundation of the seminar, selected projects (both visionary and realized) will be analyzed and speculatively redrawn to reveal the resultant urban ground condition and underpin the projects’ motivations. A textual component will accompany the final project. The compiled work of the seminar will generate a catalog of the resultant urban effects of elevated architecture and urbanism.

We will examine projects by: Yona Friedman, Ludwig Hilberseimer, Archigram, Le Corbusier, Constant Nieuwenhuis, Arata Isozaki, Raymond Hood, Paolo Soleri, and Mike Mitchell and Alan Boutwell among others.
Louis Kahn and Robert Venturi, two of the most influential architects of the second half of the XX century arrived to the American Academy in Rome with the goal of finding a personal approach apart from the constrains of the International Style. They used Rome as a creative source of ideas they could use to eventually repurpose their own architectural language. Palladio, Borromini, Miguel Angel became their masters in a fascinating journey where they search relentlessly for analogies with their modern times with the modern times with the aim of developing an independent personal architectural thinking.

By focusing on the interval between their fellowships at the American Academy in Rome and the year 1961, when they built the Vanna and the Esherick house, we will examine the evolution of their own thinking and the interpretation of the Roman knowledge. Through comparison between their individual itineraries we will try to discover what aspects from the architecture of the past captured their attention and how these old concepts were transformed into new ideas which led them to skip the simplified and homogeneous forms of the international style. We will focus on some of their readings, the people they met, the trips they took and the instruments they used in order to embrace the city of Rome.

The notion of event, scale, order, reuse, material, geometry, program, servant and served spaces, are concepts intimately linked to Roman Architecture but still part of the contemporary architectural discourse. The purpose of the seminar will be encouraging the students to have a closer view to Roman Architecture to discover links and symmetries that could be relevant in our contemporary context.

**KAHN vs VENTURI: ROMAN SYMMETRIES**

1. SKETCHBOOK vs POSTCARDS
2. INTEL vs ARCH
3. ROMAN ARCHITECTURE vs MANNERISM AND BAROQUE
4. PIRANESI, CHOISE vs MIGUEL ANGEL
5. PALLADIAN PLAN vs PALLADIAN FACADE
6. STRUCTURAL EXPRESSION vs FAÇADE AS A MASK
7. MONUMENTALITY vs SCALE OVERLAPPING
8. PHYSICAL SCALE vs PSYCHOLOGICAL SCALE
9. FRANK BROWN vs RUDOLF WITTKOWER

**ESHERICK HOUSE vs VANNA HOUSE**

1. AUTISM vs CONTEXT
2. THICK WALL vs DELAMINATE WALL
3. PURE GEOMETRY vs POLLUTED GEOMETRY
4. ORDER vs COMPLEXITY
5. FRAGMENTATION vs UNITY
6. GIANT SCALE vs DUALITY SCALES
7. REPRESENTATION vs SYMBOLISM
8. PERCEPTION vs MEMORY
9. GENERIC ROOMS vs SPECIFIC ROOM
For early 20th century architects like Bruno Taut, Walter Gropius and Frank Lloyd Wright, visiting Japan and imbibing Japanese design sensibility was both a revelation and a confirmation of much of their thinking regarding the direction of their own work.

The course is an introduction to and an analysis of the architecture and gardens of Japan. Interpreting the unique geopolitical situation of Japan, as a sheltering archipelago longing for continental sophistication, will suggest how isolation and borrowings continue to shape the forms of Japanese architecture and gardens. In a related context we will investigate how the revered and ethereal craft of shaping paper, wood, stone and water has transformed the simplest of materials into archetypical constructions. Cultural phenomena such as ma (space-time continuum) oku (the inner depth) yohaku no bi (the beauty of extra whiteness), shakkei (borrowed landscapes), and others will be explored to reveal the forces shaping structure and space. Since an understanding of the evolution of social and political discourse in Japan is necessary to fully comprehend the unique meaning of its constructed environment, additional attention will be given to these aspects of the culture—especially the spiritual—as they exert an influence on various expressions of form.

Class format will consist of lectures, films, discussions and readings. Two exams will be given during the semester. In addition, each student will be required to complete either a project that represents an exploration of a concept, form, characteristic or influence associated with Japanese architecture and gardens, or a research paper.
ARCH 4300/4500
B.Arch/M.Arch  Theory/Visual representation
Location: 142 Sibley
Day/Time: Mon 7:30-9:25pm
Instructor: Caroline O’Donnell  cao53@cornell.edu
Credits: 3  Grading: Letter

The design and production of Architecture must be supported, narrated, and motivated by writing. In 2009-10, Sojourns stimulated architecture and writing at Cornell by relaunching *The Cornell Journal of Architecture* (issue 8: *RE*), followed, in 2012, by issue 9: *Mathematics*. Similarly, through both the study of publications of the last 50 years, and the engagement with the practicalities of publishing, the Spring 2015 Sojourns class will engage in the editing, illustrating, and production of the Cornell Journal of Architecture issue 10. The theme, *Spirits*, draws together a range of architectural ephemera: Specters, Geists, Geniuses, Essences, Sylphs, Data-clouds, Distillation, the Virtual, Goose-bumps, Angels, Hauntings, Absences, Phenomena, and other je ne sais quoi that are everything about architecture and the city that we cannot quite see and touch, but without which our tangible realities would be less meaningful.

Cross-listed as both theory and visual representation, Sojourns engages in the freshest contemporary writing and design, allowing students to shape and guide texts submitted by writers from Cornell and further afield, as well as considering the role of the visual (the image, the drawing, the paratext) in the reading of architecture.

Students are fully involved in and responsible for all aspects of the production. Students will be asked to develop creative strategies for the coherent unification of the final collection of essays and projects. Students will learn skills in writing, editing, composition, graphics, publishing, and production.

Regular discussions with co-editors, faculty, and guests will contribute to the journal’s refinement through the semester. Grades are based on weekly presentations and discussions (50%), as well as regular graphic, writing and editing assignments throughout semester (50%). Students who participated in the Fall 2014 workshops will have priority, but other students are welcome to join on the first day of class.
NEW YORK AS INCUBATOR OF 20TH-CENTURY URBANISM
FOUR URBAN THINKERS AND THE CITY THEY ENVISIONED

The theories of Lewis Mumford, Robert Moses, Jane Jacobs, and Rem Koolhaas were shaped by their disparate responses to New York City’s twentieth-century development. Constructed as an argument among these four influential “urban intellectuals,” the seminar also reflects on the past, present, and future of New York and other cities in light of their ideas.
ARCHITECTURAL PUBLICATIONS: SOJOURNS

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The Condominium is a form of automatic architecture shaped by its marketing context, bypassing its architects while notably neglected by the academic research. We propose a systematic study and inventory documentation of New York’s Condominium real estate development, revealing the latent intelligence embedded in its conception, design and performance. The American Condominium Metabolism research, will undertake the task of researching the typology of the condominium in the city of New York, as an attempt to scrutinize this urban phenomenon, currently placed outside the boundaries of the architectural academic discipline.

The students will be expected to create an active database of building protagonists from the ugly and ordinary to the signed and iconic, while participate in a wider discussion about the forces that define the phenomenon: the architect, the market, the city, the developer. Taxonomies of types, charts of paradigms and primary research will constitute the operative tools of the seminar, organized around the structure and logic of the generic “drawing set”.

The ongoing project is conceived by ksestudio (Sofia Krimizi and Kyriakos Kyriakou) supported by the NYSCA and the Storefront for Art and Architecture.

Conduct questions to: sk829@cornell.edu
From CINECITTA to THIN CITY

Dziga Vertov’s 1929 “Man with a Movie Camera” was the first film to examine and celebrate the shared destinies of the urban and the cinematic. The same mechanisms of industrialization that created new modes of mass transportation that powered the 20th century city were at work in the production and distribution of films. Cinema was the means for capturing the speed and dynamism of urban life, which in turn demanded a new mechanical vision, the KINO EYE. For Vertov the city itself was the site and subject of the film.

Cinecitta and Hollywood’s studios were vast sites for the cheaply constructed simulations of towns and cities built by carpenters for the camera view. Today’s equivalent is the vast online repository of urban images, the result of the rapidly evolving and proliferating digital imaging and mapping technologies. These navigable virtual image worlds freely available and easily reassembled, will be the site and subject of the films made in the course.

Students will propose new cinematic visions for the 21st century mediated city by examining the imaging technologies that make possible the assembly of these virtual cities. They will also reconceptualize the relation between still and moving images and the unique temporality of the 21st century city. By investigating why, by and for whom these images were made, the films will comment on our relationship to the ever-expanding universe of images.

The class will entail readings on contemporary film and media theory, film viewings and the making of short films. The final project will be a 3-6 minute film.
The construction of architectural models is intertwined with the origins of the discipline of architecture itself. It is, since antiquity, a practice used by architects as a way of communicating architectural designs. This way of thinking and using the model, with a few exceptions (like Brunelleschi’s Duomo), extends until the beginning of the twentieth century. It is only then, that examples like the Russian Avant-Garde, the Bauhaus or Antonio Gaudí began to surface, addressing the model in a new way - as a tool for drawing/designing. Reckoning the model in this manner continues as part of the architecture practice until today, despite the ongoing evolution of the digital. In this course, models will be perceived as a tool for imagining dwelling spaces. Considering the model as a concrete element, the object must reflect the way it is built, by exploring the diverse possibilities of building and structuring with different materials, reflecting and enhancing their specificities and characteristics - directly linking it to the act of building.

The course will be held on both theoretical and practical approaches: the theoretical approach will be based on class presentations and discussions in a seminar format, including lectures, readings and analysis of case studies and the practical part will develop a design research project by the students throughout the semester. This work will consist on the construction of models from images, movies or literary texts. These “images” could be a Capriccio from Piranesi, a photograph of Andreas Gursky, an urban staircase from a Manoel de Oliveira movie or a novel by Borges or Kafka. Student’s works will be presented and discussed in class, contributing to further the discussion on the topics covered in the lectures, the texts and the case studies. We intend to find these spaces by manipulating; the boundaries that configure space, the matter that materializes these limits, the light that enlightens them and the scale that is best suited to the construction of each model. In the end the students must also submit a photograph or photomontage of the model, of what it could be to dwell this imagined space. More than a representation of an idea, the models will be understood as a way of researching space and exploring the constructive nature of the project.

It will be through the models that this imagined architecture will be materialized in our world.
Expanding Mat-Organizations
Urban fabric and the Asian megalopolis

The effects of Mat-Organization proliferate into architecture, infrastructure, urbanism, and landscape. Alison Smithson described mat-buildings as “close-knit patterns of neutral collectives open to growth and changes” analogous to urban formation characterized by an interplay of horizontal part to whole relationships and an ever expanding system. Other than the mat-building, Mat-Organizations absorb all scales while remaining equally malleable and transformable. In his essay “The Thick 2-D: Mat-Building in the Contemporary City”, Stan Allen describes mat organizations as a form of “Thick-2D” surface organization. Projects such as the FOA Yokohama Port Terminal have utilized Thick 2D surface strategies at the building scale, merging architecture, infrastructure and landscape. The seminar will use Mat-Organization as a vessel for investigating architecture and urbanism’s formation at various scales. Allied with digital processes and tools, the goal is to identify, derive and manipulate hybrid architectural orders.

The course will identify and experience Mat-Organizations as highly complex spatial conglomerations to rethink urban formation beyond a two-dimensional pattern. Students will develop projects exploring urban fabric topologically as an augmented three-dimensional system mediating mass and porosity. The spatial and topological opportunities created by systemic strategies are at the focus of our design research to address density, networks, and three dimensional spatial sequences.

The seminar will start with readings in conjunction with analysis and digital drawings of Mat-Organization precedents at both architectural and urban scale. The analysis is followed by a series of formal and parametric explorations using Grasshopper and other digital design tools. Students will focus on conceptualizing geometric behavior and inventing three dimensional fabric systems which address sectional relationships, as well as organizational framework of network and connectivity responding to specific urban characteristics. Studies will be materialized on a weekly basis through the use of digital fabrication tools such as 3d printing, CNC milling, and lasercutting. Representation techniques will be developed for relevant drawings, maps and diagrams. Series of models and drawings will range from abstract geometrical spatial speculations to ones which engage the realities of architectural qualities and urban organization.

All are welcome, for questions, contact lok@hannah-office.org
COURSE DESCRIPTION:

This one-credit course is designed to give an outline of Italian Cinema during Fascism, WWII and the post-war years. While the Fascist regime used cinema to create consensus, at the beginning of the new Italian democracy cinema started to reflect and represent Italian society without preconceptions and in an attempt to develop a new cinematic language.

From the country/city antagonism of Fascist cinema, to the naturalistic spaces of post-war cinema in the 1940’s, to the urban visions of Neorealism, the course will focus on how landscape and mise-en-scène enhanced and reinforced the films’ narratives and themes.

TEXTS:

Giorgio Bertellini, The cinema of Italy, Wallflower London 2004

FILMS SCREENINGS:

Each session consists of an in-class lecture and a film screening. All films are in Italian with subtitles.

| Milan, cinematic city during Fascism | Gli uomini che mascalzoni/Men, what rascals (Mario Camerini) |
| Neorealism, a visual journey through Italy during WW2 | Paisà/ Pisan (Robert Rossellini) |
| Neorealism, action on city streets | Ladri di Biciclette/ Bicycle Thieves (Vittorio DeSica) |
| Noir and comedy on the streets of Rome | I Soliti Ignoti/Big deal on Madonna street (Mario Monicelli) |
A work of architecture can be understood as an intervention within a specific context — an intervention that is informed by a specific reading of that context’s formal, environmental, historical, phenomenal, cultural, material, structural, operational, and temporal characteristics. The ambition of this course is to bring conceptual clarity to these processes of intervention as they might be informed by the specific context in which the intervention occurs. The contextual vehicle for these processes will be a collection of BOOKS, self-selected by each student: books and journals scavenged from the shelves and tables of discarded Roman archives and libraries. Thirteen weeks, thirteen books. Each week students will be asked to explore a series of operations within a specific book (of their choice). These operations might be motivated by the following ‘programs’: reveal hidden meanings, discover new readings, introduce absent narratives, exaggerate suggested references, overlay alternate agendas, intentionally misread, suppress agendas, distort narratives, construct relationships, and more.....Operational strategies will involve cutting, pasting, slicing, layering, exposing, fusing, folding, illuminating, rendering, scanning, popping up, constructing, stitching, binding, expanding, transforming .... An archive of interventions, a city of books.
TIME FRAMES
exposures in visual thinking

Cornell AAP NYC
ARCH 6509: Special Topics in Visual Representation
Spring 2015 Thursday 3 - 6 PM
Instructors: DBOX - Matthew Bannister, Leah White, Christa Hamilton

We yearn to see how people dressed a century ago, to recognize the familiar features of our ancestors, and experience our city as an unconquered field. We trust photographs, as they allow us a window of comprehension into history. Naturally we subscribe to the idea that seeing is believing.

The evolution of photography however has gradually shifted from documenting and perfecting truths to constructing and fabricating alternate ones. Today's tools enable us to simulate and composite a reality from disparate times and spaces. Apps allow us to document our lives outside of our present day...to create 70's-style Polaroids or envision what our world would look like. With additional composited (and complicit) photorealistic 3D computer graphic technologies we are all communicating visually with an alternate language of enhanced truths. The flexibility of time and space in visual communications has become so fluid, yet relentlessly loyal to the idea of 'a realism', that the lexicon of this visual language has radically expanded.

In our course time will be studied as a photographic 're-mixing' device. Through a series of image-making exercises, both photographic and computer generated, we will create highly crafted and convincing narrative visions of possible 'realities'.
This drawing course will advance the students’ of architecture ability to navigate seamlessly between the visceral perception of the City’s built terrain and the constructed representation of urban forms and the resulting space in both analytical and experiential drawings that capture volumetric and ephemeral qualities of the existing or imagined environment.

By direct observation and experimental recording of a curated set of public interior and urban spaces, the students would be expected to produce detailed, evocative and inventive simulations and interpretations in both analogue and digital methods, developing further their facility to visualize, represent and re-imagine space, materiality, scale, light, sound and time.

The course will enable AAP students in New York to engage the City and its architecture by providing a structured platform to study unique and significant urban and civic spaces.

Students will be introduced to a range of drawing precedents and various representational techniques as well as to a number of related library, gallery and museum drawing collections. They will be expected to formulate and follow their own agenda in exploring any given territory or method of representation into a cohesive body of work in order to develop a personal visual language that is innate and fluid, precisely crafted as well as generative and an instrument for continuous discovery.

Thursdays 3pm-6pm ldd4@cornell.edu
Vaulting Ambitions is primarily concerned with challenging disciplinary paradigms about the role of structure in contemporary design practice. The course will speculate on the instrumental potential of structural performance and its capacity to generate distinctive material, formal and spatial organizations. To this end, the first part of the seminar will focus on understanding the work of the Uruguayan engineer Eladio Dieste, and the principles of formal dexterity and structural invention that allowed for the creation of some of the most innovative reinforced ceramic structures of the 20th century. We will concentrate more specifically on studying Dieste’s long-span vaulting systems: free-standing barrel vaults, continuous and discontinuous Gaussian vaults.

During the second part, students will produce speculative models and diagrams implementing aspects of their initial research, and leveraging the opportunities that digital tools for design and fabrication offer to advance the discourse around form and structure in architecture.

Course work will include readings, presentations, digital and analog models. Prerequisite: basic working knowledge of Rhino, Grasshopper and 3d printing.
“Every material possesses its own language of forms and none may lay claim for itself to the forms of another material. For forms have been constituted out of the applicability and the methods of production of materials. They have come into being with and through materials.”


When first synthetic substances were developed architects, artists and designers were fascinated by the potential of the new materials. This initiated a period of intense experimentation and searching for new forms and concepts that could adapt to the new products and to the new society that saw in the characteristics of these materials the perfect representation of progress and future. Technical limits and high production costs, due to the oil crisis, resulted in the end of the plastic euphoria around 1973.

Plastics have found their way back in architecture slowly since 1990. New technologies have made it possible for plastics to meet almost all of architecture’s requirements. The technical advantages of these products are many, but the proper characteristics of plastic materials such as light transmission, bounce, and color possibilities are the ones that architects are trying to explore in order to create new aesthetic effects.

How will plastics evolve? Environmental concerns and engineered materials searching for responsive elements in construction seem to be the leads of the plastic investigation, but should architects keep on pioneering new concepts in order to fit form in architecture to the particular characteristics of these materials?

This seminar will take the students through an overview of the use of plastics in architecture through history, trying to understand the relationship between form and material. We will investigate the technical solutions applied in constructing with plastic through the analysis of a group of case studies. This seminar will focus on both theory and practice; students will be asked to develop an exercise in which they will explore the influence of material on the design process.

“Every new material means a new form, a new use if used according to its nature”.

Frank Lloyd Wright, “In the cause of architecture: Composition as Method in Creation.” 1928.
The advancement of digital design and fabrication techniques opens distinct possibilities for the redefinition of architecture as a discipline which - facilitated by the Third Industrial Revolution - redefines itself through the act of hands-on building practice. This course will be built upon core structure and building technology classes, giving students an opportunity to investigate emerging means of digital fabrication and confront design and assembly at full scale. Driven by the concept of working from flat sheet materials into three dimensional form, students will explore advanced digital tools to create a refined pathway from raw material to composite construction.

The course will research the use of sheet materials in architecture and other disciplines historically, ranging from vernacular building precedents, ship building, aerospace, automotive, modern furniture design, to origami and kirigami techniques. Material innovations in the areas of wood laminates, composite plastics, and advanced metal alloys will also be examined. Folding, bending, cutting, and scoring techniques will be analyzed through precedent and geometric research.

The architectural pavilion typology will serve as a point of exploration to study new spatial constructs and emergent organizations. The course aims to push the boundaries of building with sheet materials by utilizing and advancing digital design and fabrication techniques. Various analysis tools will be used in the process to improve structural and performative properties of materials and aggregations. As part of the design process, students will learn to negotiate material constraints and address architecture as an intricate mediator between diverse systems and interests. Focusing on the interplay of structure, skin, joinery, performance, and inhabitation, the course will reveal the complexities of building assemblies at full scale.

Students will make use of the school’s extensive fabrication resources in Rand Hall to develop building components and prototypes at various scales. Fabrication and digital design tutorials will be given during the semester. Knowledge of digital tools is not a prerequisite for this class.

Fabrication tools: CNC mill, Laser Cutter, Water Jet, 3d printers

Digital design tools: Rhino, Grasshopper, Python, Kangaroo, Karamba, Galapagos, RhinoNest
Figure 1 - Selection of student work produced in prior installments of Sabin’s seminar titled, Special Topics in Construction: Digital Ceramics, Department of Architecture, Cornell University.

This course explores the integration of complex phenomena towards the design, production, and digital fabrication of ceramic form in the design arts and architecture. Course work covers advances in digital technology, digital fabrication, advanced geometry, and material practices in arts, crafts, and design disciplines. Algorithmic design techniques are integrated with digital fabrication for the production of ceramic components at a range of scales and applications. Case studies explore the role of ceramics in design and architecture and its reciprocal relationship in alternate fields and industries. Techniques in parametric and associative environments are incorporated with feedback derived from material constraints as well as performance assessments. Projects interrogate the physical interface between digital complexity and fabricated material assemblies in order to address novel applications of non-standard ceramic components and tiles towards the production of 3D textured prototypes and screen systems. Project work follows two tracks including mold production and slip-cast ceramic component design.

Figure 2 – Process images for PolyMorph, a large spatial structure produced by Jenny Sabin Studio featuring 1400 digitally produced and individually hand cast ceramic components. On view as part of the 9th ArchiLab, titled Naturalizing Architecture. Now part of the permanent collection at Frac Centre, Orleans, France.

The production of ceramic blocks and tiles has a vast technological and design history. Ceramic modules of standard measurement have been used as a building block and replacement of stone for centuries. Ceramic bricks and tiles, so ubiquitous in their application in the built environment, have surprisingly lacked recognition as a viable building component in contemporary architecture practice until now. The use of CAD/CAM technologies to automate the design and fabrication of ceramic form has since inspired a new appreciation for ceramic material in architecture, but further design research and production is necessary. Importantly, the plastic nature of clay offers up a potent material solution to contemporary generative design processes in architecture, which frequently feature organic and natural forms of increasingly complex expression and ornamentation. Given its structural and material capabilities alongside contemporary advancements in fabrication, digital ceramics presents a series of intricate tectonic methodologies with scalable applications in architecture.
Repentance and Redemption

Forgive me, for I have S.U.V'd

Go thy way. Thy sins are offset.
HISTORY of ARCHITECTURE & URBAN DEVELOPMENT

Spring 2015
In **Copy Paste** we will explore the history of duplicative design and architectural appropriation. Over the past few decades developers in China have built replica European streetscapes and dwellings that mimic those found in the United States. The construction of Zaha Hadid’s Wangjing SOHO in Beijing is currently racing construction of its virtual copy the Meiquan 22nd Century in Chongqing. While these projects speak to a particular moment of rapid and globalized growth in Asia, they are also part of a longer tradition of borrowing. Moving across time and across borders we will investigate the motives, processes, and implications of architectural replication. Using a combination of original documents and secondary readings we will examine instances, both monumental and mundane, from classical and neo-classical examples to Las Vegas and China. Along the way we will draw upon past distinction such as memesis, imitatio and emulatio, and complicate the notion of copying to seek the variations and creative adaptations that inevitably result.

Students will complete substantial weekly readings, attend class where they will participate actively in discussions, and undertake a final project. In addition, over the semester each student will make brief research presentations on subjects related to the course theme.
This course examines the development of landscape architecture as a distinctive expression of the American experience from the early sacred and communal land manipulations of the Native Americans through to Thomas Jefferson and on into the present. The course traces the influences of the physical landscape, the cultural attitudes and assumptions of democracy, technology and Capitalism, and the immigrant baggage of memory on the form of urban parks, world’s fairs, private and corporate estates, campuses, suburban and public housing, transportation planning, recreation grounds and other contemporary aspects of open space design in which landscape architects have made significant contributions.

Course requirements include 1) a midterm and final exam; 2) a sketchbook documenting the work of a significant American landscape architect, a typical genre associated with the American tradition and a specific landscape detail/ or a carefully documented research paper.

Tues/Thurs, 12:20 – 1:10

Leonard Mirin

3 Credits
Course Goals: We will curate an online exhibition of materials from the Rare and Manuscripts Division of Kroch Library at Cornell. Our interest will lie in how food – its production, advertising and consumption – has both shaped the built environment and reflects cultural anxieties.

Drawing upon the unusual collection of mid-century cookbooks, thousands of restaurant menus assembled by Nestlé, material on the “Cornell Kitchen” (a prototype developed in 1952), a large collection of trade cards, abundant materials on the foundational collegiate Home Economics program (1900-1969), a collection of culinary mail-order catalogues whose photographic strategies resemble contemporary pornography, as well as the full run of Playboy magazine which not only featured a monthly food column but architect-designed renditions of bachelor pads which celebrated high-tech effortless cooking spaces, we will explore the relationship between design and taste.

The first third of the seminar will be devoted to theoretical readings on the topic of gastronomy and architecture. The remainder of the course will be devoted to researching the primary source collections of the Kroch Rare Books and Manuscripts Collection. We will work closely with the curators of Kroch throughout the class. The seminar will culminate in an online exhibition of pertinent primary source materials housed within the collection accompanied by texts authored by the seminar participants. This exhibition will be curated by the seminar.

*This history practicum is required of students in the PhD program in HAUD. Other graduate students are welcome to take the course if they have completed the pre-requisite history courses (please seek the prior consent of the instructor if this might be the case).*
Cable television is awash with home makeover programs promising happiness through contemporary styling and innovative features. Urban office buildings and retail facades are regularly reskinned as fashion swings ever faster; to be dated is to be derided. In this graduate seminar we will examine how shared notions of renewal are inscribed on the nation's buildings and landscapes. Throughout American history improvement and serial renovation was framed as a moral imperative, a business necessity, and an obligation to country, community, and family. From theories of novelty and obsolescence to national myths of spatial refinement and to parallel calls for improving body and mind, we will imbricate architectural renovation within larger cultural and social histories. Our focus will be on buildings as mutable expressions and sites of perpetual intervention, places that “before” were uncivilized, inefficient, or tired, but “after” are fine, alive, and fresh.

Students will complete substantial weekly readings, attend the seminar sessions where they will participate actively in class discussions, and undertake a final project. In addition, over the semester each student will make two research presentations on subjects related to the seminar theme.
When walking around Rome, you can not but become aware of its past, of the impact that history has had upon the city: everywhere are remains of ancient buildings, medieval houses and churches, renaissance and baroque *palazzi* and more. Sometimes they are right next to each other, other times they are on top of each other or mixed together into a collage of different materials and techniques. After all this city that extends along the Tiber, across the low lands on to the surrounding hills has existed for almost 3000 years, a continuous urban work in progress. Centuries of construction and restoration, destruction and transformation have created one of the most intricate layered city centers of the world.

This course intends to peel off the layers one by one to reconstruct the history of Rome within the Aurelian walls from its origins to the late Middle Ages, when a cityscape was created that became the base for the later development of the city from the Renaissance until the modern age. During this almost surgical removal of the layers of the city, we will pay attention to the development, use and continuity of the urban infrastructure (the streets, bridges, aqueducts and walls), the building typology (both public and private), the building materials and techniques.

A central theme in this course will be the emphasis upon the concept of continuity through transformation of the urban fabric from antiquity until the present day. At the base of this concept is the way a historical city continuously recycles itself. It does that in its spaces, open or closed, public or private, and in the materials and methods of construction. To understand this process we will look at the well preserved remains of the ancient and medieval city and combine them with the latest results in urban archaeology in order to gain better insight in the dynamics of the city as an ever changing living organism. Therefore, the course will also dedicate some time to the most important urban interventions that occurred in Rome after it was proclaimed Capital of Italy in 1870 and the way these projects interfered with its historical urban texture.

Every week one or two different "regions" will be studied, that cover a specific moment of the urban history of Rome. Each time the urban and architectural elements of the ancient and medieval phase will be analyzed, contextualized and interpreted in the light of what has been said before. Week after week, the layers of the city will be put in place and the complex urban history of the city reconstructed.

**Course objectives.**
- To unravel the “layers of Rome” by using the material evidence available for the study of city’s architectural and urban history and implementing it with other sources (e.g. literary, epigraphical, etc.).
- To gain thorough and direct knowledge of the Roman and Medieval urban landscape and the way this landscape has survived until today.
- To understand how the development of Modern Rome can not be separated from that of its ancient and medieval legacy.

**Learning objectives.**
- To “see” the different phases of the city through its building typology, building materials and building techniques;
- To interpret the specific nature of urban development in a certain part of the city at a certain time against the background of changing political, religious, economic or social standards.
- To understand the complexity of a historical city and the problems it creates for the management of its urban landscape in a contemporary environment.
URBAN DESIGN, ARCHITECTURE AND ART IN RENAISSANCE AND BAROQUE ROME
(ARCH 3823-020)

PROFESSOR JEFFREY BLANCHARD
CORNELL IN ROME
SPRING 2015

Offered on-site at Cornell in Rome, this course focuses on the Renaissance and Baroque phases (15th-18th centuries) of Rome’s history. The first class sessions will survey the city’s urban history and form from its origins to the present, and we will often turn our attention to earlier and later developments, without an understanding of which the Renaissance and Baroque periods would be only partially intelligible. While the history of urban and architectural design will be our main focus, we will also look at key episodes of painting and sculpture, especially by artists who are also among the principal architects of these periods (Michelangelo, Bernini).

Class sessions will be held once a week and will largely take place on-site, at times preceded by a slide lecture in our studio. There will be a mid-term exam, a paper or project, and a final exam, weighted equally in the calculation of the final grade.

The course is offered for 3 credits and is open to any student enrolled at Cornell in Rome.
For early 20th century architects like Bruno Taut, Walter Gropius and Frank Lloyd Wright, visiting Japan and imbibing Japanese design sensibility was both a revelation and a confirmation of much of their thinking regarding the direction of their own work.

The course is an introduction to and an analysis of the architecture and gardens of Japan. Interpreting the unique geopolitical situation of Japan, as a sheltering archipelago longing for continental sophistication, will suggest how isolation and borrowings continue to shape the forms of Japanese architecture and gardens. In a related context we will investigate how the revered and ethereal craft of shaping paper, wood, stone and water has transformed the simplest of materials into archetypical constructions. Cultural phenomena such as *ma* (space-time continuum) *oku* (the inner depth) *yohaku no bi* (the beauty of extra whiteness), *shakkei* (borrowed landscapes), and others will be explored to reveal the forces shaping structure and space. Since an understanding of the evolution of social and political discourse in Japan is necessary to fully comprehend the unique meaning of its constructed environment, additional attention will be given to these aspects of the culture—especially the spiritual—as they exert an influence on various expressions of form.

Class format will consist of lectures, films, discussions and readings. Two exams will be given during the semester. In addition, each student will be required to complete either a project that represents an exploration of a concept, form, characteristic or influence associated with Japanese architecture and gardens, or a research paper.
CITIES & NATURES:  
LANDSCAPE, ENVIRONMENT, ECOLOGY

Arch 4408/3308/6308 | Spring 2015 | Archit. Cult. & Soc. & Theory | Th 2.30 – 4.30pm | 3 cu | Foster (jf252)

Although nature is often seen as antithetical to urbanism, city making has always been inflected, whether intentionally or not, by biophysical processes and performances. Since Enlightenment and industrial modernity (which supposedly ‘tamed nature’), architectural and urban design has increasingly drawn power from nature, either as a uniquely authentic source of certain aesthetic and corporeal experiences, or as a source of inspiration and guidance in theorizing the use, functioning, and planning of cities. This faith in nature as ‘agential other’ continues in the growing embrace of urban ecology as a way to address different kinds of environmental crisis.

Usually reduced to the “intrinsic character, quality or behaviour of some place, person or creation,” nature is not only not as natural as it seems, it also encodes a great deal of history. While the bio-physical realm definitively exists, it changes constantly, both of its own accord, and due to human actions. At the same time, because it is based on current modes of description, calculation and imagination, the idea of ‘nature’ is always socially constructed, infused with taken-for-granted values and assumptions, and often complicit with the interests of particular groups or individuals -- what some call a ‘socio-nature’. And it is precisely in cities, where the distinctions between nature as biophysical fabric and nature as cultural projection are hardest to discern because both conditions co-occur, that nature becomes most saturated with political and ideological power.

Broadly anthropocentric in perspective (ie oriented towards human understanding, health and welfare), this course explores the meanings and affects produced by relations between biophysical processes, people and cities, and how these relations are mediated by different scales of the built environment -- buildings, open spaces, infrastructures, and territories. Taking into account the differences between thinking about nature through the lenses of landscape vs environment vs ecology, we will trace the historical and ideological origins of received notions of ‘urban nature’, and the formations through which they emerged and/or are mostly associated. These classes will form the basis of a mid-term assignment, in which students will trace the co-evolution of the morphology of a particular city and its socio-nature in relation to ambient bio-physical processes, patterns and rhythms. We will then test these relevance of received ideas about cities and nature, using alternative ways of parsing this relationality suggested by deep ecology, eco-revelatory design, landscape urbanism, political ecology, urban metabolism, environmental justice, human/non-human relations etc, as well as new kinds of challenges (ie energy production, global warming, water shortages) and spatial morphologies (ie. green infrastructure, informal settlement, urban agriculture, ‘terrain vagues’). These classes will form the basis for the final, case-study oriented, assignment: the research, analysis and critique of a proposed or realized contemporary architecture or urban project or initiative (possibly in the city studied earlier), using one or more of these discourses and practices.

To facilitate discussion about specific locales and formations, students will be expected to read, and participate in discussion about ca. 50 pp. of readings each week; also, to engage these readings in their research assignments. The class is open to upper level undergraduates and graduate students in Architecture, Landscape Architecture, Urban Studies, Planning and others interested in the spatial articulation of environment and society.
This seminar outlines changes in the discourse and practice of architecture following crisis or turmoil as an opportunity for new potentials, exploring the social, political, and economic context and their influences on architecture and urbanism. Most recently, the disruptive events of the last 12 years contribute to the latest Post Bubble era, with a dramatic financial collapse compounded by socio-political conflicts, and the realization of predictions in climate change. These crises and turmoil upended traditional notions of the typical processes of architectural production and question top-down and bottom-up hierarchies, public and private realms, ownership, and the architectural program. The course will study the current practices of the architecture of crisis as well as the the historical significance of previous post traumatic yet productive periods from post-World War II, the late 70s and early 80s, and other seminal moments that projected and shaped the modern environment.

Examining a selection of initiatives and their geographies, the course will investigate architecture in the context of the new economic landscape of post-bubble conditions, excess, neo-liberalism, vacancy, informal architecture, re-use, and resilience. The seminar will engage texts and projects from Roemer van Toorn, ANT Farm, Henri Lefebvre, Cedric Price, Teddy Cruz, Dana Cuff, Beatriz Cololina, Alejandro Aravena, and Reinhold Martin among others. The seminar will be comprised of lectures, readings, discussions, as well as a final project that will intervene in the existing context of selected cities.