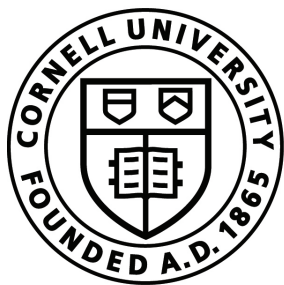


CORNELL AAP ARCHITECTURE

OPTION STUDIOS

SPRING 2018



AAP
Architecture
Art
Planning



Architecture and Cities (For a World) without Work. a.k.a Fun Palace.

Sam Chermayeff + Danica Selem

Let's assume that automation is upon us and that this is a good thing. Production, survival, and maybe even thinking, will require radically less manpower in a global future. This is already happening and it appears to be exacerbating massive inequality.

Growing inequality is problematic. Some may find it morally troubling; perpetuating a world of haves and have-nots. From a cynical point of view it also leaves the machines and their owners without a market for goods.

Universal Basic Income is an excellent answer to this problem and it appeals to the political left and right. It is being experimented with right now in parts of California and Finland and more.

Envisioning a future with Universal Basic Income changes labor in the classic sense of economic production. More people will have more time. There are examples of this both literally and conceptually. Many communes attempted this during the 20th century. Slab City, cut out of society, still very much exists. Dropping out was and is a viable option.

The populist right seems to be in denial of this clearly visible trajectory. There is an implied suggestion that we can keep the world as it is, and that we can continue to define ourselves by our outdated forms of production. To counter this, we have to find promise in a world organized on completely different principles.

The question is: what will we do with the valuable asset of time that will be gained? Will we start by taking time for ourselves, i.e. better mental and physical health? To what end? What is mental health? Is it more entertainment? Is it more scholarship? As such, perhaps, it is also fine to choose to drink all day. Maybe that is in fact mental health! Perhaps we have more sex and/or seek new forms of physical pleasure. Will we create more without worrying about immediate or even long-term utility? Might we also seek out luxury in inefficiency? Can we all spend our lives growing our own perfect vegetables, for example?

UBI does not necessarily make a society that operates collectively. It may instead produce unfamiliar forms of specialization. Hedonism in its many forms will be the answer.

These ideas may alter modernist thinking and the idea of a universal architectural answer. We must be convinced that there is a future that allows people to live in new, different and authored ways. We are talking about reordering our world.

Cities are designed for work. Streets and trains reach their full capacity while people pass to and fro from the workplace. Infrastructure takes up tremendous amounts of space. How should this space be allocated for other purposes? Automation will change infrastructure itself. With self-driving cars and drone deliveries, we won't need parking, for example. Cities will be very different, and we have to imagine not just the changes in services, but also the new needs and pleasures that will evolve.

The topic of this change is potentially endless, and while we cannot predict the future, we can begin to imagine what a world without labor would look like. We can think of what will go away... highways perhaps? We can think about what we might have more of... psychiatrists, for example. The idea of the center and edge condition, which defines the contemporary metropolis, will also change. Rural environments may become as valid as urban ones, from a cost point of view.

This research is by nature speculative and our project will primarily be about gathering desires, and envisioning their potential to affect a future architecture. It will involve talking to everyone and anyone. On a simple level our living spaces will become something entirely different.

Our studio is about mega structure in a world where housing and living encompasses a future with more time for education, hedonism, and entertainment.

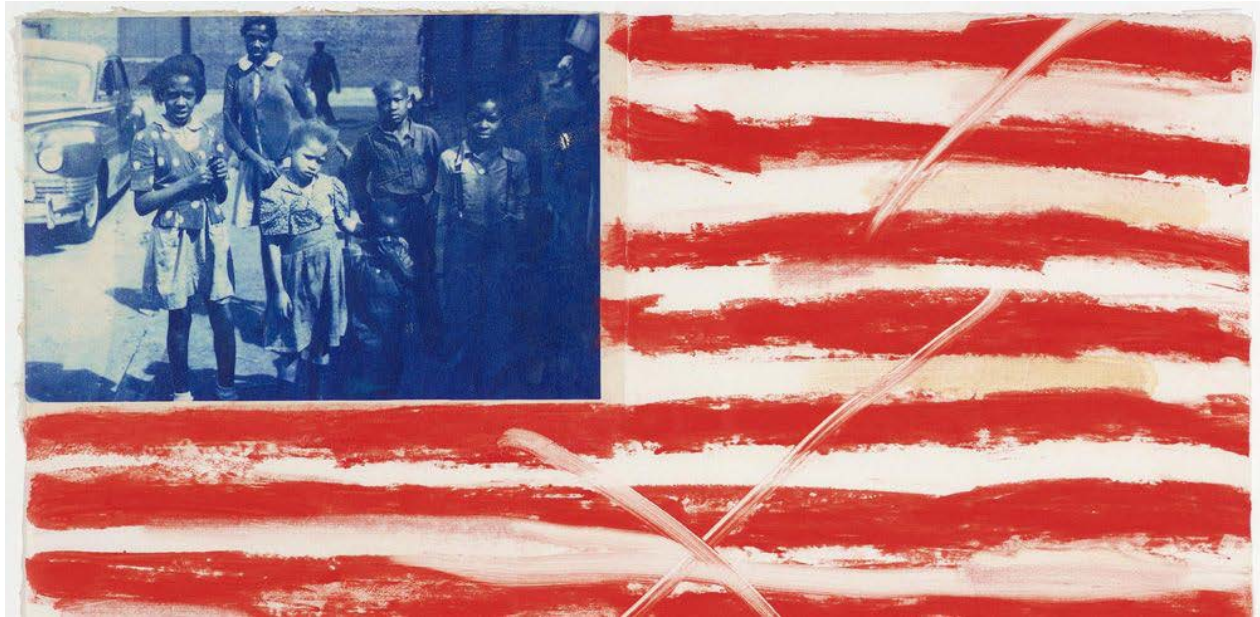
At some point we can choose to discuss the fact that as architects we also will have more time. Maybe this makes architecture itself a casual pursuit, a different business altogether.

the Citizen Body

interventions for the 2018 Venice Architecture Biennale

OPTION STUDIO SPRING 2018

AMANDA WILLIAMS, Visiting Associate Professor + JONATHAN STITELMAN, Visiting



Critic

--An Essay on Liberation, Herbert Marcuse

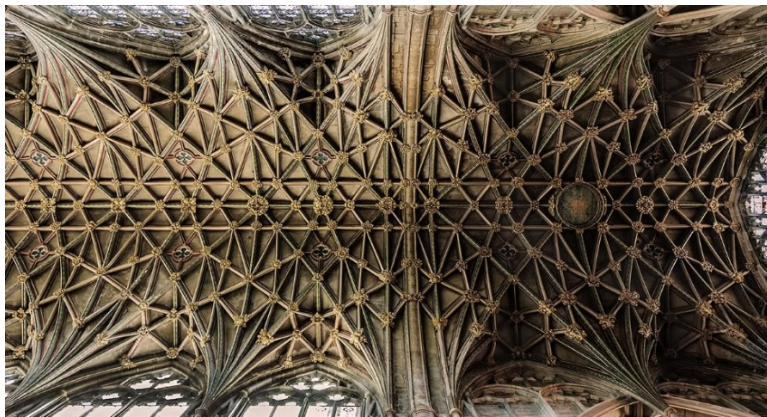
Emma Amos, *Stars and Stripes*, Laser transfer photography and oil on paper, ed. 4/4 1992

This studio, co-led by Amanda Williams, a participant in the 2018 Venice Architecture Biennale, will take up as its central focus, the US Pavilion's theme *Dimensions of Citizenship*. This year's curators argue that "to be a citizen is to both embrace [individual] rights and assume the responsibilities of membership within the polis, a larger political community. It is this tension between the individual and society that drives questions in the built environment".

We will examine citizenship at the scale of the individual, asking how architecture can mediate one body with that of other bodies. What does it mean to architecturally embody citizenship? What about members of the polis who are perpetually unable to actualize the rights, benefits, and responsibilities of U.S. citizenship within the built environment, ever the trespassers of normative space?

The narratives of historical American figures Harriet Jacobs and Harriet Tubman serve as our lens. The two Harriets (and the millions they symbolically represent) were legally considered property; not human or citizen. Their agency was predicated on their ability to use fugitivity, duplicity, masking, and invisibility as essential spatial strategies and tactics. They will be our point of departure for developing our own methodologies for shaping space.

Our process for speculating on citizenship will be highly iterative and rapid fire. We will do close and critical readings of several key texts related to our muses, that will aid our ability to visualize and concretize the abstract notion of 'black spatial practices'. We will produce and site objects that make material what might otherwise feel foreign, ephemeral or invisible. You will engage a range of media – zines, mapping, drawing, analog and digital modeling – generating new collective source material. The studio will culminate in the development of full-scale prototypes which may be extended to sites across Venice. There may be a field trip to Italy.



Gloucester Cathedral

CRIMINAL BEHAVIOR: Ornamental Exuberance through Efficiency

In 1908, the use of ornament as an architectural element was declared a criminal act within architecture by Adolf Loos in his essay *Ornament and Crime*. Loos argued on behalf of the craftsman claiming that, “Ornament is wasted labor and hence wasted health.”¹ The principles laid out within the essay served as foundational principles for the ensuing Modernist movement that debased and all but eradicated ornament as a fundamental component of architecture.

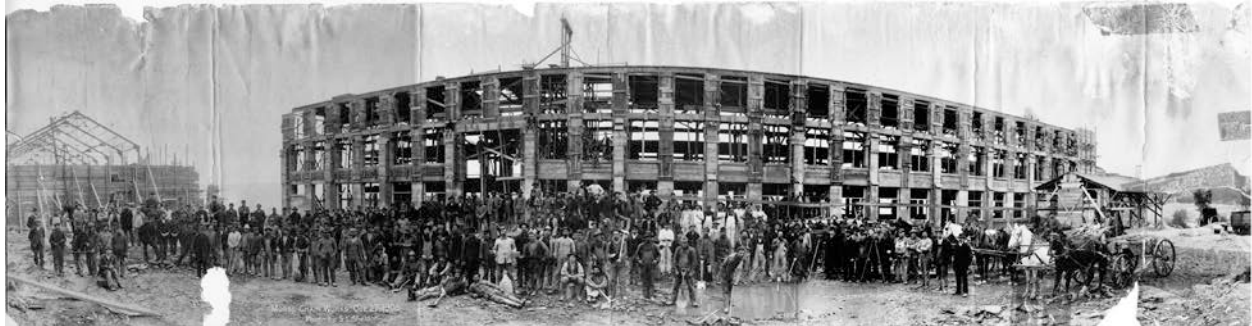
The contemporary laborer, however, is no longer the skilled craftsman. Rather than on-site custom craft, components are produced in factories that are increasingly shifting from human labor to networked computational machines. Robotic CNC tools are programmed with routines, relentlessly repeating tasks with superhuman accuracy. While these tools offer an extreme level of precision and accurate translation from digital to physical form, completion of routines can often be very time consuming due to limitations within options for tooling. A smooth surface requires the creation of dense tool paths and hence long production times and loss of efficiency, for example. These routines are most frequently the result of standard processing algorithms, removing the role of the designer within the process of physical manifestation. Similarly, processes utilizing subtractive, CNC milling operations often involve excessive waste of material further losing efficiency. Through intervention in this established system, new kinds of functional ornament may be introduced, having massive consequences for manufacturing processes, material efficiency, and the architectural expression of our emaciated built environments.

The studio will reconsider the value of ornamentation in architecture, considering logics of both expression and the functional potential of ornament. We will explore historical models of ornamentation and their significance as expressive, communicative, and pragmatic elements within the movements of the Gothic, Baroque, and Art Nouveau. Simultaneously, the studio will question ways in which the conceptual expression of ornamentation may be efficiently produced via digital fabrication techniques and computational formal generation. Exploring ideas of the digital craftsman, concise tool selection and deployment will intervene within the fabrication process, resulting in patterning and texture as remnant traces while generating computationally efficient form. Through the understanding of part to whole relationships, fabrication processes, and computational generation, students will progress through two dimensional aperiodic tiling systems into generative structural assemblies. Looking to historical structural models and spatial organizations, the final construction will be a small contemporary chapel.

¹ Loos, Adolf. *Ornament and Crime*, 1908.

Design Plan 4.0: of *Past & Future Building*

Option Studio, SP'18
Aleksandr Mergold



This studio will consider the fate of old industrial buildings caught between their picturesque, nostalgic appeal and the extreme complexity of their permanent re-occupation rooted in deep environmental, technological, regulatory and preservation issues. Perhaps the most attractive aspect of old industrial buildings is their universality – a promise of accommodation, with a certain effortless grace, of any program. Yet the results of contemporary reuse often negate that promise for the future. Is there another way?

The studio will concern itself with timelessness vs temporality, mobility vs permanence and lightness vs firmness within the context of an ensemble of existing buildings with complicated histories, environmental contamination, conflicting and contradicting contemporary building codes and demands of programmatic fluidity. Using a combination of new technologies and materials with archaic devices, parts of original buildings, old and new construction techniques, the studio will learn from the ancient past, the 1900's, and 2010's to formulate a set of possibilities for complex of Morse Chain industrial buildings (1905-2006) in Ithaca, NY.

The studio is a close collaboration with Pvilion, a pioneer of inflatable, tensile, mobile self-powering technologies, and with LOT-EK, an architecture firm that finds beauty and opportunity in reuse.



FLY ON THE WALL

REIMAGINING CROSS-BORDER TERRITORIES THROUGH DESIGN THINKING

ROZANA MONTEL, Studio Founder / Rozana Montiel Estudio de Arquitectura / Mexico.
DEREK DELLEKAMP, Studio Founder / Dellekamp Arquitectos / Mexico.

Good fences make good neighbors.
Proverb

When the Berlin Wall fell, nearly 30 years ago, there were 16 border barriers around the world. Today, there are close to 65 either built or under construction. In our increasingly globalized world, peace lines and conflicts are ironically multiplying and becoming more complex. The wall is an ancient security strategy that, despite its intended purpose to repel entry, in fact generates a magnetic-field, drawing people together on both sides of the line.

However sophisticated, ‘wall technologies’ bypass the spatial production potentialities of an *architectural wall*: their self-assertive drive sets border barriers outside the horizon of design thinking. But what if the wall were re-imagined as part of a territory’s infrastructure? What if security fences were not barriers but indeed safe boundaries, positively contributing to connective infrastructure, intercity mobility, renewable energy, supply chains, goods-production, learning frameworks, community development and knowledge networks?

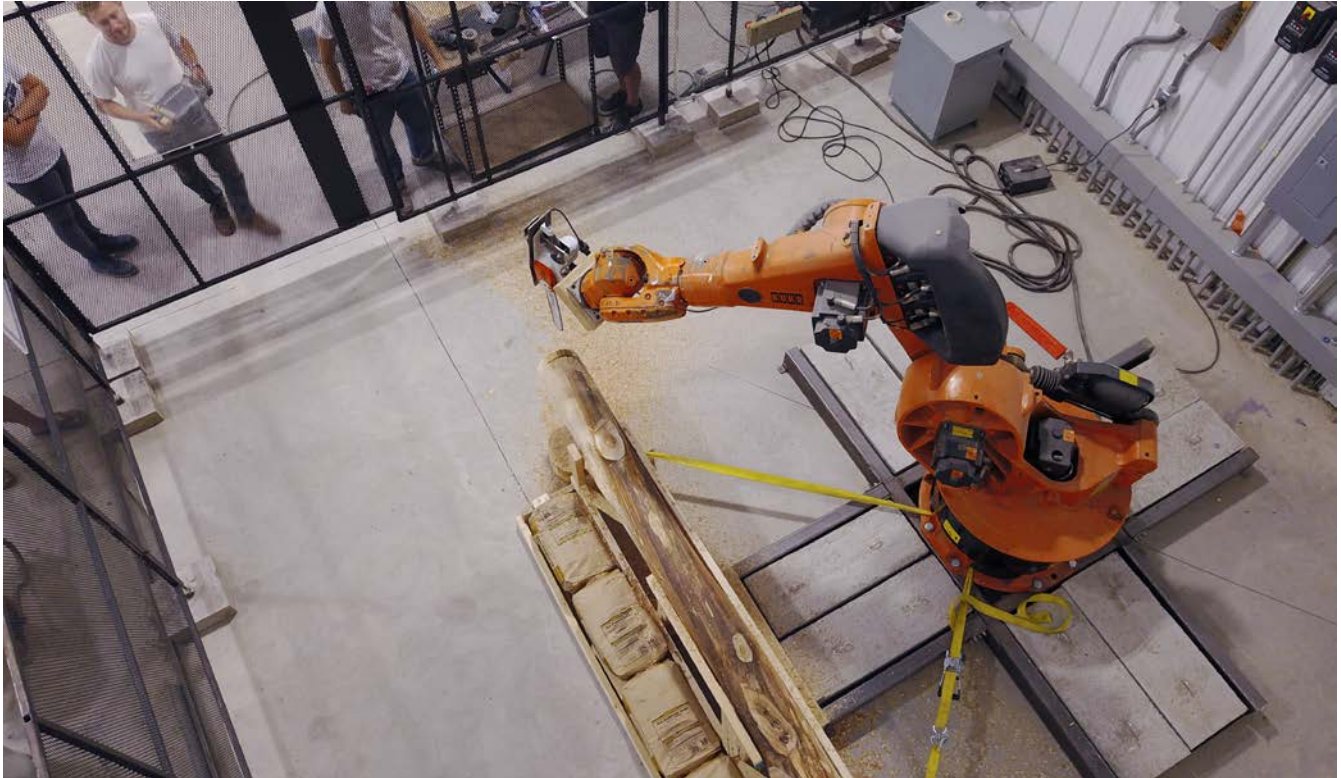
The Studio invites students to re-imagine, elaborate, distort, play-up, and dramatize the wall and cross-border territories, by observing the *effects, performance and meaning of the wall* on urban space. Parting from a purely utopian stance, the Studio is intended as a field of experimentation to reflect on, debate, and question the notion of border. Utopia, dystopia and heterotopia, as a radical provocation to wall discourse and practice, would allow the language of design to ponder thought experiments that address with humor or inventiveness the pre-established limits of a border barrier.

“Fly on the Wall” Studio has programmed a field-trip to Tijuana (MX)—San Diego (US), the busiest land-border crossing in the world, with the objective of providing a site-specific border experience. As an unnoticed observer of border life situations, the students will be expected to learn a novel design process which involves assembling tableaux of typologies, recollections and impressions to produce an atlas of spatial constellations. Implementing the atlas methodology, the students will document instances of urban spatial production generated by border management experiences and then proceed to design or redesign infrastructure for a site-specific situation. The Studio will publish an atlas of the border visions designed by the students’ tableaux.

ROBOTIC WOOD ARCHITECTURES

OPTION STUDIO SPRING 2018

PROF. SASA ZIVKOVIC



Wood is both age-old craft and next generation high-tech sustainable building material. We currently engage and shape the most dramatic paradigm shift in architecture and construction since the Industrial Revolution: the transition from manual building practices towards mass customized robotic assemblies, advanced sustainable material explorations, and automated manufacturing processes. By investigating new means of digital fabrication, 3D scanning, and computational design, the Robotic Wood Architectures studio will radically question and re-think the possibilities of wood architecture within the design of a small museum building.

Starting from the entire tree, the studio will explore new architectural assemblies and strategies which embrace ideas of mass-customization and take advantage of irregular tree geometries. Utilizing high-precision 3D scanners, material investigations will occur across scales, from hand-made study models to full scale prototypes, from joinery details to part-to-whole assemblies. Computation will be used to optimize structural properties, increase material efficiencies, prepare irregular geometries, and design new methods of fabrication. The studio will have access to a KUKA KR200/2, a large industrial robotic arm with various custom end effector tools: a chain saw, a band saw, and a CNC mill end effector. Students will optimize and re-design fabrication tools alongside physical investigations with the aim to generate feedback between methods of design and methods of making.

The studio will analyze a series of wood building precedents and draw inspiration from a broad pool of disciplinary knowledge in wood construction. This studio is about inventing, testing, investigating, and formalizing new ways of building in wood using advanced robotic fabrication tools. Investigations will be inherently architectural: joinery, structure, detailing, materiality, texture, envelope performance, assembly, circulation, atmosphere, and formal expression will be studied in relation to new fabrication processes. Through an iterative design process, students will develop a comprehensive project, incorporating digital form-finding, simulation, and streamlined fabrication.



ICELAND OPTION STUDIO

Small Scale Interventions In The High North

Spring 2018 Option Studio

Sami Rintala + Dagur Eggertsson + Massimiliano Spadoni

STUDIO AIMS AND OBJECTIVES

In this second option studio focusing on architecture and settlement in the arctic region we will study the conditions of human activities in the south-eastern town of Djupivogur in sub-arctic Iceland. The course will aim to establish a link between the earliest forms of settlement in the area and the current urban development in the area. We will furthermore study the relationship between man, nature, climate and resources in the harsh conditions of the north and how this can be used as a basis for sustainable architecture today. An essential challenge and objective will be to explore how to accomplish a lot with a little. Site specificity in such remote places has a lot to do with the human beings who have been living there for centuries, their culture and their understanding of their landscape. All this has generated an inner landscape which we need to explore, and our intent is to work with a real client for a project (or several small ones) which in a few years from now could potentially be built.

The course will revolve around two main topics which are central today in this and many other smaller rural towns of Scandinavia; infrastructure and tourism. The students will be given three projects which they will develop over the course of the semester in a close dialogue with the municipality and their architect. This will give the participants a sense of realism and a good understanding of how drawings, sketches, renderings and text can be used as tools to establish a trustworthy relationship and communication with the client.

In the first task of the semester we will begin with a project in the local community in Ithaca; a pedestrian bridge over the Cayuga Inlet, connecting the Farmer's Market on the east side and the sports grounds on the western side, which would be a valuable addition to the Cayuga Waterfront Trail.

A field trip to Reykjavik and the East-Icelandic town of Djupivogur will take place. Vernacular as well as contemporary examples of Nordic architecture and other built works will be closely studied for the lessons they convey.



OPTION STUDIO SPRING 2018:

Sound, Space, Place: A Center for the Sound Arts and Sciences, Experimental Music and the Performing Arts

NAMES OF PROFESSORS: Professor Kent L. Hubbell, with consulting studio critic Ben Markham, Other participating Cornell faculty include: Associate Professor of Music Kevin Ernste, and Assistant Professor of Music Marianthi Papalexandri Alexandri, Professor of Neurobiology Ron Hoy, Resident Sound Designer Warren Cross

STUDIO DESCRIPTION: In collaboration with faculty in Cornell's Department of Music, the studio will program and design a new **Center for Sound Arts and Sciences, Experimental Music, and the Performing Arts**. The studio will draw upon faculty and resources from across the university, who form the nexus of this aspiring program. This interdisciplinary group believes that an academic program bringing together the artistry, technology and science of sound would serve the abiding/career interests a large number of students, both undergraduate and graduate in departments across the Cornell campus. Ultimately, this new center is envisioned to be regional center, bringing together kindred spirits from across Central New York and beyond.

The studio will take two field trips, the first being to EMPAC (The Curtis R. Priem Experimental Media and Performing Arts Center) at RPI, Troy NY. The second will be to New York City to spend two days exploring various performing arts facilities and taking stock of the sound of the city. A third field trip to the Professor Ron Miles anechoic chamber at the University of Binghamton will be optional.

The studio will be charged with exploring candidate sites for this new center, both on and off campus. The program will incorporate various spaces/places for performance, rehearsal, experiment as well as sound stage(s), class rooms, laboratory spaces for various research activities.

Students enrolling in this option studio are strongly encouraged to also enroll in Acoustics for Architects: (Arch 4603/6603). This seminar will be dovetailed with the studio and inform your design work. We will plan to attend campus musical/theater events throughout the semester.

METHODOLOGIES/TECHNOLOGIES: The Cornell campus will be our laboratory and the studio will use smart phone apps and various instruments to analyze sounds/spaces.



Benh Zeitlin, *Beasts of the Southern Wild*. 2012

Urban Ecologies Beyond the Levees

Territorial Flux and Architectural Environmentality in the Mississippi Delta

Tao DuFour, Visiting Assistant Professor

Theme: This studio explores through research based design, the nature of architecture's embeddedness in wider environmental and political ecological horizons. The studio engages contemporary questions of urban ecology, infrastructural fracture, population displacement, and the effects of anthropogenic climate change on coastal territories, specifically the effects of storms and sea level rise.

Topos: The site of investigation is the southern Louisiana coastal plain, with a focus on urban and hinterland environments in the Mississippi Delta and along the coast of the Gulf of Mexico. New Orleans will naturally be the primary urban site of reference, studied in relation to the wider topographical context of the Gulf Coast and its wetlands. The devastation wrought by Hurricane Katrina in 2005 brought global attention to this urban geography, intensifying the discussion among architects, urbanists, engineers, social scientists, and ecologists about the limits of purely technological approaches to environmental and social crises. It demonstrated that the infrastructural systems of levees, floodgates, sea walls, canals and pumps meet their limits not only in the face of gargantuan cyclones, but also sedimented histories of class, race, and colonial conflict, and powerful politico-economic interests. The territory south of the levees are implicated in this context, made palpable by the 2010 BP oil spill, in which nearly 5 million barrels of oil leaked into the Gulf. The studio asks: What is the place of design in the projection of urban ecologies beyond the multiple logics of the levees in the Mississippi delta? The levees serve as an index of actual spatial infrastructural boundaries, a preconceived technological limit, and a conceptual frontier of urban ecological thinking that it is necessary to go beyond.

The studio will research the infrastructure of flood and storm protection in the Mississippi delta, with a focus on New Orleans, and its morphology and technical evolution from the French engineering of natural levees in the 18th c. to today's infrastructural network of the US Army Corps of Engineers. The urban and environmental context of this infrastructural transformation of the delta will be the focus of research, serving as the basis for students to propose and develop design projects at scales ranging from the architectural, to the urban, landscape, or territorial. The studio thus aims to imagine through research based design, possibilities for architectural and urban ecologies that go beyond the socio-political, environmental, and infrastructural logics of the levees. It addresses the pressing question of community and ecological reconstruction, to constitute what we term an "architectural environmentality" in a territorial flux of swamplands.

Method: We will approach the theme from two directions: the *synoptic* perspective that employs quantitative and instrumental methods, including analysis of satellite imagery, and modelling of remote sensed and statistical environmental data; and the *ethnographic* view that draws on qualitative descriptions of lived experience, mediated through narrative and metaphor in literature, music, documentary film, and cinema. The studio will include workshops in GIS and environmental modelling software with invited instructors, invited guest lectures on the history, culture and politics of US Gulf Coast landscapes, and a series of film viewings with special attention given to ritual, music, and urban experience in the post-Katrina era.

The studio may include a two-day field trip to New Orleans in February.