

ARTS + LEISURE



Brooklyn Navy Yard, New York



Marfa, Texas

“The very newspaper which many of us read is an amalgam of categories. Aside from global, national and metropolitan news, there’s sports, science, business, etc.; and on Sundays there’s art and leisure.”

Arts & Leisure

This last coupling is an oldie but goody that neatly perpetuates the conventional gap between the fine arts and the so-called popular culture. Or, in other words what is “high” and what is “low”. Art is obviously art, right? And sometimes theater is art, but sometimes it’s just a lot of escapist hullabaloo, right? Dance is art. TV and movies are leisure, I guess. But what about “the cinema”, that high-toned and serious activity? Pop has got to be leisure. Recordings can be art in their inception and leisure in their reception. Music is a little bit of both, depending on the music. Antiques can be either art or pop in their creation, but their collection is highly serious leisure. And where does architecture fit in, with its careful collapse of form into function?”

(Until 2016 The New York Times called its Culture Section of the newspaper “Arts + Leisure”)
Krugel, Barbara, “Arts and Leisures”, Remote Control,
(MIT Press 1993)

The agenda for this studio is to produce real possible future designs for this New York City site, envisioning new forms of venues for culture and urbanism - beyond work - for NYC dwellers. Students will speculate with large-scale and small-scale drivers that may enable environmental resiliency, public policy, technology, transportation, etc.

Sites: Unlikely Pairings

This studio will study two very different sites – one, the city of Marfa Texas and the other the Brooklyn Navy Yard. These two sites share similar phenomenon of once being thriving places for work at the turn of the century and then for reasons of military withdrawal and ecological circumstances (drought and flood); both experienced sudden and catastrophic decline.

Marfa Texas

The history of Marfa, Texas, the county seat for Presidio County, is one shared by many West Texas towns—a cycle of boom and bust initiated by the railroad that made its way through the town in the late 19th century. Marfa initially served as a stop between San Antonio and El Paso, but ranchers soon leveraged the railroad’s potential to establish the town as a hub for wool, mohair, and cattle. The 20th century also saw a military presence develop in Marfa, since the town’s proximity to the border provided an outpost location to monitor the Mexican Revolution. The first bust was the wholesale withdrawal of military operations from the area soon after World War II, the second, the crippling seven-year drought in the 1950’s that decimated the ranching industry.

Today, this small border city is no longer what it once was; and despite its remote location; Marfa has become a cultural venue for all forms of contemporary art, performance, film, and dance.

Brooklyn Navy Yard

The Brooklyn Navy Yard is **also** no longer a vestige of what it once was. Instead, the Yard has become emblematic of how New York will adapt and transform toward the future. Its core mission - “to build and diversify our city’s employment base”—is essential not only to foster growth, but to promote types of growth that are broadly more socially equitable and more ecologically conscious.

In the last few decades the geography of New York City has transformed in ways that are unrecognizable. Who would have imagined twenty years ago a city in which people regularly lived and worked in Brooklyn, yet visited Midtown only once every six months? In fact, most workers no longer commute into a central business district.

In some ways, Brooklyn has taken the lead in re-defining New York today.

With a critical eye, this studio will look at what the Brooklyn Navy Yard can learn from Marfa as a re-defined place for the display and presentation of contemporary art (and leisure).

Studio Framework

On Speculation

Speculation will frame the work this semester as we consider the nature of **taking a very large risk**. Speculation, by definition is both the process of thinking or meditating on a subject, a judgment, conclusion, opinion, or theory reached by conjecture – as well as – an investment involving higher than normal risk in order to obtain a higher than normal return (not strictly monetarily).

Speculation may involve taking large risks especially with respect to making predictions for the future, and gambling, in the hopes of making huge gains (again, not strictly monetary).

On Collective Urbanism

Collective – Collective is our term for shared and public space.

Collective space is to be considered a critical piece of infrastructure to enable work and leisure. Collective space encompasses a variety of scales, and is an essential and strategic component for developing urbanism. Students will investigate and propose programs for their collective space strategy.

On Work + Leisure

Students will consider how Work + Leisure might inform their speculative models for collective urbanism. What kinds of spaces are available or may be developed or uncovered for the display of art, for viewing performance or film? What form do these spaces of leisure take as the concept of work evolves?

On Modeling

We will make a lot of models, both conceptual and physical. Students will develop and test new conceptual models on the future of leisure using physical modeling as the primary mode of study and speculation. In this studio, research and design will be conducted from the onset. Research will not strictly operate as a collection of information; instead research will be performed and conducted as students test and experiment with formal and urban strategies.

On Drawing

It is important to consider “all media as dead media”, as Alex Galloway suggests. As architects construct futures, we might avoid capitalist realist representations, to instead participate in a process of recombining material and representational motifs—those that are not restricted to current technologies, which are inherently and already aging. This studio will develop thoughtful and critical representational techniques, ideally reflecting our subject matter—informing and informed by the concept.

We will also be mindful of the full breadth of presentation composition. This includes typesetting, copy editing (no typos), and testing various formats to effectively communicate our ideas.

Travel: Marfa Texas and Brooklyn

The studio will travel to Marfa Texas September 20-24. We will visit both the Chinati Foundation and The Judd Foundation (The Studio and The Block). We will also make several trips and tours of the Brooklyn Navy Yard, across the East River.

Partial Bibliography

Kruger, Barbara, “Arts and Leisures”, **Remote Control**, (MIT Press 1993).
Weschler, Lawrence, **Seeing is Forgetting the Name of the Thing One Sees**,
(University of California Press 1982).
Rappaport, Nina, **Vertical Urban Factory** (Actar, July 15, 2016)
Darly, Gillian, **Factory** (Reaktion Books, September 3, 2004)

BNY official website: www.brooklynnavyyard.org/the-navy-yard/history/
www.extrapolationfactory.com

Columbia University GSAPP

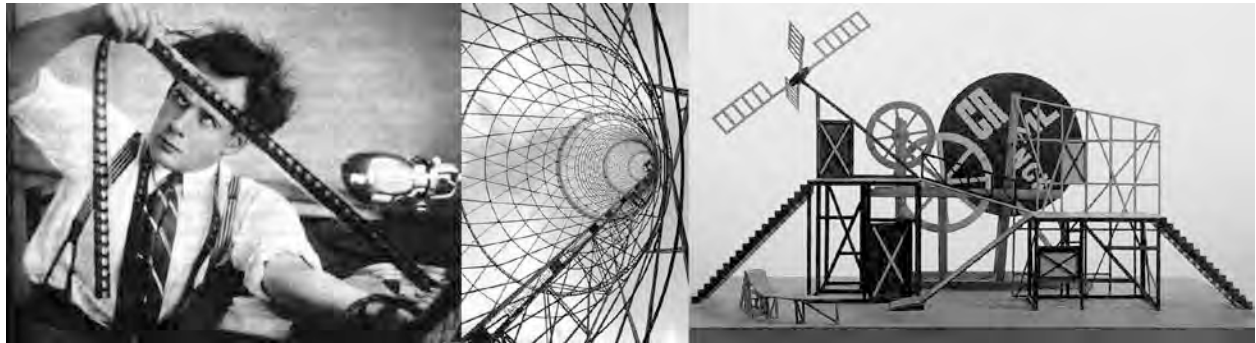
Fall 2017

Bernard Tschumi

Advanced Studio V

TAs: Esteban de Backer (ed2599@columbia.edu), Cecil Barnes V (cbarnes@tschumi.com)

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CONCEPT AND PROJECT: Revisiting 1917

Item 1 (Precedent)

At a time when centennial celebrations are a staple of contemporary culture, one singular event is hardly remembered. In 2017, one hundred years prior to this year, the Russian Revolution completely transformed what the 20th Century would become; art, architecture, poetry, theater, and film would never be the same. The Russian Revolution was preceded by Futurism, just five years earlier, and followed by Dada and Surrealism, just five years later. What happened a hundred years ago, transformed Western society and its culture. Without Leonidov, Malevich, Lissitzky, Popova, Shostakovich, or Eisenstein, there would not have been modern painting, architecture, theater, music, or cinema as we know them.

Item 2 (Re-habilitating the “Project”)

But it wasn’t only a question of avant-garde images and aesthetics. What made the era and its actors important was that it had a “*project*,” *projet*, *projecto*, *progetto*, *projekt*, and so forth.

A project is not simply “a scheme,” “a specific plan or design,” “a government-supported undertaking,” “a task undertaken by groups of students,” or even a “public housing development.” It means something else: “A projection into the future,” a “project shaping an evolving world or society,” “a cause to move forward or outward,” in other words, “a social project.”

Item 3 (Concept + Project)

The studios run by Bernard Tschumi over the past few years have taken their starting point from the idea of “Concept,” including concept and program, concept and movement, concept and site, concept and context. They have affirmed that there is no architecture without an organizing concept. This semester, we will examine “Concept and Project,” looking at how a concept affects a project or how a project affects a concept, and how a project can become an opportunity to extend outward or pro-ject rather than serving as a constraint.

Item 4 (The Site and the Program)

The site will be a generic block in an area of Manhattan not yet subjected to extreme real-estate economic pressure, hence in a “neglected” neighborhood.

Six programs will be developed by six pairs of students: an art school, a music venue, a housing commune, a workers’ club, a cinema, a love hotel.

In 1917, these programs suggested the possibility of a new society and a new visual language. Various modes of notations will also be investigated. What are the new modes of representation in the 21st Century that are the tools of a new type of project?

In short, what are the new “pro-jects” for the 21st Century at the local scale of a New York City block?

REDOING LANZAROTE

GSAPP COLUMBIA UNIVERSITY

ADVANCED DESIGN STUDIO – FALL 2017

ANDRÉS JAQUE

[OFFICE FOR POLITICAL INNOVATION](#)

INSTRUCTOR

RUI GUAN

TEACHER ASSISTANT



Laguna Verde, Lanzarote



Jameos del Agua. Haria, Lanzarote. Cesar Manrique,



Jardín de Cactus. Guatiza, Lanzarote. 1991

WHAT?

The studio will develop projects to redesign the network of museum buildings, gathering spaces, gardens and landscapes that the exceptional architect and artist Cesar Manrique built in Lanzarote during the 1970s and 1980s.

WHY?

Manrique's architectural reinvention of Lanzarote, as a non-growing enclave based on a unique assemblage of art, nature and daily life, became the world model to rethink the way architecture could introduce progressive modes of living that would be both desirable and ethically grounded.

But the model faces now important challenges:

1. Growth control, and aesthetic success, brought the risk of turning the island into an exclusive enclave for an international elite.
2. The island became a base for FRONTEX, the European Union Agency controlling its borders. Making the growth-control no longer progressive, and opening the debate on the future evolution of Manrique's project.
3. Notions of what the environment is about and on the politics of the relationship of the human with the non human have gone through intense evolution in the last decades, due to environmental crisis, political contingencies and architectural and artistic invention. This perspectives provide alternative ways to interrogate Lanzarote, through architectural design.

HOW?

1. Participants in the studio will reconstruct the design history of particular pieces of the island and the challenges they face in the current world.
2. The studio will start developing projects that redo Lanzarote, responding to contemporary concerns.
- 3. The studio will travel on November 6-13 to Lanzarote. There, activities and visits with the main actors of the island today are programmed.**
4. Following the final review the work the participants of the studio will be invited as contributors to expose their work in the Biennale of Lanzarote.

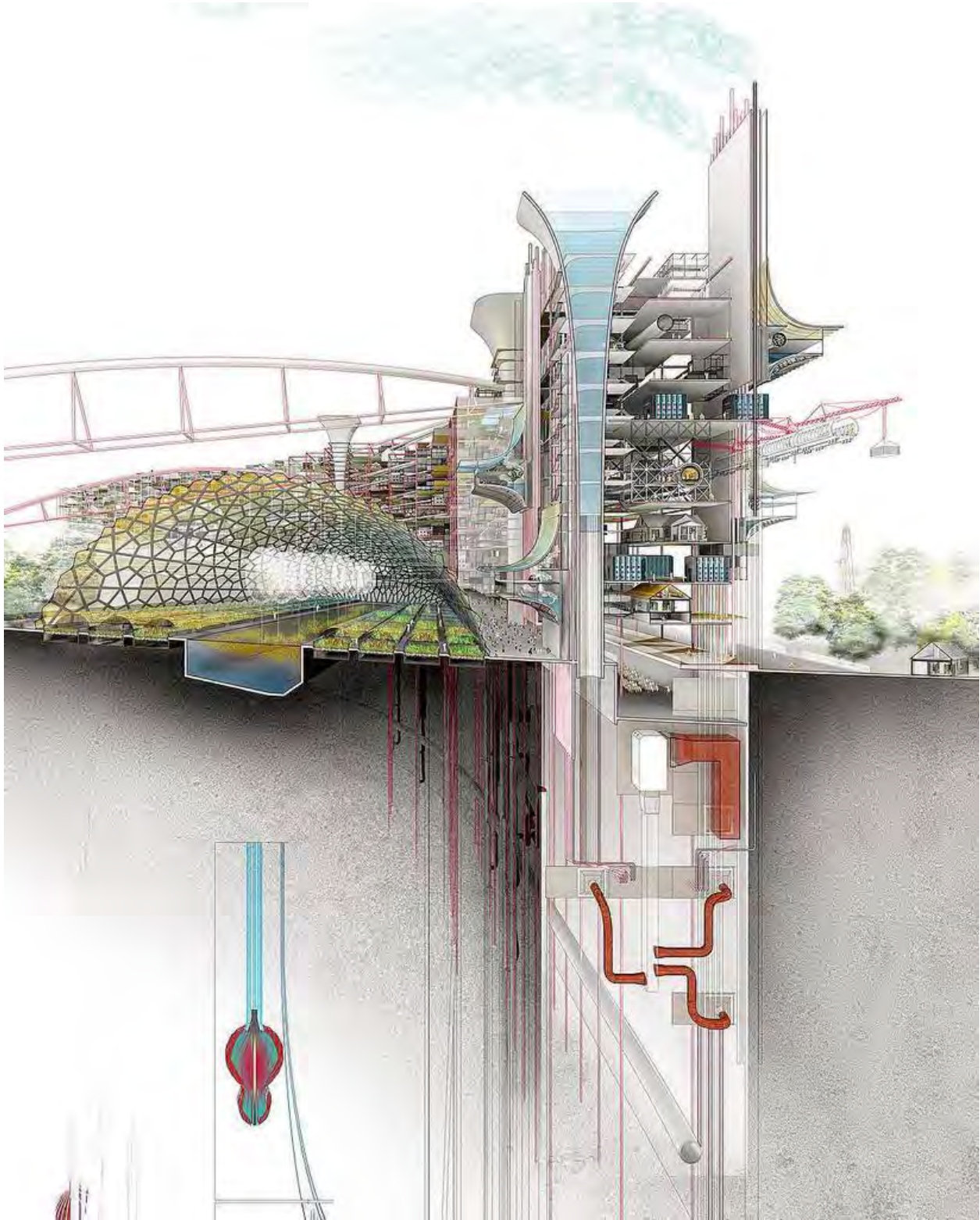


Wine growth on picón. Lanzarote

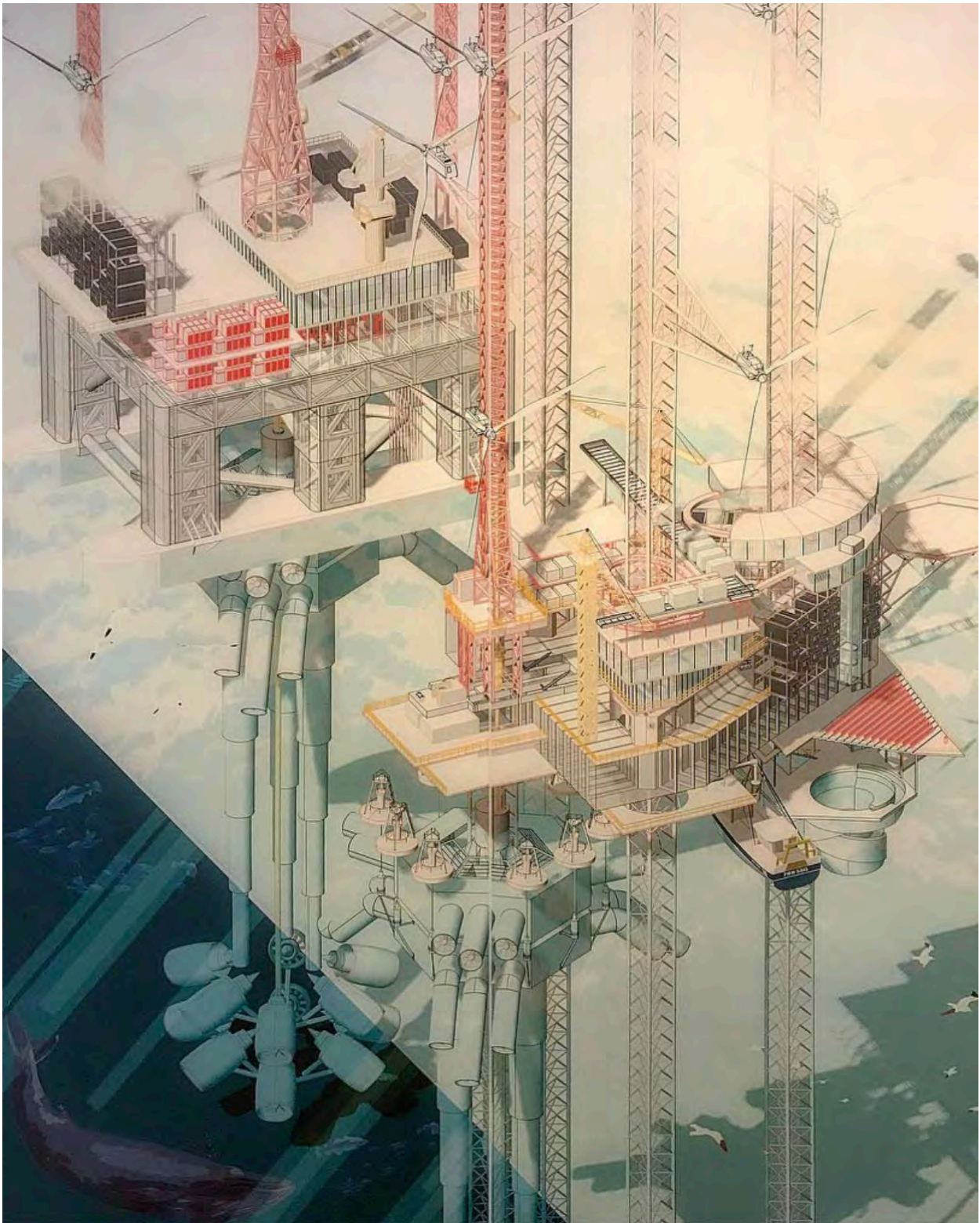


Fobos. (Series: Juguetes del Viento). Pájara, Lanzarote. Cesar Manrique. 1991.

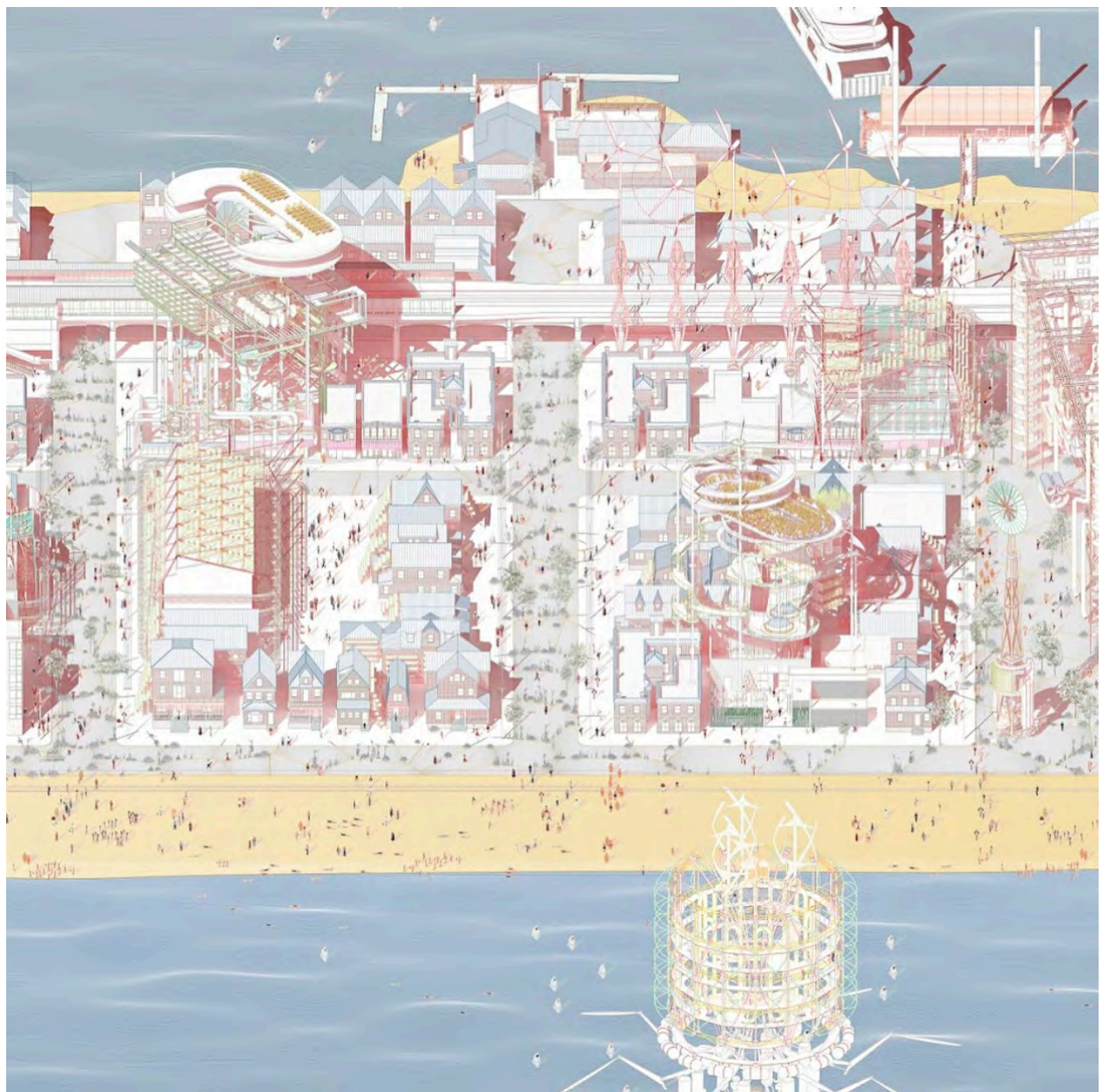
Previous Works Developed in the Studio:

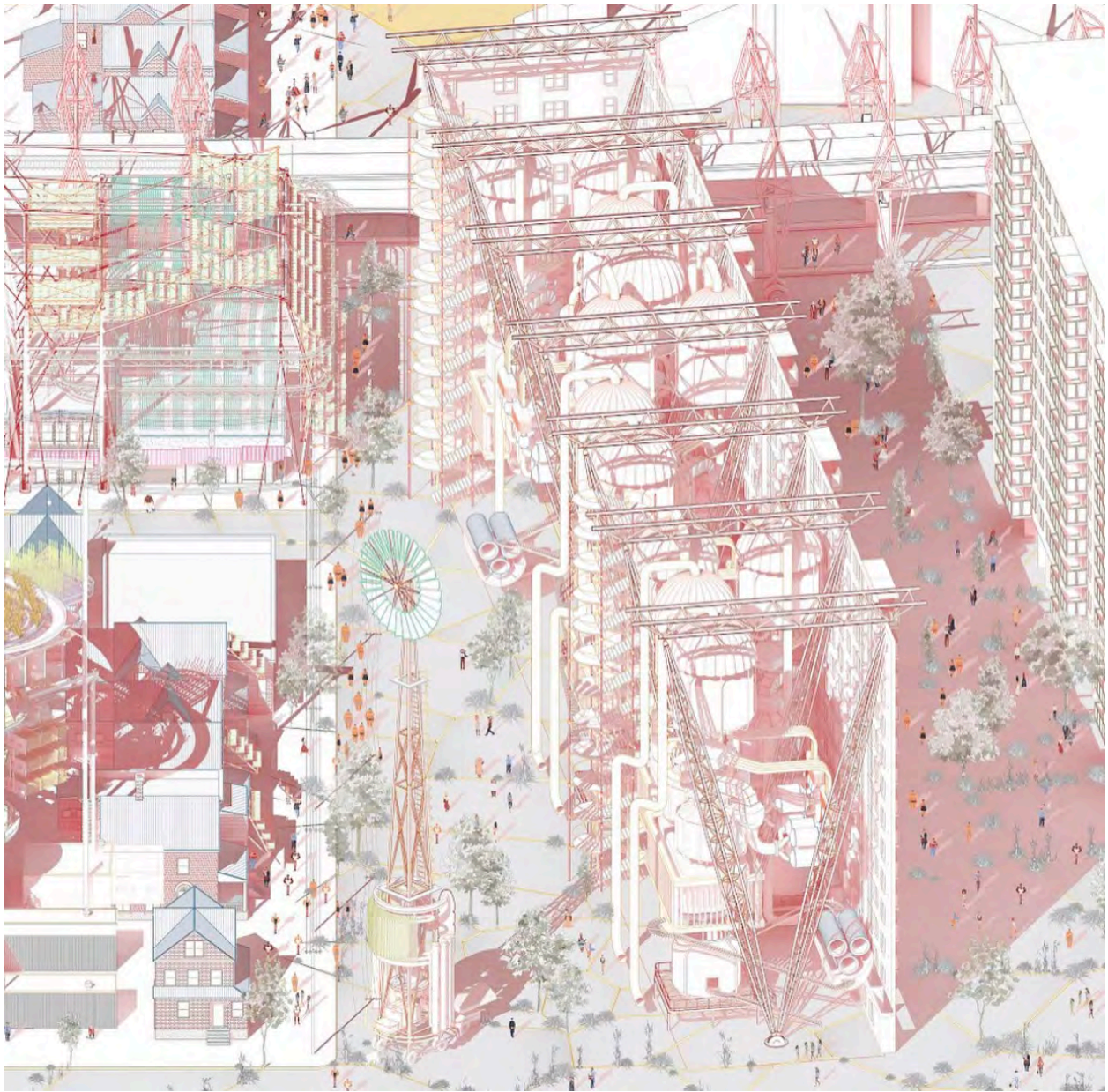


Transition to a post-fracking Susquehanna by Troy Lacombe



Alternative Oceanic Energy Urbanism. Yuxin Zheng and Suiluyi Li.





Self Sourced Rockaway. Chang Cheng and Xiodan Ma

About Andrés Jaque:

Andrés Jaque is the founder of the **Office for Political Innovation**, an international practice author of projects including 'Plasencia Clergy House', 'House in Never Never Land', 'TUPPER HOME', 'ESCARAVOX' or 'COSMO MoMA PS1'. Their project 'IKEA Disobedients' is the first architectural performance ever included in the collection of the Museum of Modern Art, MoMA, and it is part of a series of architectural experiments intended to explore design from the perspective of material politics: 'SUPERPOWERS OF TEN' -ZKM (2016), JUMEX Museum (2016), Chicago Architecture Biennial 2015 and Lisbon Architecture Triennale 2013-, 'SALES ODDITY' -Venice Biennial 2014-, 'PHANTOM. Mies as Rendered Society'- Barcelona Pavilion 2012-, 'Sweet Urbanism' -MAK Vienna 2013-, 'Different Kinds of Water' -RED CAT, Los Angeles 2013-, 'SWEET PARLIAMENT HOME' -Gwangju Biennale, South Korea 2010-, 'Skin Gardens' -BAC Barcelona 2009- or 'FRAY HOME HOME' -Biennale di Venezia 2010-.

Their publications include Everyday Politics, SUPERPOWERS OF TEN, PHANTOM. Mies as Rendered Society, Different Kinds of Water Pouring into a Swimming Pool or Dulces Arenas Cotidianas; and their work has been featured in A+U, Bauwelt, Domus, El Croquis, The Architectural Review, Volume or The New York Times among many others; and exhibited at the Museum of Modern Art MoMA, London Design Museum, MAK in Vienna, Tel Aviv Museum of Art, RED CAT Cal Arts Contemporary Art Center in Los Angeles, Z33 in Hasselt, Schweizerisches Architektur Museum in Basel, the Cité de l'Architecture et du Patrimoine de Paris, the Hellerau Festspielhaus in Dresden, Princeton University SoA.

Andrés Jaque, Phd Architect (ETSAM) and Alfred Toepfer Stiftung's Tessenow Stipendiat. He has been awarded with the Frederick Kiesler Prize for the Architecture and the Arts 2016, the Silver Lion to the Best Research Project at the 14th Venice Biennale, the Dionisio Hernández Gil Award and Architectural Record's Designers of the Year.

Architecture and Neuroscience

Advanced Architecture Studio V, Section 004, Fall 2017

Laura Kurgan with Jochen Hartman



“How do we know where we are? How can we find the way from one place to another? And how can we store this information in such a way that we can immediately find the way the next time we trace the same path?”¹

These questions — about knowledge, location, space, memory, learning exploration — link neuroscience and architecture, and will form the field of inquiry and design for the studio. The connection between architecture and the new science of mind and brain is exploding right now, but it is dominated by designers and critics who claim to discover in neuroscience a set of fundamental human traits and who use those as standards to criticize the present state of the built environment. We will not seek to use science as a tool for what used to be called ‘slum clearance.’ Rather, we will investigate the surprising convergence between the fields on questions of orientation and location, and use them as the starting point for design projects that create new spaces for memory, learning, and curiosity.

The image above was generated by the Center for Spatial research. It shows a Tractography / Diffusion MRI image utilizing 64 directional full brain tracking with data from Daphna Shohamy, The Learning Lab, Columbia University

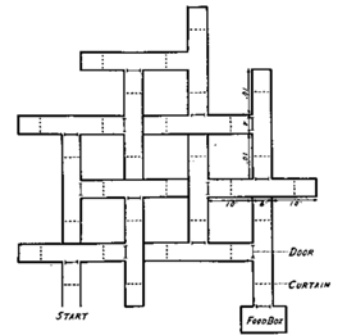
These are familiar themes in the canons of architecture and urbanism. Think of Kevin Lynch, whose still influential The Image of the City focused on the 'legibility' of the American city and proposed that "in the process of way-finding, the strategic link is the environmental image, the generalized mental picture of the exterior physical world that is held by an individual. This image is the product both of the immediate sensation and of the memory of past experience, and it is used to interpret information and to guide action."² Lynch went on to propose that mental maps of the city can be reinforced by the design of paths, edges, districts, nodes and landmarks, to be most effective. Fredric Jameson's equally influential reconsideration of Lynch, in the "Postmodernism" essay, rejected the premises that these 'cognitive maps,' formed with such simple images and so few criteria, were either necessary or shared. He proposed that contemporary urban space was too complex simply to be 'mapped,' and instead generated "something like an imperative to grow new organs, to expand our sensorium and our body to some new, yet unimaginable, perhaps ultimately impossible dimensions."³

We owe the term 'cognitive map' to a 1948 essay by the psychologist Edward C. Tolman. Neuroscience has come a long way since then. How might we rewrite some of these patterns proposed by Lynch in The Image of the City by engaging with contemporary neuroscience and the impossible dimensions that Jameson proposes? We will start with the work of a team of three scientists who were awarded the Nobel Prize for physiology and medicine in 2014: John O'Keefe, who discovered what are called 'place cells,' and Edvard and May-Britt Moser who discovered 'grid cells.' When the award was announced, the Nobel committee explained what was at stake: "This year's Nobel Laureates have discovered a positioning system, an 'inner GPS' in the brain that makes it possible to orient ourselves in space, demonstrating a cellular basis for higher cognitive function. ...The discovery of the brain's positioning system represents a paradigm shift in our understanding of how ensembles of specialized cells work together to execute higher cognitive functions. It has opened new avenues for understanding other cognitive processes, such as memory, thinking and planning." "Inner GPS" is, of course, a metaphor, and we will unpack it carefully and critically, with the help of architects, urbanists, and scientists, to ask about the role of these concepts (place, space, location, orientation, memory, learning, curiosity) in both architecture and neuroscience.

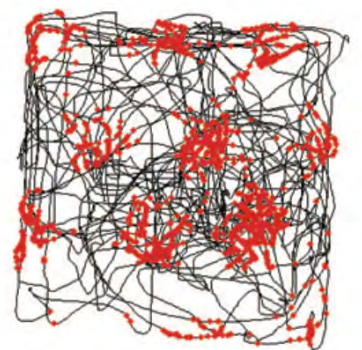
We will work with three leading neuroscientists from the newly-established Zuckerman Institute on Columbia's Manhattanville campus, whose research focuses on spatial navigation (Dmitriy Aranov), learning and memory (Daphna Shohamy), and curiosity (Jackie Gottlieb). We will also collaborate with



The 5 elements that make up our mental map of a city, as proposed by Kevin Lynch in 'Image of the City' (1960)



Typical maze setup from 'Cognitive Maps in Rats and Men, Edward C. Tolman (1948)



Grid cell firing locations (red dots) superimposed over the trajectory of an animal moving around an enclosed environment as documented by Edvard Moser, Emilio Kropff and May-Britt Moser (2008)

¹ https://www.nobelprize.org/nobel_prizes/medicine/laureates/2014/press.html

² Kevin Lynch, The Image of the City, pg.4.

³ Frederic Jameson, Postmodernism or the Cultural Logic of Late Capitalism, pg. 39

Kelley Remole, Director of the Education Lab in the Zuckerman Institute, to engage with its mission of facilitating and contributing to public science.

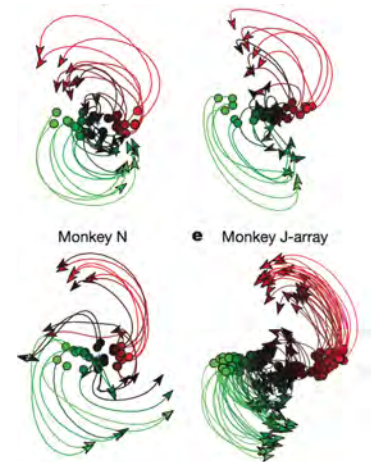
Drawing on all of this, we will ask how these findings in neuroscience might affect what we do as architects, as well as how we define architecture. We will also explore how architectural concepts and practices can have an influence on neuroscience research.

We will apply what we learn at the scale of the city, the building, and the individual — and perhaps even at the scale of a single synapse between two neurons. We aim to unlearn what are often considered to be the familiar dimensions of architecture — extra-large, large, medium and small — and engage with what scientists call high-dimensional space (recall Jameson). Extracting just few key themes from recent claims in neuroscience, and building on the work of our scientific collaborators, our projects will be experimental, seeking to uncover invisible patterns and images of the city that help us grasp questions of spatial navigation, learning and memory, and curiosity. We use these terms to designate not simply positive values or desires, but rather to mark architecture as a fundamental encounter with and exposure to what we don't know, and as a call to respond to that experience.

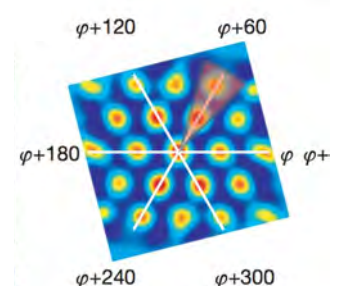
Work

During the first three weeks of the semester, students will learn from the scientists. As of today, no scientist has explained in a complete way how the networks and chemistry that connect the one trillion neurons of the human brain work the way they do. Scientists are creating a variety of models, or maps, of the brain — functional, networked, and mathematical. Each model or map tries to understand different ways in which the brain works for specific reasons. When we visit with the Zuckerman Institute scientists, we will learn how they do their experiments and create evidence for their theories. They use sophisticated imaging devices, mathematical formulas, and sometimes simply games. All of this material will become part of the vocabulary and method of our work, from 3-d modelling to game theory to VR environments. We will have access to images from contemporary neuroscience by way of the instructors' multi-year collaboration with the Zuckerman Institute, and with VR hardware available to the studio, students will be encouraged to test how their designs perform under multiple conditions for different users.

During the first half of the semester, you will navigate toward a specific site: a public, institutional, or commercial place in which you think learning takes place. Parks, libraries, schools, hospitals, museums, supermarkets, or any space that you can justify as a learning environment all count. Your work will be to analyze that space and discover how it helps or hinders learning. Next, you will add multiple dimensions to that space, such that



Models that show dynamic high dimensional activity in neurons from 'Neural population dynamics during reaching' by Mark Churchland and John Cunningham (2012)



Virtual reality area (above) and corresponding grid cell activity in human subjects from 'Evidence for grid cells in a human memory network' by Christian Doeller (2010)

you will re-design it in a way that inspires curiosity. Your work should be insightful, political, formal, and innovative.

After the midterm you will do a project or a series of projects which propose new learning environments. You can choose a scale at which to focus your primary work(1:1, 1000:1 or 1: 1000, for example), but your work from there forward, must incorporate high dimensional space (you will by this point in the semester, understand this term). Based on what you have done in the first half of the semester, your final project could be dispersed as a network in the city as a series of environments or a game, concentrated into a new building or theretrofit of a building, or an entirely virtual project which engages the experiments of the scientists. In other words, your work should be 'legible' to both architects and neuroscientists in ways in which architectural innovation might be advanced by the encounters between these two disciplines. Keep in mind, both architecture, and neuroscience, consider themselves as the disciplines which to incorporate all other disciplines.

Select Bibliography

* We will add to this in expanded syllabus and notes on science

Kevin Lynch, The Image of the City, The M.I.T Press, 1977

Frederic Jameson, Postmodernism, or, The Cultural Logic of Late Capitalism, Verso Books, 1992

Antoin Picon and Alessandra Ponte, eds. Architecture and the Sciences, Exchanging Metaphors, Princeton Architectural Press, 2003.

Sarah Williams Goldhagen, Welcome to your World: How the Built Environment Shapes our Lives, Harper Collins, 2017

Beatriz Colomina and Mark Wigley, Are We Human? Notes on an Archeology of Design, Lars Muller, 2017

Richard Neutra, Survival Through Design, Oxford University Press, 1954

Studio Schedule

Part 1 - Introducing Principles of Neuroscience to Architecture

Week 1

Wednesday, Sept 6

- Studio lottery presentation

Thursday, Sept 7

- First studio, introduction, intro assignment

Week 2

Monday, Sept 11

- First Pin Up (location TBD)
- Presentation: Neuroscience Notes for Architects

Thursday, Sept 14

- visit to the Education Center at the Jerome L Green Science Center
- Lecture: Introduction to Neuroscience with Kelley Remole @ 2.15pm
- visit to the Learning Lab. Lecture about memory, learning and decision making with Daphna Shohamy @ 4pm
- hand out second assignment and discussion

Week 3

Monday, Sept 18

- Pin up: Kit of Parts (1)
- group discussion about contemporary neuroscience readings

Thursday, Sept 21: Spatial Navigation in the Brain: Grid Cells / Place Cells /VR / Mazes, Curiosity & Games

- discussion about spatial navigation and cognitive maps
- visit with Jackie Gottlieb and discussion about curiosity and games (exact time TBD)
- visit with Dmitriy Aranov and discussion around spatial navigation, mazes and VR @ 4pm

Week 4

Monday, Sept 25

- pin up: Kit of Parts (2)
- hand out mid-term assignment

Thursday, Sept 28 - Desk Crits

Part 2 - Applying Principles of Neuroscience to Architecture

Week 5

Monday, October 2
- pin up: Kit Of Parts (final)

Thursday, October 5
- Lecture and discussion about data visualization, higher dimensional data, machine learning
- desk crits

Week 6

Monday, October 9 - desk crits
Thursday, October 12 – desk crits

Week 7

Monday, October 16 – desk crits
Thursday, October 19 - last desk crits before mid term

Week 8

Monday, October 23rd - Midterm Review 300 Buell South, 1.30

Part 3 - Bringing Architecture to Neuroscience

Thursday, October 26
- mid term debrief discussion, introduction of final assignment
- lecture and discussion: topics in 'cognitive architecture'

Week 9

Monday, October 30 - desk crits
Thursday, November 2 - pin up

Week 10

Monday, November 6 - desk crits
Thursday, November 9 - desk crits

Week 11

Monday, November 13 - pin up
Thursday, November 16 - desk crits

Week 12

Monday, November 20 – desk crits
Thursday, November 24 - no class / thanksgiving

Week 13

Monday, November 27 - desk crits

Thursday, November 30 - pin up

Week 14

Monday, December 4 - desk crits

Thursday, December 7 - dry run of final presentations

Week 15

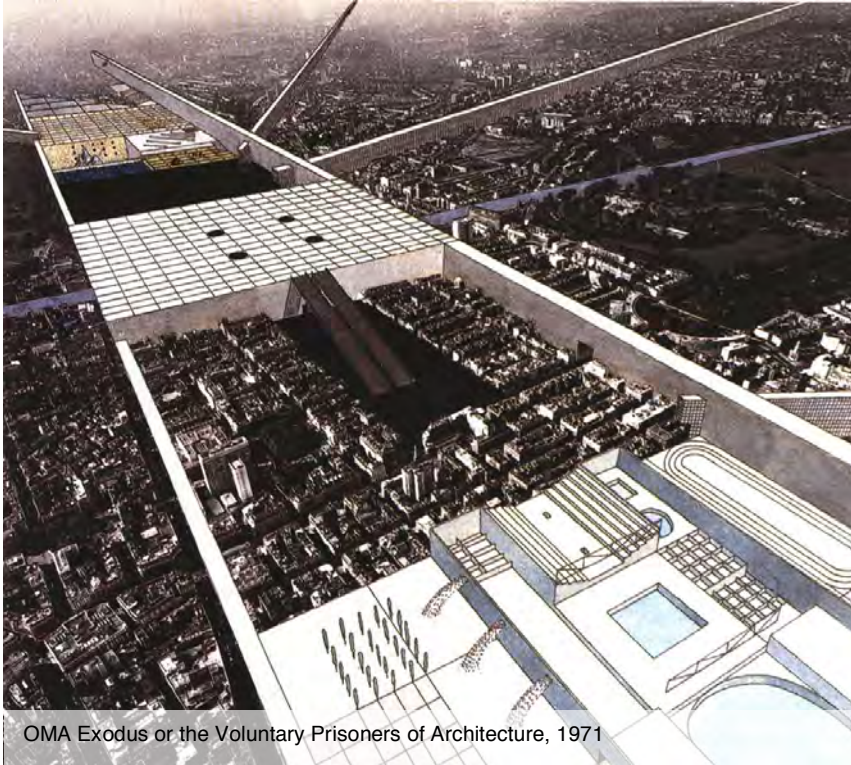
Monday, December 11 - last desk crits before the final

Thursday, December 12 - Final review: 115 Avery

Borderline_Detroit

The frontier is sort of a void, a narrative symbol of exchanges and encounters. Passing by, an architect suddenly appropriates this “in between space” and builds a great edifice on it...The Architect’s drive to cement the picket fence, to fill in and build up “the space in between,” is also his illusion, for without knowing it he is working toward the political freezing of the place

Michel de Certeau, *The Practices of Everyday Life*



Provocation:

Borderline_Detroit considers the architectures of being in or living on the border—as city, as racial other, as migrant, as outlaw, as poor, as agent. As abject frontier, Detroit represents the northern doppelganger of the contested southern border dynamic between Tijuana/San Diego; with the exception that Detroit harbors the inequalities between so-called first and third worlds within its own municipal boundaries. For us, there will be many ways to think about the concept of “borderline.” As a limit, the “borderline” forms the occupiable zone of land between two countries, for example between U.S. and Canada or between two districts, like Detroit and its neighbors Grosse Pointe and East Pointe. As a state of being, borderline also demarcates the boundary between the normative and the obscene, the indecent, the illegal or the insane. Thus a “borderline” delimits place, society and subjectivity, it also constitutes a space in between interstitial space of suspension, tension and possibility.

In the age of globalization, mass migration and digital connectivity, border walls are no longer being constructed or fortified to fend off military invasion, despite the recent jingoistic chants of “BUILD.THE.WALL!” Instead, as Wendy Brown writes: “these walls target non-state actors—individuals, groups, movements, organizations, and industries” such that “the new nation-state walls are part of an ad-hoc global landscape of flows and barriers both inside nation-states and in the surrounding post-national constellations, flows and barriers that divide richer from poorer parts of the globe.” Enforced with visas, passports, and RFID chips, borders no longer need walls; the walls have become the decorated sheds of national pride. With these caveats in mind, the studio will focus on Detroit, once among the world’s greatest manufacturing cities with the highest per capita income in the U.S. and now the posterchild for rust-belt urban decay, as a zone between the international borders of two nation-states and the local borders that divide its territories according to race and class. Reimagining Detroit to mine the utopian and dystopian possibilities of the city’s architectural and urban future, the studio will develop architectural propositions that will take the form of videos and drawings for two projects “The Zone” and “The Commons” sited on Belle Isle along the Detroit River.

Conceptualizing Detroit as a border, the studio will study the spatial and architectural implications of its frontier condition where in recent years the suspension of local sovereignty in favor of privatization of its water infrastructure and public spaces, for example, have transformed civic and everyday life. A large swathe of the city’s downtown, for instance, is in the hands of two billionaires: Dan Gilbert, of Quicken loan fame and owner of the Cleveland Cavaliers, who maintains a portfolio of 90 buildings, and the late scion of Little Caesar’s Pizza Mike Ilitch, whose organization has staked a multi-billion-dollar claim to two square miles. On its internal borders, neighboring cities such as Grosse Pointe have constructed “racial blockades” in the form of cul-de-sacs and barriers to separate predominantly black Detroit from wealthy white enclaves. As an international border, Detroit is a conduit for more than \$120 billion of cross border trade, but unlike other national borders Detroit is home to the world’s only private crossing—the Ambassador Bridge. Within the borderline condition of Detroit the studio will explore different pressures and modes of resistance to the privatization of public space and infrastructure by imagining other architectural/urban scenarios.



As a site of multiple, overlapping, or nested forms of sovereignty, where domestic and transnational jurisdictions collide, infrastructure space becomes a medium of what might be called extrastatecraft—a portmanteau describing the often undisclosed activities outside of, in addition to, and sometimes even in partnership with statecraft. Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space*

Proposition (outline):

Beginning with "Borderlines/Borderlands," **Borderline Detroit's** first three weeks will research contemporary border conditions around the world—the UN buffer zone on Cyprus, *maquilladores* (free trade transnational factories) of Ciudad Juarez/EI Paso, the Jordan/Syria Berms, the Shannon Airport duty free zone and others. We will also examine how architects have explored the condition of the border by reviewing OMA's *Exodus or the Voluntary Prisoners of Architecture* and Checkpoint Charlie Berlin project, Estudio Cruz's *Learning from Tijuana*, Rael San Fratello's *Border Types*, Lateral Office's *Banking on the Border* and rvtr's *The Crossing* to name a few.

The studio will for the remainder of the semester focus to two overlapping projects "The Zone" and "The Commons" that speculate on the future of Detroit. Belle Isle, designed by Fredrick Law Olmstead, has historically served as a civic bellwether; from the site of the 1942 race riot to being given to the state of Michigan during the city's 2013 bankruptcy. Once proposed as a micronation by Larry Sperlich, the former CEO of Chrysler, the island has served as the local frontier for the city. We will explore Belle Isle's future by conceptualizing two border conditions on the same site: one, "The Zone" will be explore the future of privatization by designing a Free Trade Zone (FTZ) and the other "The Commons" will explore the future of the public space, an architectural assemblage held in common.

Pedagogy:

The studio will have a series of tutorials with [Carson Smuts](#) (GSAPP/MIT Media Lab) that introduce techniques of data mining, visualization, and spatialization through parametric modeling. With specially developed software for the studio, students will sift through social media feeds and other relevant resources related to various cross border traffic in Detroit. These topological models developed in Rhino with Grasshopper will allow these systems and phenomena to be studied in temporal magnitudes. This rich body of research, parametric and analog modeling techniques will be refined through a site visit to Detroit to engage in further on-site research.

For the first half of the semester, the studio will also be structured around a series of seminar discussions with three critical thinkers in architecture on questions of borders, sovereignty, and rights: *Keller Easterling*, *Jordan H. Carver* and *Andrew Herscher*. We will supplement the three seminars through short weekly readings that will be discussed at Thursday studio meetings. Critical to these conversations will be to parse key concepts of "border," "sovereignty," "privatization," "public space" and so on, as well as to debate key ideas. To that end, we will begin by learning the art of debate in order to hone skills of argumentation—both verbal and visual (i.e. in your presentations). Debates about specific topics will continue through the semester. For the second half of the semester, we will also focus on the art of storytelling in order to develop conceptual narratives for each project.

Studio Travel (required):

The studio will travel to Detroit from **11 – 15 October, 2017** where we will visit various sites and meet with key individuals, firms and organizations, including:

- [We the People of Detroit](#) – community group engaged in fighting privatization of the city
- [Bedrock Detroit](#) – real estate company owned by Dan Gilbert with extensive holdings downtown Detroit
- [Hantz Farms](#) – world's largest "urban farm" assembled from vacant lots; owned by a financial services conglomerate
- Tour of the Detroit River + Belle Isle
- Meet with architects and artists experimenting with new forms of practice
- Tour the defunct Packard Assembly Plant and newly established Shinola Assembly Plant

Schedule (draft):

SEPTEMBER	NOVEMBER
7 – first meeting [mw/tl]	2 [mw/tl]
11 [mw]	6 [mw]
14 – group review [mw/tl]	9 – group review [mw/tl]
18 [mw]	13 [mw]
21 [tl]	16 – ¼ REVIEW [mw/tl]
25 – ¼ REVIEW [mw/tl]	20 [mw]
28 [tl]	23 – group review [mw/tl]
OCTOBER	27 mw
2 [mw]	30 – group review [mw/tl]
5 – group review [mw]	DECEMBER
9 [mw]	4 [mw]
11 - 15 – DETROIT TRIP [mw/tl]	7 [mw/tl]
16 [mw]	11 – FINAL REVIEW
19 – group review [mw/tl]	
23 [mw]	
26 - MIDTERM [mw/tl]	
30 [mw]	

Advance Design Studio V
Fall 2017
Prof. Lise Anne Couture

Liam Lowry, Assistant

REINVENTING MIAMI - DRAFT

Resistance:

an act, instance or a means of resisting...to exert force in opposition...so as to counteract or defeat. The refusal to accept or comply.

As in: Reinventing Miami requires resistance to the status quo, to the path of least resistance and to a reliance on what we know already.

Resilience:

The capacity to recover quickly from, or adjust easily to, undesirable events or changes*

As in: Designing for resiliency is to anticipate adversity and to transform that possibility into opportunity.

Miami and Miami Beach offer a unique opportunity for this design based research studio to generate new urban visions for the resilient city.

Over the past several years there has been significant discourse across a broad spectrum of stakeholders addressing the significance of climate change and the associated risks relative to human inhabitation especially in dense population centers. And while New Orleans and New York City, have become compelling case studies with respect to strategies of resilience following Hurricane Katrina and Hurricane Sandy, the scale and type of many of the strategies that have emerged in the aftermath, especially with respect to large scale infrastructural investments and engineering projects, are not suitable or possible for many other urban centers especially the 100 or more major urban centers along the south eastern US coastline.

Situated at the mouth of the Miami River and running north south along Biscayne Bay, Miami is spread across low flat land located from Biscayne Bay on the east towards the swamps of the Everglades to the west. Across Biscayne Bay is Miami Beach in the form of a collection of barrier islands, facing Miami on one side and the Atlantic Ocean on the other.

Between the two there is a diverse catalog of land/water sites typologies to be explored:

- Miami river and canal
- Miami bayfront on Biscayne Bay
- Miami Beach bayfront on Biscayne Bay
- Biscayne Bay Causeways
- Biscayne Bay islands
- Atlantic Ocean barrier islands
- Atlantic Ocean beachfront
- low lying inland areas of Miami Beach

Miami/Miami Beach offer a particularly unique if not extreme geography and hydrology that is prime for a collective speculative investigation of new urban prototypes based on a resilient

approach to rising sea levels and storm surges. The interconnectedness, extent and diversity of these conditions preempts the possibility of a grand and singular approach to resilient design and strategies for urban interventions but rather offers the possibility to investigate a range of resilient land/water interventions informed by specific site conditions and a proposed future program.

While Miami/Miami Beach is well known as a tourism destination attracting a broad range of visitors who are drawn to its famous beaches and resorts, it is also in the midst of an urban evolution offering an increasingly diverse range of sophisticated cultural destinations and events.

Tourism has had broad effects on the local economy from feeding the growing hospitality and travel industries to creating an international market for real estate speculation that weathers repetitive cycles of boom and bust development. Miami is also an important banking center for international investors, especially from central and South America, and the 2nd largest financial hub in the US after New York. While real estate development, transportation infrastructure and tourism all stand to be adversely impacted by the detrimental effects of storm surges and rising sea levels, until recently these have been eclipsed by the forces of commerce and the flow of capital.

Today however, the realities and risks of rising sea levels associated with an anthropogenic climate have been acknowledged and a broad range of new policies and strategies are in the process of being developed, proposed, adopted and implemented. While much remains to be done (undone) the shift in the relationship between Miami/Miami Beach and its connection to the water is an opportunity to “reinvent” Miami through the studio’s architectural proposals that will negotiate and exploit a sampling of unique land/water sites. These speculations, based on new types of resilient and sustainable typologies coupled with new programs, are collectively proposed as a vehicle that would contribute to the cities’ evolution on multiple levels from culture, and education, to R & D and industry, to commerce, energy production and transportation. We are looking to design for the future not today.

What is the city of the future?

The studio will research trends of both the near and distant future. What will be the impact of autonomous vehicles, IoT, robotics and machine learning, an evolving sharing economy, gene splicing, mass migration, new forms of energy production, to just name a few. What is the future of transportation, manufacturing and the environment as well as the trajectory of human habitation in terms of dwelling, working, recreating, learning and exploring. How will the influence of these be manifested in architecture? Miami and Miami Beach, each with their unique but intertwined histories and identities, will as linked and interdependent urban entities with diverse but evolving demographics and economies, provide a very real backdrop for our very speculative explorations.

This “design based” research studio will be structured to investigate the overall social, economic, cultural and institutional context of Miami/Miami Beach to gain an understanding of the current dynamic at play between physical and non-physical forces and to speculate how its future might play out.

In tandem the studio will investigate the current geography, hydrology, and specific resiliency relevant policies, plans and strategies of Miami/Miami Beach as well as southeast Florida in general, will undertake research and case studies of other relevant examples of urban adaptation to the threats rising sea levels

The studio will travel to Miami during the 4th week of studio, visiting sites and meeting with key individuals working in areas of culture, resilience, city planning and development.

Midterm review Thurs October 27th

Final review Tuesday December 12th

Columbia University Graduate School of Architecture, Planning and Preservation
Advanced Studio V – Section 007, Fall 2017

Monday + Thursday 1:30pm – 6:30pm, 600 Avery Hall

Option Studio: **A City Inside a Building**

Subtexts: 1. As Normal As Possible, 2. Bigness, Again

Faculty: Jimenez Lai (jimenez.lai@bureau-spectacular.net)

TA: Nile Greenberg (nile.greenberg@gmail.com)

A City Inside a Building

Subtexts: 1. As Normal As Possible, 2. Bigness, Again

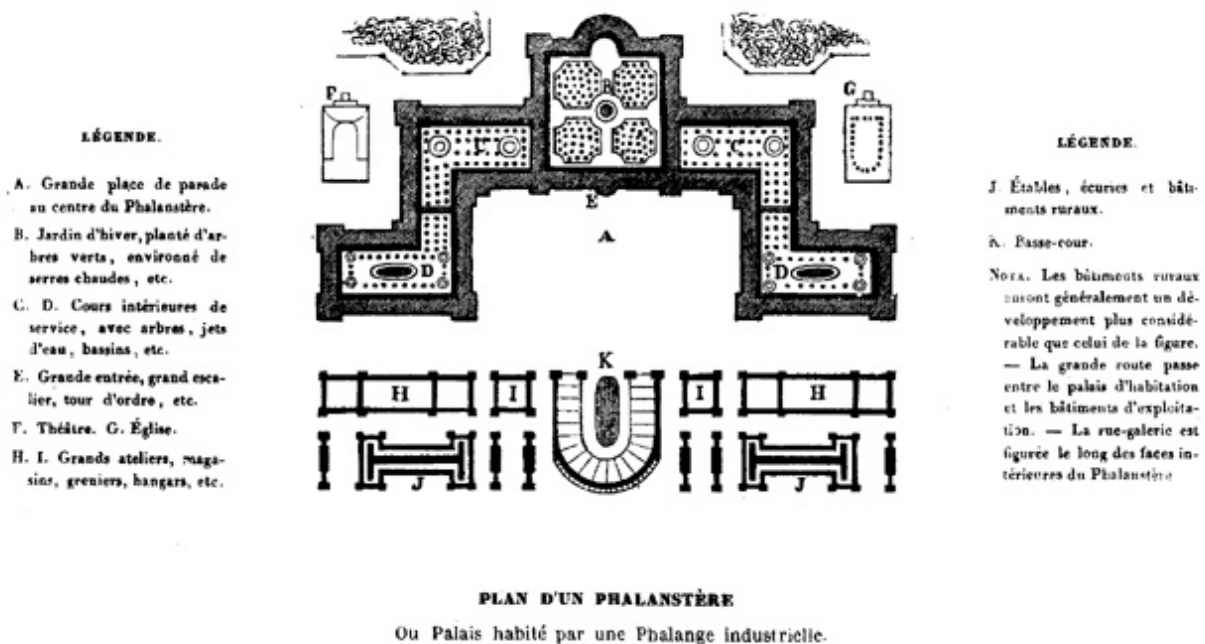


Illustration of Charles Fourier's Phalanstère

Studio Project

This studio will investigate the effects of a city inside of a building. We will compact the town of Barrow, AK (~4500) into one single building. As the northernmost point of the United States, Barrow endures extreme climate conditions. Learning from Whittier, a southern Alaskan city that is a city inside of one building, one can easily identify the many positive attributes of living in one collective building in extreme conditions. For instance, heat-loss efficiency, energy conservation, artificial light, and political organization are just some of the potential advantages of a project like this.

Site

Barrow, AK is the northernmost human settlement in the United States. 60% of the local inhabitants are of native Alaskan heritage, and have been living continuously in this location for thousands of years. The other 40% is largely working in the petroleum industry. With no roads leading up to this town, the only way in and out of Barrow is by airplanes. This condition makes goods extremely expensive – and drives locals, even those with full-time jobs, to sometimes hunt and gather.

The Phalanstère, an idea initially written by Charles Fourier in the 19th Century, was a proposal for a fictional city with 500-2000 people living inside of one architecture. Many architects have taken on this idea of “city within building” and produced projects with this in mind, including Unite d’Habitation, Marina City, or the Hancock Building in Chicago. The idea of the Phalanstère became a philosophical position that considers an economic, social, and political entity that required all citizens to work at the best of their abilities in order to survive. In such remote and autonomous locations such as Barrow, AK, we will explore the effects of this thought experiment.

Subtext 01: “As Normal As Possible”

What does it mean for something to be normal? Conversely, what defines madness? Without standards that allow a measure of normalcy, it is nearly impossible to define something as being out of place. “Normal” is a difficult moving target – it is highly contextual to time and space. Something typologically normal in the 1920s would not be normal in 1980. What is normal in 1980 in Los Angeles also may not be so normal in Tokyo 1980. Normalcy is a complex agreement amongst a large number of people, the same way that grammar and cadence are specific to the time and space they live in. A different way of considering the topic of normalcy is the idea of context - in some ways, context may not be only physical, but also cultural.

Architecture as Language

Architecture for Quatremere-de-Quincy operated as a language and in its origins there is a recognition of formal type and its essential role that needed to be expressed and understood by society. Sylvia Lavin writes that for Quatremere-de-Quincy the issue of architecture in its development from past forms is its development from its historical type which he distinguishes operates more like language. Architecture becomes an influence on the society and urbanity that needs to be educated on its own forms through the transmitting role of the building and its purpose through architecture and typology.

Mildness and Civilization

"Normcore", a movement that occurred in the early 2010s, was intended to mean "finding liberation in being nothing special." Predicted by K-Hole, something about the aesthetics of Seinfeld suddenly really important. A TV show about "nothing", the backdrop, fashion and lifestyle became a design project to measure to probable "average" of New York in the 1990s. In looking at brands like Warby Parker, Everlane, or COS, something about a subtle nothingness communicates the thrill of "not cool".

Politics of Normal

Having the message of being an "independent" "centrist" requires a lot more work than having a position. While many of us probably lean one way or another, it is interesting to observe how politicians identify or construct "normalcy" over time and space. Normal is not any of the following: boring, generic, bland, punchless... it is in fact the average temperature of the spirit of the time – of a time, a space.

Subtext 02: "Bigness, Again"

1. Beyond a certain critical mass, a building becomes a BIG Building. Such a mass can no longer be controlled by a singular architectural gesture, or even by any combination of architectural gestures. The impossibility triggers the autonomy of its parts, which is different from fragmentation: the parts remain committed to the whole.
2. The elevator-with its potential to establish mechanical rather than architectural connections-and its family of related inventions render null and void the classical repertoire of architecture. Issues of composition, scale, proportion, detail are now moot. The 'art' of architecture is useless in BIGNESS.
3. In BIGNESS, the distance between core and envelope increases to the point where the façade can no longer reveal what happens inside. The humanist expectation of 'honesty' is doomed; interior and exterior architectures become separate projects, one dealing with the instability of programmatic and iconographic needs, the other-agent of dis-information- offering the city the apparent stability of an object. Where architecture reveals, BIGNESS perplexes; BIGNESS transforms the city from a summation of certainties into an accumulation of mysteries. What you see is no longer what you get.
4. Through size alone, such buildings enter an amoral domain, beyond good and bad. Their impact is independent of their quality. 5. Together, all these breaks-with scale, with architectural composition, with tradition, with transparency, with ethics-imply the final, most radical break: BIGNESS is no longer part of any issue. It exists; at most, it coexists. Its subtext is fuck context.¹

¹ This portion is entirely taken out of the essay Bigness by Rem Koolhaas in 1993

Assignment 01: Analysis

1. Program

Graphically analyze the amenities of Barrow AK. By comprehensively and accurately documenting the existing land-use, zoning, and other infrastructural components of the city, it will offer every answer as to how large our single building will likely contain. Understanding the demographic, average family size, proportion of commercial, residential, institutional, industrial or heavy industrial spaces, we can distribute these parts inside of one building intelligently. How is the economy of this town structured? Or politics?

2. Climate, Geography, and Other Environmental Factors

What are the natural conditions in this region of the United States? Average temperature, wind currents, water currents, precipitation, day hours and night hours of winter and summer seasons are only some of the basic information that defines this physical geography. The local flora and fauna partially supports the townspeople – what is the cycle of life around Barrow? How much petroleum is there left, and how quickly or slowly should Barrow begin the transition from an oil-based economy to something else? Additionally, how have humans already begun the process of preparing for climate change? Will there be a bigger seaport, or other infrastructure?

3. Technological Precedents

How do people already shelter themselves from extreme conditions? Does “R Value” even mean anything for the International Space Station? How have humans engaged with perpetual daylight or constant darkness? An average cruise ship can host a range of 3000-5000 people, which is close to the total population of Barrow, AK. How is the interior of a cruise ship organized, and what is the relative size of such an object?

4. Architectural and Urban Precedent

Here is a shortlist of buildings that contain other buildings, or even possibly cities:

Begich Towers Condominium, Anton Anderson, Whittier Alaska, 1953

Kowloon Walled City, Hong Kong, - 1989

Torre Velasca, Ernesto Rogers, Milan Italy, 1958

Hancock Building, SOM, Chicago

Marina City, Bertrand Goldberg, Chicago Illinois, 1964

Cité de Refuge, Le Corbusier, Paris France, 1933
Mirador Housing Project, MVRDV, Sanchinarro Madrid Spain, 2001-2005
Trelick Tower, Erno Goldfinger, London England, 1972
Habitat 67, Moshe Safdie, Montreal Canada, 1967
Burj Khalifa, Smith-Gil, Dubai UAE, 2009
SESC Unidade Pompeia, Lina bo Bardi, Sao Paulo Brazil, 1986
Lingotto, Matteo Trucco, Torino, Italy, 1923
Hashima Island, Japan

It would be helpful to understand the effects of urban density (high or low):

Macau
Manilla
Tokyo
The Vatican City
Monaco
San Marino
Dubai
Las Vegas
Los Angeles

Assignment 02: Proposal

1. Thesis
What is the central message of your project? One way of answering this question is the question of “normalcy”. Is there something in particular that can be considered “normal” that your project will work on? The range of normalcy can be rather wide, but it should also be extremely focused – is it about a color, a materiality, a typology, a lifestyle, a politics?
2. Whole
What is the massing of your project? Is it *hot?* *Cool?* *Boring?* *Lazy?* *On?* *Off?* Something else?
3. Parts
What are the compositional techniques? Are they well-fitting? Ill-fitting? Loose-fitting? Or some other strange 3D jigsaw puzzles? Using the information learned from assignment 01, how large should this building be, and comprised of how many parts?
4. Sense

What is the general sensibility of your project? Is there an unspoken feeling communicated without words? In one single square image, are you able to produce the effects of this sensibility?

Assignment 03: Project

1. Model

At roughly 48" x 48" x 48" (or smaller), this physical model will offer great photography opportunities.

2. Drawing

One 96" x 96" wallpaper will allow teams to zoom-into the possible life inside the project.

3. Movie

At 3'00" or less, it would be helpful to have a YouTube-ready video that compacts and captures all of the ambitions of the project. In some ways, the video will outlast the photograph as you would not need to present the project ever again – yet your presentation will live on for as long as YouTube exists.

Final Deliverables

1. One Very Large Model (48"x48"x48")
2. One Wallpaper of a Composite Cut (96"x96")
3. One Movie, 3'00" or less
4. (One collectively bounded book, 150 pages or less)

SCHEDULE

09.06 W	<i>Ballot</i>
09.07 R	<i>First Day of Studio / Assignment 1</i>
09.11 M	<i>Pin-Up of Assignment 1</i>
09.14 R	Desk Crits
09.18 M	<i>Review of Assignment 1, commence Assignment 2</i>
09.21 R	Desk Crits

09.25 M	Desk Crits
09.28 R	Desk Crits
<i>10.02 M</i>	<i>Pin-Up of Assignment 2</i>
10.05 R	Desk Crits
10.06 F	Transfer Dialogues
<i>10.09 M</i>	<i>Review of Assignment 2, commence Assignment 3</i>
10.13 R	Desk Crits
10.16 M	Desk Crits
10.19 R	Desk Crits
<i>10.23 M</i>	<i>Desk Crits</i>
<i>10.26 R</i>	<i>Desk Crits</i>
10.27 F	Midterm
<i>10.30 M</i>	<i>Desk Crits</i>
11.02 R	Desk Crits
<i>11.06 M</i>	<i>Desk Crits</i>
<i>11.09 R</i>	<i>Desk Crits</i>
11.13 M	Desk Crits
<i>11.16 R</i>	<i>Production Checkpoint</i>
<i>11.17 F</i>	<i>Transfer Dialogues</i>
<i>11.20 M</i>	<i>Desk Crits</i>
11.23 R	Thanksgiving
<i>11.27 M</i>	<i>Final Checkpoint</i>
11.30 R	Desk Crits
12.04 M	Final Review Week
12.08 F	Final Review²

² italicized lettering indicate the probable dates that Jimenez Lai will be in New York.

Visual References

David Hockney
Alex Colville
Philipp Schaerer
Filip Dujardin
Job Floris
KGDVS
Point Supreme
Norman Kelley
FALA Atelier
Chris Ware
David Jimenez Iniesta, María Ángeles Peñalver & Javier Jimenez Iniesta
Aristide Antonas
kooz: arch
Sam Jacob

Additonal References

Andrew Kuo
Alex Lin (Studio Lin)
Chamber Gallery
K-Hole
Metamodernism

Cinematic References

Grand Budapest Hotel
Life Aquatic
Royal Tenenbaums
Blade Runner
Delicatessen
Akira
Dredd
Idiocracy
Kung Fury

Other References and Resources

Bigness, Rem Koolhaas
Phalanstere, Charles Fourier
12 Reasons to Get Back into Shape, Bob Somol

<https://suburbanstats.org/population/alaska/how-many-people-live-in-barrow>

GSAPP Columbia University
Fall 2017
Advanced Studio V, Section 008
Instructor: Junya Ishigami
Assistant Instructor: Yuko Sono (ys2677@columbia.edu)

SCENERY AS SPACE

The goal of the studio is to understand scenery as space and design it as architecture.

First of all, you can begin to think:

What is **scenery**?

What is **space**?

You can start defining these words to determine your own vocabulary and meaning.

When you come up with your own vocabulary, this should then generate the originality of architecture of your own.

Subsequently,

Design space as scenery inside of architecture,

and

design **scenery** as space outside of architecture.

As an example,

there are quantitative scales and shapes of space in the natural environment, even though we may not be conscious of them. When you look at the horizon from the average height of human eye level, you can only see afar for a distance of up to 4 - 5 kilometers. Since the horizon can be thought of as the boundary of two different sceneries, the sky and the ground, we can say that there is a large circular space around the observer. Considering that the scenery is a large space that has concrete scale and geometry as such, we can design architecture based on that concept.

This is one definition, but depending on how you define scenery as space, the way architecture is envisioned will also change.

If we can perceive scenery as space, we may be able to design both inside and outside through seamless concept, without making borders between them.

SITE

The site is not specified in this project.

You can select your own.

In this studio, the selection of the site is very important since “scenery” is the focus of the theme. Certainly, this determines the characteristics of scenery and decides the quality of space.

PROGRAM

Programs are also determined by projects.

However, the program ought to be what most suits for the selected site. It is kept open so you are able to come up with the best design solution with the new space.

STUDIO PROJECT

Part1 and Part 2: Definition and program study (Presentation on Monday September 25th)

Exercise 1

Research various types of space in scenery and look closely into the details of their condition. What is important here is researching and analyzing all the attributes of scenery such as size, form, weather condition, border, natural/biological system from human scale to micro/macro scale in order to find the elements and systems in nature that define your space. Analyze a scenery as if analyzing a historical architecture.

Exercise 2

Choose a site along with your own definition of space in scenery and propose a program that would best suit the selected site. You should know all the details of the site in order to understand the environment. For any location that you choose, there must be a unique settlement or climate. Sometimes living organisms develop their ecological systems/culture using the site's special characteristics and its landform. Other times they create their own system that do not correspond with the local ecological system.

Part 3 : Conceptual design of your scenery (Midterm on Friday October 27th)

Utilizing the research and your definition of space in scenery, you are to design a new scenery as a new architectural space. Unique characteristics of your site (e.g. landform, local settlement, ecological system or historical/cultural context) should engage your space.

Part 4 : Designing a scenery (Final review on Friday December 8th)

This is the main studio project of the semester. Develop your conceptual design of scenery with details. It is important to formulate your own idea of space in scenery and describe it in the same way that you describe architecture. Representation of the project also should be considered and implemented carefully to fully describe your new space.

DATES

Intro: Thursday September 7th

Presentation for Part 1 and 2 : Monday September 25th

Midterm review: Friday October 27th

Final review: Friday December 8th

REFERENCE

Ishigami, Junya. Small Images. Tokyo: Inax, 2008.

Ishigami, Junya. Another Scale of Architecture. Kyoto: Seigensha Art Publishing, 2010.

Ishigami, Junya. How Small? How Vast? How Architecture Grows. 1. Aufl., Neue Ausg. ed. Ostfildern: Hatje Cantz Verlag, 2014.

GROWN | Bio-materials, Adaptation, and Architecture

A design studio traveling to Santiago, Chile and collaborating with the Fernan Federici Lab at Universidad Católica

Critic: David Benjamin

OVERVIEW

Architects have always worked with the heft and grit of materials. Despite the recent rise of data, digital technologies, and virtual environments, the tangible presence of physical objects is as relevant as ever. But in the past twenty years, there have been dramatic shifts in the environmental context and the material palette available to architects.

One opportunity within this context is to explore new possibilities for grown materials. Rather than keeping the living out of architecture—which has been an assumed goal for most of architectural history—we might start bringing the living into architecture, including growing the building blocks and building systems of our buildings and cities.

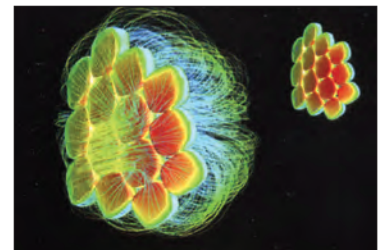
Examples of grown materials include bricks grown from bacteria, fabric grown from microbes, boards grown from mycelium, and of course, all kinds of wood. Some of these grown materials behave like non-grown materials. Others offer new types of performance. All grown materials involve a new relationship to resources, energy, and manufacturing. The framework of grown materials is not about regressing to an old version of nature. It is about inventing a new nature.

This is the primordial soup of Grown, a design studio exploring the frontier of architecture and bio-materials. In our research, we will become immersed in this new science and its possibilities, dangers, and myths. We will use new software workflows—including parametric modeling, digital simulation, genetic algorithms, and optimization—that allow non-specialists to begin designing with biology. And we will conduct hands-on lab experiments with some of the latest examples of bio-materials.

This studio will travel to Santiago, Chile and participate in an intensive bio materials workshop with the Fernan Federici Lab at Univesidad Catolica de Chile. Students will present in-progress work with materials, attend lectures about new developments in biotechnology, and gain hands-on experience with synthetic biology experiments in the lab. The studio may also visit the Atacama Desert as part of a research expedition to identify “extremophile” organisms.

Out of this complex soup, we will design new building materials, systems of global production, and definitions of sustainability, as well as the new architecture that these forces generate. We will design at multiple scales simultaneously—from DNA with a radius of about a billionth of a meter, to Earth with a circumference of about 40,000 meters—engaging 16 powers of ten in the same project.

Yet while we will employ serious tools of biology, engineering, and computer science, we will not limit our studies to technical performance. We will also develop positions about culture and ecology that are difficult to quantify. We will operate in both the distant future and the urgent present. We will study the anxieties, fictions, images, and aesthetics of this new science and technology. And over the course of



Images (top to bottom): Factory design and visualization (Benjamin Studio 4, Abraham Murrell and Edward Palka); Global production diagram (Benjamin Studio 4, Ruomeng Wang); Mycelium and 3D printed model (Benjamin Studio 5, Thomas Wegner); Sand-balsted wood (The Living); Digital simulation of acoustics; Tadpole embryo development (Ali Brivanlou Lab).

the semester, we will have an informed, critical, and open-ended discussion about biology, materials, and the future of architecture.

BIO DESIGN

There is general consensus that if the Twentieth Century was the century of physics, then the Twenty-first Century is the century of biology. Biology is already the largest field of the sciences, and it now ranks higher than physics in budgets, workforce, and major discoveries.

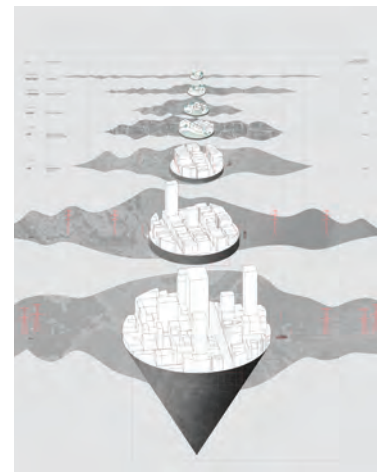
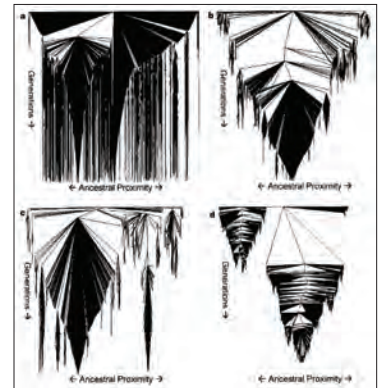
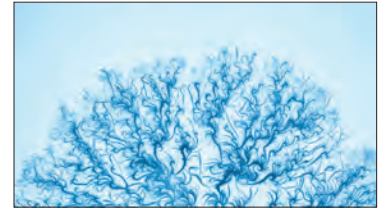
Of course, architects have been drawing on biology for hundreds of years. But this history is largely a conceptual one, drawing on the metaphors, knowledge structures, and imagery of biology, while rarely engaging the actual research protocols of biology or understanding buildings and materials as living biological systems. This conceptual focus may be in part due to the intense difficulty of creating actual living materials and constructing dynamic forms. Yet this context is changing in a fundamental way.

Biology of today is different than biology of a hundred years ago. It is now possible to grow cells on a glass chip isolated from other cells instead of in a living organism. It is now possible to cut and paste DNA and bring to life organisms that never before existed in nature, such as bioengineered yeast that excrete bioplastics. And as of just three years ago, with the demonstration of Crispr-Cas9 and gene drives, it is now possible for humans to re-design or eliminate an entire species very quickly, essentially designing evolution itself. The possibilities are inspiring, and they are sometimes terrifying, but this new biology is unequivocally here to stay.

In addition, it is now possible to apply the latest techniques of computation—such as computer vision and machine learning—to functions such as biological growth. Biology is extremely complex, but when biological functions are encapsulated in computer models, they become a more actionable part of the design ecosystem. Furthermore, the new framework of synthetic biology enables non-specialists—such as architects, artists, material scientists, and computer scientists—to design biological systems even if they are not experts in the complex molecular behavior of the biological parts.

For architects, some aspects of designing with biology may feel like an extension of familiar computation tools. But other aspects are likely to be unfamiliar. Despite recent advances and discoveries, in the near future anyone designing with biology may have to do so with only partial understanding and partial mastery of the forces and systems involved. Design with biology may require design with uncertainty.

And in this sense, design with biology may feel like the opposite of design with computation and Building Information Modeling (BIM). Design with BIM involves complete control of all of the features, relationships, datasets, and tolerances of a project. It overcomes complexity with human logic and precision. Every feature of the model is authored by architects, engineers, or contractors. But design with biology may involve designing on top of existing machines that were authored



Images (top to bottom): Community center and local grown materials (Benjamin Studio 5, Lorenzo Villaggi); Bacteria growth (Eshel Ben-Jacob); Evolutionary computation (Hod Lipson, Computational Synthesis Lab at Cornell); Global production at multiple scales (Benjamin Studio 4, Rae Zhuang); Material production and education (Benjamin Studio 4, Yanling Deng).

by natural forces, rather than designing machines from scratch. It may require managing a few known forces that will inevitably interact with many unknown forces.

This biological outlook offers an important counterpoint to the framework of efficiency that has long been implied in computational thought. The abstraction of data, economies, ecologies, and life itself—which is always latent within an algorithmic outlook on the world—lends itself to a strain of managerialism and runs the risk of neutralizing difference (as in the case of artificial intelligence’s “white guy problem”) or promoting single-minded bottom-line results (such as maximizing profit at the expense of more egalitarian and qualitative goals).

By contrast, the biological outlook of a “good solution” that has evolved in part due to random variations, asks us to leave any pretense of universalizing optimization to the side. This outlook aims for variation, diversity, and robustness of the population rather than perfection of the individual. Biology demands that we see things more multiply. It suggests that there are many versions of the good enough.

COMPUTATIONAL DESIGN

Our studio will interrogate this biological outlook, and develop a corresponding, updated version of computation and engineering. Recent advances in cloud computing, digital simulation, and data science offer new design tools for design with biology. In this studio, we will explore generative design, scripting, digital simulation, and biological algorithms.

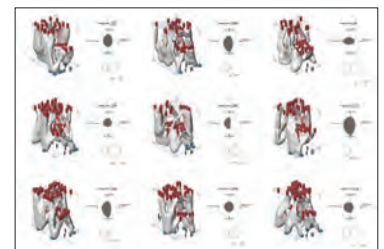
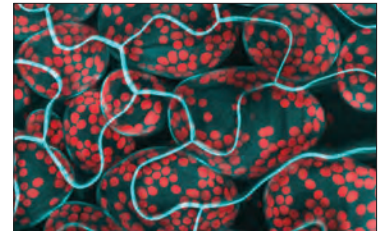
This hybrid of algorithms and the physical world allows for new design possibilities and a new outlook on nature. In this studio, we will use software to investigate data, to explore a very wide potential design space, to minimize our preconceptions, to avoid relying on old rules of thumb, and to derive unexpected high-performing results. For our purposes, computation will not be about achieving cold-blooded efficiency—but rather it will be about enhancing our creativity.

Yet while this studio will explore new frontiers of design and computing, no prior experience is necessary.

GROWING BUILDING MATERIALS

We will apply these digital and physical processes to the design of new materials, building systems, and architecture. Building materials no longer need to be static and inert. They no longer need to be produced by methods of heat, beat, and treat. Architects can begin to collaborate with natural systems rather than resist them. They can engage reciprocal flows of resources and energy rather than simply consuming resources and breaking the flow of energy.

One inspiring example is mycelium-based materials that are grown from waste. This “low-tech biotech” approach makes use of agricultural byproducts and living organisms to produce useful objects. The process starts by mixing together chopped-up corn stalks and mycelium and placing them in a mold of any shape. In five days the mixture grows into a solid object. The physical object is similar to



Images (top to bottom): Campinas, Brazil; Same; Confocal image of cell structure (Fernan Federici Lab); Production from waste (Benjamin Studio 4, Troy Lacombe); Generative design of grown structure (Benjamin Studio 5, Lorenzo Villaggi); Facotry in Campinas (Benjamin Studio 5, Casey Worrell); Apple Computer Headquarters (Foster and Partners); IBM Watson Research Center (Eero Saarinen).

Styrofoam, but it involves almost no waste, no energy required for manufacturing, and no carbon emissions. In addition, the object is completely biodegradable. Styrofoam and other petroleum-based plastics take hundreds or thousands of years to decompose. Mycelium material returns to earth in 60 days. Petroleum-based plastics are linear. Mycelium material is circular.

Other examples include bacteria that fuse sand into bricks with no heat required, microbes living in a vat that eat sugar and generate sheets of fabric-like material, and engineered bamboo that is both stronger and more flexible than natural bamboo.

In a broader sense, this approach demonstrates how living organisms can become healthy factories to grow material. Energy consumption can be reduced. Manufacturing waste can be nearly eliminated. Equipment from Industrial Revolution-era manufacturing can be retired. And new objects, buildings, and cities can be imagined.

REDEFINING GLOBAL PRODUCTION

Once building materials can be grown rather than mined, the way buildings are designed and constructed will change, and current production flows and global supply chains will be transformed.

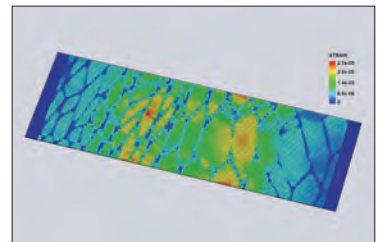
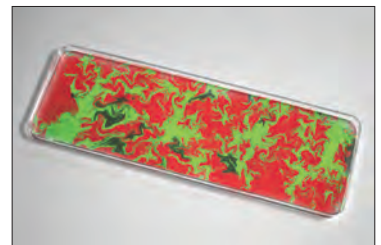
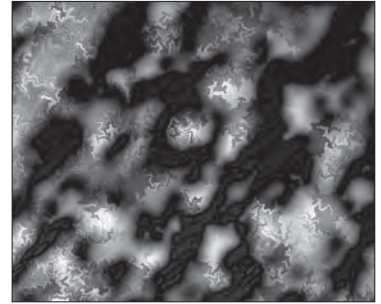
In addition to working with new building materials and new building systems, this studio will explore new cycles of global production. It will investigate the possibility of local production of building materials, similar to the movement for local production of food. It will explore how a nation might pursue material independence, in a manner similar to the pursuit of energy independence. It will explore the social and political implications of a massive transition in the way building materials are created and distributed. It will speculate about what this might mean for buildings, for cities, for developing countries, and for the trend of globalization.

TRAVEL TO SANTIAGO, CHILE

This studio will involve an intensive bio materials workshop with the Fernan Federici Lab at Univesidad Catolica de Chile. The studio will travel to Chile during the week of October 15, and students will present in-progress work with materials, attend lectures about new developments in biotechnology, and gain hands-on experience with synthetic biology experiments in the lab. The studio may also visit the Atacama Desert as part of a research expedition to identify “extremophile” organisms (such as bacteria that live in very hot and dry climates, or microorganisms that use arsenic rather than phosphorous as a scaffold for their DNA, suggesting new possibilities for grown materials and a new conception of life on earth).

COLLABORATION WITH GROWN MATERIALS MANUFACTURERS

In addition to this workshop, the studio will visit or meet online with several grown material experts, including Ecovative (a company that uses mycelium and agricultural waste to grow packaging material and boards), BioMason (a company



Images (top to bottom): Cellular patterning (Fernan Federici Lab); Bacterial cellulose (BioCouture); Bacteria-grown brick (BioMason); Bacterial patterning (Fernan Federici Lab and The Living); Same; Simulation of multi-material sheet (The Living); 3D printed model of multi-material composite sheet (The Living).

that uses bacteria and sand to grow bricks), Modern Meadow (a company that uses synthetic cells to grow leather without animals), and Material Connexion (a materials library that hosts an extensive catalog of grown and hybrid materials). While these applications may seem like science fiction, some of the giant companies known for providing the materials of the Twentieth Century are betting on their success. 3M is investing in mycelium as a materials platform as flexible as plastics. And the former chief of staff for the chief science officer at DuPont recently became chief technology officer at Modern Meadow.

GOVERNMENT INNOVATION LAB AND PILOT FACTORY IN CAMPINAS, BRAZIL

While biotechnology and computation is thriving in typical sites of innovation such as Silicon Valley, it is also growing roots in less expected locations such as interior Brazil. Due to Brazil's advanced ethanol infrastructure, its recent investment in biotechnology, and its abundant land resources, the country is poised to lead the world in clean biofuel, as well as related new manufacturing processes such as growing building materials.

Campinas, Brazil is home of the perfect biological machine for converting light and carbon dioxide into the energy source for this revolution: sugarcane. We will follow the new frontier of biology to Campinas, where several biotechnology start-ups have already established outposts. We will apply our explorations to the design of a pilot factory and technology showcase building for the Brazilian government's São Paulo Research Foundation (FAPESP). Our building will serve functional goals for new work and production processes, and it will be an icon for new technologies and their corresponding corporate and political interests.

How should this building integrate the latest clean and precise high technology of biology with the ancient and dirty low technology of agriculture? How should it balance physical and cultural production? How should it showcase the latest innovations in biological manufacturing? What should be its public image?

Over the course of the semester, we will apply all of our best biology, computing, and imagination to the design of innovative and viable building proposals.



Images (top to bottom): Physical model incorporating grown materials (Benjamin Studio 4, Tonia Chi); Mycelium Grow-It-Yourself material (Ecovative and Benjamin Studio 5); Mycelium brick (The Living); Mycelium grown (Ecovative); Wood; Mycelium with natural reinforcement (Benjamin Studio 5, Lorenzo Villaggi); Seeds grown inside mycelium material (Benjamin Studio 5, Peter Hunt).

Columbia University
Graduate School of Architecture, Planning, and Preservation
A4005/ Advanced Architecture Studio V
CIEN E4260 Urban Ecology Studio
Fall 2017
Richard Plunz, Architecture Critic
Cezar Nicolescu, Architecture Teaching Associate
Robert Elliott, Engineering Critic
Elizabeth Moskalenko, Engineering Associate

MORPHOSES NATURAE: THE HIGH LINE



South from West 30th

North from West 25th

Urban Morphoses. The biologist Edward O. Wilson has referred to cities as the "greatest of machines," which raises the interesting question of "what about urban nature." And if the common aphorism holds that cities are the "natural" habitat of humankind, then by implication "urban," "natural," and "machine" enjoy a transformative relationship. A combination of buildings, vegetation and citizens assume symbiotic morphoses. Probably no better example exists in New York of such relationships than along the High Line.

Vegetation / Building Symbiosis. Our concern will focus on understanding the symbiotic relationship between the High Line park and its neighboring building and resident context. The present vegetation on the High Line dates from the opening in 2009 of the first of three phases of development. The final phase opened in 2014, but is still in development, and all of the vegetation has acclimated to one degree or another. Parallel to this sequence has been the progression of urban building infill along its edges which

is extraordinary in its scale and intensity and unanticipated at the time of the original High Line inception. Now this urban hyper- development is impacting the High Line and most obviously, its vegetation. In certain areas, the new urban buildout is transforming the climactic context, creating problems in maintaining the planting. For example, sun and heat exposures are intensifying due to the changing building morphologies. Even changes in facade reflectivity can burn vegetation. And in certain areas, changing prevailing wind direction and intensity is also destructive of vegetation. Given that the permissible New York City building bulk zoning is encouraging substantial further large-scale building development along the High Line edges, deep understanding of the effect on vegetation is a necessity, and especially for the northern final phase, which will be most impacted.

The Design Challenge / Stealth Buildings. We are assuming that along the High Line the relationship between vegetation, building and citizens implies a symbiosis that effects the health and well-being of both. Within this relationship the more expansive variable has to do with changing adjacent volumes; and our work will focus primarily on this question of the new buildings. Fundamentally we will research how building mass and tactility effects the High Line. We will develop a lexicon of shapes and materials that hold the potential to reduce the negative impacts and enhance the positives. Our goals will include envisioning adjacent buildings that can minimize negative impacts on High Line vegetation; that can incorporate their own vegetation in empathy with HL vegetation; that maximize the context for vegetation in general. Each designer or team will produce a "stealth" building for a specific High Line site adjacency. It must address the question of impacts of buildings on High Line and vice versa.

Digital Tools. Digital tools for urban planning, environmental analysis, and parametric modelling have expanded drastically in the last generation, but coordinating their different processes remains a challenge. The objectives of this studio will require students to develop an integration of these different digital processes. *CityEngine* will be incorporated as the principal tool to correlate procedural modelling of massing and architectural articulation with environmental data and analytics. Students will work toward fluency in the transfer of environmental data between various software packages.

Studio Resources. The High Line studio is building on research begun in summer 2017 by Plunz and Moskalenko in the Earth Institute Urban Design Lab under a grant from the Landscape Architecture Foundation; in collaboration with Friends of the High Line and James Corner Field Operations. Among the initial recommendations is the necessity to focus further on the relationship between the High Line vegetation and the adjacent new building; with identification of a number of problematic impacts. This studio will continue the research, and the collaboration with Friends of the High Line and Field Operations. Hypotheses will be developed and tested incorporating scientific data and expertise to the extent available. For designers desiring expanded studio involvements with cutting-edge issues pertaining to our next generation urban development; as well as a robust design project of immediate use in advancing beyond the normative academic project, this studio experience will be a rewarding one.

Collaborations. Apart the Friends of the High Line and James Corner Field Operations, this studio will share resources and collaborate with CIEN E4260 Urban Ecology Studio in the Columbia School of Engineering and Applied Science (SEAS). It will also share resources with SDEV UN3280 Workshop in Sustainable Development taught in Columbia College. The SEAS studio connection affords the opportunity for collaboration across design disciplines in architecture and engineering, with emphasis on the relationship between urban ecology and public space. This innovative teaching forum on questions pertaining to the ecological impacts related to urban development comprises a team of graduate architecture and advanced engineering students that is tasked to work with place-based community stakeholders as clients in addressing their pressing developmental issues. Students and faculty represent both the School of Engineering and Applied Science and the Graduate School of Architecture, Planning and Preservation. The Urban Design Lab (UDL) <http://urbandesignlab.columbia.edu/> at Columbia's Earth Institute plays an important role in expediting this initiative.

Working Assumptions. Architecture students will work individually or in teams of two; and with the option of collaborating directly with engineering students. Architecture students will produce a conceptually and tectonically well-developed building scale project for a specific location adjacent to one of ten High Line "gardeners" sections. Initially engineering students will research case studies in built/natural environment symbiosis; architects will research specifics of NYC bulk zoning and build-out at the High Line. Each research component can evolve to student partnerships, ultimately combining design proposals with technical analytics, at a convincing level of detail not normally possible in a traditional architecture design studio.

Principal Resource Persons:

Nicole DeFeo, Planning & Design Manager, Friends of the High Line
Margaret Jankowsky, Director of Marketing and Business Development, James Corner Field Operations
Stuart Gaffin, Research Scientist, Center for Climate Systems Research, Columbia University
Elizabeth Moskalenko, Graduate Landscape Researcher, SEAS

Rough Timeline:

First Weeks:

- Introduction to existing conflicts between High Line and adjacent buildings.
- Examination of existing NYC bulk zoning exigencies.
- Introduction to modeling tools and their limitations.

Middle Weeks:

- Exploration of possible design responses to differing contexts along the High Line.
- Development of lexicon of mass and material responses.
- Initial testing and evaluation of differing built responses relative to context.

Last Weeks:

- Development of detailed architectural proposals for specific sites.
- Detailed evaluation of each proposal relative to High Line contextual factors.
- Preparation of summary report.

Beginning Schedule:

Wed Sept 6: Studio Lottery

Fri Sept 8: First Class: Introduction & First Exercise Handout for Architects

Mon Sept 11: Architects & Engineers Joint Class

Tue Sept 12: 10:30-12:00 (optional) Project General Discussion at High Line Offices (rain date Thursday.

Wed, Sept 13 Optional Crits

Thurs Sept 14: 2:00-5:00 Briefings at High Line and Tour (rain date Friday)

Mon Sept 18 First Exercise Review & Second Exercise Handout

Wed Sept 20 Optional Crits

Thurs, Sept 21 Crits

Mon Sept 24 Second Exercise Due & Third Exercise Handout

Wed Sept 27 Optional Crits

Thurs Sept 28 Crits

Instructor: Marc Tsurumaki

Paradoxical Efficiencies

Efficiency and Exorbitance in Architecture

Introduction

"It is obvious that the utilitarian role of an object never completely justifies its form, ... that the object always exceeds its instrumentality. Thus is it possible to discover in every object an irrational residue..."

-Caillois

Efficiency regulates architecture in a multiplicity of forms – witness net to gross ratio's, fast track construction, the aesthetics of the minimal, net zero buildings and mass pre-fabrication to name just a few. There is structural efficiency, spatial efficiency, energy efficiency, material efficiency, and so on. Efficiency is ingrained in the language of architectural discourse. Efficiency is seen as a moral imperative. Efficiency even defines production in the academic studio – how much work in how little time.

More and more, instead of less is more, we want more from less. And perhaps this is as it should be in a world increasingly defined by a sustained crisis of economic and ecological scarcity. However, it is necessary to ask whether a positivist application of efficiency – more often driven by the ruthlessness of market forces than principles of enlightened stewardship – results in an unquestioned privileging of the quantitative over the qualitative. If efficiency is the overriding imperative in a contemporary culture predicated on the bottom line – on ever faster and cheaper – then what is lost and what is gained in the exchange? Whereas the Taylorization of labor and mass production were considered unambiguous advancements at the beginning of the 20th century, they also reveal the double-edged nature of efficiency. The streamlining of work flows intended to minimize drudgery often compounded it – necessitating new forms of control and devaluing the individual worker. At the same time, the rise of industrialized production stimulated the consumption of a proliferating array of disposable goods, magnifying the depletion of resources and the generation of waste.

But what if efficiency itself was interpreted as a paradox? If efficiency entails the coupling of any maximum to any minimum, then how might a reconsideration of efficiency become conceptually generative rather than restrictive? This studio will be driven by a critical re-evaluation of notions of efficiency in architecture – recognizing that every efficiency paradoxically implies a corresponding excess, exorbitance or waste. Efficiency of movement implies a surplus of circulation, optimization of daylight might generate a superabundance of apertures, efficiency of structural footprint might create an extreme density of structural members and so forth. This coupling of efficiency to its opposite creates a fertile contradiction – an irrational residue – that can be used to hijack a narrow functionalist conception of efficiency. In an era of performance-driven optimization, we will pursue extreme, perverse, or satirical efficiencies as a means of generating new programmatic and spatial opportunities. If the value of architecture exists to the precise degree that it transcends the strictly utilitarian, then we will seek the point at which efficiency folds back on itself, to the point where it generates a productive exorbitance.

Background:

An early critique of efficiency can be found in William Jevons 'The Coal Question' from 1865, an appraisal of Britain's coal-based iron industry. Jevons contended that, contrary to intuition, an increase in technological efficiency results not in the conservation of resources but rather in their accelerated depletion: stimulating demand and increasing use. The Jevons paradox, as it is now known, can be found in a wide variety of disparate phenomenon. For example, over the course of the last 25 years the efficiency of air conditioning in the U.S. has improved by more than 30%. However, rather than reducing consumption, energy use for cooling has nearly doubled over that same time period. Today, despite ever more stringent codes we use more electricity to air condition our buildings than the sum total of all electrical use at midcentury. At a minimum, such phenomena call into question a simplistic understanding of efficiency and point to the way that economies of scarcity are often implicated within systems of overproduction and obsolescence.

At least since the emergence of modernism however, the valorization of efficiency within architecture has been virtually complete: from Mies' famous dictum to Le Corbusier's *machines for living in*, from the aesthetics of structural optimization to the streamlining of transportation flows in the multi-layered networks of contemporary cities. Principles of efficiency gradually permeated every facet of architectural production, encompassing both the application of scientific management to the intimate spaces of the home and the standardization of the American building industry in the aftermath of World War II. Emblematic of this imperative toward efficiency, the repetitive floor plate building provided a means for both accelerating construction and maximizing the financial return on limited plots of urban land. Aligning perfectly with the demands of capital, the development of the Chicago Frame and Domino system prefigured a sectional efficiency that threatened to cancel out the very potentials of section as an architectural technique, relegating the vertical elaboration of buildings to the ad nauseum repetition of generic space. Paradoxically, however, the very limitation presented by the standardized stacked section provoked a proliferation of invention, from variations in height to complexly sheared, perforated and inclined assemblies that reasserted a diversity of spatial strategies and effects. Simultaneously accepting and diverting the logics of the stack, these techniques demonstrate the potentials of an imaginative engagement with efficiency.

Today, we see a resurgence in ideas of efficiency as new forms of computation promise the optimization of performance as a driver of architectural form. Mass customization and bespoke manufacturing processes seek to further speed and individualize production – increasing temporal and material economies. Meanwhile, the focus on sustainability reasserts the ethical necessity of conserving resources and minimizing energy consumption – spawning an entire architectural sub-industry predicated on new standards of environmental efficiency. At the same time, the bulk of building is subject to market driven formulas– generating a taxonomy of building types – from micro-hotels to big box stores, from automated parking structures to just-in-time distribution centers – typically outside of the purview of architects. This studio will examine the multiple forms that efficiency takes in contemporary architecture, analyzing its role in current practices in order to gen-

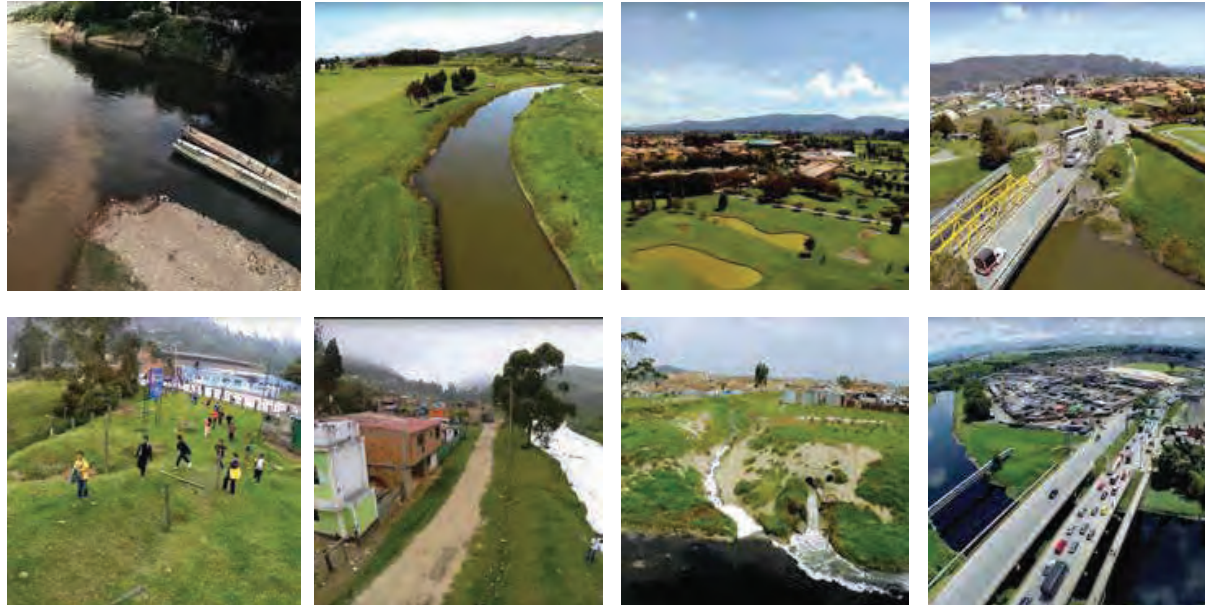
erate alternative tactics and speculations.

Process:

An example of the unpredictable consequences of efficiency can be found in Invernizzi's Villa Girasole, built just outside of Verona in 1935. Here a simple imperative – to maximize exposure to daylight – produces an intricate series of decisions resulting in an exorbitant though not illogical whole. In order to maintain optimal solar orientation during the course of the day, the house rotates on a massive landscape turntable supported by fifteen train wheels driven by a series of low horsepower motors. This mechanical contrivance triggers a series of repurcussive effects: the house is split in two – a spinning machine-like top over a solid masonry base- connected by a revolving circular stair and elevator core which combines vertical ascent and rotational motion. In the rotating portion of the house, domestic features are distorted according to the demands of mobility – plumbing is connected to tanks slung from the underbelly of the house, while furniture and cabinetry are absorbed into the walls. Conventional distinctions between front, back and side yards no longer apply as the house continually changes its relation to the surrounding landscape. Doors may open onto different locations at different times of day and the sun can rise and fall in a single window, freezing shadows and warping the perception of time. Eminently logical given the initial premise, Villa Girasole demonstrates the pursuit of rational trajectories extrapolated to the point that they render a precipitate of unanticipated architectural effects.

While taking seriously the conservation of energetic and material resources that underwrite impulses toward efficiency, we will deploy a paradoxical understanding of efficiency to generate precise architectural proposals. This process will be governed by three interrelated constraints: 1.) the isolation of a specific category of efficiency, 2.) the selection of a programmatic type and 3.) the limits of a physical site located within New York City. In these speculations, efficiency will be shadowed by its opposite in the form of the excessive, the residual, and the wasteful. Rather than seeking the elimination of these negative terms, we will leverage them to challenge dominant narratives of optimization, catalyzing unforeseen couplings of form and program, function and inhabitation; opening up new, imaginative potentials within the rationalized spaces of contemporary systems.

COLUMBIA GSAPP



Advanced Architecture Studio + Urban Planning Seminar

PLAYING WITH ANOMALIES

CO-PRODUCING NEW IMAGINARIES: BOGOTA RIVER

Giancarlo Mazzanti

Carlos Medellín

Marcela Tovar (UP Seminar)

FALL 2017

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TO “PRODUCE”

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FIRST EXERCISE: 4 WEEKS

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THE DESIGN AS A PROCESS RATHER THAN AS A RESULT

This is an advanced architecture studio + a joint seminar between Architecture and Urban Planning programs. It seeks to identify existing synergies and complementary methodological approaches between these disciplines in an applied problem-solving scenario. Through an interactive exchange between planning and architecture's students, this class aims to provide methodological tools to inform Design processes using the case-study of Bogotá river (Bogotá's river-Colombia).

We will explore research methodologies including: ethnographic techniques, asset based-methodology and participatory games/toys, in addition to cognitive mapping and learning alliances. These will allow us to understand different forms of knowledge, identities and social practices involved in place-making processes around the Bogotá river enabling a more ludic and diverse participation in urban interventions.

The studio and seminar final results aim to provide a useful understanding of architecture and planning challenges by using design as a research process. The objective is as well to provide feasible architectures and recommendations as to how intervene on the territory in a more comprehensive and holistic way.

This Studio will include a week field trip to Bogotá-Colombia. Our academic partners in Colombia will be Universidad de Los Andes (Architecture and Design school) where they are working the same topic and are planed to complement the research by joining in the fieldtrip.

HOW CAN ARCHITECTURE, URBAN DESIGN AND URBAN PLANNING BE DISCIPLINES THAT DO NOT STRENGTHEN THE URBAN INEQUITY AND SOCIAL DISCREPANCIES. BUT IN THE CONTRARY, BE FIELDS THAT BY WORKING TOGETHER CAN BE ABLE TO DRAW NEW IMAGINARIES AND EMPOWER CITIZENS TO EMBRACE MORE LOCAL-BASED AND SUSTAINABLE URBAN PANORAMAS?

1. THE STUDIO:

ARCHITECTURE THAT ACTS: A GAME FOR SOCIAL ARCHITECTURE



Mon Oncle: Jacques Tati, 1958

1.1.DESRIPTION:

The core of this studio is to challenge the status quo of the architect and architecture as creative entities by questioning their roles in today's society. Going beyond recognizing the designer as a technician, we want to explore his/her value as an agent of change and transformation. It is proposed to study concepts such as **THE ACT OF PLAY**, **THE LUDIC AND THE ANOMALY** as opportunities for understanding new ways of inhabiting and creating space. For this purpose it is essential to explore spaces and architectural programs that are abnormal, divergent, heterotypic and opposed to traditional understandings, exposing in this way, new mechanisms to perceive, relate and create architecture. The goal is to establish discourses aiming – fundamentally – to develop new events and intrapersonal relations in space.

This research overpasses the classic functionalist concept of modern ideals -based on the concern of producing efficient architecture, getting closer to the experience of being spatially risky, dynamic and diverse.

We define toys as mechanisms capable of triggering new behaviors, promote innovation and challenge knowledge, their value does not reside on their physical and material properties but on the effects they produce. We seek to explore architectures that operate as toys, whose main purpose is to transform the social realm by generating new performances and events in the city.

This research studio is a meeting place where playing, ludic and anomaly encounter as designing processes. It's an invitation to expand the boundaries of studying architecture moving away from good practices on construction, function or aesthetic, to focus on methodologies capable of exploring new forms of use and new types of spaces.

The studio's goal is to set up an exchange platform where students can learn to anticipate and predefine social behaviors within the public realm and through public buildings. By exploring buildings as communal and public entities deeply attached to its user's daily life, we will be able to expand the value of design beyond its material nature.

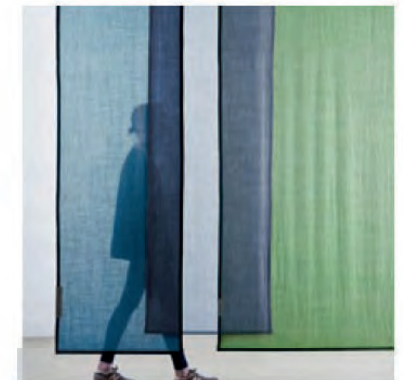
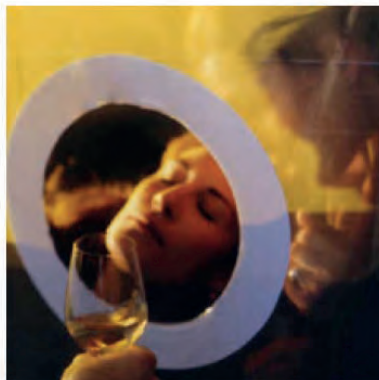
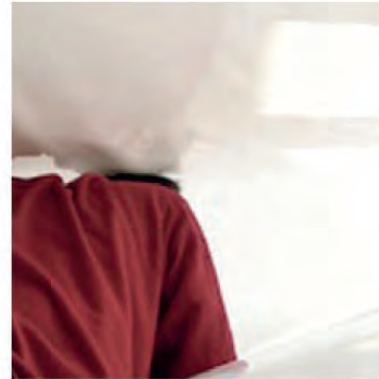
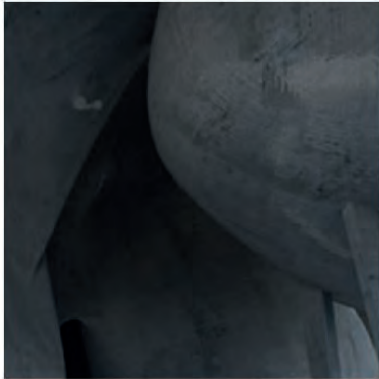
We will study how architecture, when placed in specific urban contexts, is able to improve life quality, empower people and help them reach their dreams, ideal and desires. Under those conditions architecture becomes a living lab where social gatherings, festivities, friskiness and the unexpected can be explored and reclaims the rare and the ludic as catalyst of social interactions. We aim to distance ourselves from modernity and its obsession with functionalism and productivity to investigate an architecture capable to engage with the public.



El Equipo Mazzanti: Milano Triennale - 2016
THE WALL: From static to elastic

**AS WELL AS A TOY, ARCHITECTURE AND A DESIGN
GREAT VALUES ARE THE ONES THAT GO BEYOND THEIR PHYSICAL
NATURE – AS OBJECTS – AND AFFECT THE SOCIAL REALM.**

IN THIS TERMS ARCHITECTURE IS SEEN AS A LIVING LAB WHERE SOCIAL GATHERING, FESTIVITIES, FRISKINESS AND THE UNEXPECTED CAN BE EXPLORED. DIFFERENT SCOPES WILL BE SET SO TO UNDERSTAND THIS, FROM INDUSTRIAL ARCHITECTURE SHAPED BY ITS PRODUCTIVE ACTIVITY UP TO TODAY'S ARCHITECTURE RECLAIMING THE RARE AND LUDIC AS A CATALYST OF SOCIAL INTERACTIONS.





The built face of Bogotá has been strongly defined by different aspects, such as:

- Its significant geographical determinants (that draw a unique landscape but also have become susceptible to exploitation and carelessness),
- Its social and class gaps coming from colonial times that have established a characteristic social, economical and political discontinuity and segregation,
- A context of recent historically changing periods that attracted with them different architectural and urbanization or land use styles
- An armed conflict that caused a great internal migration that transformed its population into a multicultural society representative of all regions of the country, but that also generated an uncontrolled expansion still in process.

Today, with more than 9 million inhabitants and being one of the most unequal cities in Latin America, Bogotá is in emergency and has one of the lowest standards in the region in terms of quality of life, sustainable environment and access to public spaces. This situation makes that the social, built and natural landscape is suffering, is why it's found a discontinuous and unstructured city in urgency for a permanent and transversal intervention.

In addressing the urban imaginary of Bogotá, one recognizes that the city has two dynamics: a tangible one, made up of physical elements (roads, parks, equipment, buildings), and another intangible, made up of those aspects directly related to human behavior (customs, Culture, way of living the city); These two dynamics are essential for the city, both act symbiotically.

It becomes crucial to find an apparatus of dialogue where the public and private sector and the government find points of encounter to empower these millions of citizens, so that themselves can build stronger social fabrics that are able to re-touch the city every day, while expressing their needs and aspirations.

It is in this co-creation of the public that finely there could be a method to give Bogotá a new structure and physical unity that reconstructs its collective imagination and redefines it from to a closer, more active, humanized, sustainable and from certain point of view more Bogotano.

1.2. KEY-CONCEPTS:

LEARNING: Curiosity towards the unknown is at the core of the learning experience. Education is bounded to the risk involved in exploring and discovering.

TO PLAY: It is defined by systems of operations and rules. But as a social phenomenon, it paradoxically has the ability to reshape cityscapes and to transform the self-regulated human relations. Therefore, the real value of the act of playing is found in its capacity to alter the social contracts, as it becomes an educational tool that has the power to promote change.

COUNTER-SPACE AND ANOMALIES: They are spaces that deny the traditional ideas of efficacy and usefulness; therefore allow different human relations closer to ludic and playful actions related with the act of playing. Reality in places like these can be seen as an adjacent one. These places are free and open to multiplicity, diversity and are fundamentally against the idea of a unique space defined by control, surveillance and highly efficiency.

ARCHITECTURE IS ACTION: This studio focuses on what results from the architecture, what it produces. Actions, happenings and relations are what the studio wants to induce in the proposed architecture. What results is an architecture that provokes various behaviors and promotes new uses and shapes.

**ARCHITECTURE'S VALUE LIES IN
WHAT IT PRODUCES NOT ONLY IN
ITS BUILT NATURE**

**IN ITS ABILITY TO PERFORM RATHER
THAN ITS IMAGE.**



1.3. ACTIONS TO WORK WITH: TO “OPERATE”

The studio aims to reflect upon and critically analyze certain phenomena associated with the practice of architecture and urbanism in emerging and conflictive urban contexts; in particular the role of the architect and urban designer nowadays and their potential to transform the material world through the design of processes that construct collective spaces and their public meaning.

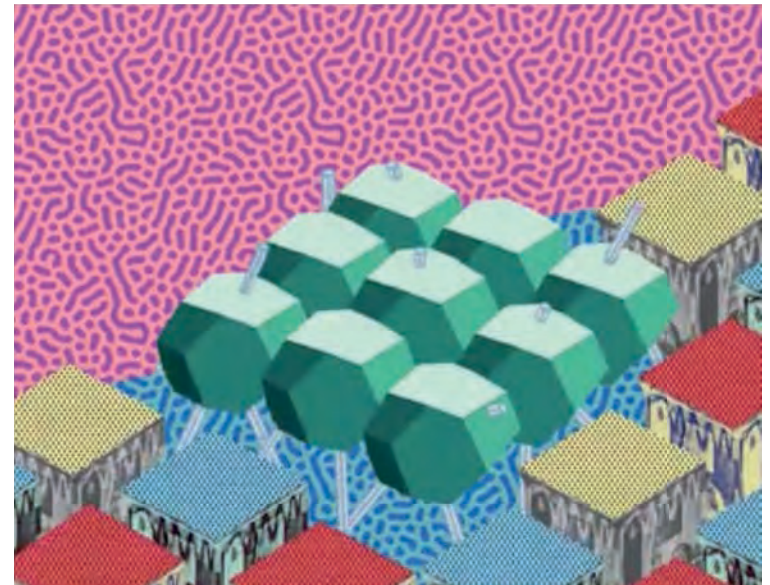
This reflection is framed by a concrete practice that aims to push the disciplinary boundaries by studying actions and strategies capable of creating an adaptive, open, unstable and always shifting architecture that responds to the global conditions of fragility and uncertainty. The studio explores forms of material and spatial organization by studying concepts like repetition, indeterminacy, incom-

plete, anomaly, instability, contradiction, strategies and protocols of use. It also investigates the value of systems of organization that are open, intelligent able to grow and adapt with time.

In this manner architecture becomes a participatory strategy rather than a finished building authored by a single person. It is an exercise that allows the design of a dynamic, participatory method and configuration, not merely representative ones, based on the idea of developing an open architecture positively disposed to change.

The goal of the studio is to discover and familiarize students with different manners of organizing materials such as: pieces,

modules, patterns, mobile and shifting elements, protocols or actions of use and appropriation that will allow us to intelligently design systems with their own rules and pacts. We will study the value of these open and adaptive structures and their potential for developing configurations that closely mirror botanical, animal and human organizational forms. We will look at the way they function and their cultural relations on the basis of what we call formal intelligence; in this way we can define patterns of organization, structures of order, and dynamic active processes in the material organizations to be developed.



INSIDE THE IDEA OF “OPERATE” WE WILL EXPLORE:

•SPATIAL AND FORMAL ANOMALY: By its rupturing condition and the way in which it induces unpredictable and unimaginable behaviors, space is transformed into an unstable mechanism of improvisation by breaking routines, creating new behaviors and affecting each user.

•EMPTY SPACE WITHOUT A SPECIFIC USE: is defined as the place for the unpredictable, open to appropriation and change.

•MATERIAL INTERCHANGEABILITY (MOVABLE DEVICES): encourages the choices to change use or conditions, multiplying the actions and human relations; the space is defined by groups of users.

•UNFINISHED SPACE: it allows the user to be the one that finishes or transforms it; is an open structure that can be adapted through time.

•UNSTABLE SPACE: It allows change and adaptation, what was initially provided can be changed, the coming generations can adapt it to their needs and changes.



diller scofidio + renfro: Blur Building
Exposition Pavillion: Swiss expo, 2002

These strategies can be adapted to a diverse range of situations, whether these be topographical, urban or programmatic, they will facilitate the design of buildings with the potential to grow, change and interconnect according to particular circumstances, as well as procedures and configurations that are open to change, understood more in terms of a process rather than permanence.

We will ask ourselves how projects can behave as an instrument that produces spatial, social and environmental exchanges –a practice capable of operating in and between the world of animate and inanimate objects to formulate a new natural and social contract.

We will explore how new behaviors and relations can be shaped by means of this architecture. And how architecture can promote dialects and new ways of learning as a base to establish new ways of relating.

This instrumentality bets to find a middle point in-between projects and today's complexity. We will define settings that stimulate or facilitate new, different and contradictory activities at the same time and space. The resulting architecture should multiply and intensify the existing complexity and contradiction.

TO “PRODUCE”

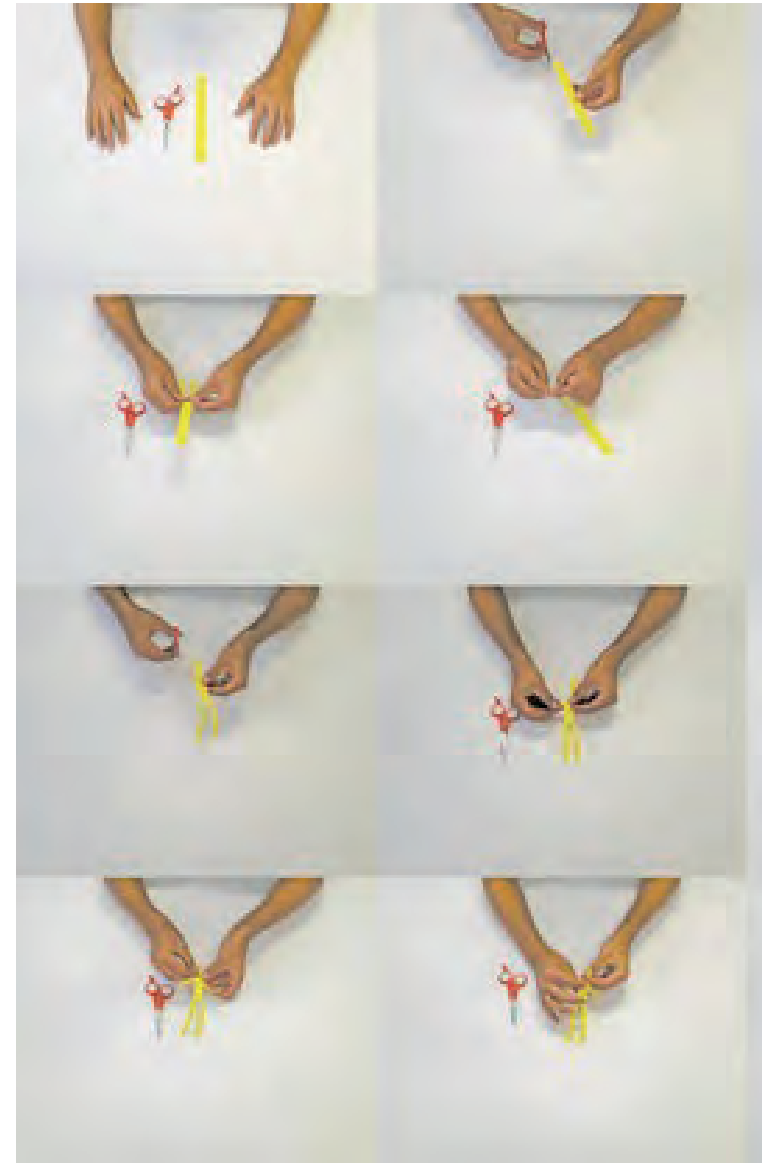
We shall attempt to anticipate and pre-define actions and urban social behaviors generated through architecture, urban design and landscapes. We will seek to test the thesis according to which architecture does not have a value by itself but as it is capable of generating or encouraging human or non-human actions and behaviors, and according to what it can stimulate and produce among its users within the specific societies they inhabit.

From the urban realm we will question and challenge the boundary between city form and urban policies; that is to say, we aim to design both the processes as political strategies and social decisions, along with the forms, materials and types of space in a holistic way, thereby guaranteeing that policies and spaces for social infrastructure can be produced simultaneously. From a theoretical as well as a practical perspective such a focus leads to the affirmation that the means of achieving this objective is the project and that this must be based on performative capacities in terms of material and action; moreover, in representative terms it must be a point of social reference.

We will look for architectural programs that are contradictory in nature that set together repelling dynamics, therefore letting new community behaviors, relations and events burgeon, empowering the dialogue, the learning and the leisure.

The idea is to build anomalous programs where we mix contradictory uses or situations where these infiltrations allow multiplying and expanding relations and events in a building. This approach presupposes the introduction of an experimental foreign program that is not the usual one for the type of building, so to produce new types of relations and behaviors in the users.

The functional program is based on the idea of efficiency and productive utility, the event can be based on anomalous conditions that allows other behaviors such as the play and the ludic, the program is in an element of control and the event is one of freedom that invites the unexpected.



“ THE FUTURE OF ARCHITECTURE IS IN THE CONSTRUCTION OF EVENTS”

BERNARD TSCHUMI.

We would try to criticize the hygienist concept of modern architecture that only serves the production and the efficiency as it happens in a factory or at the modern office, these go against the needs of whom really has to use or live in it as a homo Ludens rather than as a homo Faber. The question is how to introduce other options such as the play and the anomaly among what we call function that allow to overlap and open the relations between the productive inhabitants and their ludic condition.

Questions as this are the ones that we expect: How can an academic space can be a teaching environment rather than a teaching tool?

What is the real value of a scholar environment? How can it promote experiencing and learning activities closer to the learning process of daily life? That allows to question the idea that the function works only as a system based on efficiency, meanwhile this idea of function can be understood in other realms through the lens of the game and the ludic; adding other views and ways of thinking spaces and real events. In this process of thinking, the classroom space is not only the important one but also is the empty space and what happens in it.



2. THE CHALLENGING SCENARIO: BOGOTA RIVER.

3,300 meters above sea level in the town of Villapinzón, in the Gacheneque Paramo, it is preserved a magnificent treasure; the crystalline waters that lead to the Bogota River.

The most dominant vegetation that surrounds the river source is composed of enchilles, mosses and frailejones, a beautiful but very fragile ecosystem due to its closeness to regions of agricultural development that modify the use of the soil and affect the availability of water. The Potato crops change the balance of soil saturating it with fertilizers and pesticides.

Industrial waters generated by the tanneries of the area are poured into Villapinzón with high contents of organic matter and heavy metals. The system of water regulation that integrates the reservoirs Sisga, Tominé and Neusa produces a large scale reduction of the pollutants that the river carries until they reach the most populated areas of La Sabana, Waters that have not been adequately treated are used in irrigation districts to develop agricultural activities that are located in the region of the Bogotá River round.

The river bed has been altered to build residential complexes, modifying the river's hydraulic capacity and increasing the risk of flooding. As the river approaches the Colombian capital, the wastewater spills increase considerably, the greater pressure on the river occurs when arriving at Bogota where high concentrations of organic matter generate a colorimetric change that leads to the deep black color.

Due to the dumping of solid waste and untreated wastewater the biological, physical and chemical characteristics are modified to the extreme of generating an anoxic environment with high microbial load that is transformed when generates methane gas.

Works of great impact have been made along the river to give a solution to the consequences of poor territorial planning, the excavations of the quarries increase the concentrations of suspended solids and sediments that the river transports which when arriving at the floodgates of Alicachin, is partly pumped to the Muña reservoir.

An ecosystem transformed entirely, where vulnerable communities are constantly exposed to environmental pollution,

The river's carrying capacity is exceeded, it is a slow flowing dead river .

THE CHALLENGE:

In the last decades, the urban limit has been a central theme in the debates about the uncontrolled growth of the cities. When studying the peripheries of the Latin-American cities, it is evident how the changes in the occupation and the understanding of the territory, are dependent on the trends of the economic development.

Rio Bogotá is the natural boundary in the west of the city, has a large concentration of dense urban areas, mixed with intensive and extensive agricultural activity, recreational spaces and many industrial zones. The distribution of population over this water edge has been developed more as a result of an organic evolution of the location of settlements, business and industry rather than as a result of a logical distribution or a careful planning of land uses and urban services.

The rapid urban development since 1950 has resulted in the deterioration of water quality, channeling zones, destruction of the system's wetlands and the growth of low-income neighborhoods along flood risk areas.

This river basin is not only one of the most diversified economic structures in the country, closely linked to the use of its natural resources as well as the development of a vigorous agricultural, mining and industrial transformation process with a special growth of flower cultivation and a vocation of the cattle exploitation and dairy cattle breeding. It is also a summary of the meeting dynamics of the urban border with diverse and unstable realities in its route. It is a system of relations between the expansion of the city, agriculture and its progress towards the rural moorlands.

Despite being (I) the home of a large part of the population of the city and having (II) spatial qualities to make it a place capable to construct relationships of natural continuity, the river is not embraced as a structural element in the organization of the regional and urban plots of the city.

What really qualifies this spatial and environmental context within the collective imagination of its citizens is the series of conflicts between management, space utilization, informal socioeconomic activities and the depression of the water resource (both in quality and quantity). This situation affects the River's inhabitants on a daily basis by making it a place of segregation: On the physical-urban level, but also in the memory and collective imaginaries of the people in Bogotá.





Traditional Street Market



Rural-urban limit of Bogotá

WE WILL WORK WITH THE COMMUNITY OF A SPECIFIC NEIGHBORHOOD.

“LISBOA”

A COMPLEX AND PROBLEMATIC CONTEXT FILLED WITH OPPORTUNITIES SUCH AS:

- The Bogotá River as an agglutinating point of public and private interests and actors, as it is perhaps, the most important natural structuring element within the current debates of the development of the city.
- Es límite occidental de la ciudad y tiene la posibilidad de convertirse en el articulador de la dinámica urbana y rurales
- The frame of an ongoing and ambitious urban MEGAprouct, which is looking to go beyond a rigid infrastructural conception, to become an opportunity for encountering places for tolerance and diversity.
- An established community that seeks to visualize their ideas about the river from a local knowledge perspective and from the recognition of their collective desires, needs and abilities.



THE REAL CHALLENGE IS TO BE ABLE TO UNDERSTAND PEOPLE'S DESIRES AND WILLS A LUDIC APPROACH, AS A METHOD TO UNBALANCE THE INERTIA OF THE LOCAL DEVELOPMENT, AND AT THE SAME TIME, TO CREATE A HETEROGENEOUS NARRATIVE FOR THE CITY THAT CAN WORK AS A COMMON ELEMENT TO STRUCTURE THE FUTURE OF BOGOTÁ'S URBAN FABRIC

3. THE PROJECT:

CO-PRODUCING NEW IMAGINARIES: BOGOTA RIVER

“Among the parties involved in any art project, the exchange of services and objects is evident. Yet, a true intermediation also involves an exchange of ideas and a structure of support, always from the experimental, always from the laboratory. To me, art can only take place if backed by a structure (institutions, media i.e.)—one that facilitates the creation of meeting points and environments of dialogue in both ways. There are always imbalances, and we work to find alternative ways of doing things that respond to different levels of awareness regarding the different levels of balance.”

RADICAL LEARNING, Nicolás Paris.



3.2. OBJECTIVES:

3.1. METHODOLOGY:

WE ARE LOOKING TO PRODUCE MORE THAN JUST A WELL-DEFINED BUILDING; WE ALSO WANT TO GENERATE KNOWLEDGE AND OBSERVATIONS THROUGH IT.

The studio aims to achieve not only projects that reach a level of advanced technical and architectural development, but alongside it wants to extend two more components:

- An analytical component that wants to give a solid conceptual structure to the project, based on understanding the proposed strategy.
- And a theoretical component that emphasizes the conceptual background of the projects, and support the abstract and formal positions that each student reaches into their proposals.

THE STUDIO IS ORGANIZED IN 2 SESSIONS PER WEEK AND THE SEMINAR WILL BE GIVEN ONCE A WEEK - ALONG 15 WEEKS. SESSIONS ARE DIVIDED INTO:

- Workshops where the designs are going to be developed.
- Lectures given by guest and teachers nourishing the projects with knowledge, learning concepts, ideas and relevant examples.

- Learn to read the city from a critical point of view by recognizing the variety of actors, forces and agendas involved in the production of urban space, both from a local perspective and a global one.

- Develop a clear position within the public sphere where architecture can articulate both the city's needs and the individual wishes—a position that strengthens urban appropriation and increases the understanding of communal and individual civic life.

- Understand the main problems that a contemporary Latin-American city faces by analyzing the socio-political relations at stake and the effects these have on the everyday life of citizens.

- Rethink the connection between concepts such as play, ludic and anomaly with the role of public infrastructure and communal spaces in the construction of today's world.

- To explore the design of architectural programs in conflict by facing dynamics, which usually repel or oppose, leading architecture to be a space that can propitiate new human relation. To examine the communal space as an empowering environment that promotes dialogue and learning, not only among the users of the academia, but also between the neighbors by experiencing this architecture.

3.3. TIMELINE

Space co-production:

Through understanding the game as a common language, students will have to design toys to facilitate interviews with government and private institutions, dialogues with community actors, conversations with experts and group discussions.

We seek to produce a diagnosis that identifies the main opportunities; problems and needs facing the study sector and thus establish those fundamental issues for their socio-economic and environmental development.

Urban Strategies of improvement:

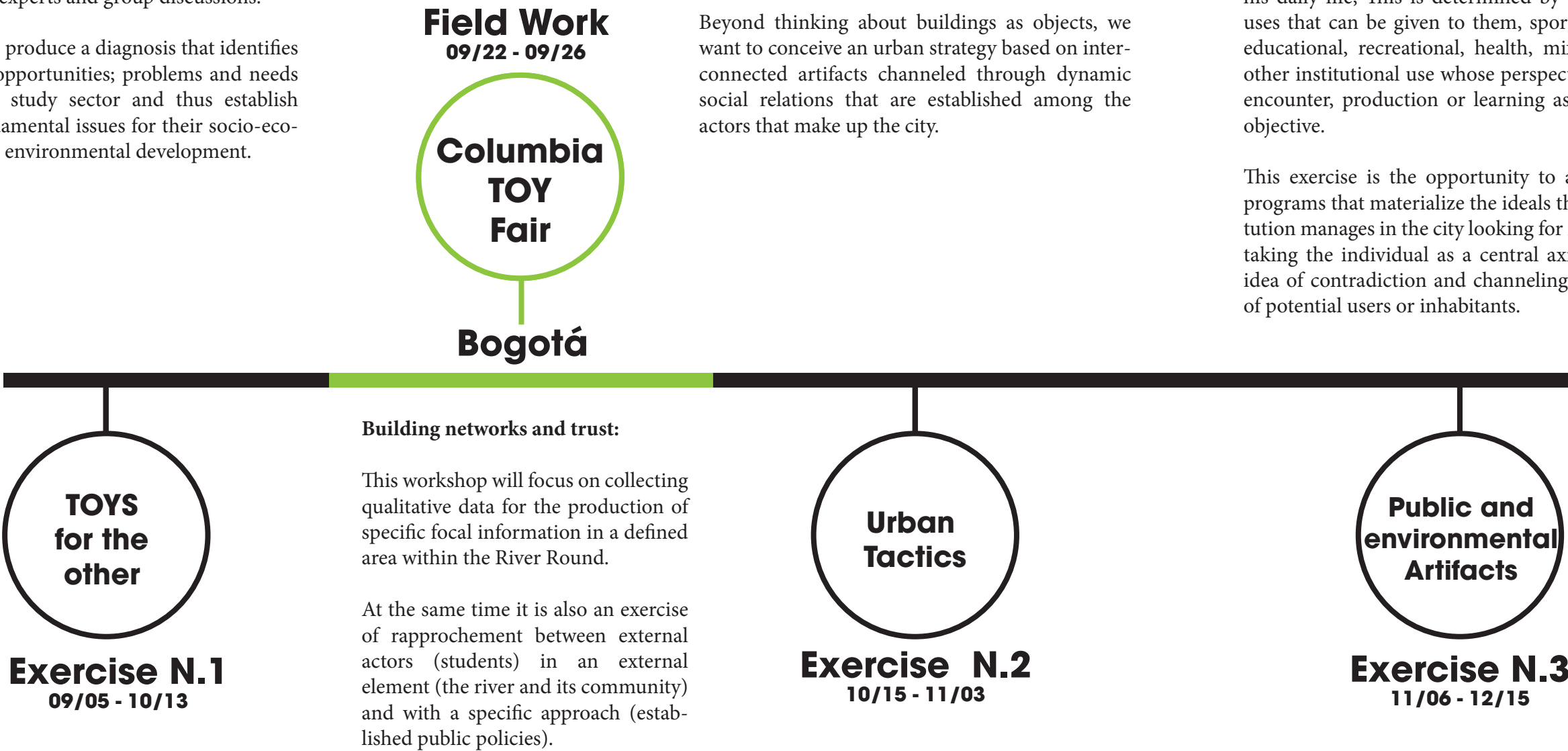
The specific tactical projects that we seek to develop must address issues of debate in the global urban environment: post-conflict, local economic development, preservation, mobility, inequity and climate change.

Beyond thinking about buildings as objects, we want to conceive an urban strategy based on interconnected artifacts channeled through dynamic social relations that are established among the actors that make up the city.

Architecture as Artifacts:

The aim is to design public artifacts as a more faceable strategy to generate impact and transformation. We will produce architectural interventions that will be closer related to people, and that can have the capacity to affect the individual in his daily life; This is determined by the various uses that can be given to them, sports, cultural, educational, recreational, health, mixed or any other institutional use whose perspective implies encounter, production or learning as a primary objective.

This exercise is the opportunity to address the programs that materialize the ideals that an institution manages in the city looking for innovation, taking the individual as a central axis from the idea of contradiction and channeling the wishes of potential users or inhabitants.



THE PROJECT CONSISTS OF 3 EXERCISES:

The first one is divided into 2 phases (NYC and Bogotá) and challenges students to develop a tool able to collect useful data by interacting with Bogotá and its citizens. The outcome of this phase is both a developed prototype and an analysis that will work as the basis for the next exercise: 1 submittal.

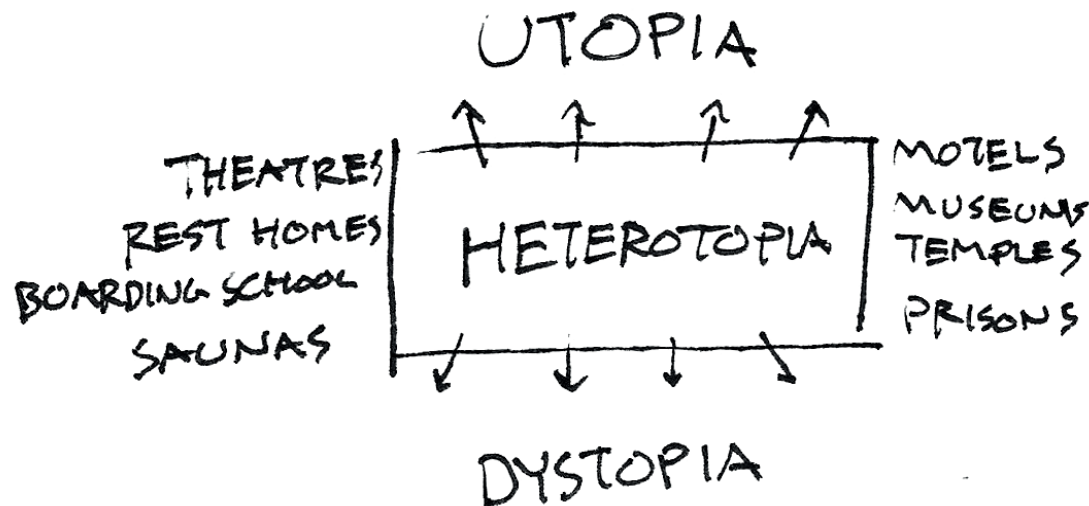


In the second and third exercises students will develop a public Artifact that serves the entire city. The exercise is divided in 4 phases and, accordingly there are 4 submittals and 1 final submittal that will evaluate the overall process.



“Heterotopias are usually transition places, an exchanging space between utopia and dystopia. Foucault talks about a heterotypic crisis as an instance or space of exchange.”

OF OTHER SPACES, Michael Foucault



OTHER SPACES, Chad F.

3.4. HETEROTOPIAS, THE CONCEPT:

The counter-spaces or heterotopias are relations that have grown and are expressed as shapers of the urban context where they take place. The nature of heterotopias is to affect the urban life by promoting its capacity to live in isolation, crisis, deviation and transformation in a constant mixture of concepts as closeness and openness or illusions and realities.

In this context the heterotopia becomes an effective institution, given that it is a scenario that carries out a gradual, but profound change in and from the individual. Therefore the counter – spaces are capable of structuring some parallel ethical-political dynamics. Paradoxically this fact may be negative for some moral or legal codes, which at the same time are responsible for creating the urban realities unfavorable to “the others”. This situation detonates the creation of such heterotypical spaces. In a society there are some relationships that are needed from the individual to conquer the material realm so to produce “spaces for others” and to fulfill their very survival.

However, if we understand that part of the crisis that takes place in Latin American cities is based on the individuals’ distrust on the possibility to satisfy their own desires and needs.



THE PROBLEM IS THAT THE INDIVIDUAL'S DESIRE IS REDUCED TO THE POTENTIAL FOR ITS REALIZATION. THEREFORE IF THIS LONGING IS NOT MATERIALIZED, THE INDIVIDUAL LOSES THE CAPACITY TO UNDERSTAND ITSELF AS PART OF THE PUBLIC REALM, FACT THAT IS CRUCIAL TO REACH A CITIZEN STATUS.

There is an evident need to shape and define citizens' dreams, to be able to achieve a greater impact in the perception created about the city and the individual itself.

WHAT WOULD HAPPEN IF THE HETEROTOPIA BECOMES IN "A NEW INSTITUTION", A DIALECTIC TOOL THAT RELATES WITH THE URBAN POLICY SYSTEMS TO EMPOWER THEM. MAKE THEM GROW AND MAKE THEM INCLUSIVE AND DEMOCRATIC?

COULD THIS BE AN EFFECTIVE TACTIC THAT HELPS TO CONQUER ECONOMICAL DEVELOPMENT AND SOCIAL JUSTICE FOR THE CITIZEN AND ITS COMMUNITY?

If we recognize the city as a catalyst of complex collective and cultural dynamics grounded in social practices such as physical exchanges, recognition of standards, networking, collective creation of memory, symbolism and negotiations of shared sense or another number of experiences, we could easily visualize the impact that the every day experiences has over the urban realm. So these practices should be recognized as elements that build space. The possibility here is that by acknowledging the individuals and their daily routines, we could shorten the social distance from the dreams of the citizens.

We want to find successful meeting places in the city, may they be real or imagined or hidden behind common sites that are usually reflecting different interactions but that somehow can actually be able to accommodate different users within the city. They could be the sites where diverse range of social happenings – from sex to social gathering – can take place. Examples of these sites are bazaars, saunas, shopping malls, jails, hospital, clandestine alleys, striptease clubs, gay bars, pop up stores, theatres; these are places where its users feel that they belong to a community and where at the end they can express themselves easily and safely.

WE WILL ASK OURSELVES HOW CAN WE CREATE PROJECTS THAT:

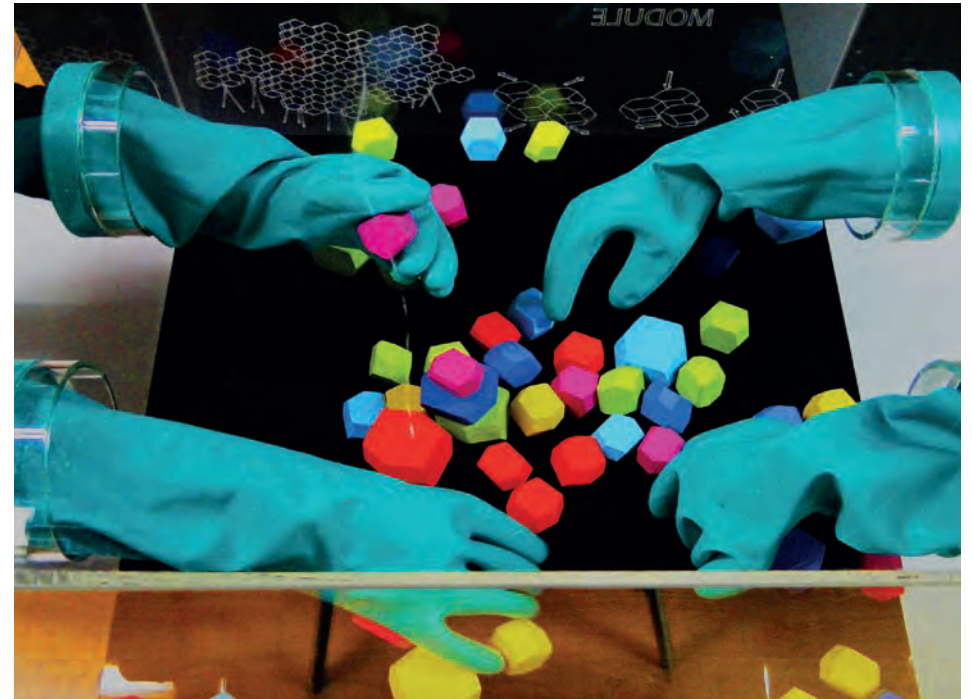
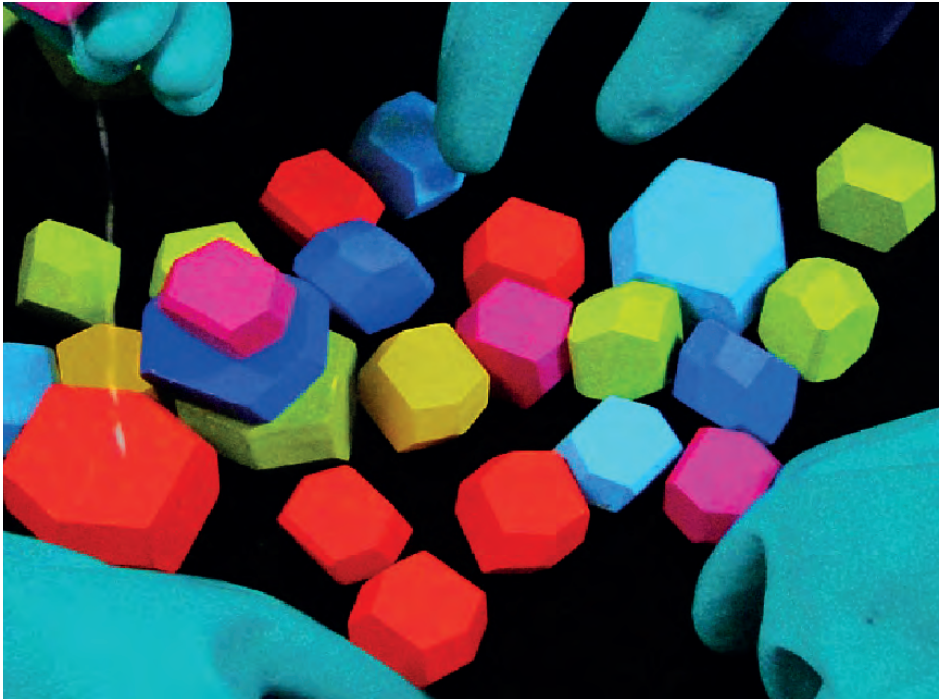
We believe that from those heterotopic places, often dropped to the side or surrounded by a mystic aura, fetishism or misunderstanding, we can obtain tactics that have the ability to keep alive the desire and anxiety of those who are seeking to escape and take a break from the social pressure. This capacity can be used to trigger architectural designs that impact in the public and communal level. It is important to think about redefining the public, and take it to another level where its elements let diversify its dynamics and thus structure a logic that embodies the ideal of citizenship the built landscape.

We look for open spaces that welcome desires among daily actions, but that when overlapped the outcome express the variety of its users and new behavioral rules. The main purpose is to build social transitions and to push to the limit the activity or architectural program related to the traditional public building that we know.

- *Generate open, unfinished, changing and adaptable structures.*
- *Recognize the wishes and abilities of users and their contexts.*
- *Multiply the uses and times of the buildings.*
- *Work with the collective knowledge or collective intelligences of the place.*
- *Promote the dialogue and learning.*
- *Maintain and multiply the contradictions of use and relationships in the places or build new relationships.*
- *Conducive places based on protocols for use and citizen participation.*
- *Promote the exchange of knowledge.*
- *Promote the emergence of new economic structures of production.*
- *Study and redefine them values of the Commons in today's life and its relationship between the public and the private.*

FIRST EXERCISE: 4 WEEKS

THE OTHER'S TOYS:



El Equipo Mazzanti: WE PLAY THEY PLAY EXHIBITION,
Pompidou - Paris

In this context heterotopias are justified because of their deliberate and innovative purpose that confers them new particular and dynamic conditions for social inclusion, trust and safety. They are a way to get to know and support the reinstitution of the citizen as a public institution. It empowers the ability to enjoy the urban goods and qualify the urban scenarios thinking on the diversity and the citizen's dreams.

This first exercise proposes to develop a mechanism to learn about Bogotá and its inhabitants, but that uses the stranger or foreigner as an active catalyst.

Students will design an artifact that allows the exchange of information, knowledge, products, services, objects or any other option that enables the students to meet the individual or collective realities of Bogotá; but that at the same time establishes a relation between the student and the locals. The proposed item should be, by itself, a medium to promote encounter and dialogue. The cultural and language differences that will probably exist between actors must be taken into account (students and Barranquilleros).

THIS IS A SPECULATIVE AND SYSTEMATIC EXERCISE. WHICH WILL BE INITIALLY STAGED IN NEW YORK CITY:

Here each student must identify any heterotypic dynamic or space of their interest, and turn it into an analytical instrument to be then used as design tool.

Learning systems are important, the students should define which methods will they apply, be them comparatives, deductive or inductive so to achieve their goal.

They must propose a design - an object to be dressed or a costume, a collective or individual toy (a table game or an impact one or digital one) a space or urban intervention of a small scale, (max. 6'5"X6'5"X6'5") - which has to be thought to be easily constructed during the visit.

THE SECOND PHASE WILL BE IN BOGOTA DURING FIELD TRIP WEEK.

The main goal here is that by exposing or exchanging a desire with locals, students will be able to collect the required information for them to establish criteria and defining starting points for their next exercise.

They should set up a prototype or use the design itself in Bogotá.

At the end the project should be used as an archive that transforms information into cartographies, so they could later be used in the design process. The aim is to identify behavioral, constructive and exchanging systems.

There must be a recognition that the changes and temporary juxtapositions in the urban life are defined by demographics, psychologies and geographies. **So it is very important to clearly state from the beginning that this design studio seeks to generate - human and/or animal, dense or compact, heterogeneous or homogeneous - crowds, that although unstable can conform and promote social interactions on different periods of the day.**

THIS IS AN ELEMENT THAT WILL DEAL WITH DIFFERENT LAYERS OF UNDERSTANDING TO BE A PLANNING TOOL.

- This device is intended to be an urban reader: to collect information and experiences.
- It must have the capacity to translate the information to a common language that serves as a design tool.
- Despite not having a precise scale, you should maintain a size and proportion between the situations that you want to address and the relationship of subjects, places or agents who would be highlighted and taken into account.
- It should be an element planned to meet a specific end.
- Regardless its scale, the design should likely be experienced on site: i.e. it must be a prototype, or depending on the complexity, at least you should be able to activate its primordial virtues to generate interaction with citizens.

We could say that **THE OTHER'S TOY** finds its main sense in the constant reprocessing of the definitions, that's why it recognizes the stranger or foreigner as a central axis that seeks to modify properties, times and conventional behaviors in the urban living spaces when the abnormal agent is set to act. It should be a temporary and mobile design in search to multiply itself and for it to be carried and/or be manipulated by the users and the inhabitants in different locations.

SOME EXAMPLES:



1. PEDRO REYES: *Collective Hat*



2. NICOLÁS PARIS
*Herramientas para diálogos erráticos
o asociaciones por simpatía*



3. YONA FRIEDMAN:
Le Musée du Quotidien

SECOND AND THIRD EXERCISES: 11 WEEKS

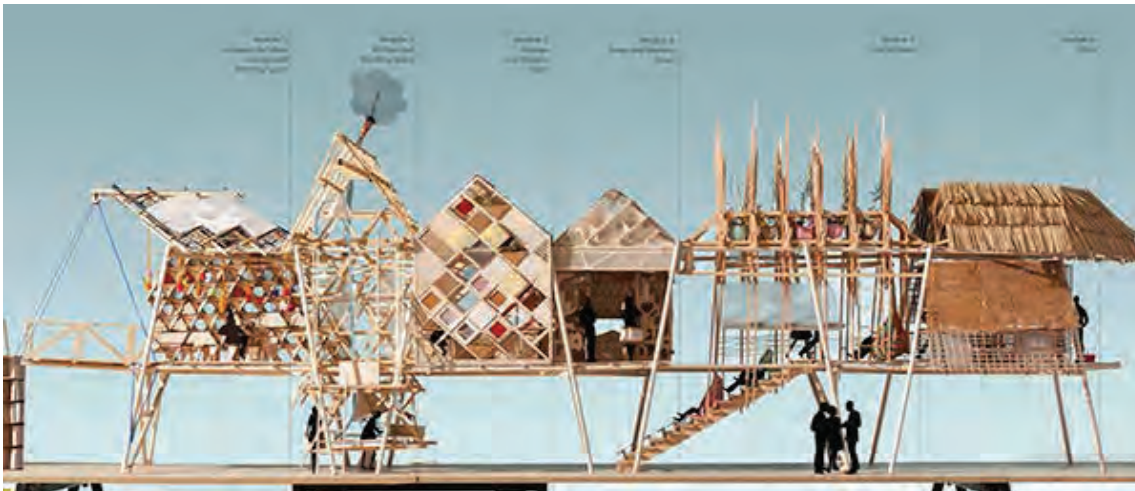
URBAN TACTICS WITHIN ARCHITECTURAL ARTIFACTS:



**Civic stage. Frida Escobedo.
Lisboa**



**Urban Farm. Work Architecture Company.
New York**



Izaskun Chinchilla: Theatre Pavillion for the Museo de Arte Moderno de Medellín

The public building contains a varied range of elements that affect individuals as well as cultural, mental as physically environments: The activities are sport, culture, education, recreation, health, mixed or any institution whose perspective involves the meeting, production and/or learning as primary target. This exercise could be an opportunity to tackle the idea of contradiction, channeling the desires of possible new users or inhabitants. The programs can embodied the institutional ideals managed in the city looking for innovation taking the individual as its central axis.

A reflection is proposed looking into the meaning of the public building or space in a city like Bogotá. Thus, raises the potential of architecture as a social driver that transforms dynamics and allows a degree of cultural sustainability, necessary for the development of this city.

Rather than design “buildings” we want to produce “artifacts” to be a dynamic spaces that reacts to people’s behavior.

By using the idea of a mechanic device that displays its different working layers, we want to produce new activities and events by putting anomalous behaviors and contradictory situations working together. The objective of these buildings is to propose human relations closer to the ludic and the act of playing, constructing space that is more open and free of use.

- Understanding that the interest here is to propose architecture that is based in the solution of spaces from the habit and the function, we ask ourselves:

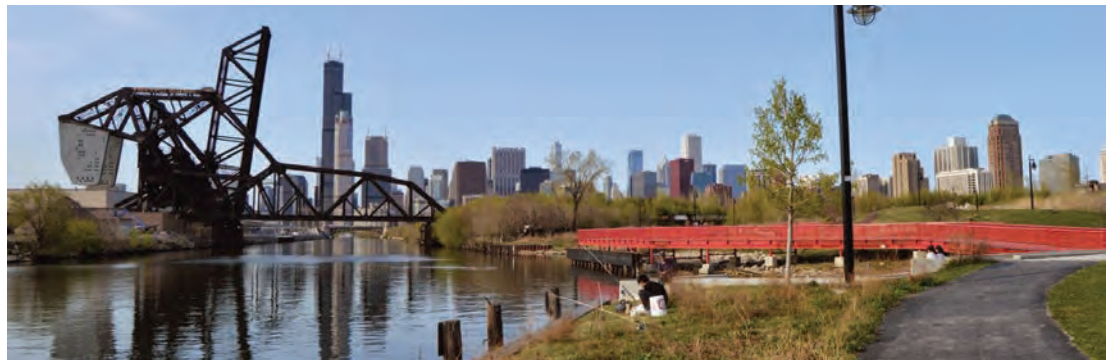
The student should create forms of use in the architecture that give creative freedom and power to its user. By thinking more about the “other”, we could establish new heterotypic spaces as defined by Foucault: different spaces that allow the release and overlapping of dynamics. As for example “Skate in the library” as it is stated B. Tschumi to activate new social negotiations.

Bogotá is a laboratory for recursive and spontaneous operations in the everyday life of those who inhabit it. We will look into which features are likely to be absorbed and redesigned a one larger scale, being able to generate solutions to the architectural and urban problems like the edges of the city, the riverbanks, the erosion of the mountain, the gaps in the topography and its water basin. All these issues represent potential projects and public actions capable of rethinking the physical dynamics of the city.

It is here where we can rethink the role of public and communal architecture; where we see the opportunity of heterotopia to act as a new hinge of civic institution and it is expressed through the material construction. On the basis that any intervention in a place generates exchanges of experiences and desires among communities, the private sector, and the public sector, the project must answer:

*** HOW CAN WE PUT IN CONTRADICTION PROGRAMS, EVENTS AND BUILDINGS TYPES?**

WHAT WOULD HAPPEN IF THE DESIGN IS THOUGHT AS A CATALYST OF ENVIRONMENTS WHERE THE ARCHITECTURE LEARNS TO BE AN EVENT, WHERE THE ARCHITECT LEARNS TO COMMUNICATE AND WHERE THE INHABITANT LEARNS TO HAVE THE CONTROL AND BUILT THEMSELVES NEW DWELLING FORMS?



The St. Charles Air Line Bridge in Chicago



Public space canopy - Barrancabermeja, Colombia. El Equipo Mazzanti

BASIC RULES:

**The exercise must be developed in couples
(2 people)**

Each couple will work with local institutions, and together with them, they must choose a public policy to develop an architectural activity that meets their needs.

- A. SECRETARY OF CULTURE**
- B. SECRETARY OF RECREATION AND SPORT**
- C. SECRETARY OF PUBLIC FINANCES**
- D. SECRETARY OF EDUCATION**
- E. SECRETARY OF ENVIRONMENT**
- F. SECRETARIAT OF TOURISM AND PRESERVATION**

As a transversal STRATEGY all the students will work hand by hand with the Planning students on specific task regarding this project

Based on the previous exercise (The Other's Toys) students must use what they learned in the dynamics of exchange made in Bogotá, and produce a thinking structure involving the heterotopic and individual wishes as focal point for the project.

Meanwhile during the field trip we would work hand in hand with each of the secretariats so to understand their needs and programs.

COLUMBIA
GSAPP

Columbia University GSAPP
Fall 2017
Advanced Studio V

Gregg Pasquarelli, professor
with Dana Getman, assistant

Fulbright University Vietnam

Designing a High-Tech Start-Up Academic Institution

"...We're very excited that...the new Fulbright University Vietnam will open in Ho Chi Minh City -- this nation's first independent, non-profit university -- where there will be full academic freedom and scholarships for those in need. Students, scholars, researchers will focus on public policy and management and business; on engineering and computer science; and liberal arts -- everything from the poetry of Nguyen Du, to the philosophy of Phan Chu Trinh, to the mathematics of Ngo Bao Chau..."

President Barack Obama May 21, 2016 Hanoi, Vietnam



ABSTRACT

In 1945, Senator J. William Fulbright introduced a bill in the United States Congress that called for the use of surplus war property to fund the, “promotion of international good will through the exchange of students in the fields of education, culture, and science.” On August 1, 1946, President Harry S. Truman signed the bill into law, and Congress created the Fulbright Program, the flagship international educational exchange program sponsored by the U.S. Government. From its inception, the Fulbright Program has fostered bilateral relationships in which citizens and governments of other countries work with the U.S. to set joint priorities and shape the program to meet shared needs. The world has been transformed in ensuing decades, but the fundamental principle of international partnership remains at the core of the Fulbright mission.

It is one of the most prestigious scholarships in the world.



Now the Fulbright Foundation wants to build its own university from the ground up. Our current political climate requires architects to engage in making space that connects and heals, rather than separates and divides. If, as Frank H.T.

Rhodes stated in *The Creation of the Future*, “The University is the single most significant creation of the second millennium,” then what does it mean to create a start-up university? What is a start-up in business? What are the most successful ones? Which ones use architecture to accelerate their success? Does Silicon Valley hold the key answers to the future of creative interaction? Is the university’s current spatial model, now almost 1000 years old, of academic, cultural, recreational, and dormitory buildings, plus open gathering space, still hold value? Even when the programmatic demands on a space are a direct reflection of the most rarefied contemporary sociologies, even when a project is analyzed and delivered through the most magical tech, certain fundamentals hold. There is gravity. There is weather. There is outside and, more often than not, there is inside, too. There is the need to enclose and protect. The need to modulate experience. The need to distinguish one thing from the other. The need to shelter. The need to divide. The need to connect. The need to gather and exchange ideas. The need to pass down knowledge yet open space for new modes of interpretation.

Our studio will be an examination of the Silicon Valley start-up and the University Campus plan as devices that performatively enable creative discourse. By challenging each, and the architectural techniques used, we will come to know their possibilities. By questioning both, we will master its potential. By accepting both, we will open ourselves to experiencing all the gray areas within them.

PROCEDURE

The studio projects will be individual building proposals by each student. The studio will begin with a team study of both university campuses around the world and the campuses of the high-tech companies of Silicon Valley. We will be taught a class by Vietnamese architect Andy Mai focusing on the history of Vietnamese architecture and university design, as well as Ho Chi Min City’s various opportunities and challenges, during the week of 9/18. Next the site and program of the new Fulbright University Vietnam will be analyzed and critiqued, and the three person teams will jointly design a master plan for the campus, to be presented on 10/5. Then each student will select one building of their choice from their team’s master plan and work as an individual to design an architectural proposal for their new start up academic building. There will be a mid-review on

10/23. A 3/4 review will take place the week of 11/13 with the heads of the Fulbright University Vietnam as your jury. The final review will be on 12/13.

PROGRAM

		PROGRAM	TOTAL (SF)	TOTAL (\$M)
GROSS + PARKING	GROSS	FACULTY & STAFF	177,213	16,470
		DEDICATED LEARNING	336,050	31,231
		SHARED LEARNING	412,353	38,323
		STUDENT/ FACULTY LIFE	261,317	24,286
		RESI	1,128,081	104,840
	TOTAL GROSS		2,315,014	215,150
	GROSS PER STUDENT		420	39
	PARKING		420,647	39,094
	MECH PLANTS		51,648	4,800
GROSS+PRKG+MECH			2,787,309	259,044

FULBRIGHT UNIVERSITY VIETNAM'S MISSION

A Start-Up University, Rooted in Vietnam and Connected to the World

Fulbright University Vietnam is a private, nonprofit Vietnamese university inspired by the American liberal arts tradition and committed to serving Vietnamese society through innovation in teaching, technology, and discovery. FUV was officially announced by President Barack Obama in May 2016. FUV was founded

on the principles of accountability, meritocracy, transparency, self-governance, mutual respect, and open inquiry.

It is vitally important that respondents to this RFP understand that FUV is a start-up venture in its initial phase of design and development. Therefore, proposals that incorporate flexibility, innovation, affordability and attention to cultural relevant iconic design are required. FUV received its establishment license from the Vietnamese government in May 2016. We are now embarking on three interrelated design and planning process: of our academic programs, our campus and facilities, and our financial and business model. The successful respondent must appreciate that these processes are unfolding at the same time. As the academic and business planning processes progress, there will be additional inputs for the design of FUV's campus and facilities, with respect to both spatial requirements and financial parameters.

The long-term vision is for FUV to become a comprehensive research-oriented university offering undergraduate and graduate teaching programs in a range of fields. Among the areas of instruction that are being contemplated include computer science, engineering, public health, law, journalism, and the visual and performing arts.

GUIDING PRINCIPLES

Innovation, Not Replication

In all of its programs, and especially at the undergraduate level, FUV will prioritize experiential and project based learning and the “flipped classroom” over traditional, lecture-based modes of instruction. Overall, this means we will require flexible, open, transparent spaces that are conducive to this kind of learning and can be repurposed and reconfigured as the institution grows and its teaching, learning, and research activities evolve. FUV is not an attempt to replicate a conventional US university; we will position ourselves at the cutting edge of innovations in teaching, learning and technology as well as in institutional governance and organization.

Laser-Focused on Socio-Economic Accessibility

FUV is not a university for economic elites, instead, it is a university for all of Vietnam. We are committed to ensuring that an FUV education is accessible to the widest possible socio-economic demographic of academically qualified students. A commitment to socio-economic accessibility must infuse every aspect

of FUV's campus and be incorporated into all design plans. FUV's campus should be cutting edge in its use of space and technology, but it is *not* envisioned as a "gold-plated" environment. Our emphasis on socio-economic accessibility and affordability makes us very different from other international university projects that focus unabashedly on recruiting students with a high ability to pay. The campus design should create an environment that incorporates outreach, socio-economic accessibility, and commercial partnering.

Creating a Vibrant Learning Experience

We believe that the learning experience FUV creates, much more than the specific details of its curricula, will define an FUV education. That experience is the result of many factors, including the culture we foster and the values that inform that culture.² We are still defining the learning experience; we know it will encourage students to take risks, to work in teams, to push themselves out of their comfort zones. FUV's built environment will also play a vital role in shaping the learning experience.

Sustainability: A Defining Value

Vietnamese society faces enormous challenges in the environmental space. Vietnam is among the countries that will be most heavily affected by climate change and sea level rise. FUV's built environment must strive to maintain the lightest possible environmental footprint and as much as possible serve as a model of environmental sustainability, stewardship, and best practices.

Embedded in Vietnamese Society

FUV is a Vietnamese institution that is dedicated to serving Vietnamese society. We envision our campus as the physical embodiment of this ethos. To the extent possible the campus should reflect Vietnamese cultural and aesthetics; more importantly it should embody the Institution's civic mission and its determination to be a part of the communities it serves, rather than an isolated enclave. In sum, the boundary between FUV and the surrounding community, including commercial partners must be permeable.

Dedicated to Freedom and Openness

FUV will enjoy an unprecedented level of academic freedom and operational autonomy. For FUV, freedom is both a means to an end—we believe academic excellence cannot be achieved without a robust level openness—and also a

defining feature of the university's identity. FUV's commitment to liberal values is embodied in its name. Senator J. William Fulbright was known for his belief in the power of educational exchange to heal divisions and build common understanding as well as the courageous early stand he took against the Vietnam War challenging an American political establishment which continued to support it.

Technology-Driven

FUV will aggressively deploy digital learning technologies. While we value the human contact, which lies at the heart of the liberal arts educational experience, an FUV education will be a hybrid learning experience in which students learn through face to face interaction as well as through technology. We view technology as both a teaching and a financial imperative. Numerous studies have demonstrated the power of digital learning programs to enhance learning outcomes. At the same time, our commitment to minimizing costs will also demand that we deploy technology aggressively and creatively to reduce costs. We anticipate using video-based technologies that enable students to learn in real time with teachers based off site, asynchronous learning, adaptive learning platforms, and other digital learning resources such as MOOCs.

Not a Branch Campus

Taken together, the characteristics described above should make clear that FUV is not envisioned as a branch campus of an American university. In recent years, a number of leading US universities have built satellite campuses overseas, at times in partnership with local academic institutions. Many of these projects are located in the Middle East, others can be found in Singapore, China, and South Korea. ***FUV is a distinctly different type of venture.*** First, and most obviously, FUV is an independent Vietnamese university, albeit with robust connections to the United States, not the branch of a US institution. Second, most of the branch campuses mentioned above received very generous funding from foreign governments that at times amounted to a "blank check." FUV must be very sensitive to costs in order to keep the cost of an FUV education as affordable as possible. Third, because these campuses belong to traditional US universities, they have not attached a high priority to innovative curriculum design or technology. Fourth, we observe that in many cases these campuses resemble isolated enclaves, rather than institutions that are embedded deeply in the local context. Finally, it appears that in many cases these branch campuses have not prioritized recruiting

students from across the socioeconomic spectrum, instead focusing on students with a high ability to pay.

Handicapped Access

FUV's campus should be designed to facilitate access for people with physical disabilities. In this respect, we hope to set a positive example from which other institutions in Vietnam can learn. Despite the high incidence of physical disabilities within the Vietnamese population, handicapped access is not common in public buildings.

FACULTY AND STUDENT COMPOSITION

Faculty

In keeping with its commitment to innovate, not replicate, FUV will not uncritically adopt the faculty structure of a tradition private American university. FUV will not offer tenure. Because of FUV's focus on multidisciplinary enquiry and collaboration, we are hesitant to adopt the siloed, departmental structure common typical of US universities. Indeed, our focus on promoting interaction and collaboration among faculty members and between faculty and students means that we are unlikely to provide faculty with private offices.

With the caveat that the academic planning process is ongoing and the following is subject to modification, our faculty is likely to fall into three broad categories:

i. Fulltime faculty

This will be the smallest cohort but also the most important. These individuals will be the primary architects of FUV's teaching programs. They are likely to include both senior faculty as well as more junior people who may work as tutors and provide additional instruction to complement online learning resources. *This cohort may make up 33% of FUV's academic staff.*

ii. Vietnam-based part-time faculty

These are individuals whose primary academic or professional appointment is not at FUV but who participate in FUV's teaching or research activities. *This cohort may make up 33% of FUV's academic staff.*

iii. Part-time faculty who are based overseas

This is a very heterogeneous cohort and will include faculty at international universities who work collaboratively with fulltime faculty. The focus of their affiliation with FUV may be primarily research oriented or on teaching. They may

the academics with faculty appointments at US colleges and universities who spend time at FUV during down times in the US academic calendar. They may be practitioners from the technology sector who are not professional educators but who wish to contribute to FUV by mentoring our students. Others may be retired scholars or scientists who are in position to spend periods of residence in Ho Chi Minh City.

Students

FUV will strive to recruit the best students in Vietnam. While we will charge tuition, and the tuition is likely to be higher than that charged by many other institutions in Vietnam, we are determined to make FUV accessible to the broadest possible socioeconomic demographic. We will attach a high priority to recruiting a student body that comes from, around the country. At the undergraduate level, this will require that we offer on-campus housing and a robust student life/student affairs infrastructure that is appropriate for a residential university.

FUV will also prioritize cultivating exchange between its students and students from other universities in Vietnam and abroad. We will explore opportunities for FUV to host American undergraduate students interested in spending a semester or a year in Vietnam. We will also strive to support international graduate students who are interested in conducting fieldwork or research in Vietnam.

RESIDENTIAL AND STUDENT LIFE

FUV will need to offer housing for of its undergraduate students. We would also like to provide some housing for visiting faculty, a small number of graduate students, visiting research fellows, and short-term options for parents and perspective students visiting our campus.

In keeping with the university's commitment to offer an educational experience that is rooted in the American liberal arts tradition, it will be important that we create a campus that is conducive to a vibrant student life experience, with opportunities for students to participate in extracurricular, artistic, and athletic activities.

STEM INFRASTRUCTURE

FUV's undergraduate program will feature a strong STEM component, albeit not to exclusion of the social sciences and humanities. Within the sciences, it is likely that FUV will prioritize fields such as computer science and electrical and

computer engineering. FUV will need spaces—studios, workshops, “maker spaces,” etc.—that are appropriate for its curriculum. However, we will not prioritize the construction of capital-intensive research facilities. This is partially to keep our initial capital expenses reasonable but, more importantly, because it is too early to determine what kinds of research infrastructure FUV’s faculty requires. It is therefore of the utmost importance that we retain a maximal degree of flexibility in our physical spaces. We also believe that increasingly scientific research will not require massive up-front investment in physical infrastructure. Already, many experiments that once required expensive laboratories can now be simulated in the cloud. Technologies like 3-D printing can enable engineering students to create prototypes quickly. We envision that in the near future technologies like Augmented Reality and Virtual Reality will open up exciting new research opportunities at a fraction of the cost of traditional labs.

ESTIMATED ENROLLMENT

We cannot yet say with confidence the total student body of FUV at “steady state.” Ten years out, it is possible the university could enroll between 6,000 and 10,000 students across its undergraduate and graduate programs. However, it is already clear that, for FUV to offer an educational experience that is affordable to the widest possible socioeconomic demographic, it will be necessary to ramp up quickly. Our preliminary financial projections suggest that FUV will need at least 2,100 undergraduates to operate sustainably. Therefore, during FUV’s first five to seven years we project a total of 2,000-3,500 undergraduate students and 500-1,500 graduate students. We estimate that 90% of undergraduate students will reside on campus.

ART HOUSE

Columbia University Graduate School of Architecture FALL 2017

A4105-14 Advanced Studio V - Tatiana von Preussen, Catherine Pease, Jessica Reynolds

INTRODUCTION



I like America and America likes me, Josef Beuys, 1974

In the 1970s, New York was known as a place of great artistic production ... Slowly my city went from a place of production to a place of consumption. So now it's a place of the art market and not a place for art production. Liz Diller 2017

While New York City is in the throes of a housing crisis, the art market is booming. The USA currently holds a 40% market share in art sales worldwide and 95% of these occur in New York, which generated \$551million in auction revenues between June 2015 and June 2016.

The success of New York as an art market is the flip-side of the same coin that means that artists can no longer afford places to live or work in the city. If New York wants to preserve its position as a hub for art production and not only as an art market, then it is incumbent on big arts institutions, endowed with capital, reach, fund-raising expertise and powerful, glamorous brands, to address this issue.

Art House will propose artist housing and studio space on museum sites within New York, from the main museum sites of MOMA, the Guggenheim, the Metropolitan Museum of Art, Dia Foundation (Beacon and Chelsea) and the New Museum, to off-site museum holdings such as MOMA QNS and the Guggenheim storage facility in Red Hook, located in areas where many artists already live but which will soon be out of reach.

While many artist residencies currently exist, these only provide temporary accommodation to artists. In our brief, the possibility for permanence is essential. We will find redundant spaces, repurpose or develop parts of museums to find long term homes and studios for artists in order to genuinely support creativity in the city into the future. The studio will invite a number of curators, exhibition designers and artists, to participate in guest crits and site visits.

Home to millions of art objects, could the museum also become home for the artists themselves? The studio will investigate hybrids of the domestic and the public, of culture and community and of production and consumption.

APPROACHES



Model room at Sir John Soane's museum

Let us imagine a true museum, one that contains everything. Le Corbusier 1925

The relationship of art and the house has a rich history: the display of art in domestic settings; the home as subject in the artwork; the house itself constituting the artwork; and artists residing inside the museum.

In the Medici palaces of Florence, painting and sculpture flowed seamlessly into architecture as well as becoming home to artists such as Michelangelo. Later, the home of the private collector became a place of display, such as Sir John Soane's townhouse, whose domestic interiors were encrusted with layers of paintings, plaster casts and other found objects.

The home as subject was first explored in 17th century Dutch painting, where Vermeer's masterly depiction of light and colour magically transformed the mundane domestic equipment into golden objects of radiating beauty. Today artists such as Turner Prize winning Laure Prouvost create immersive atmospheric installations that combine narrative, humour, and domestic fragments.

The house itself became artwork, in part as a critique of the commercial and institutional nature of museums, seen to instrumentalise artists (only recently embracing minority groups), so that many artists have looked elsewhere for sites of intervention. Examples include Gordon Matta-Clark's deconstructed suburban 'Splitting, and the Unmade House' (1974), and Rachel Whiteread's cast concrete 'House' (1993). The house was literally brought into the museum in reconstructions such as Marcel Breuer's House in the Museum Garden (1949) at MOMA and later revisited in Barry Bergdoll's exhibition, 'Home Delivery: Fabricating the Modern Dwelling' (2008) at the same museum.

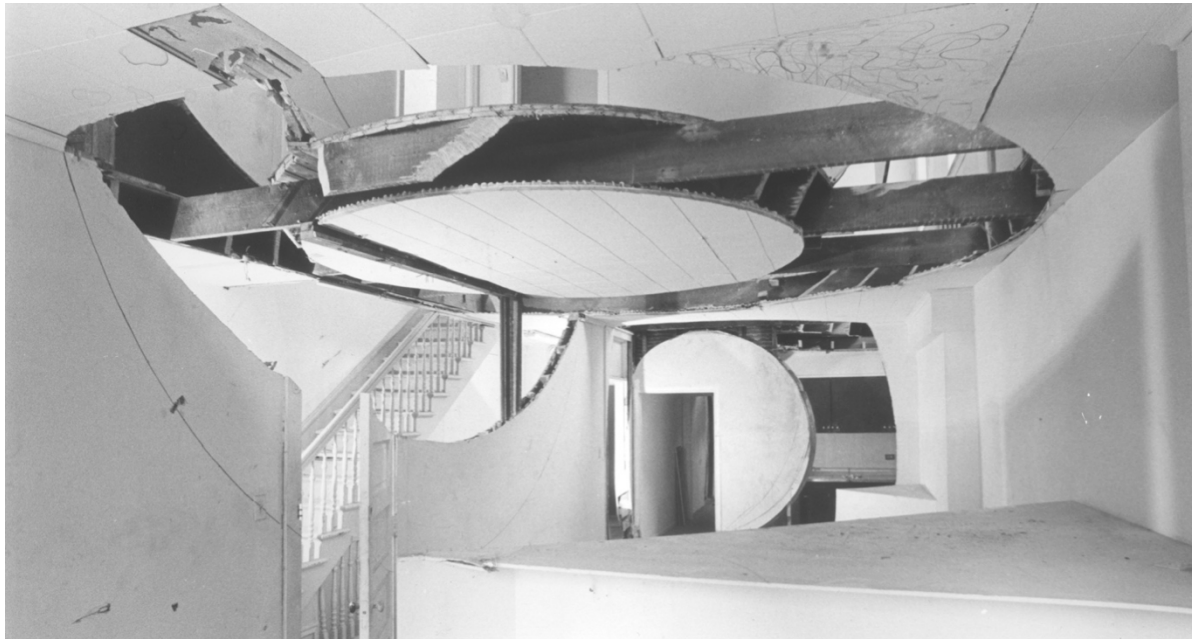
While the white cube is not an obvious place to call home, with its highly controlled environments and hard surfaces, many performance artists have inhabited museums overnight, such as Joseph Beuys's 'I like America and America Likes Me' (1974) where he spent three days in New York's Rene Block Gallery with a wild coyote, a felt blanket, 50 Wall Street Journals, walking stick and gloves. Others have approached living inside a museum in a more straightforward fashion, such as 'Metavilla' by Exyzt for the French Pavilion at the Venice

Biennale, who occupied the pavilion day and night, and invited audiences to join them, to share a meal, lie down, take a bath.

In this brief, the focus is on the messy intersection of the museum and the house, where myriad dichotomies will play out between program and form, ethics and aesthetics, art and architecture, life and art, interior and exterior, privacy and publicity, real and unreal. This complex interface constitutes the inbetween space of negotiation and sharing. It creates the potential for new types of living, new types of art display, and perhaps new types of art. Through precedent research, readings and art history, students will study the successes and failures of museums today, and how walls, windows, doors and floors divide and connect different inhabitants to create new opportunities for social encounters. The unit will draw on domestic-inspired artworks to investigate provocative possibilities for creating new typologies of housing inside the museum.

The studio is interested in new economic and financial models to provide affordable housing for artists. Is it the responsibility of private institutions to provide this social function? What is the role of philanthropy in relation to that of the State? Is the museum a place of contemplation or a site of consumption filled with cafes, stores, information booths – and now housing too? What are the effects of the digital on the museum and house? If each artwork creates a world of its own, then the museum is a world of many worlds, with capacity for endless new ones. As Philip Ursprung states after curator Harald Szeemann, “there was nothing that could not be incorporated by the museum.”

COURSE STRUCTURE SUMMARY



Office Baroque, Gordon Matta-Clark 1977

The studio will be structured in the following parts. Research should be considered on-going with additional findings informing the complexity of the project and general critique. A written thesis/project statement will be updated weekly. The final studio session of each section will take place in the form of pin-ups when students will have an opportunity to review and to share their outputs. Selected readings will be discussed in parallel to studio work.

Part 1 HOME IS WHERE THE ART IS

7- 14 September (3 studio sessions)- JR

Installation: Drawing on selected artworks, students are asked to explore the domestic in the context of art/museum culture by proposing a formal intervention in a museum.

Outputs: 1:1 installation + documentation

Part 2 DWELLING ON DWELLING

18- 25 September (3 studio sessions)- CP

Research: Via the medium of drawing, each student will explore one aspect of a case study dwelling- this should relate thematically to their installation from Part 1.

In parallel the studio should begin in depth research of the four selected museums including site context, institutional structures and organisations.

Outputs: Drawing/diagram of case study dwelling, site research

Part 3 ABSTRACT

28 Sept- 10 Oct (4 studio sessions)- TvP

Concept Design: the sessions bring together art and dwelling in the form of a concept proposal on a museum site. Students will develop a critique that relates to their chosen approach and institution.

Outputs: 1:500 site analysis, concept models, image-diagram

Part 4 DWELLING ON MUSEUM

12 Oct- 26 Oct (5 studio sessions)- JR, CP, TvP

Developed Proposal: The studio will focus on creating a proposal that develops the concept into a clear narrative and building form. Iterative design development in plan and model form will be strongly encouraged.

Outputs: 1:200 plans, sections, drawings, models + images

MID TERM REVIEW

30 October- TvP + JR

Part 5 BEDDING DOWN

2 Nov- 7 Dec (7 studio sessions)- JR, CP, TvP

Final Proposal: The final weeks of the studio will focus on producing a highly articulated final project. Students will also be asked to explore their scheme through a 1:5 detail relating to a domestic element of their proposal.

Outputs: 1:100/ 1:50 plans, sections, drawings, models + images + 1:5 detail

FINAL REVIEW

12 December- TvP + JR+ CP

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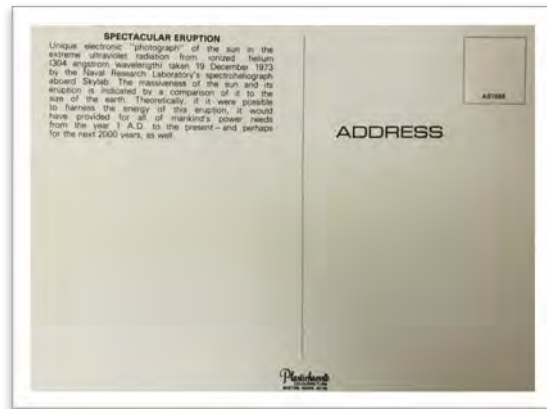
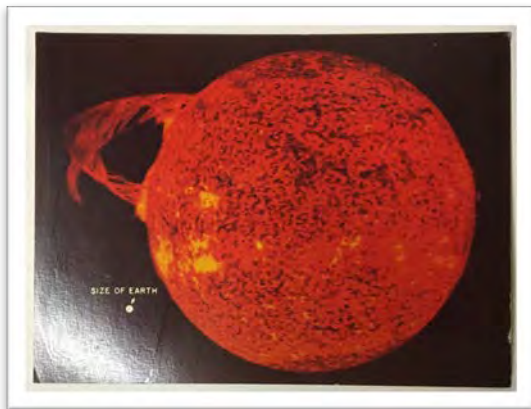
Columbia University
Graduate School of Architecture, Planning and Preservation
Arch 4005 / Fall 2016
Michael Bell Professor of Architecture
Hamza Sarout, Associate in Architecture
Colloquium Partner, Professor, Michael Shanks, Urban Futures, Stanford University

Architecture

after Scarcity, after Risk and after Assets

(becomes what?)

Studio Programming: Design an architecture for a world where energy is no longer scarce but understanding its path, presence and means is near total. What becomes of architecture when some forms of scarcity and risk are highly controlled and diminished and others are highly disrupted. The studio will work on three sites, two of which are surrogates, for a wider upheaval and transformation of the sprawling urban landscapes of the United States and the assets that construct its economy. The studio will rely on a series of software protocols to work precisely with energy, light and architectural mechanics but also seek broader critical evaluation of changes in the economy and technologies of cities. Our primary focus is the Concord Naval Weapons Station and we will propose planning and architecture for its redevelopment.



"Unique electronic photograph of the sun in the extreme ultraviolet radiation from ionized helium (304 angstrom wavelength) taken 19 December 1973 by the Naval Research Laboratory's spectroheliograph aboard Skylab. The massiveness of the sun and its eruption is indicated by the comparison of it to the size of the earth. Theoretically, if it were possible to harness the energy of this eruption, it would have provided for all of mankind's power needs for the year 1 A.D. to the present – perhaps the next 2000 years."

Query: Markets and a reconciliation with scarcity have often gripped the architectural imagination—is this the norm for our future? We are increasingly advanced agents in modeling risk and opening new means—what will this enable?

Architecture and development are to a tremendous extent realized inside financial and economic risk models. Will this continue to the case in our future?

At the annual Berkshire Hathaway shareholders meeting (which is often seen more as a state fair) Jack Bogle, the founder of Vanguard Group, and a confidante of Warren Buffett offered a proclamation

on risk by discussing the state of index trading—a use of algorithms to essentially trade the probability and momentum of an entire stock exchange. Indexing removes stock picking or the discrete, strategic, construction of a portfolio (as a means to

hedge risk) and instead seeks to harvest the movement of the intelligence evident in the broader trading of the exchange itself. It harvests what everyone else is figuring out via artificial intelligence, machine learning or simply immense computational and stochastic modeling. For many index trading is a low cost way to diminish trading

risk and yet harvest the collective insight of the market itself.

Indexing, while far from mathematically total, aspires to limit risk associated with accessing a small (minute) or even large sector of the exchange. Bogle seemed to be seeing this aspiration to the removal of risk as a disincentive to trading—if there is not risk and no unrealized opportunity (that is identified by the trader as opportunity) there is not a need to trade. Indexing relies on an active underlying market—it models a propensity that it then seeks to mine. Without real traders there is no risk to mine according to Bogle. According to Bogle about 1/3 of United States' stock trading is done by indexing: he predicted a turning point, a threshold at which markets would freeze as indexing would arm everyone with a same ability to react to and forecast risk—each trader would in effect thwart the trajectory of the other. "If everybody indexed, the only word you could use is chaos, catastrophe," he said. "There would be no trading, there would be no way to convert a stream of income into a pile of capital or a pile of capital into a stream of income. The markets would fail."

<https://goo.gl/88bmjo>

Artificial intelligence, machine learning and robotics are often proclaimed to be a threat to labor markets. What do they portend in financial or economic markets? Aside from displaced jobs what do they incentivize or indeed make almost inevitable in development and the distribution of economic resources. What will be built in such a world if, for example, A.I. alters job migration, or collapses asset values.

Markets may fear uncertainty but risk is a driver and motivation and it is the unseen or undervalued asset that has historically been a source of future wealth production—if you can see a potential and you are (nearly) alone in knowing its existence the trade is yours. The wealth could be yours—it could belong to a nation, a city or a state. A neighborhood and constituency.

Today we see new means to model risk of every kind. But we also increasingly imagine ourselves less at the brunt of some forms of risk while others form immense crisis and undermine stability of all kinds. From structural mechanics to chemical engineering to fluid dynamics and geography and economics. Risk as its forecast within relatively low level computational systems is today increasingly made transparent to analysis and thus adjudication. Inside realms of engineering or medicine, advertising or banking or autonomous

mobility and safety the prospects of a world driven more by choice than necessity is often depicted as offering a new model of liberty and indeed freedom. From social media to personal delivery—limits seem diminished even as crisis of all kinds still exists. Counter the immediacy of some forms of risk control vs the global migration from war or climate change.

Much of the confidence (when it occurs) seems to rise from a new and more granular scale to modeling. Risk modeling has opened a finer parsing of the value of what have been seen as stable or older assets: indeed, often exhausted assets. A re-monetization of private housing (Airbnb) or the private automobile (Uber, Lyft)—risk models made possible by anonymized but secure transactions (peer to peer) in effect begin to revise the privacy and value of entire asset classes. You can share a latent temporal value in your home. But do they change the assets themselves and when, if at all, will these new models give rise to entirely new assets. After all the private car – relied upon by Uber or Lyft – is only a century old as a human invention—an entirely new asset that drove 100 years of urbanization (and de-urbanization).

What are the next assets, how do we find them and more so do we trade them?

What are their risk qualities? What can they not pay attention to?

After Remonetizing

Borne of new risk models and in effect not bound by former constraints older assets are made more pliant but do they still remain in place as their assumed nomenclatures. For example: Airbnb does not (seem) to alter the valuation of housing to make it more affordable; it might in fact make it more valuable and expensive. It (sort of) addresses a scarcity of housing, by instead seeking to unlock a latent but unassessed value in the temporal aspects of occupancy. Housing may become more affordable because the owner has relinquished part of its use and thereby gained income that offsets costs. But it also creates a class of housing subjects whose tenure is highly temporal. Uber is similar. In fact, these two services (as they are known) seem to accelerate the stress of scarcity by removing what was **excess** capacity from an assets value—you index that value and sell it to someone else. What happens when that value is drained or made essential?

If the privacy of a home (and household) prevented such a sharing economy in prior decades, today it seems the anonymous and encrypted means of a

peer to peer transaction secures both privacy and transparency at once--in one mathematic equation. This is not personal trust between a buyer and seller but instead an outsourcing of risk and perhaps an even greater form of distance between persons who are otherwise deeply proximate: you are in my house and my car but I have no idea who you (really) are. I may not need to either.

Have we seen real Disruption Yet? or Why Silicon Valley can't do this alone:

Embracing the disruptive claims that swath Silicon Valley and the technology sector today our studio will seek to invert the equations of scarcity and the drive towards risk reduction that accompanies so much of the innovations we see today. We will seek ways to see the modeling of risk as instead liberating; as allowing instead a form of excess and a world for which architecture and new architectural nomenclature have yet to be designed. To do this we will take on themes and research vectors such as artificial intelligence or machine learning and its possible effects on labor markets (jobs) and on commodity prices. The studio will seek to understand the themes around disruption and game their potential long term affects but more so to see or postulate the outer edges of risk models. We will explore how new decentralized energy production and storage might alter urban development and housing economies, and indeed how artificial intelligence (and robotics et al) might diminish one and half centuries of drive to urban density (will people come to cities for work if there is no work). What happens when we can imagine the entire housing economy, when a small computer can do it for us? When real estate fails to keep up with energy innovations or transportation and mobility deeply alter property values (again). What happens if millions of households exit the grid before we are ready?

Risk modelling today does offer an immense return on investment: a projective enterprise that can forecast stability allows new invention. Architecture has grown in strides as it took on risk modeling but it has also often done so in a drive to efficiency. This may include showing heat gain or daylighting effects, verifying the optical aspects of a view or a window size. Monitoring expansion and contraction of materials and thereby safety and maintenance. At the aggregate scale it may reveal a denominator of immense scale: residential real estate valued at 26 or 27 trillion dollars in the United States, or where and when entire regions of housing were built or what new energy protocols could affect this region or that. How does autonomous mobility affect what we imagine as possible in development when we know land values have been tied to mobility (and proximity to work) for the past century?

The studio will over the semester ask that each designer divide their attention between three sites and five zones of enquiry. The sites are meant a constellation—a simultaneous view to how we hedge development. What thrills and scares us. What causes invention?

The zones of enquiry are attractors: thought structures that will, as played out, possibly deeply alter what is possible in development and in architecture.

We are not concerned with the right or the wrong, but instead with what could be.

The right or wrong will follow after experiments.

Below: GoMentum Station: Concord Naval Weapons Station.



Where do we go from here?

Imaginary and Real

The studio will initially work on a series of three sites in an analysis phase and then narrow our work to the Concord Naval Weapons site.

<https://goo.gl/maps/XykAVEeALs22>

The studio will rely on three sites as *real places* and *people* but also as a form of imagination; a seeking of building a new kind of place, people and needs, but also to build for a site as yet unnamed. These sites are assets in transition. They are people in transition—new subjects and new places. A world we have never seen before.

We will work within and from a series of provocations about an architectural future; a zone of thought and indeed practice for which we do not have a historical reference.

This is in effect a model of risk: risk related to essential human need (in this case the homeless); risk and nature (a primordial forest co-present with the modern city) and the delamination of industry from war and security in the re-use of a former military weapons site. If all these sites are characterized by near catastrophe and indeed near violence how do we delimit the risk and move past it even as we monitor its means and techniques closely.

Concord, California: Naval Weapons Station (+ Quinault Village)

- The outer edge of the unaffordable epicenter of technology. A horizon of new settlement in a region struggling to produce affordable housing.

Denver, Colorado, Homelessness, Veterans and Community Solutions

- an unindexed constituency becoming visible (and becoming a market)

Long Island, New York, the Pine Barrens

- fear of losing nature keeps it semi-untouched

The three sites are, however, a misnomer—they are not quite sites.

- the first site is indeed a property currently being hotly debated as to its future and coveted by deeply competing agendas and demands that bridge government and private industry and a near century of technology.
- one of the *sites* is actually a constituency of people (a specific group of the homeless);
- the other site is a quasi-untitled property (a sort of anti-asset held off the market by government)

Faculty

Michael Bell

www.bell-seong.com

Michael Bell is Professor of Architecture at Columbia University Graduate School of Architecture Planning and Preservation. Bell is founding Chair of the Columbia Conference on Architecture, Engineering and Materials, a multi-year research program hosted at GSAPP in coordination with Columbia's Fu Foundation School of Engineering and Applied Science and the Institute for Lightweight Structures and Conceptual Design (ILEK) at the University of Stuttgart. Bell served as Director, Master of Architecture, Core Design Studios, (2000-14) and the Coordinator of the GSAPP Housing Design Studios (2000-11).

Research conference convened by GSAPP in collaboration with: Fu Foundation School of Engineering; the Institute for Lightweight Design and Conceptual Structures, University of Stuttgart. <https://goo.gl/EUEJ1W> / <https://goo.gl/WHM9EB> / <https://goo.gl/LH2Kc3> / <https://goo.gl/HrzaQD>

Bell's architectural design has been commissioned/exhibited by The Museum of Modern Art, New York; The Venice Biennale; the Architectural League of New York; the University Art Museum, Berkeley and has been shown in museums and galleries in Europe, Mexico and China. Architectural design by Bell is included in the Permanent Collection of the San Francisco Museum of Modern Art. His Gelter Press / Binocular House is included in American Masterwork Houses of the 20th and 21st Century by Kenneth Frampton. Bell has received four Progressive Architecture Awards.

Books by Michael Bell include Engineered Transparency: The Technical, Visual, and Spatial Effects of Glass; Solid States: Concrete in Transition; Post-Ductility: Metals in Architecture and Engineering; Permanent Change: Plastics in Architecture and Engineering; 16 Houses: Designing the Public's Private House; Michael Bell: Space Replaces Us: Essays and Projects on the City; and Slow Space. Bell is the editor of a monograph on the architecture of Stanley Saitowitz.

Bell taught at the University of California at Berkeley (1987-94) and Rice University (1994-99) and held visiting professorships at the Harvard University, Graduate School of Design; Cornell University, School of Architecture; the University of Michigan, Saarinen Visiting Professor of Architecture; and Berkeley, the Howard A. Friedman Professor of Practice in Architecture. Bell is a former Fellow of the Joint Center for Housing Studies, Harvard University (2011-13). During 2016/17 Bell was Visiting Professor at the Stanford University, School of Engineering, where he collaborates with the Center for Design Research in the Department of Mechanical Engineering.

Michael Bell received a Master of Architecture degree from the University of California, Berkeley and a Bachelor of Science degree from the Catholic University of America in Washington DC. He established his practice while teaching at Berkeley. Today the practice also includes Eunjeong Seong and is based in New York City and the Berkeley, California.

Hamza Sarout

Hamza Sarout, is a digital design specialist and a BIM leader at Gensler. Hamza holds a Masters degree from GSAPP and currently works on developing BIM strategies and workflows for various design projects for Gensler's global practice. He focuses on developing building performance tools using computational methods and processes to bridge the link between macro climate modelling and thermal human comfort.

Sarout's focus is on redefining the building envelope and on capitalizing on residual data of the BIM process.

Sarout has taught at GSAPP and other NY universities and schools and has worked closely with Michael Bell in studios on several occasions.

Site One: A Military Industrial Property in Concord, California. The Concord Naval Weapons Station

<https://goo.gl/maps/XykAVEeALs22>

The Concord Naval Weapons Station served as munitions depot and transfer station for weapons during World War II. Today the site is currently dormant and unused by the military; it instead serves in part as a test track for GoMentum Station—an autonomous automobile vehicle testing grounds. Apple made headlines when it sought access to the site; the application was taken to indicate Apple was indeed at work on autonomous mobility.

<https://goo.gl/9ZE71N>

<http://gomentumstation.net/>

The 2,200-acre site is on one had a former industrial site—as such it bears issues of reclamation (this is a matter of risk in the form of remediation). But it also a target for redevelopment in part by Lennar and Five Points—a large scale housing and real estate entity that bridges all scales of development. Immediately adjacent to the Naval Weapons Station is Quinault Village—a 58-acre site formerly held by the Navy as housing and currently being used as a site for special operation training. Our site includes the entire assembly of property.



Duplex housing sits vacant on the site invoking an image of tranquil domesticity adjacent to a former nuclear weapons transfer complex. Concord Naval Weapons Station is Quinault Village Click to Play Video

<https://goo.gl/maps/YhysG8fnvZ32>

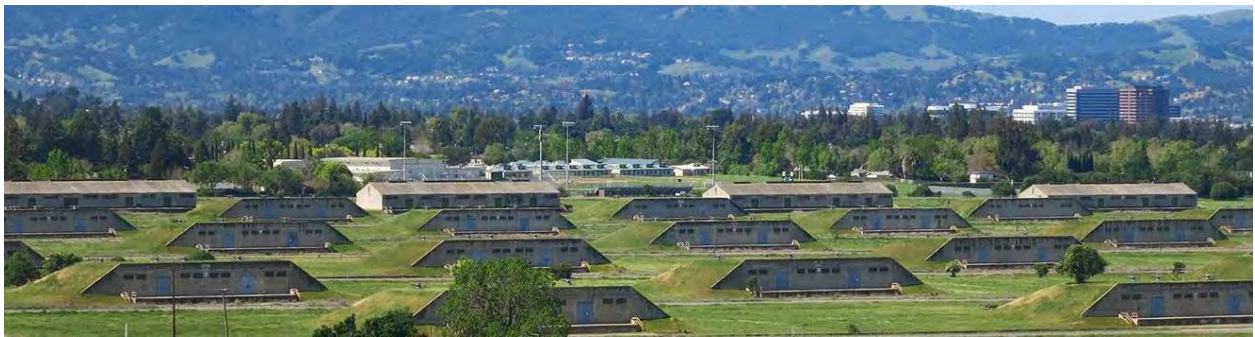
Creating an Asset

The City of Concord is actively seeking development rights over the property in part to alleviate a critical shortage of Bay Area housing.

The histories of the Naval Weapons Station and Quinault Village are vivid yet a cursory look at the property on Google Maps shows little naming and one begins to imagine there is a concerted to alter the perception of the history of a ruin of the war, munitions and the wider military history of the Bay Area.



Concord, California is a kind of dream state. With little humidity, seemingly no winter. Lots of room and quasi-affordable housing at the outer edge of the Bay Area--at the northeast corner of the Bay Area and in this case immediately adjacent to an underutilized Bay Area Rapid Transit (BART) station. The conflation of autonomous vehicle testing and the BART rail system instigate a new impetus in development and mobility.





Redevelopment Planning Documents (expanded documents available at studio outset)

Government:

<http://www.concordreuseproject.org/>

Private Development

<http://www.concordreuseproject.org/>

<http://lennarconcord.com/>

Site Two: Denver, Colorado: A Pro-forma: 100 building or 300 people

A barely Visible and until recently Barely Registered Constituency forms a new Housing Economy.

In the United States affordable housing is supported at the transaction level by federal as well as state and local subsidies for sale and rent costs. Yet with the deep resources of government there are tremendous swaths of the country that are severely housing cost burdened (we will cover this in depth). Estimates today place as many as 60,000 plus chronically homeless veterans in the United States.

<https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-report/>

Our studio will join with NYC based Community Solutions (CS) and their national campaign to end homelessness. In particular, we will take part in the CS *Built for Zero* project to end veteran homelessness. CS works to address the loss of housing for the homeless by streamlining and coordinating the diverse array of support means for the homeless that is often unallocated and unreachable by the homeless. Much of this support goes un-used and fails to serve the actual people who need help.

Our goal is to combine the energy and creative leadership of Community Solutions (CS) and their *Built for Zero* program with a deep range of engineering, and architectural resources to explore solutions for affordable housing today and in the future.

We seek housing where innovations in engineering, energy and design of all kinds achieves breakthroughs in how we fund and produce housing.

Community Solutions has long been dedicated to ending homelessness in the United States and works to prevent homelessness before it occurs. They model risk factors that can lead to homelessness and seek to move support into place by better using and allocating existing government funds.

Community Solutions uses a broad range of social and data driven tools to engage people who are at risk of homelessness and help them affirm support and garner resources preemptively. Before the crisis of homelessness occurs.

Working across the United States CS teams coordinate and creatively fuses the resources of government at all levels, but also make use of their own achievements in harnessing information. While this may (magically) count as a form of charity or philanthropy it also a deeply innovative and professional project to get better results for people from already available but underutilized government and private recourses.

CS has a start up like drive; they hold an entrepreneurial spirit.

We will study CS's plans for housing for 300 People in Denver: their ability to create a new a new housing economy in need of a new housing asset.

With a current plan to purchase and renovate as many as 100 three to four-unit apartment buildings, CS would provide housing to the group in a distributed / scatter site format. Veterans would have a home in a small-scale (meaning not institutional) neighborhoods and have the pride of independence that comes with this.

Smaller apartment buildings deinstitutionalize the housing and thus helps achieve pride of place for people. But if one introduces new energy means, new mobility and need for community to this equation we begin to imagine and realize new housing and new housing types.

The funding to achieve this comes in part from the men and women making use of housing assistance available to them in the form of vouchers, but currently un-used and thus not allocated. CS helps people access the benefits they are eligible for and have earned but are not using. Our goal is to explore how to imagine what is essentially hedging the financial risk of development with the social risk and privacy needs of those in need of housing. A snapshot of how these benefits work is shown in this link. We will have access to CS's financial models for this project as well.

VASH Benefits: <https://goo.gl/HAIiNQz>

Community Solutions: <https://www.community.solutions/>
<https://www.community.solutions/what-we-do/built-for-zero>

Homelessness is Bad *Design* by Rosanne Haggerty, CEO of Community Solutions April 11, 2016

<https://www.bloomberg.com/features/2016-design/a/rosanne-haggerty/>

The CEO of Community Solutions, a nonprofit that combats homelessness, on designing a system that actually puts roofs over people's heads.

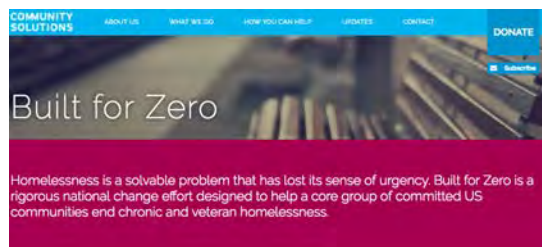
Homelessness is what happens when people fall through the cracks of different systems, so if we're to put an end to it, we need to create integrated teams—the U.S. Department of Veterans Affairs, the mayor's office, the nonprofits, the housing authority. It's only when you get everyone together in the same room that you can construct a well-performing housing placement system that isn't sending vulnerable people down all sorts of dead ends.

Everyone at an initial meeting would say, "We get that we need to collaborate, but how?" We need a performance management system that helps a collection of local organizations focus on a common goal and test their way into a solution, but that's grounded in person-specific data, so you can see if a situation is actually working for certain users of the system.

Another design principle is the notion of housing first—you redesign your approach to getting people housing as your first order of business, then help with the other issues that have been confounding them. Moving a single person from homelessness would require more than 50 steps. We worked with designers to create a magnetic board that looks like Chutes and Ladders. We asked people to map out what's required for a single person to move from the point where you identify them on the street to a stable home. You'd see this crazy, winding trail.

Washington, D.C., looked at the amount of time it was taking from when an apartment becomes available to a lease-signing and turning over keys. They created a day where they'd have all the landlords and all the people who had been matched to them show up and sign their leases at the same time and get their keys. Imagine that.

<https://www.community.solutions/what-we-do/built-for-zero>



Overview

Built for Zero (formerly Zero 2025) is a rigorous national change effort working to help a core group of committed communities and veteran and chronic homelessness. Coordinated by Community Solutions, the national effort supports participants in developing real time data on homelessness, optimizing local housing resources, tracking progress against monthly goals, and accelerating the spread of proven strategies.





For Sale - Active

New VA Loan Limit for Veterans - \$0 Down on \$424K

965 Brentwood St

\$485,000

Lakewood, CO 80214 [Directions](#) [Commute Time](#)

[Estimate Payment](#)

4 beds • 4 baths • 1,560 sq ft • 7,260 sq ft lot

[View Rates](#)

Denver Colorado
<https://goo.gl/XEvKxQ>

Housing for four individuals: CS would purchase as many as 100 such buildings: A property available for sale in Denver: Community Solutions is studying the possibility of purchasing as many as one hundred three to four-unit apartment buildings in the Denver metropolitan area. Most of these structures are stand-alone structures and often in low density areas of the city's suburbs. Denver area has a wide availability of small scale dispersed apartments buildings.

These buildings are a ubiquitous part of any cities fabric: What options exist to both retrofit these properties and also consider entirely new options for how they form an aggregate new form of design and agency. How do energy saving factor into this equation and how can we multiply the savings in assisting more people to achieve independence?

Site Three: Fear of Nature: (a) Pine Barrens

Designing today for nature today. Design for the risk associated with settling (way) off the grid.

An infamous episode of the HBO television series "The Sopranos" depicted two mafia hitmen lost and increasingly unwound in (and by) the New Jersey Pine Barrens.

Reeling in the snow and freezing winter weather, unable to determine direction or path, Paulie and Christopher increasingly collapse into fear in the face of an expanse of the pine forest.

The topological quality of a seemingly boundary less interior of trees and snow (the Pine Barrens) finds the otherwise ruthless characters unable to garner direction.

The Pine Barrens for us is a stand in: a prop for a concept and literal quality of nature that persists in the midst of even the most industrialized states. A zone of nature that is both a demonstrative act of preservation (control) but also of concern and hesitancy (fear). A forestalling of extinction, the forest is another ruin, signaling a hands off anxiety and fear of damaging a deeply primordial site.

Paulie and Christopher, two mobsters, panic and as it turns out have zero skill to navigate in the face of nature. Normally the inflictors of risk, punishment and fear they instead reel into panic attacks as night falls.

The Pine Barrens is our conceptual site: a zone of nature preserved on the edge of the sprawling metropolis.

Perhaps a new zone or interior that now serves as the origin of an architectural habitation. Instead of the other or periphery of the settled and codified metropolis.

Our studio will make use of the Long Island Pine Barrens rather than those of New Jersey.



Case Studios: Taliesin West, Broadacre City...

What is disruption in architecture: Four Vectors

Condition One: Architectural invention would mean what?

Is there another design evolution possible inside the architectural nomenclature of window or doorway? Of roof or wall or floor—in foundations?

Historically we can point to pivotal moments when terms have changed and where new technologies instigated changes and innovation to the very DNA of an architectural element.

In the past decade one can point to what seem like pivotal moments: collaborations between SANAA and Transsolar at the Toledo Art Museum – a glass plenum space becomes a thermal and optic barrier that forms a room. The design was of the thermal conditions. Or Gehry Partners Louis Vuitton Foundation where a dilated enclosure, structure and thermal barrier seemingly invert a century of asymptotically thin curtain walls creating an un-sprung void or a kind of lapsed plastic space. Glue lams turned on their side, a weakened span condition.

But are we using the wrong terms in an attempt to stabilize key components of architecture and buildings against history?

Architectural work is deeply rooted in geometry and form: we are reminded of the emergence of the “ribbon window” and of Bruno Reichlin’s later declaration of its extended horizon, a topology of space, that curves and threatens the vertical reciprocity with a standing person. Reichlin’s reading of the *ribbon window* still allowed the term window to persist, but he saw Le Corbusier’s window as threatening the stability that his mentor, Auguste Perret, saw as essential to the very term

window. For Perret the vertically proportioned aedicule window delineated a threshold between inside by way of its tense and short horizon line. Yet the *ribbon window* was still called a window. Was it? Formally, perhaps this is the case but what of the experience?



Today where do we see these terms—is there an elastic limit to their meaning?

Today relatively inexpensive software offers a technology to examine (to see) materials and structural behavior in ways that could render old categories obsolete. Structural analysis allows us to see stress/strain but the computer is modeling chemical behavior: molecular stressing of chemical materials here depicted in geometrical mesh. Can we model our way out of the past and indeed find new architectural elements?

Condition Two: Is real estate still the denominator

Buildings secure immense amount of economic risk: they are a form of collateral.

While architects are routinely imagined to be in a struggle (if not a victim) of real estate practices how could we in turn see the built environment as the backstop to leverage and debt. Its security.

In an imagined contrite posture toward finance the perceived burden of investment (real estate; return on investment or ROI) the architectural industry frequently seeks to deliver a higher level of efficiency. To make a better asset. A penance

offered to increase ROI. One can point to demonstrative success: housing, for example. today consumes 40% less energy per square foot than it did in 1985. One can find such data at almost any level of construction and design over similar periods of time.

If one seeks such efficiency, we quickly find ourselves in two benchmarks of capital markets: productivity and innovation. Increased productivity offers more potential for wealth accumulation. Innovation, where it's possible, changes the equation entirely offering new ways to increase

productivity or indeed allows altogether new achievements. An expansion of the markets and thereby wealth. Architecture routinely seeks both of these claims yet rarely ask (it seems) what is the out limit of this expansion. Indeed, does wealth production inextricably link itself to architecture or building or can we imagine an architecture that has less of a connection to capital accumulation.

Why, do we monetize housing in the first place? Is that inevitable?

Warren Buffett returns to the scene of our studio: again, in 2017. "Change is painful for a lot of people," said Buffett at the Berkshire annual meeting. "I think it's absolutely essential to America that we become more productive, because that's the only way we increase consumption per capita."

<https://goo.gl/Bb4W7g>

"Buffett, 86, said that gross domestic product per person in the U.S. is six times higher now than when he was born, reiterating his optimism about the nation's ability to generate wealth. That contrasts with the view of Donald Trump during his successful presidential campaign, when he said that the U.S. was ripped off by free-trade agreements. The president spoke in his inaugural speech in January about ["American carnage"](#) where rusted-out factories are scattered like tombstones."

While Buffett's optimism is understandable it also can be coupled and seen in light of several decades of expanded leverage and debt. A deepening cycle of credit at the level of central banks and households that is often seen as unsustainable. In this context how we gauge an architectural role for building as real estate, as material repositories of wealth or as jobs creators changes. What is sustainability in this regard. What happens if credit expansion reaches a real or even virtual limit where the credit regimes we consider the norm in building are simply not tenable.

Studio readings will supplement this question and we will couple this with design work that ideally could affect and instigate new economies of housing.

<https://www.bloomberg.com/news/articles/2017-05-06/buffett-laments-roadkill-who-lose-jobs-says-u-s-must-help>



Condition Three: What will artificial intelligence mean for urbanization and energy?

A.I. Upends Real Estate Speculation: How will artificial intelligence and machine learning alter the what is possible in the built environment? Will AI and machine learning couple with energy to alter development potentials?

As we see wide movement towards an aggregation of the now ubiquitous term *big data* in science, medicine, banking and communications (et al) what will these means afford in construction, real-estate development and in how we build cities should we begin to truly conflate information at immense scales. Will old models simply be made obsolete and their ROI be too small to be of concern.

We often seem to expect more of the same only more efficiently and pervasively planned? This is not to reference *smart cities* but a more pervasive and global mining of information regarding finance, economics and energy that would have the

potential to deeply alter what is possible and perhaps inevitable.

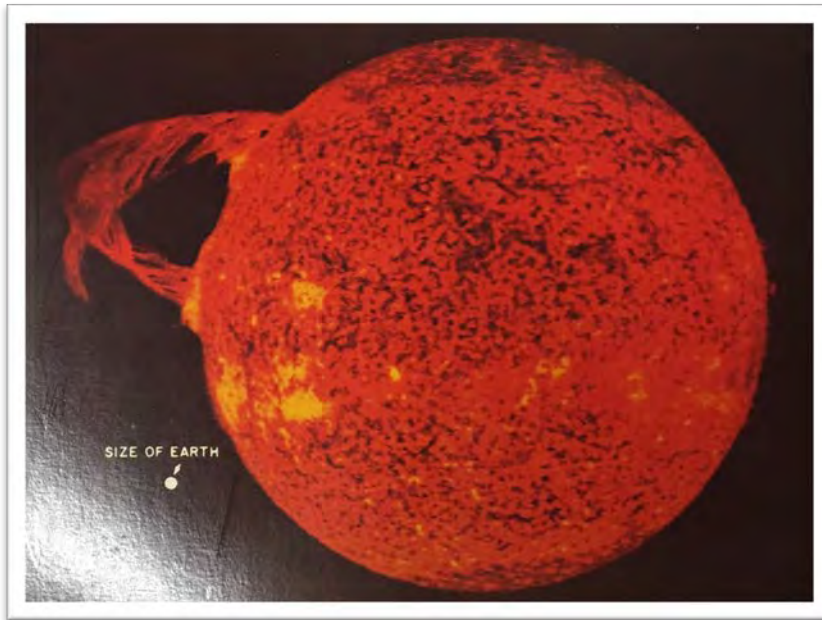
Will A.I. and machine learning undo entire professions and render the United States or China's housing economies as a few terabytes of data?

What is the future of urban density? Is high density development the best alternative or more so the only sustainable alternative to cities in our near and far future? Instead of mass transit and of high urban density a new low density but energy immersive land use. Discussion of future urban development inevitably points to a standard refrain: cities in the future will need to be developed at a higher density. Claims that urban density is a necessary denominator of sustainable cities are the norm but with new energy production and storage means is this the case?

Land Costs Mean High Density Development but also New Design Engineering: For most of the last century automobiles and low cost fuel (and tax systems) allowed housing and urban development to sprawl and effectively keep housing land prices flat—to control appreciation in land costs as a

component of development you could go further from the urban core. That sprawl has long ceased being tenable and land costs at major urban areas are rising faster than building costs. It is possible we are again entering a new phase of expansion reversing this trend to density.

Condition Four: Renewable or Excess



The author: George Bataille
The book: The Accursed Share

The Accursed Share was a rare but vivid presence in architecture schools in the 1990's.

George Bataille considered himself quasi-embarrassed by the subject of this writing but nonetheless opened the text by calling his work "a book of political economy." He was not an economist nor a specialist in the earth's physics and chemistry but he nonetheless had a fully formed discourse on an economy of energy—on how humans power the world and indeed distribute and share assets. He offered a theory of political economy and described as false the scarcity and lack of energy apportioned by financial markets under the broader auspices of an economy driven by capitalism. Bataille in essence offered a theory that scarcity was a false concept in realms of energy and the earth. Bataille linked economic thought to the world's energy sources in a manner that supposed as fact that the on a daily basis the

surface of the earth received more energy than was needed to sustain life. The excess energy needed to be released and spent, indeed squandered to allow renewal and release of excess energy.

Quote: For some years, being obliged on occasion to answer the question "What are you working on?" I was embarrassed to have to say, "A book of political economy." Coming from me, this venture was disconcerting, at least to those who did not know me well. (The interest that is usually conferred on my books is of a literary sort and this was doubtless to be expected: One cannot as a matter of fact class them in a pre-defined genre.) I am still annoyed when I recall the superficial astonishment that greeted my reply; I had to explain myself, and what I was able to say in a few words was neither precise nor intelligible. Indeed, I had to add that the book I was writing (which I am now publishing) did not consider the facts the way qualified economists do, that I had a point of view from which a human sacrifice, the construction of a

church or the gift of a jewel were no less interesting than the sale of wheat. In short, I had to try in vain to make clear the notion of a "general economy" in which the "expenditure" (the "consumption") of wealth, rather than production, was the primary object.

The Accursed Share' An Essay on General Economy, Georges Bataille. Volume I Consumption; © 1988 Urzone, Inc. ZONE BOOKS, New York; Originally published in France as La Part Maudite © 1967 by Les Editions de Minuit. Distributed by The MIT Press, Cambridge, Massachusetts, and London, England

Designing Energy

Solar energy from the sun reaches the earth's surface in 8 minutes.

Fossil fuels, oil and gas form over 250 – 350 million years.

Anyone involved in sustainability and energy knows these measurements and have long sought a transformation of our energy regimes. Whatever the goals the compensatory challenges have seemed intractably staged to stop change (and thus stage environmental calls for change as "revolts"). Blocking sustainability has been market based; there is too much easy money to make in the old energy regimes, too many assets based in fossil fuel protocols, too many stakeholders dedicated to the past. Whatever the source energy expenditures, as we know, are bound to the very nature of modern life. Divided into nomenclatures of housing / office / retail or mobility / production /

leisure. Embedded or transitory. Communications and (solid-state) electronics (chips / transistors and batteries). Energy is our basis and every move removes something from the earth and re-releases it into the literal and social atmosphere. If sustainability has been an ethical question we may concern ourselves with doing the right thing; if sustainability is a matter of survival, we had better find a path. Ethics tied to every step—anxiety and conflict. At the moment, however, most of us cannot stop moving or consuming. Anxiety and conflict have often been a sustenance of sustainability debates, yet, today, the global turn to renewable energy is not only mature but perhaps bound to cause more change than we are prepared to imagine. Will a deep implementation of a renewable energy economy shore up old assets (houses, cars, offices et al) or will possibly instigate entirely new asset classes?

The past century did create new assets and new modes of risk. The economy of the past century also dramatically induced scarcity of all kinds; from food to housing; fuel to land; education to medicine. It simultaneously opened immense branches of low cost communication and global communication.

How will the new energy regimes meet new forms of intelligence; new networks for trade and new means to mine data and information?

How do we Value Freeway Costs after Autonomous Driving?

Immensely choreographed experiences that has long dominated the experience of cities in the United States seem to face profound levels of change. Highways, Freeways—the transportation infrastructure of the United States portend vast collective expenditures and secure industries yet also have long created a tedium of time and focus. How will we imagine the expense of freeway systems in a new era of mobility?

What does living at the outer edge of a city mean today for social life and for architecture.

Concord Naval Weapons Station is the site of our work but our three sites combine to form a constellation that we hope is a view to the wider economy and its constituencies.



Beltway 8 and Highway 59, Houston, Texas, Photograph, Michael Bell

Value of Construction Put in Place - Seasonally Adjusted Annual Rate (Millions of dollars. Details may not add to totals due to rounding.)

Transportation	45,901	45,656	45,382	44,989	45,118	43,395
Communication	18,295	21,532	22,628	21,777	21,033	16,368
Power	87,834	88,392	86,720	87,070	86,825	83,783
Highway and street	99,931	102,006	93,987	87,986	92,604	80,265
Sewage and waste disposal	25,292	25,910	24,166	23,247	24,843	24,731
Water supply	12,378	12,152	12,174	13,171	14,132	11,998

The Value of Construction Put in Place Survey (VIP) provides monthly estimates of the total dollar value of construction work done in the U.S. The United States Code, Title 13, authorizes this program. The survey covers construction work done each month on new structures or improvements to existing structures for private and public sectors. Data estimates include the cost of labor and materials, cost of architectural and engineering work, overhead costs, interest and taxes paid during construction, and contractor's profits. Data collection and estimation activities begin on the first day after the reference month and continue for about three weeks. Reported data and estimates are for activity taking place during the previous calendar month. The survey has been conducted monthly since 1964.

People Are Real: They show up in Light and within deep basins of calculated risk (gone bad).



Chiaroscuro: Life at the Infrastructural Level Knee Play: Un Cities or Today's Last Mile

A fiction close to reality (see the photograph carefully).

As she left the bus in suburban Orlando on July 18, 2006, at the height of the foreclosure crisis X might have felt the sun on her face.

That day in Florida the humidity was low for summer—85%—but the sun was high and the sky was clear. A clear eye despite the thick air.

She later reported that she was distracted by the jump from the bottom step of the bus to the curb. The gap was not minor and there was no way to bridge this so instead she stepped down onto the asphalt and then with a half gate, a syncopated stutter, she stepped back up the deep grained broom finish of the concrete curb (who had wielded the broom she thought instantly). The 9" wide solid surface, was momentary a floor: she then stepped back down again to the worn compacted grassless soil before finding another broomed concrete surface—an extensive sidewalk.

The nearly new vintage of the sidewalk meant it was supremely flat and planar (not a crack) but the soil on either side was far from even. The sidewalk was a pier. Absolute in its character. No one was here but herself. It seemed no budget had been afforded to control the grade or plantings.

The bus was already in transit before she reached the beam like, and white blinding sidewalk. The last mile—someone would pick her up at the nearby gas station. She had made it almost home: but

now was standing near gas pumps, painted curbs and metal bollards that protected a near Styrofoam building. She waited patiently not making eye contact with anyone.

How was this built she thought. The bollard is stronger than the building.

News: In the New York Times, during the summer of 2011, as we were working at MoMA/PS-1 in Queens for an upcoming Museum of Modern Art exhibition on the future of the American suburbs we were alerted to the fact that Florida was home to the most dangerous roadways for pedestrians. Orlando and Tampa were in the top ten. Florida had five of the top ten most dangerous roadways for pedestrian.

Who faced this danger?

Researchers at the DOT had found that it was lower income families and individuals who used mass transit (well, what would be mass transit if it were mass). Navigating the city by bus and then stepping on(to) roads that were never intended for people, the risk of the city was born inordinately by the poorest in the city. After a slow bus ride home in a city of private cars they then stepped into the terrain vague almost as exiles—the risk was real. But if conflated with the emotional timbre of the exposure and objectification of being examined by 1000's of drivers...it is doubly brutal.

Counting the cars on the New Jersey Turnpike: they've all come to look for American. In Florida—down cast eyes conceal anxiety as one traverses the no man's land of the last mile.



"Albuquerque, New Mexico, 1972," by Lee Friedlander.

Friedlander said he deliberately included "those poles and trees and stuff." Things other photographers avoid.

The urban world we know and that we constructed this past sixty year has relied on a synthesis of private automobile, private house and public infrastructure. The public and private spending was interlocked in a form of hardware; dimensionalized as concrete, asphalt, metals, polymers, glass and into an energy grid. To many it has become an opaque semiotic field of signals: stop, start, wait, accelerate/velocity. An anthropology of experiences and fundamental human actions—we built this world and laced it into every aspect of our lives.



Google Streetview: Albuquerque, New Mexico 2017: 45 years later. Image located by Xiao Wang

Change comes slowly in the built environment. How Little Change was made over 45 years. A close examination shows even the same slumped asphalt in the corner of parking lot. The Chevrolet Impala has become a Toyota Prius, C. What kind of change can we expect in the next four decades? How did this change so little in the past?

SCHEDULE

SEPTEMBER

WEEK ONE

Wednesday	9-6	Studio Presentations	3:00PM Avery Hall, Wood Auditorium
Thursday	9-7	First Day of Studio	Avery Hall 600 Level

WEEK TWO

Monday	9-11	MB Lecture	
Thursday	9-14	HS Workshop / 6 to 8PM	

WEEK THREE

Monday	9-18	HS Workshop / 6 to 8PM	
Thursday	9-21		

WEEK FOUR

Monday	9-25	HS Workshop / 6 to 8PM	
Thursday	9-28		

OCTOBER

WEEK FIVE

Monday	10-02		
Thursday	9-05		

WEEK SIX

Monday	10-09	HS Workshop / 6 to 8PM	
Thursday	10-12		

WEEK SEVEN

Monday	10-16		
Wednesday		MB Studio	
Thursday	10-19	HS Workshop	

WEEK EIGHT

Monday	10-23	
Wednesday		MB Studio
Thursday	10-26	HS Workshop

WEEK NINE

Monday	10-30	Mid Term Review	Avery Room 115
Thursday	11-02		

NOVEMBER

WEEK TEN

Monday	11-06	
Thursday	11-09	

WEEK ELEVEN

Monday	11-13	
Thursday	11-16	

WEEK TWELVE

Monday	11-20	
Thursday	11-23	No Studio Meeting

WEEK THIRTEEN

Monday	11-27	
Thursday	11-30	

DECEMBER

WEEK FOURTEEN

Monday	12-04	
Friday	12-08	Buell 300 North and South, Final Review

DRAFT V1

Convergence Space

Re-visiting the Social Condenser 20 years into the internet

Columbia University, GSAPP

Advanced Studio V, Fall 2017

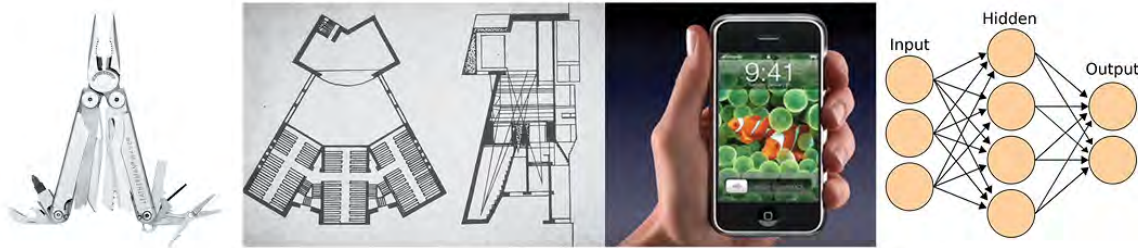
Critics: Dominic Leong and Chris Leong

TA: Jessie Baxa---

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When we think about **space**, we have only looked at its containers. As if space itself is invisible, all theory for the production of space is based on an obsessive preoccupation with its opposite: substance and objects, i.e., architecture. Architects could never explain space; Junkspace is our punishment for their mystifications. OK, let's talk about space then.

Rem Koolhaas, *Junk-Space*

"**Convergence** is a deep integration of knowledge, tools, and all relevant activities of human activity to allow society to answer new questions to change the respective physical or social ecosystem. Such changes in the respective ecosystem open new trends, pathways, and opportunities in the following divergent phase of the process."

Wikipedia

SUMMARY

We will investigate the contemporary culture of Convergence through spatial and cultural analysis. From this research, we will design a new typology of collective space converging varied programs—co-living, co-working, workshops, library, park, exhibition, commercial, etc. into a neighborhood contained inside a building. The site is in Redhook, New York.

CONVERGENCE SPACE

When Rem Koolhaas wrote *Junk Space* in 2001, only 55% of Americans used the internet. The first iPhone, a prime specimen of technological convergence, was still 6 years away. Like *Junk Space*, *Convergence Space* is not an new invention, it is a speculative description of a spatial ideology that already exists. Looking to architectural history, it is arguable that Convergence was a spatial concept before it became a technological one. Going back as far as the 19th century, concepts like the Phalanstere proposed a convergence of living spaces, communal spaces, and work spaces that would unlock the potential of its inhabitants. Similarly, the concept of the Social Condenser that emerged from the Russian constructivist movement sought to liberate the worker through a collaborative and integrated work-live lifestyle. In these utopian projects, architectural typologies also served as spatial manifestations of a social contract between its inhabitants and a broader ideology. In contemporary western culture, the social contract is linked to the values of the market place rather than a politically determined ideology. This studio will explore the possibilities for space to enable new social contracts that leverage the values of the market through an ethos of convergence.

If Junk Space was the “fallout” of modernism as it spread across the globe, then Convergence Space is a desire for space to re-concentrate experience to produce moments of coherence within accelerating complexity and chaos. In other words, Convergence Space is the milieu of interaction in which networks of meaning, expertise and knowledge overlap through the lived experience of individuals. As the concept of convergence cycles back through architecture from other disciplines, how was the value of space changed? What do we desire from space now 20 years into the internet? What should we converge to create a new way of living?

PROGRAM

Today, the City faces a moment in time that will define its future for decades to come. Worldwide economic forces, questions of equity, **the whole idea of what is a neighborhood**, and dramatic climate change will drive and transform New York City regardless. Each is a given. The question becomes, can each one of these questions be answered in a way that creates an equitable, sustainable and resilient city.

AECOM, SouthWest Brooklyn Study, 2016

A Neighborhood in a Building - Open Architecture Not Big Architecture

The studio will explore how a single building can contain an open-ended, open-source neighborhood with a mixture of collective programs including co-living, co-working, workshops, library, park, exhibition, commercial, etc. We will depart from recent micro-living projects in New York (eg. Carmel Place, West 57th) and the co-living models like (eg. We-Live, Lighting Society, etc.) to imagine more extreme convergence of collective programs which question and challenge the system of values which currently govern the development of the city.

Between an Intentional Community and a Social Condenser

Looking back to the 19th and 20th century, this studio will draw on two distinct types of convergence space that continue to have relevance for contemporary culture, the Social Condenser and the Intentional Community. The re-emerging popularity in co-living spaces is both a reaction to the increasing cost of living in NY as much as a broader cultural desire for new forms sociability.

SITE - REDHOOK

The site of the project will be located in Redhook, the area of South West Brooklyn under immense development pressure to accommodate some of the projected 3 million new residence in New York by 2040. As development moves increasing toward the outer boroughs, the opportunity to re-think the convergence of living, working, and socializing are immense.

STUDIO METHODOLOGY

This studio will ask its students to embrace the ever-expanding realm of the architect—as designer, researcher, strategist, social scientist, graphic designer, and salesman. Assignments aim to create a continuous feedback loop between cultural speculation and design production informed by our architectural expertise. We will be particularly focused on the development of precise and evocative narratives that engage disciplinary issues as well as broad cultural trends. Using the medium of the book/zine/deck, students will cumulatively develop their arguments (conceptually, architecturally, graphically) across the semester. Students are encouraged to test new representation and narrative techniques to converge disparate data, concepts and intuitions.

Students can work individually or in groups. The studio will progress through 4 major phases:

Research (3 Weeks) Beginning with research into Convergence culture draw from precedents in technology, media, science, etc. while looking into architectural history for typologies of convergence. In parallel, students will study typologies of urban social condensers, intentional communities while generating formal strategies and tectonics to potentially apply within their own projects.

Glossary

From this research we will produce a glossary of working definitions (see attached work-in-progress)

Concept and Design Studies (3 weeks) Building upon the research of the first phase, students will construct a narrative for a Convergence Space located in Red Hook, New York. Students will bounce between the conceptual framework of the community and formal/organizational strategies of the site and New York as an interconnected network. Students are encouraged to design through models, iteratively and rapidly.

Design Development (5 weeks) For mid-review and ¾ review, students will generate a fully composed proposal through a model and a book.

Refine + Production (3 weeks) Following ¾ Review, students will have a coherent design proposal and argument. In the final weeks of the studio, students will refine their design through the production of a large-scale model and a final printed book. Final deliverables will focus on a large-scale model and a book.

Schedule

9/7	Thurs First Studio - 2pm, Location TBD
10/26	Mid Review
11/20	3/4 Review
12/12	Final Review

*A detailed schedule will be provided on the first studio meeting.

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Redhook

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CONVERGENCE SPACE GLOSSARY - *WORK-IN-PROGRESS*

As a studio we will develop a glossary of observations which describe the characteristics of Convergence Space. From this glossary we will gain an expansive understanding of our contemporary spatial paradigm and architectures agency within it.

Aesthetics

In convergence space, all aesthetic effects are social.

Alchemy

In convergence space, coherence is mined like a precious metal in an alchemist's laboratory.

Age

In convergence space, everyone is in youth-mode, even your grandparents.

Architecture School

In convergence space, architecture school is an aggregator of ideas not an originator of ideas.

Attention

In convergence space, attention is like a conductive material.

Brain Damage

Convergence space is like an intensive care unit for the brain damage that is caused by relentless connectivity.

Burning Man

In convergence space, the techno-transcendent and the primitive-spiritual co-exist.

Chaos

In convergence space, "there are no safe harbours left, only the comparative safety of the open ocean."

Circulation

...

Complexity

...

Content

...

Collectivity

...

Currency

In convergence space, artists launch crypto-currency to subsidize their rent.

Distribution Centers

In convergence space, everything shows up at your door

Efficiency

...

Extreme Present

In convergence space, everyone is talking about the future but can never escape the "extreme-present"

Domestic

...

Food

In convergence space, all food is more alive and organic than you are.

Figure Field

In convergence space...

Furniture

In convergence space, furniture and gym equipment are indistinguishable.

Genetics

In convergence space, you have nightmares about your children altering their own genetic code as an act of teenage rebellion.

Gestalt

In convergence space...

High Performance Mysticism

In convergence space high performance is integrated with new age mysticism, think Yulex meets Himalayan Salt.

Hobbies

In convergence space, entrepreneurs and tech culture read Jane Jacobs and Christopher Alexander.

Human Resources

In convergence space, Shamanism is the new HR department.

Investment

In convergence space, "reasons-to-investment" are always aligned with your chakras.

Knowledge

In convergence space, metrics and intuition are indistinguishable.

Lifestyle

In convergence space, you can't tell if you are working, exercising, socializing, or in group therapy.

Management

In convergence space, Chaos Magic is the most viable management strategy.

Materiality

In convergence space materiality is a form of content.

Morphology

In convergence space is like a delta continually merging and form-finding, a fluvial morphology.

Neighborhood

...

Network Effects

In convergence space, network effects are everywhere but barely perceptible.

Nature

In convergence space, nature is not only inside the building it is inside of you.

Online/Offline

In convergence space, online transforms offline...which may or may not transform online

Open-Source

...

Optimism

In convergence space, opportunity and optimism still exists in the face of an apocalyptic future.

Politics

In convergence space, you realize that Junk Space predicted Trump.

Post-typological

Convergence space is post-typological, it exist between typologies rather than being one.

(In the way that "third space" or the Iphone is a typology defined between other typologies. EG. iphone became it's own typology)

Productivity

...

Professionalism

In convergence space, the boundaries of "professionalism" are intentionally put at risk.

Reality

In convergence space, fiction is not opposed to the real.

Ritual

In convergence space, ritual counteract cognitive dissonance and our awareness of time.

Sacred

In convergence space, spirituality is pre-condition for all actions and intentions.

Scale

In convergence space, scale is not determined by the size or a room but the number of IT hook-ups.

Sharing

...

Supplements

In convergence space, psychedelics are the new amplifier of productivity.

Terrazzo

In convergence space, every designer has their own custom terrazzo pattern.

Tectonics

...

The Architect

In convergence space the architect is a shaman.

Time

In convergence space, time is a factor of proximity.

Transparency

In convergence space, transparency is not literal nor phenomenological, it is informational.

Vacation

In convergence space, you can't tell if you are on group vacation or part of a crypto-currency think tank.

Value

In convergence space, memes and crypto-currency exist in the same system of value.

Weird

In convergence space, things get weird and then become normal increasingly quickly

Adaptive Re-Modulation: Eero Saarinen's United States Embassy in Oslo, Norway



The United States Embassy in Oslo, Norway, designed by Eero Saarinen and completed in 1959, is no longer viable post 9-11 for security reasons and thus is being decommissioned, sold, and is being renovated for contemporary use. Innovation and renovation share the suffix –novation, which means to “make new” or “re-new,” so innovation and renovation are just ways to indicate a doubling of a revitalizing engagement. The studio will engage in a radical renewal of this Saarinen building. We will begin with a visit to the Saarinen archives at Yale University to see first hand the original drawings, models, and documents of the Embassy, and then in October we will travel to Oslo to tour the building and its context, following up with a comparative tour of the political architecture of Berlin. The task of the Studio will be to propose alternative uses for the Saarinen Embassy that consider the multitude of issues it exposes: the evolving role of diplomatic presence, issues of security and surveillance, the projection and adaptive reuse of values that an architectural artifact embodies.

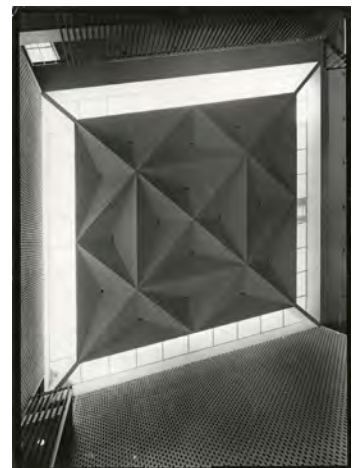
We have been invited by the Riksantikvar, Norway’s Directorate for Cultural Heritage, to help them develop principles for the adaptive reuse of the embassy. They will serve as our studio’s “clients” and local partners. In considering what program will best convert the former US Embassy in Oslo into a center for another purpose, it is important to note that in 1959, when the Embassy first opened, it had a strong cultural component for the public; some rooms therefore have special public significance, such as the library, film screening room, reception area and exhibition hall were all part of its original planning and mission for the benefit of the citizens of Oslo. The departure of ambassadorial and legion functions from the Oslo Embassy presents a new quandary for architects and preservationists alike; what is the most engaging use for this symbolic projection of American diplomacy circa 1959, by one of America’s preeminent modern architects?



TWA Flight Center, JFK International Airport, New York City

That we are adaptively reusing and renewing this architect's work is in keeping with Saarinen himself, who was restless in constantly renewing his own architecture, creating widely diverse and divergent experiments in form, program, material, and structure, from the elaborated Neo-Miesian IBM Center in Minnesota and John Deere Headquarters in Illinois, to the structural expressionism of the Dulles Airport and Ingalls Hockey Rink at Yale, to the Purism of the Jefferson Memorial Arch in St. Louis and the CBS tower (the "Black Rock") in Manhattan's midtown to the biomorphic TWA Terminal at JFK airport. In the same manner, the firm had one of the most active Research and Development branches, experimenting in new thin-shell and tensile structural systems, innovative molding and casting construction techniques, and inventive material properties, developing such diverse products such as Cor-Ten steel and glazing systems, setting the stage for later R&D offshoots of principal firms along the lines of Gehry Technologies.

Thus, as Reinhold Martin has written, it is necessary "to emphasize the enigmatic character" of Saarinen's work "not only with respect to relations of materiality to image, but also concerning the relation of the modern to the postmodern, since Saarinen's case is also kind of a hybrid, in which such polarities as modern versus postmodern and material versus image intermingle and overlap" ("What is a Material" in Pelkonen and Albrecht, eds., *Eero Saarinen: Shaping the Future* (Yale University Press, 2011)).



US Embassy, Oslo



US Embassy, London



US Embassy, London

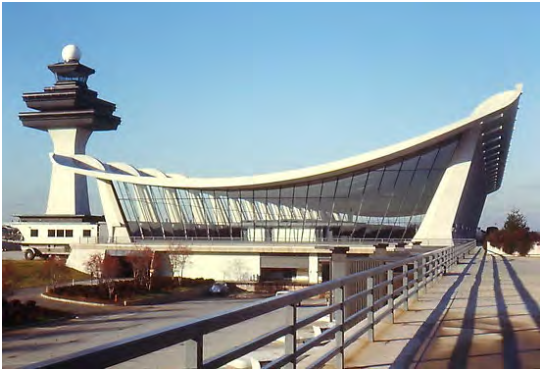


US Embassy, Oslo

The enigmatic character of the Oslo Embassy, sited across from the Royal Palace in Oslo's central Vika District, may be said to be initiated by its hybrid materiality, an innovation of Saarinen's office: precast concrete mixed with Norwegian pearl granite, developed as a black-toned iridescent alternating panels covering all three sides of this triangular building. According to Saarinen: "The precast façade is the most interesting and successful part of this building. Our attempt was to integrate the module, on which the offices are all based, with the structural system, so that one could conceive, all in one, a precast module structural system with an integrated façade material." At a later date Saarinen stated that he had "come to the conviction that once one embarks on a concept for a building, this concept has to be exaggerated and overstated and repeated in every part of its interior so that wherever you are, inside or outside, the building sings with the same message." Yet the inside of the Embassy is covered in different modules of beige travertine, teak wall panels, and white-painted brick. And in his next Embassy design for London, Saarinen was already re-modulating the exterior and interior modules with , as well as differential mixing, layering, compressions, expansions, distributions in materials/colors/textures/tones, and . Considering the renewed interest in innovative adaptive use of modules in architecture today, this studio will explore the dynamic and iterative modulation not only of tectonic modules and structural modules, but the underlying assumptions regarding the modularity of rooms, of programs, of civic identities and urban formations. In other words, we will be rethinking and reworking the underlying assumptions of the politics of the module today and how it may radically evolve.



US Embassy, Oslo



From Left: Washington Dulles International Airport, Loudoun,
Ingalls Hockey Rink, New Haven,
Jefferson Memorial Arch, St. Louis,
CBS tower (the "Black Rock"), New York City

Semester Sequence:

In preparation of your own individual introduction of new revitalizing design modes into the building, we will begin with a series of experiments in hybrid recombinant logics of modules. From this near and far distance of 65 years, from our contemporary moment looking back toward the future, as a way to understand and represent the organizational logics and illogics of this particular building we will begin by exploring, through modeling and dynamic forms of visualization, what might result through recombinant techniques of exaggerating and mutating the diverse forms of organizational logics already in the building. And then develop a series of explorations with recombinant fusions of early Saarinen with later Saarinen, of the Miesian Saarinen with the biomorphic Saarinen or, more closely developed in style and time and program, his U.S. Embassy in London completed in 1961.

At the start of the semester we will have lectures from Saarinen scholars and from Jane Loeffler, author of *The Architecture of Diplomacy: Building America's Embassies* (Princeton Architectural Press, 2010). So by the time we depart for Oslo you'll be deep into the genetics and morphology of the building, already starting to propose your own revitalizing addition and renovation. Our week in Oslo and Berlin will provide first-hand feedback to your initial investigations and proposals as you prepare your project for the midterm October 30, and further to the final December 11. In Oslo, in addition to visiting the building, we will visit some of the crucial post-war and contemporary buildings that set the stage for innovative engagements in architecture and adaptive reuse in Europe, to which your crucial designs will contribute their own renewed staging of these issues.

STUDIO SCHEDULE 2017

WEEK 1 Wednesday Sept 06 Thursday Sept 07	LOTTERY SELECTION FIRST STUDIO SESSION/OSLO Orientation/CONTEXTS Assigned
WEEK 2 Monday Sept 11 Thursday Sept 14	DUE: CONTEXTS Presentations Yale University SAARINEN ARCHIVE Visit
WEEK 3 Monday Sept 18 Thursday Sept 21	DESIGN DESK CRITS LECTURE: Jane Loeffer “Architecture of Diplomacy” + DESIGN DESK CRITS
WEEK 4 Monday Sept 25 Thursday Sept 28	DESIGN DESK CRITS PRE-TRAVEL REHEARSAL PIN UP
WEEK 5 Monday Oct 2 Thursday Oct 5	DESIGN DESK CRITS FINAL TRAVEL PREPARATIONS, FINAL PRE-TRAVEL PIN UP
WEEK 6 Monday Oct 9 Thursday Oct 12	IN OSLO IN BERLIN
WEEK 7 Monday Oct 16 Thursday Oct 19	DESIGN DESK CRITS DESIGN DESK CRITS
WEEK 8 Monday Oct 23 Thursday Oct 26	MIDTERM REVIEW REHEARSAL PIN UP DESIGN DESK CRITS
WEEK 9 Monday Oct 30 Thursday Nov 2	MIDTERM REVIEW DESIGN DESK CRITS
WEEK 10 Monday Nov 6 Thursday Nov 9	NO CLASS — ELECTION DAY HOLIDAY DESIGN DESK CRITS
WEEK 11 Monday Nov 13 Thursday Nov 16	DESIGN DESK CRITS DESIGN DESK CRITS
WEEK 12 Monday Nov 20 Thursday Nov 23	DESIGN DESK CRITS NO CLASS — THANKSGIVING DAY HOLIDAY
WEEK 10 Monday Nov 27 Thursday Nov 30	DESIGN DESK CRITS DESIGN DESK CRITS
WEEK 14 Monday Dec 4 Thursday Dec 7	FINAL REVIEW REHEARSAL PIN UP DESIGN DESK CRITS
WEEK 15 Monday Dec 11	FINAL REVIEW

Infrastructure vs the City: The Post-Industrial Landscape of Kolkata, India

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If one theme perfectly captures the core spirit of modern architecture since the early twentieth century, it is that of infrastructure-envy. In the seemingly technical, apolitical realm of infrastructure, architectural thinking has long sought a kind of cleansed, resolutely self-sure rationale as well as socio-economic relevance that seems to elude a profession beset by doubts, contradictions, not to rule out a pervasive sense of marginalization, as to its public legitimacy. Architects are not alone in sharing what amounts to a veritable *weltanschauung* of our era. "Build more infrastructure" is a cry that appears to find agreement amongst political factions that agree on little else, often for diametrically opposite reasons. Economists, engineers, environmentalists, bankers, lawyers, and now even anthropologists and sociologists see in infrastructure what the political philosopher Carl Schmitt called the "neutral domain," the prevailing tableau against which all contestations of interests and knowledge are set.

This studio will examine the riparian capital city of Kolkata (Calcutta), in Bengal, India, to open up this seeming "neutral domain" of infrastructure. Kolkata was perhaps one of Asia's first cities to both industrialize and deindustrialize. In the 19th century, the city was the British Empire's capital in the east, India's richest trading port and biggest industrial conurbation, with a vast hinterland connected through rail and waterways. In the 20th century, Kolkata's urban decline was spelled out in three successive stages: the shift of the political capital to New Delhi in the early part of the century; the decline of industry in its middle; and the political rise of agro-communism and its accompanying anti-urban sentiment towards its end. Kolkata still has the highest metropolitan density of India's cities, twice that of Mumbai, but a fraction of the latter's per capita income. Kolkata is thus unique in that it began to exhibit post-industrial degeneration in the east, even before the term became fashionable in the west.

Since the mid-20th century, from America to Europe to China, the overarching bias of so-called "Western urban land economics" holds that market efficiency in urban management is best achieved through a rent gradient that slopes from downtown, high value areas to the urban periphery, and that highest valued properties should go to the highest bidder. If land management is defined by this strategy of "clarify

and consolidate," its counterpart in the infrastructural arena is the famed "public-private partnership" (PPP) model, where each piece of infrastructure is constructed as a governmental domain onto itself, a "graduated sovereignty" effectively handed off to the private sector. The effect is a territorial geography – McKinseytowns – of gleaming downtowns divested of economic diversity or poor, combined with a subterranean, para-statal realm of logistics (the "fulfilment" economy) that is devouring employment in service/tertiary sectors just as more sophisticated mechanization swallows up jobs in manufacturing.

Like a defunct, outdated software program that may evade a latter-day computer virus, Kolkata's long stagnation paradoxically skipped these "neo-liberal" prescriptions. Its downtown areas are comprised of both high density of poor and the most intensive economic clusters in eastern India (including trading activity amounting \$ 150 billion/annum), which thrives despite, or because of, a morass of informal and contested property and land-tenural relations. The studio takes the premise that overlap and collocation of multiple legal, economic and social domains is precisely what makes cities into cities. Kolkata's "left-over" status from the nineteenth century also presents us with a palimpsest of that world that has been excised in so many other metropolises of the world: surreal scenes of beauty are mixed with superexploited pools of bonded labor, mafia and syndicalist organizations, crumbling and overburdened buildings and infrastructure, absence of amenities and health. Jane Jacobs it ain't. How does one think about infrastructure that responds to the fine and large prints of this chaotic domain, a chaos that nonetheless is the mark of a city? What would it mean to design in a context of mixed and unclear property regimes and invisible ("informal") modes of economic transactions? Can cities exist with multiple political-economic systems and domains all at once? How does one produce an architecture of these overlaps and boundaries? How do we measure urban forms and logics in relation to questions of democracy and civic access? How is democracy to be measured in infrastructure? Students will be invited to understand, absorb, and critique various ideologies and prescriptions in the field – through role-playing – as well as the approaches taken by consultancy firms and various government jurisdictional authorities, as well as the factors that both assist them and more often than not get in their way. The studio aims to examine a mainstream infrastructural doctrine against the background of a city that appears to have evaded it.

Through more focused, data-driven ground studies in Kolkata, the focus of the studio will be as much on questions of what needs to be done as on a grasp of how things are done in terms of locating clients, financing etc. Studio exercises and architectural/planning investigations will be complemented by expert inputs from economists, real estate investors, empowered administrators (in Kolkata), as well as urban activists and scholars. Design responses may run the gamut from serious, "problem-solving" mode to more surrealistic or absurd propositions that open up the interstices of prevailing dogma or history.

The studio will be split into two projects with a trip to Kolkata in between:

Project 1, Weeks 1-4: How to Do a McKinseytown

Studio Field Trip to Kolkata, India

Project 2, Weeks 5-13: Infrastructure vs The City (Jane Jacobs it Ain't)



Project 1, Weeks 1-4: How to Do a McKinseytown.

After four decades of communist-socialist government, the last elections in Bengal saw a landslide for the right, for the first time in its history. In her campaign, the new chief minister made new infrastructure her principal plank, and a citizenry long inured to unkept promises plumped for her not so much for ideological reasons as for a change of scene. Within six months, the chief minister won concurrence from the central government in Delhi for a \$ 1 billion loan from the Global Development Bank (GDB) based in Washington, DC, for Kolkata 2030, a large scale proposition for the urban redevelopment of downtown Kolkata inviting public-private participation in multiple infrastructure projects. The objective of the project is to invite businesses and commerce to relocate here, and to transform Kolkata into a hub of international trade between eastern India and eastern Asia. "Game-changing," "disruptive" is how the GDB wishes to cast its narrative. The RFP will be issued on September 6, 2017, and all proposals are due by October 5, 2017. The scope laid out by the GDB highlights the following as principal areas of concern:

1. Intermodal Transportation Networks and Domains
2. Riverfront Revitalization
3. Market Areas and Logistics
4. Preservation of Kolkata's Historical Downtown
5. Real Estate and Value Capture

Further details are posted, including weightage for different factors etc., in the RFP (TBA September 6, 2017).

You (the class) are part of a new planning and infrastructural cell set up by the international audit, consultancy and advisory firm DeLuutte Boston, composed of largely infrastructure engineers and financial experts (i.e. you don't care much about architecture). Your team has been formed tasked to respond to this RFP, under a team leader who is an architect and planner. DeLuutte's planning venture hasn't yet scored a project, and the firm is considering shutting down this unit if you don't get the Kolkata project. In writing your winning proposal, you must demonstrate how the money might be best apportioned to bring in the best investment, what kinds of projects must be done, rank-ordered in terms of priority, as well as provide methodological rationales for the same. The proposal must be accompanied by superb illustrations, providing (if necessary, cut-pasted) views of the future, shining Kolkata, as well as the requisite charts and maps to highlight critical data points and investment prospects.



Project 2, Weeks 5-13: Infrastructure vs the City (Jane Jacobs It Ain't)

You are the member of an urban think-tank in Kolkata, Kolkata Unnayan Shamannay (KUS), whose director is an old Marxist-type – everybody simply calls him 'Dada,' big brother – comfortable both within the echelons of the previous ruling party as well as in the conference rooms of international donor agencies in New York and Scandinavia, not to rule out classrooms in Ivy League universities. Your particular group has been convened under a grant received from the "Global 100" campaign of the foundation established by a multi-billionaire former mayor of New York City. The Global 100 campaign specifically sponsors propositions for "smart" architectural solutions in cities with high densities of urban poor that increase the democratic quotient or participation in their conception and governance. After DeLuutte's winning proposal for Kolkata 2030, there has been widespread outrage in the media, regarding its unrealistic, inequality-creating propositions that will leave Kolkata saddled with debt it will take multiple generations to pay back. "Planned urbicide," the Telegraph called it, and Kolkata appears to have three dozen homegrown Jane Jacobses who have crawled out of the woodwork and write daily op-eds condemning the loss of the old, picturesque Kolkata. At the same time, there have been vigorous discussions about the systemic inputs and changes that Kolkata really does need if it and its people are to have a future.

The former NYC mayor, on a business trip to India, decides that a critique of the DeLuutte propositions will be a good way of associating his name with more democratically-inclined (however defined) urban governance and thinking. After a workshop, your team came up with a detailed list of problems with the Kolkata 2030 – not hard to do, given its cartoonish abstractions – and emphasized that more geographically and economically sensitive propositions are necessary for the systemic problems that ail Kolkata. The mayor, a hard-headed investor, and his staff listened carefully, and while they see the opportunity for a counter-discourse of infrastructure, they're not entirely sure your proposals are viable either. "It's important to propose ideas that have a f*****g chance of really working," he said, before launching into a lengthy post-mortem of his Times Square pedestrianization project. Your team agrees to come up with a number of individual proposals that critique, subvert, abuse, but also, when necessary, use, different aspects or elements of the Kolkata 2030 master plan.

In other words, the Kolkata 2030 propositions represent your "artificial" site, whose dissonances with the existing city and its real needs you will mine and explore to produce a parasitic architecture that at times undoes, inhabits, or even replaces in toto the boilerplate systemic logic of the DeLuutte plan. Nonetheless, as the mayor insisted, viability is key. On Wednesday, December 13 there will be a review of the projects in his NYC office, where he will assemble a group of investors and venture-capitalists to gauge their interest. Dada is super-excited, since he figures if this goes off well the think-tank can survive for another ten years.

Project 1, Weeks 1-4: How to Do a McKinseytown.

Thursday, Sept. 7: Introduction to Kolkata, and context of project. Discussions based on readings and familiarity with site. Planning for travel to India in October (tickets, visas, etc.)

In teams, analyze the full list of data documents provided (based on GIS data provided by MIT/IAL and also sources provided at end of syllabus), plus other sources in Avery Library and online.

Based on data provided in GIS and these sources, map the KMDA region's basic demographic and economic profile in the following terms, in terms of municipal wards:

1. Population, 2. Population density, 3. Urbanization, 4. Rate of Urbanization, 5. GDP, 6. Industrial and Economic Activity, 7. Industrial Estates, 8. Transportation Systems and Nodes by Mode, 9. Transportation Usage by Mode, 9. Preservation and Tourist Sites

Monday, Sept. 11: First pass at maps and analysis. Setting up database for studio.

Thursday, Sept. 14: Review of data analysis, discussion on key intervention areas. Literature review. Pop quiz for site familiarity.

Required readings:

1. Deborah Cowen, *The Deadly Life of Logistics: Mapping Violence in Global Trade* (Minneapolis: University of Minnesota Press, 2014). Chapter 2, "The Rise of Supply Chain Security," and Chapter 4, "The Geo-Economics of Piracy."
2. Ishita Dey and Giorgio Grappi, "Beyond Zoning: India's Corridors of 'Development' and New Frontiers of Capital," *The South Atlantic Quarterly*, Vol. 114:1, January 2015.
3. The World Bank, *Demographic and Economic Overview of the Corridor States: Punjab, Haryana, Uttar Pradesh, Bihar, Jharkhand and West Bengal* (Washington D.C.: The World Bank, 2014).
4. Ishita Dey, Ranabir Samaddar and Suhit K. Sen, *Beyond Kolkata: Rajarhat and the Dystopia of Urban Imagination* (New Delhi: Routledge India, 2016).
5. Sukanta Chaudhuri, ed., *Calcutta: The Living City*, Vols. 1 and 2 (New Delhi: Oxford University Press, 1995).

Monday, Sept. 18: Desk-crits.

Thursday, Sept. 21: Crit. First propositions for McKinseytown, discussion on deliverables. Readings/presentation by guest lecturers.

Monday, Sept. 25: Desk-crits.

Thursday, Sept. 28: Pin-ups; discussion on layout of proposal and deliverables. Readings/presentation by guest lecturers.

Monday, Oct. 2: Desk-crits.

Thursday, Oct. 5: Submission of Project 1.

Project 2, Weeks 5-13: Infrastructure vs the City (Jane Jacobs It Ain't)

(Based on availability or upon occasion, individual weeks may have presentations, reading discussions, and literature reviews woven into class-time.)

Friday, October 6 – Sunday, October 15: Travel to Kolkata. On-site discussions, lectures, meetings with stakeholders.

Thursday, Oct. 19: Discussion on lessons learnt on-site. Literature review and review of alternative precedents for infrastructure. First propositions for fine print infrastructure projects (individual or tandem).

Monday, Oct. 23: Desk-crits.

Thursday, Oct. 26: Mid-term Review of Project 1 and developed propositions for Project 2.

Monday, Oct. 30: Desk-crits.

Thursday, Nov. 2: Desk-crits.

Monday, Nov. 6: Desk-crits.

Thursday, Nov. 9: Pin-up.

Monday, Nov. 13: Desk-crits.

Thursday, Nov. 16: Desk-crits.

Monday, Nov. 20: Desk-crits.

Thursday, Nov. 23: Thanksgiving Break

Monday, Nov. 27: Desk-crits.

Thursday, Nov. 30: Review – Completion of Individual Projects. Discussion as to correspondences between various projects. Proposals for “chaining” projects into a comprehensive set of urban propositions.

Monday, Dec. 4: Desk-crits.

Thursday, Dec. 7: Pin-up. Progress on “chaining” projects.

Monday, Dec. 11: Desk-crits.

Wednesday, Dec. 13: Preparation of Final Report for Global 100. Final Review.

Sources for Data Mining:

[West Bengal Economic Review](#), 2011-2012

Bureau of Applied Economics and Statistics, Govt. of West Bengal, [Statistical Handbook West Bengal](#), 2011.

Sachinandan Sau, Database for Planning and Development in West Bengal

Vol. 1: [Districts of West Bengal](#)

Development & Planning Department, Govt of West Bengal (UNDP), [District Human Development Report: North 24 Parganas](#), 2010

Emon Bagchi and Kanan Chatterjee, "[Nature of the Process of Urbanization in South 24 Parganas District of West Bengal, India: A Spatio-Temporal Analysis](#)," *Archives of Applied Science Research*, 2015, Vol. 7, No. 5, 73-90.

[Kolkata:](#)
Aparajita Chakrabartty and Sudakshina Gupta, "[Traffic Congestion in the Metropolitan City of Kolkata](#)," *Journal of Infrastructure Development*, June 2014, Vol. 6, No. 1, 43-59.

Centre for Science and Environment, [Citizen's Report: Air Quality and Mobility in Kolkata](#) (New Delhi: CSE, 2011).

Teesta Dey:

- w Sukla Bhaduri, "[Managing Performance Level of Tram Services in Kolkata: A Factor Analysis-Based Approach](#)," in *Indian Journal of Management Studies*, Vol. IV, No. 2, June 2014
- "[Viability of Passenger Transport System through Hooghly River in Kolkata](#)," *Hill Geographer*, Vol. XXIX, No. 2, pps. 1-16.
- "[A Profile of Road Transport Development in Howrah District, West Bengal, India](#)," *Journal of Arts, Science & Commerce*, Vol. IV, No. 3, July 2013.
- "[Suburban Railway Network Analysis of Kolkata City: A Geographical Appraisal](#)" *eTraverse: The Indian Journal of Spatial Science*, Vol. III, No. 1, 2012.
- w. Sukla Bhaduri, "[Changing Profile of State Transport Undertakings in Mass Transport Services: A Case of Kolkata City](#)," *Journal of Arts, Science and Commerce*, Vol. 3., No 2 (1), April 2012.

IDFC, [Comprehensive Mobility Plan, Back to Basics: Kolkata Metropolitan Area](#), 2008.

KMDA, [Comprehensive Mobility Plan, 2001-2025](#) (Has extensive slides and visuals)

KMDA, [A Chronology of Planning and Development Activities in Kolkata](#), April 2004

Nitai Kundu, [Urban Slums Reports: The Case of Kolkata, India](#)

Anis Mukhopadhyay, [Truck Terminals in Kolkata Metropolitan Area: Master Planning and Market Response](#) (Kolkata: Centre for Urban Economic Studies, University of Calcutta, August 2004).

[Kolkata Bus Routes By Number](#)

Census of India 2011, [District Census Handbook Haora West Bengal, Village and Town Wise Primary Census Abstract](#)

Bureau of Applied Economics & Statistics, West Bengal, [District Statistical Handbook Howrah](#), 2005

[Basic Howrah Census Data](#)

Anis Mukhopadhyay and Mahalaya Chatterjee, *Urban Development in Howrah: Socio-Economic Perspectives* (Kolkata: Primus Books, 2015).

Planning Commission, Government of India, [West Bengal Development Report](#), 2010 (New Delhi: Academic Foundation, 2010).

Sanat Kumar Guchhait, Abhik Dasgupta, "[Dynamics of Demographic Surface of Howrah District](#)," *International Journal of Current Research*, Vol. 4, Issue 07, July 2012, 104-110. (better diagrams)

Anis Mukhopadhyay, [A Green New Deal for Howrah: A Citizens Perspective](#), April 2013

(Other data sources to be provided in class.)

General Literature:

Ishita Dey, Ranabir Samaddar and Suhit K. Sen, *Beyond Kolkata: Rajarhat and the Dystopia of Urban Imagination* (New Delhi: Routledge India, 2016).

Sukanta Chaudhuri, ed., *Calcutta: The Living City*, Vols. 1 and 2 (New Delhi: Oxford University Press, 1995).

Partho Dutta, *Planning the City: Urbanization and Reform in Calcutta*, c. 1800-c.1940 (New Delhi: Tulika Books, 2012).

Tanika Sarkar and Sekhar Bandyopadhyay, *Calcutta: The Stormy Decades* (New Delhi: Social Press, 2015).

Krishna Dutta and Anita Desai, *Calcutta: A Cultural History* (Northampton, MA: Interlink Publishing Group, 2008).

Society for Participatory Research in Asia, [*Government Led Exclusion of the Urban Poor*](#), Kolkata Study Report 2014.

Sanat Kumar Guchhait, Abhik Dasgupta, “[Spatio-Temporal Dynamics of Population Growth of Howrah District in India: An Experience in the 20th Century](#),” *IOSR Journal of Humanities and Social Science*, Vol. 3, Issue 4, Sept-October 2012, 25-33.

Films:

Bimal Roy, *Do Bigha Zamin* (1953).

Satyajit Ray, The Calcutta Trilogy (*Pratidwandi/The Adversary*, 1970; *Company Limited/Seemabaddha*, 1971, *Jana Aranya/The Middleman*, 1976).

Mrinal Sen, *Padatik*, 1973.

Louis Malle, *Calcutta*, 1969.