GSAPP Columbia University
CORE ARCHITECTURE STUDIO I: FALL 2015

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SECT 008 NAHYUN HWANG

X

STUDIO STATEMENT

> UNDER / ABOVE / IN / ON

In Core I design studio, students will be introduced to fundamental concepts about architectural thinking and ways of making, that draw connections between form, environment, performance, and site. As a point of departure, the studio will investigate and work with[in] multiple interpretations of ground. Ground is no longer accepted as the default abstract horizontal plane, but as a conditional, relational, aesthetic, and contextual space.

Assignments will build in strategic sequence, each reinterpreting conditions of ground. Drawing and modeling investigations will offer diverse ways of seeing and reading form, building up layers and processes of making, extrusion and transformation in three dimensions.

Our studio will consistently consider architecture in relation to or with something else; such as architecture and program, architecture and site, architecture and environment, architecture and politics; always **Architecture And ...** This supposition guides our creative process and opens opportunities to integrate architecture within multiple contexts.

We will learn the fundamentals of architecture, and simultaneously question its fundamentals, to establish connections between Architecture And...

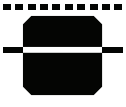
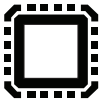
Architecture and the city. While it is important to first understand and learn fundamentals around or about architecture, we are at a moment where architecture and the city are never separate. Our studio will progressively become more integrated into New York City.

Our foundational ground shifts with modifiers or syntax: infrastructural field conditions, vantage points, lines of inquiry, energy vectors and planes of dissection. We will develop an architectural language through a series of Archi-Types that move between scales: from the human to the urban, the architectural detail to the master plan, the micro conditions of materiality to macro tectonics.

This language will translate into 4 projects investigating 4 central conditions, each of which reconsider the conception of ground and challenge the fundamental statics of architecture: kinetics versus virtual motion and force.

The studio is our space for conceptualization, critical exchange, graphic and material production. High energy, open-mindedness and passionate engagement are the prerequisites for Core I. In studio we will work intensely and collaboratively; ideas will be valued and clearly represented; constructive criticism and bold design responses constitute our primary means of communication.

Operative Terminology:

UNDER	ABOVE	IN	ON
			
transparency and void	dynamics and solid	figure ground	line, surface, volume
ENVIRONMENT	SITE	PROGRAM	ECOLOGY

X

STUDIO STATEMENT

Projects:

> **[1] UNDER** : moving in relation to the horizontal plane, questioning the statics of architecture. Fluidity, continuously shifting limits, establishes a dynamic ground. Movement in a fluid environment suggests the penetration of surfaces to allow one to change from one state to another, one vector to another.

Architecture may be shaped in association with virtual motion and force, adapting to its changing environment. We instrumentalize **transparency and void** to merge with the environment, operating on the site of condensed kinetic micro-urbanism.

[2] ABOVE : rotating the ground [plane of interaction] vertically, turning the street corner, we will work with static dynamics: the moment, translating the corner into dynamic architecture.

A corner involves two planes, nominally elevations, that meet and create a line piercing down to the ground. Architecturally speaking, the corner is the great challenge from Pericles to Mies.

A proto-corner overcomes dialectics of inside versus outside by being hinged, and therefore reversible. The proto-corner redistributes the horizontal plane of the city grid into the vertical field of the facade, or in other words, translates a projected analysis grid and defines a new ground of interaction and occupation: **an urban vertical condition, habitable facades in a city. Architecture intersects the site as a translated field condition.**

[3] IN : Pushing the modes of inhabiting the city, we discover the space in-between the figure of architecture and the solidity of the ground as a new point of departure. The point of departure is something that appears and vanishes in terms of buildings, culture, and language. As a city, it is rooted within tectonics. Architecturally, the Lost + Found portal balances between the subtracted ground and the new manmade structure, **a carved out space for the misplaced**, conceptually **lost between public and private**, the personal and political, social engagement and poetic disengagement, competing identities, all which constitute the complex territory of [the] city.

The excavation in the ground interrupts the vector of horizontal motion, allowing motion vertically, as a structured transition between platforms [above and below], where memory and history intersect. The portal shapes the way we move through the city, reclaiming **architecture as program in a space of transition and transience, a space of passing through**, not purely infrastructural, but highly architectural.

[4] ON : Linear lines of motion and action—vectors— under, above, through and across the city culminate in the last project: the X-Pier. A new ecological ground as an activated surface, a calibrated intersection between land and water, urban and void, the X-Pier embodies the changing waterfront, projecting the future of the East River, and standing as a horizontal monument on the shore of New York, pointing out to sea. The X-Pier reinterprets ground, territory and topography by exploring interlocking surfaces, urban networks and structures, providing shelter with density.

Conceptually, the pier can act as a bridge, or link, a network merging conditions, blurring boundaries and creating an adaptive barrier between two urbanisms, between two worlds: the vertical plane of the towering city and the horizontal plane of the water. Unlike a bridge, a pier is not necessarily sculptural. The X-Pier acts as a meeting point and intersection, shifting scales and our perception of time and sense of space, a collage of conditions both physical and conceptual, producing a hybrid which hasn't appeared before.

The X-Pier is not only reaching **out** onto the water, but potentially also reaching **in**: **an augmentation of the city's surface, an ecology connecting the East River Park to the City.**

X

STUDIO STATEMENT >

Projections:

Apart from the resulting architectural bodies, or Archi-types, we will focus on interactions between the human body and the urban body: crossing the lines of transportation, adaptation and configuration to project a future reality of what it means to inhabit the city.

Conditions, which form and inform our interactions, which we experience on a daily basis, all relate to the physical and conceptual **ground, site, land or field**. We are setting and testing boundaries, staying within site-lines or breaking out of them, operating on both physical and conceptual projections.

In New York City, air rights and land-leases act as projected site-lines, influencing the way we build. **We are investigating those site-lines, searching for a way to expand out – into the void, through the ground and onto the East River.**

We will look at bodies of architecture resulting from the necessities of moving, **from the human to the urban body, moving forward from point A to B, but also onward with different speeds and in different modes. We design the points of departures, or arrivals, upward and downward interactions, horizontal intersections with the city's surface: the urban ground made visible through architectural bodies.**

* Be attentive to recommendations, be open to suggestions, and never slow down in response to critique..

CORE I: SCHEDULE
FALL 2015

SEPTEMBER

04.SEP
M.ARCH ORIENTATION
GSAPP

UNDER

WEEK 1: DEPARTURE << >> BRIEF 1

FLUID DYNAMICS RESEACH

W 09 **CORE I FIRST MEETING: PRESENTATION**
BRIEF 1: UNDER

TH 10 VISIT: NATURAL HISTORY MUSEUM

F 11 PIN UP: MOTIVE RESEARCH

MERGE-SUBMERGE

UNDER

WEEK 2: KINETIC << >> REVIEW

14 16 18
TRANSPARENCY + VOID

M 14 TALK: AERONAUTICAL / NAUTICAL ENGINEERS
Kersten Geers & David Van Severen 6:30 pm

W (16) LANGUAGE SPRINT: KINETIC *
DESK CRITS

F 18 REVIEW: UNDER MAIDEN VOYAGE
Buckminster Fuller's World Game 1 pm

ABOVE

WEEK 3: HINGE << >> BRIEF 2

21 23 25
ANALYSIS GRID

M 21 **BRIEF 2: ABOVE**
PROTO-CORNER, RESEARCH
Kate Orff 6:30 pm

inter-SECTION

W 23 PIN UP: ANALYSIS GRID RESEARCH

F (25) LANGUAGE SPRINT: HINGE *
DESK CRITS
Camilo Restrepo Imprecise Topics 1 pm

ABOVE

WEEK 4: PARTI << >> GRIDS

28 30 02
PROGRAM + CIRCULATION

M 28 **DESK CRITS**
Vo Trong Nghia 6:30 pm

OCTOBER

W (30) LANGUAGE SPRINT: PARTI *
DESK CRITS

TH 01 GSAPP EVENTS @ Chicago Biennial 1 pm
F 02 **DESK CRITS**

ABOVE

WEEK 5: FIGURE GROUND << >> REVIEW

05 07 09
DYNAMICS + SOLID — ROVING CRITICS

M (05) LANGUAGE SPRINT: FIGURE GROUND *
DESK CRITS
Umberto Napolitano 6:30 pm

W 07 REVIEW: ABOVE

F 09 REVIEW: ABOVE + EXHIBITION
BRIEF: LOST + FOUND HAND-OUT
Entrepreneurship 7 pm

1/4

OCTOBER

IN

WEEK 6: MODULE << >> BRIEF 3

12 14 16
URBAN NETWORK/ CONCEPTUAL TERRITORY RESEARCH

LOST + FOUND

M 12 **BRIEF 3: IN**
INJECTION: MODEL-A-THON: MARK MORRIS, HILARY SAMPLE,
KATHY BATTISTA, RANDY HAGE, CHRISTIAN HUBERT, PETER WHEELWRIGHT
Jeanne Gang 6:30 pm

W 14 PIN UP: SITE RESEARCH
TALK: CITY PLANNING: BLOOMBERG ASSOC.

F (16) LANGUAGE SPRINT: MODULE * + DESK CRITS
Kate Orff 1 pm

IN

WEEK 7: PROPORTION

9 21 23
BALANCE + IMBALANCE

M (19) LANGUAGE SPRINT: PROPORTION *
DESK CRITS
Eric Hoëwler & Meejin Yoon 6:30 pm

W 21 TALK: MTA / CITI BIKE TBD: DAN ZAJACKOWSKI

F 23 INJECTION: COLOUR / LIGHT / TIME: HERVE DESCOTTES
GSAPP BOOKS RELEASE PARTY 6 pm

IN / ON

WEEK 8: MIDTERMS + BRIEF 4

26 28 30
FIGURE + GROUND — ROVING CRITICS

M (26) REVIEW: IN
Stefano Boeri 6:30 pm

W 28 REVIEW: IN

26.OCT
MIDTERMS
M.ARCH OPEN
HOUSE

F 30 **BRIEF 4: ON**
INJECTION: MICRO TO MACRO:
IWAN BAAN

1/2

ON

WEEK 9: TYPOLOGY

02 04 06
PRECEDENT + SITE RESEARCH

X-PIER

M 02 PIN UP: SITE RESEARCH

NOVEMBER

W (04) LANGUAGE SPRINT: TYPOLOGY *
DESK CRITS

F 06 INJECTION: ANCHORING + INTERTWINING: STEVEN HOLL
The Other Global University 10 am

ON

WEEK 10: COMPOSITION

09 11 13
X-CONCEPT [ECOLOGY]

M 09 TALK: CITY EDGE / FLOOD LECTURE
Bijoy Jain 6:30 pm

W (11) LANGUAGE SPRINT: COMPOSITION *
DESK CRITS
Ross Exhibition Les Levine 6:30 pm

F 13 INJECTION: HOW TO MAKE A BOOK
Biennials and Triennials 12-3:30 pm

JOINT STUDIO PINUPS / REVIEWS
STUDIO MINI LECTURE SERIES
AND GUEST LECTURES
INJECTION SERIES / WORKSHOPS
EXHIBITIONS / COMPETITIONS
AND TOURS
BRIEF HAND-OUT
ROVING CRITICS
GSAPP EVENT
see online calendar for location
*LANGUAGE SPRINT: OCCURS
@ 2pm in AVERY 500 N
HOLIDAY
LENSE

CORE I: SCHEDULE
FALL 2015

NOVEMBER

X-PIER

ON

WEEK 11: TOPOGRAPHY <<>> REVIEW

16 18 20

URBAN SURFACE, ARTIFICIAL + NATURAL

ROVING CRITICS

M 16 3/4 REVIEW: ON
Farshid Moussavi 6:30 pm

W 18 3/4 REVIEW: ON

F (20) LANGUAGE SPRINT: TOPOGRAPHY *
DESK CRITS
The Global and Universal 1 pm

3/4

WEEK 12: MORPHOLOGY << >> THANKSGIVING

23 25 28

FORM + STRUCTURE

M 23 DESK CRITS

W (25) MINI LECTURE: MORPHOLOGY *
DESK CRITS

TH 26 HOLIDAY

F 28 HOLIDAY

ON

WEEK 13: REPRESENTATION

30 02 04

REPRESENTATION

M 30 DESK CRITS

DECEMBER

W (02) MINI LECTURE: REPRESENTATION *
DESK CRITS

F 04 LAST DAY OF CLASSES
GSAPP SYMPOSIUM Climate Change and Scales of Environment 9 am

ON

WEEK 14: LIMIT << >> FINAL REVIEWS

07 08 11

LINE / SURFACE / VOLUME

ROVING CRITICS

M 07 FINAL REVIEW: ON

07-11.DEC
FINALS

T 08 FINAL REVIEW: ON

F 11 EXHIBITION: 8 PROJECTS 8 BILLBOARDS

WEEK 15: HAND OFF

14

M 14 HAND-OFF: CORE I LOG BOOK LAUNCH / INDIVIDUAL E[X]IT REVIEWS

14-18.DEC
EXAM + PAPER WEEK

W 16 STUDENT DOCUMENTATION HAND-IN

F 18

JOINT STUDIO PINUPS / REVIEWS
STUDIO MINI LECTURE SERIES AND GUEST LECTURES
INJECTION SERIES / WORKSHOPS
EXHIBITIONS / COMPETITIONS AND TOURS
BRIEF HAND-OUT
ROVING CRITICS
GSAPP EVENT
see online calendar for location
*LANGUAGE SPRINT: OCCURS @ 2pm in AVERY 500 N
HOLIDAY
LENSE

ASSIGNMENT :

1

Sep 9-
Sep 18

_ UNDER

Architecture and Environment.

Architecture may be shaped in association with virtual motion and force. We instrumentalize transparency and void to merge with the environment, kinetically operating on the site of condensed microurbanism.

MERGE / SUBMERGE >

You are asked to create a device which can swim across a pool of water, or one which can float, sink and resurface.

Questioning the statics of architecture, your device will need to move in relation to the horizontal plane. Maneuvering the relationship with surface, or water, is key, as is the **directional vector of motion your device sustains in an aquatic environment**. The watertight **shell** of kinetic mechanisms, or locales of locomotive power; the pulling, paddling, pushing, or skimming of the water; its **weight versus density; buoyancy;** the **duration** of the journey; and the dance of the device, will all be attended to. **The device acts as a membrane, structuring the relationship between transparency and void to engage the fluid environment.** It is a creature emerging from the depths.

This initial project is about risk: stretching yourself as dynamic makers and testing prototypes. Focusing on elements of change, flux and mobility, concepts which not only challenge the fixity of architecture with a dynamic ground plane, and the notion of performative architecture, but also access ideas about migration patterns, permanence and property lines, considerations of material properties, and the notion of place and site as not singular but absorptive and all around us. The site is fluid in every sense. **The goal is fixed: sink or swim, both are options and operations.**

FLUID DYNAMICS >

In physics, fluid dynamics is a subdiscipline of fluid mechanics that deals with fluid flow—the natural science of fluids (liquids and gases) in motion. It has several subdisciplines itself, including aerodynamics (the study of air and other gases in motion) and hydrodynamics (the study of liquids in motion). Fluid dynamics has a wide range of applications, including calculating forces and moments on aircraft, determining the mass flow rate of petroleum through pipelines, predicting weather patterns, understanding nebulae in interstellar space and modelling fission weapon detonation. Some of its principles are even used in traffic engineering, where traffic is treated as a continuous fluid, and crowd dynamics.

Fluid dynamics offers a systematic structure—which underlies these practical disciplines—that embraces empirical and semi-empirical laws derived from flow measurement and used to solve practical problems. The solution to a fluid dynamics problem typically involves calculating various properties of the fluid, such as **flow velocity, pressure, density, and temperature, as functions of space and time.**[1]

Merge Brit. /məːdʒ/ , U.S. /mərdʒ/
Etymology
< classical Latin mergere to dip, plunge, cognate with Sanskrit majj- to sink, go down, Lithuanian mazgoti to wash. In legal context (in senses 2a and 2b) via Law French merger (early 15th cent.; earlier translated with 'drown': see DROWN v. 6b). Compare slightly earlier EMERGE v.1, DEMERGEv., IMMERGE v., SUBMERGE v.
a. To immerse or plunge (a person, esp. oneself) in a specified activity, way of life, environment, etc. **Submerge** / səbˈmɜːdʒ/

Submerge /səbˈmɜːdʒ/
Etymology
< Latin submergĕre , variant of summergĕre : see SUB- prefix 1b and MERGE n. Compare French submerger , Italian sommergere , Spanishsumergir , Portuguese sumergir .a. To immerse or plunge (a person, esp. oneself) in a specified activity, way of life, environment, etc.
a. Sunk under water; covered or overflowed with water, inundated; growing entirely under water;Naut., operating or being under water (esp. of or relating to a submarine).

Objective:

> Create a device which can swim across a pool of water, or one which can float, sink and resurface.

1"Fluid Dynamics." Wikipedia. Accessed July 7, 2015. https://en.wikipedia.org/wiki/Fluid_dynamics.

ASSIGNMENT :

1

_ UNDER

CONSTRAINTS >

- **SIZE**
  The device must fit within a 15 x 15 x 15 in volume, no exceptions.
- **TIME**
  60 seconds
  To achieve the task (sinking and resurfacing OR swimming across an 8 ft channel).
- **MOVEMENT**
  Fluidity, Kinetics
  The device must perform an operative motion in relation to the horizontal plane: propel, drift, slide, pivot, float, release, compress, sail, sink,... dance across the surface.
  *The device may be launched in some way, but contact after launch may not be sustained.
- **SPACE**
  The device must be an autonomous, authentic construction, manufactured by you, and must NOT rely on preexisting devices.

A *Deep sea diver*, via petercat.harris Flickr

REQUIREMENTS >

- Select a marine animal and analyze its mode of motion
- Representation of the above kinetic analysis through a system drawing **24 x 24 in**
- Create a kinetic, physical device that responds to your motive research **15 x 15 x 15 in** model crafted / hybridized / curated by you
- At least **5 amendments (iterations)** to the kinetic, physical device responding to the criteria created above
- Documentation of design evolution and movement (as video, photograph, drawings, other)
- *Core I Log Book **

B *Novecento* by Maurizio Cattelan / 1997

READINGS >

1 Banham, Reyner. *Theory and Design in the First Machine Age*. New York: Praeger, 1960.

2 Gideon, Sigfried. *Mechanization Takes Command: A Contribution to Anonymous History.* New York: Oxford University Press, 1948.

3 Moholy-Nagy, László. *Vision in Motion*. Chicago: Paul Theobald & Co., 1947.

4 Morris, Mark. *Models: Architecture and the Miniature*. Chichester, West Sussex: Wiley-Academy, 2006.

**NOTE

*See ***Navigator*** for Core I Log Book Layout
See ***Navigator* for additional Research/ Readings/ References