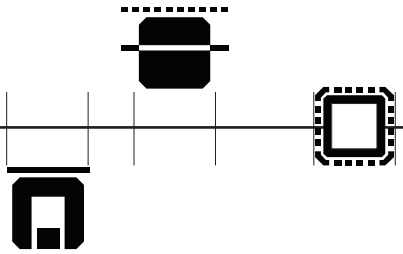
CORE I

NAVIGATOR

GSAPP FALL 2015



5

STUDIO DECLARATIONS

1. We will work intensely and collaboratively.

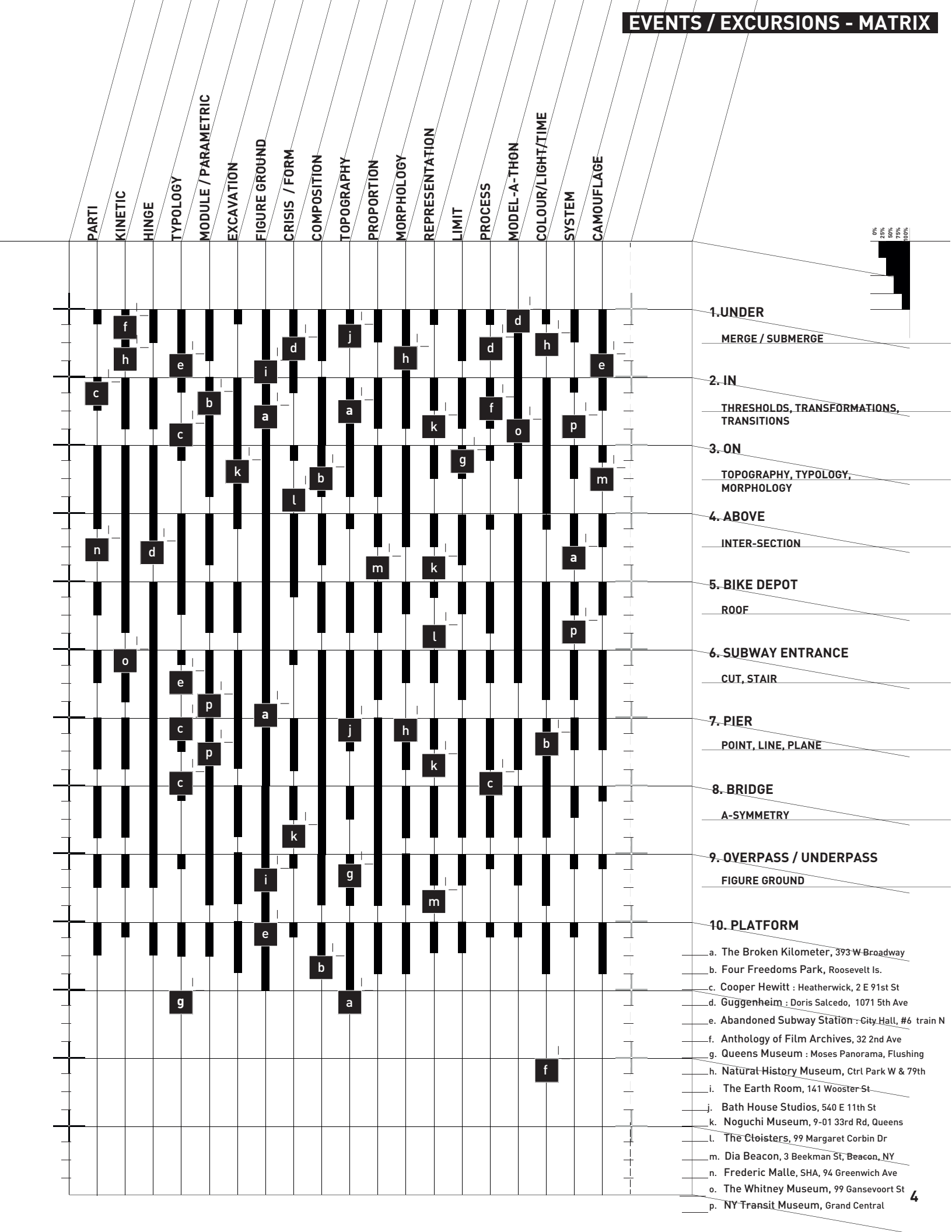
2. Ideas must be valued and clearly represented.

3. High energy, open-mindedness and engagement with the wider world are prerequisites.

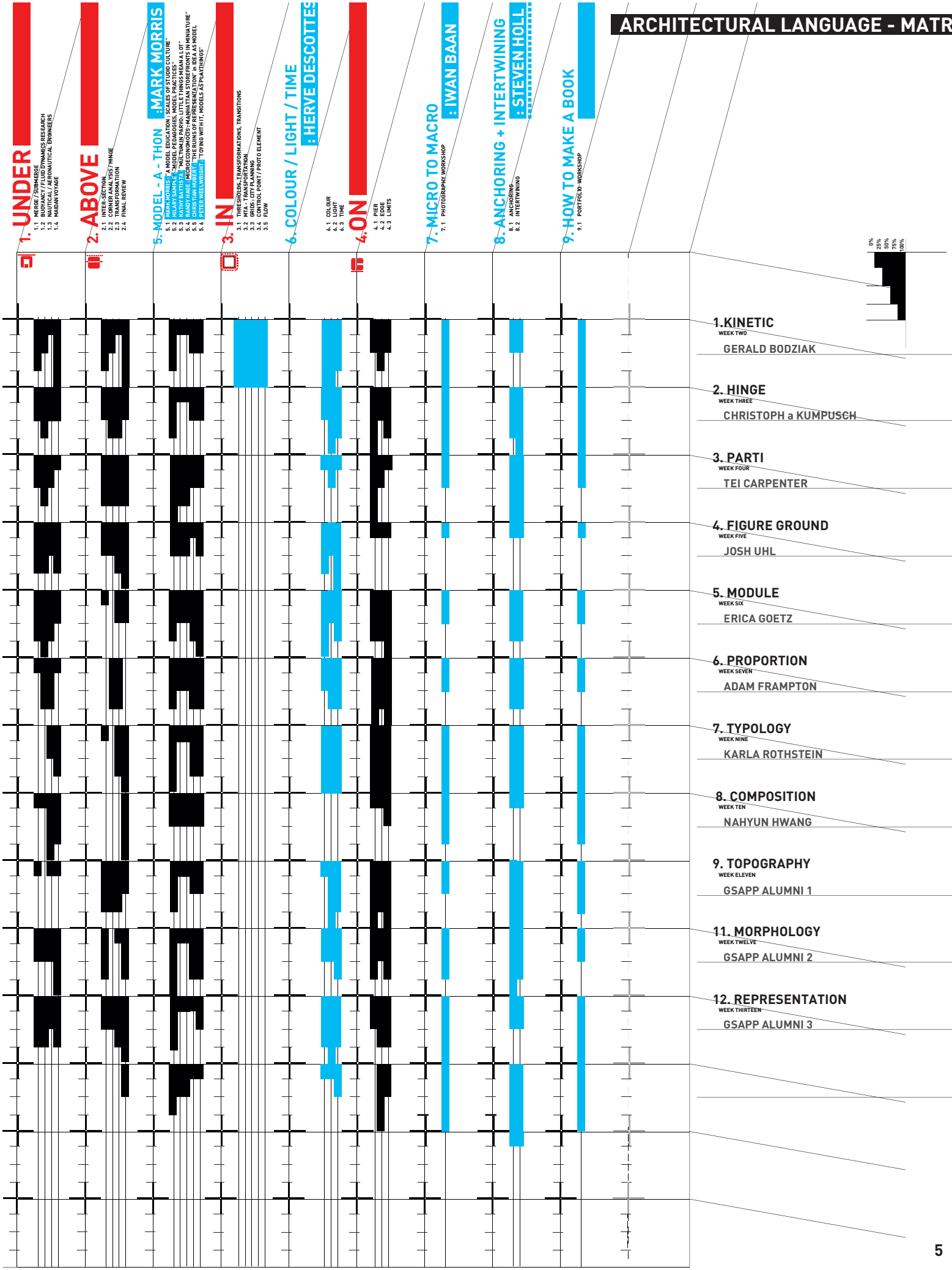
4. Constructive criticism and bold design responses constitute our communication.

5. Our creative palette includes the interconnection of complexity and simplicity, light and shadow, form and space, materiality and structure.

EVENTS / EXCURSIONS - MATRIX



ARCHITECTURAL LANGUAGE - MATRIX



1. KINETIC
WEEK TWO
GERALD BODZIAK

2. HINGE
WEEK THREE
CHRISTOPH a KUMPUSCH

3. PARTI
WEEK FOUR
TEI CARPENTER

4. FIGURE GROUND
WEEK FIVE
JOSH UHL

5. MODULE
WEEK SIX
ERICA GOETZ

6. PROPORTION
WEEK SEVEN
ADAM FRAMPTON

7. TYPOLOGY
WEEK NINE
KARLA ROTHSTEIN

8. COMPOSITION
WEEK TEN
NAHYUN HWANG

9. TOPOGRAPHY
WEEK ELEVEN
GSAPP ALUMNI 1

11. MORPHOLOGY
WEEK TWELVE
GSAPP ALUMNI 2

12. REPRESENTATION
WEEK THIRTEEN
GSAPP ALUMNI 3

09. SEP
UNDER

DUALITY
DREAM / REALITY
SCALE
DISTORTION
PERCEPTION

FILM	DIRECTOR	YEAR	COUNTRY
THE GOLEM	PAUL WEGENER	1920	GERMANY
THE CABINET OF DR. CALIGARI	ROBERT WEINE	1920	FRANCE
UN CHIEN ANDALOU	LUIS BUÑEL	1929	FRANCE
8 1/2	FEDERICO FELLINI	1963	ITALY
BARBARELLA	ROGER VADIM	1968	FRANCE/ITALY

21. SEP
ABOVE

SUBWAY
UNDER / IN

FILM	DIRECTOR	YEAR	COUNTRY
THE NAKED CITY	JULES DASSIN	1948	USA
BLADERUNNER	RIDLEY SCOTT	1982	USA
KONTROLL	ANTAL NIMRÓD	2003	HUNGARY

12. OCT
IN

12. OCT
MODEL - A - THON
MODEL SYMPOSIUM + COLLOQUIUM

▶ MARK MORRIS + HILARY SAMPLE

23. OCT
COLOR / LIGHT / TIME

▶ HERVE DESCOTTES

CINEMATOGRAPHY
SCALE
MEASURE OF TIME
LIGHT
SUSPENSE

FILM	DIRECTOR	YEAR	COUNTRY
METROPOLIS	FRITZ LANG	1927	GERMANY
THE THIRD MAN	CAROL REED	1949	USA
REAR WINDOW	ALFRED HITCHCOCK	1954	USA
2001 A SPACE ODYSSEY	STANLEY KUBRICK	1968	USA
THEY SHOOT HORSES, DON'T THEY	SYDNEY POLLOCK	1969	USA
CHUNGKING EXPRESS	KAR WAI WONG	1994	HONG KONG

30. OCT
ON

30. OCT
MACRO TO MICRO

▶ IWAN BAAN

CINEMATOGRAPHY
CAMERA ANGLES
LONG LENS AND ZOOM
ICONS
CRISIS
REPETITION
PERCEPTION
TIME AND SCALE
SET DESIGN

FILM	DIRECTOR	YEAR	COUNTRY
TOKYO STORY	YASUJIRÔ OZU	1953	JAPAN
HIGH AND LOW	AKIRA KUROSAWA	1963	JAPAN
BLOW-UP	MICHEALANGELO ANTONIONI	1966	ITALY
MODERN TIMES	CHARLIE CHAPLIN	1936	USA
THREE DAYS OF THE CONDOR	SIDNEY POLLOCK	1975	USA
POWERS OF 10	CHARLES AND RAY EAMES	1977	USA
THE PRUITT-IGOE MYTH	CHAD FRIEDRICHS	2011	USA

06. NOV
ANCHORING + INTERTWINING

▶ STEVEN HOLL

COMPOSITION
ICONS
DOCUMENTATION
GRAPHICS
DESIGN
SPEED AND TIME

FILM	DIRECTOR	YEAR	COUNTRY
RASHOMON	AKIRA KUROSAWA	1950	JAPAN
CONTEMPT	JEAN-LUC GODARD	1963	FRANCE
THE SHINING	STANLEY KUBRICK	1980	USA
KOOLHAAS HOUSELIFE	ILA BÊKA / LOUISE LEMOINE	2008	ITALY

13. NOV
HOW TO MAKE A BOOK

▶ GUEST TBD.

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>

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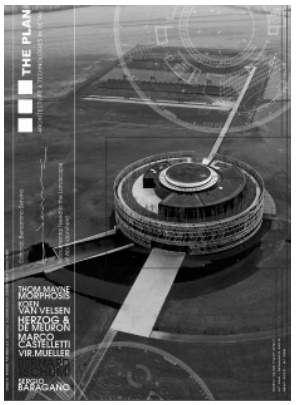

A *The Plan 058*, 2012

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http://www.theplan.it/eng/magazine
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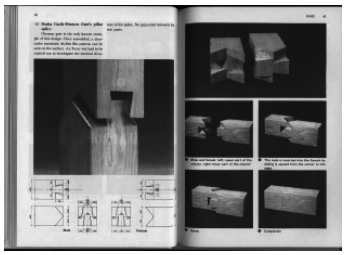
MODEL MAKING FACT SHEET

MODEL TECHNIQUES >



A Torashichi Sumiyoshi, Gengo Matsui, Wood Joints In Classical Japanese Architecture, 1991

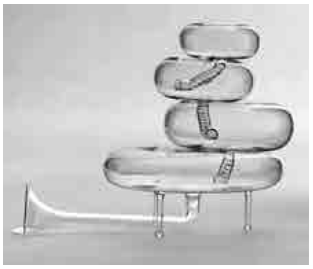
Wire / Metal rods / Metal sheets

SOLDERING

http://www.instructables.com/id/How-to-solder-the-secrets-of-good-soldering/
Copper solders the easiest, however steel wire, silver, gold, brass and aluminum (though aluminum may need a special type of solder).
References:
Gregor Holzinger http://www.donebymaking.net/
Lee Bul, Mon grand récit: Weep into stones, 2005
Lee Bul, Drifting Ashen Flake Opaque, 2008

TENSEGRITY

The word 'tensegrity' was invented by Buckminster Fuller to describe how the balance of tension and compression could be used to create a stable structure (in other words, a structure with integrity).
References:
Kenneth Snelson, X-Piece
Kenneth Snelson, The Needle Tower
Johannes Zabel under Moholy-Nagy at the Bauhaus, "a study in balance," 1923
Robert le Ricolai, Automorphic Compression Member & Automorphic Tube Model
Robert le Ricolai, Double Parabolic Trihex Bridge for the Skyrail
Robert le Ricolai, Aleph Bridge
Karlis Johansons, spatial construction, 1920
Nasa Landing Vehicle
Buckminster Fuller, Tensegrity Sphere



B El Ultimo Grito, *Imaginary Architectures, House*,

GLASS BLOWING

http://www.brooklynglass.com/products
https://www.urbanglass.org/classes
References:
El Ultimo Grito, Imaginary Architectures
Dale Chihuly, Mille Fiori, 2008

FOAM

Great for massing study models and quick experiments. Also useful to make blue (or purple) foam molds for rockite or other pours. Make sure to use foam glue that will not erode the foam (although this may be desired!). It is easiest to cut foam with a foam cutter, but it is possible to use an exacto.

https://www.youtube.com/watch?v=fi3CAtpvJJs

ACETONE

Use this substance for image transfers onto a surface. It can also be used to "erode" foam models (a helpful tool in this case could be a syringe or device to control injection).
IMAGE TRANSFER
www.youtube.com/watch?v=-qBaSd0pN8Y

3D PRINTING

PLEASE SEE GSAPPS OUTPUT SHOP TUTORIALS

MILLING

PLEASE SEE GSAPPS FABRICATION SHOP TUTORIALS
http://www.arch.columbia.edu/resources/gsapp-resources/fabrication-shop/required-training

WOOD

Joint Taxonomy: There is no limit how two or more pieces of wood come together. Put an Idea behind this tectonic connection, conceptual and/or performance based.
References:
Marc Fornes / Theverymany, Echinoids 01
Doug and Mike Starn, Big Bambú
Raimund Abraham, Church on the Berlin Wall model
Peter Eisenman, City of Culture model

MATERIAL TECHNIQUES

> SPACKLE

Spackle can give you interesting texture when mixed with pigment and smeared like stucco onto a contour model. It can also be sanded after drying to achieve a more even, smooth texture.

RESIN

This material can be tricky to work with and is toxic, so make sure to pour in a vented space (not studio). It can be colored or left clear. You can also cast other materials into it with experimentation. Molds can be made out of plastic or silicone. This material can be beautifully lit once made because of its transparent quality.
casting tips
http://joemreform.com/casting-resin/
References:
Kevin Beasley, Strange Fruit @ The Guggenheim Museum
materials : Nike Air Jordan 1 shoes, resin, polyurethane foam, tube socks, shoelaces, rope, speakers, hypercardiod and contact microphones, amplifiers, patch cables, and effects processors
OMA, Paris Les Halles Model, 2003

Silicone Mold Making for Resin Casting

https://www.youtube.com/watch?v=9ukHq7oQock

WAX/ SOAP

These two materials are also translucent, but not as transparent as resin can be; they appear more cloudy, but also can capture and emit light. You can use a variety of materials to create a mold including: plaster, silicone are best, but almost anything that doesn't melt can be used as a mold. Soap or wax can also be poured into the base of a model to represent water.

PLASTIC

Vacuum Mold

You can use various mold types for vacuum forming plastic including: foam, milled wood, cardboard, chipboard, etc. Be conscious of webbing that may occur depending upon tolerances and mold construction.
https://www.youtube.com/watch?v=eUB58z8apTE
http://isites.harvard.edu/fs/docs/icb.topic907894.files/FormechVacuumGuide.pdf

Pigmented Plastic / Plastic Sheets

References:
Paweł Althamer, Judith, 2011
materials: Pigmented plastic, plaster, paint, and steel armature with wheels
Lebbeus Woods, Nine Reconstructed Boxes, 1999

PVC Foam Sheets

WELDING

Sheet Metal

www.youtube.com/watch?v=Bk-deP30A-k
http://www.mig-welding.co.uk/thin-metal.htm

Tubes / Pipes

tools: blow torch, weld,

CASTING

Rockite

The best mold material for pouring rockite is blue foam, but acrylic, foam core, wood and chipboard can also work depending upon the desired finish. An acrylic mold achieves a more "shiny" finish on the rockite. Mold release helps to more easily remove the cast shape.

Plaster

In order to pour plaster, you can use acrylic, foam or foam core, depending upon desired effect / texture.
*To minimize air bubbles, you may softly tap the mold in the beiginning as it is drying.

Metal

https://www.youtube.com/watch?v=lYZOTt9zTv0

Suprastudio, Animated Casting, Robotic Technology
http://www.aud.ucla.edu/programs/m_arch_ii_degree_1/studios/2014_2015/lynn/?p=1212

MATERIAL TECHNIQUES

CHIPBOARD / CARDBOARD

This brown pressed paper makes a great material for contour models as well as general massing of shapes and structures, thereby making it a staple for most models. It comes in multiple thicknesses and depending upon the manufacturer can be a warm gray to cardboard brown in color.

References:

Lebbeus Woods, Stars House

BRISTOL BOARD

Another type of pressed paper board, but this time its white as snow.

LIGHT

References:

James Turrell, Sky Space
Dan Flavin
Spencer Finch
Ivan Navarro, Homeless Lamp, the Juice Sucker, 2004–05

ACRYLIC

This material is easiest to laser cut, but can also be cut by hand using an acrylic cutter (available at Janoffs). It is easiest to assemble using acrylic glue, but also consider designing joints that eliminate the need for glue.

If laser cut, etching can be very effective to create depth within a model.

References:

Sou Fujimoto, Art Sketch, Architecture as Forest exhibit
Sou Fujimoto, Primitive Future House, 2001
Sou Fujimoto, Bus Stop model
OMA, Proposed addition to Whitney Museum in NY
Tom Leader Studio, Temporal Map of Rome, 15 acrylic layers, 1999

no materials are off limits..... EXPERIMENT !!!!

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Supermodels. A+U 522, no.3: 2014.

Torashichi Sumiyoshi, Gengo Matsui, Wood Joints In Classical Japanese Architecture, 1991.

Zugmann, Gerald. Blue Universe: Modelle Zu Bildern Machen; Architectural Projects by Coop Himmelb(l)au. MAK Center for Art and Architetcure, L.A., 10. Mai 2002. Ostfildern-Ruit: Hatje Cantz, 2002.

SUPPLIES

> Utrecht : 21 E 13th St
general art supply, canvas, plaster, paper, paint, brushes

Janoff's : 2870 Broadway
white board, paint, metal, piano wire, wood, foam core, cutting supplies

Compleat Sculptor : 90 Vandam St
plaster, resin, blackener, metal, rockite, blue foam, casting information, wax, clay

Canal Plastics : 345 Canal St
acrylic sheets , tubes, cubes, mylar, mirrored paper

Canal Rubber : 329 Canal St
rubber textures

Metalliferous : 34 West 46th Street, 3rd Floor
soldering / metal supplies

The Home Depot : 40 W 23rd St
tools, screws, nuts, bolts, lumber, rope, paint, screen

Space Surplus Metals: 325 Church St
Aluminum, Brass, Copper & Steel

McMaster-Carr Supply Company : 473 Ridge Rd

T&T Plastic Land : 315 Church Street

AJO Ace Home & Lumber Depot : 610 Columbus Ave
lumber

Metropolitan Lumber Midtown : 617 11th Avenue
tools, materials, open 7 days, delivery avail.

Prince Lumber Co. : 404 West 15th Street

Industrial Plastics : West Orange, NJ

Pearl River Mart : 477 Broadway
fabric, paper, boxes, random other materials...

University Hardwares : 2905 Broadway
rockite, paint, screws, nuts, bolts, tools, rope

LASER CUTTING:

Fabberz : 580 8th Avenue, 21R
laser cutting, materials available in shop

XEROGRAPHICS:

Village Copier : 1181 Amsterdam Ave
quick turn around printing, simple binding options

Columbia Copy Center : 2792 Broadway

MAKER BOX

> The GSAPP modelLAB is conceived as a platform to explore and advance the role of physical models, prototypes and environments at the university and beyond. Its aim is to question the role of architectural scale models in the design process and to consider their relevance in contemporary discourse, counteracting a design methodology focused predominantly on digital representation.

A BRIEF HISTORY

Before the 1990s, physical models were the most effective way to represent space in three dimensions. As the design process has been increasingly out-sourced to the computer, architects draw and model less in physical space. The paperless studios at Columbia University GSAPP in the mid-90s were a radical departure from preconceived notions of architectural production. Trends towards increasingly digital production necessitate a redefinition of the current relevance and role of physical models in architecture.

Physical models form a parallel history of architecture, undergoing a number of shifts and cycles. While the Renaissance is widely regarded for the innovation of techniques in drawing – famously the invention of perspective – it was the physical model that was the predominant mode of notation at the time. Filippo Brunelleschi won the commission to construct the dome of the Cathedral of Florence in 1418 by presenting a competition model. Subsequent models were built throughout all phases of design and construction, testing structural properties and accommodating opinions and changes made by other architects, noblemen, construction workers and laymen.

ARCHITECT AS MAKER

Mario Carpo describes this design process as autographic– the architect as an artisanal maker, directly involved in construction working together with the craftsmen until completion of the building. The architect is immediately forced to consider material, weight, scale, and relationships through a physical composition. Carpo positions this authorial approach in contrast to the 'allographic'- where the design process is broken down into a linear hierarchical process- the architect as a designer is removed from the building process, only creating drawings that will later be realized by somebody else. Based on Carpo's definitions, autographic design seems to privilege the physical model, while the allographic is closely related to the abstraction of a drawing. Models are autographic because they allow for easy collaboration between multiple authors, as well as direct modification through them. They present a flexible yet precise environment, creating a level of sensitivity and freedom that simultaneously provides almost instantaneous feedback; a loop. They are the most effective way to communicate space to laymen not trained in reading technical drawings. Drawings on the other hand are allographic in their quality of being abstract and technical– they are better suited for construction when the author is not present as precise measurements can be taken from them. They allow for intellectual and removed authorship- producing a notational bottleneck, because the amount of information in a drawing is limited to the two-dimensional plane.

Olafur Elliasson sees models as an integral part of the design process when he writes, “Models have become co-producers of reality”, as they are not anymore simply “conceived as rationalized stations on the way to a perfect object.”. Whereas Models used to be a stage on the way to reality, Elliasson articulates a shift where models evolve into other models, all as part of reality, rather than a precursor to it.

The process of building and the manifestation of that endeavor foster an iterative evolution of three dimensional spatial conceptions. It forces the author to photograph, document, zoom in or out, and make decisions with regards to the ground among other complex considerations. The process exists in parallel yet simultaneously surgically connected to drawing; a negotiation between mediums that collaborate and speak to each other creating both tectonic and highly imaginative worlds.

The GSAPP modelLAB explores exactly this fertile nexus- the intersections, overlaps and also differences between physical and digital modeling, examining the role of models in all aspects of the design and construction process. Concrete aims are to foster a culture of exploration in representational techniques through the development of an appreciation for exceptional models through awards and competitions, while creating discussions and intense workshops that improve the school's resources. Bridging the gap between digital and physical worlds, this forum does not intend to promote one without the other, but rather create a more critical dialogue between the two.

Architecture is a profession engaged in the creation of

the physical,
the prototype,
the model.

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SECT 008 NAHYUN HWANG

CORE I — LOG BOOK

STRUCTURE | STRATEGY | OUTPUT

A. 3D-MODELS

0 > COLLECTION >> EDIT >

RESEARCH -> COLLECTION/BUILD-UP ->EDITING

USEFULL / INFORMAL

RE/PLUG IN

OUTPUT: **DIAGRAMS / PHOTOGRAPH**
OVERALL / CONTEXTUAL / PHOTOGRAPHY

B. DETAIL

1st > ZOOM - ZOOM - IN - MODELS >

CONSTRUCTION SHOTS -> PHOTOGRAPHY

RESEARCH

DRAWINGS

OUTPUT: **NEW DRAWINGS**
PLAN / SECTION / AXONOMETRIC / X-RAY

C. BUILDING ANATOMY

2nd > N x 3D ZOOM - IN - MODELS >

RESEARCH -> CARFEULLY RECONSTRUCTING SPECIFIC BUILDING INFORMATION

OUTPUT: **NEW DRAWINGS 2**
DETAIL / ZOOM-IN / LANGUAGE / EXPLOSION

D. DIAGRAMS

3rd > SPECIFIC LENSES / FOCAL POINTS
SPECIES AND THEMATIC CLUSTERS
COMPARISON >

OUTPUT: **TAILORED MEDIA**
FILM / COLLAGE / PHOTOGRAPHY

E. WHOLE

4th > OVERALL PROJECT INFORMATION >

RESEARCH -> CARFEULLY RECONSTRUCTING OF GENERAL BUILDING INFORMATION
SITEPLAN / PLANS / SECTIONS / ELEVATIONS / PICTOGRAMS / ...

OUTPUT: **PICTOGRAMS**
ICON

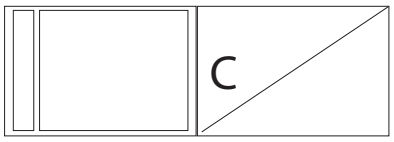
CORE I — LOG BOOK

GROUNDWORK

INTRA PROJECT

VISION

COVER



INTRODUCTION

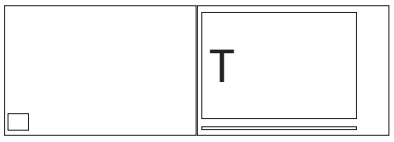
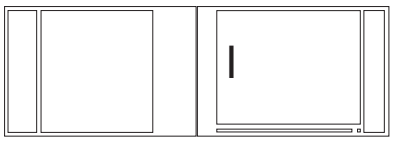


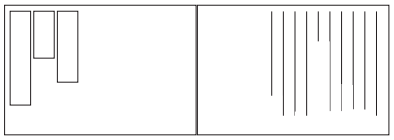
TABLE OF CONTENTS

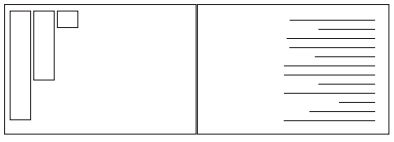


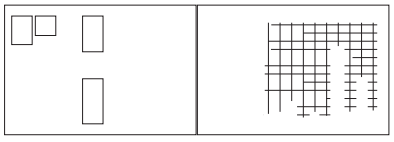
INTRODUCTION

INFO-GRAPHICS

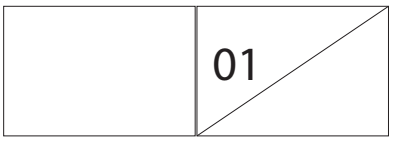
DIAGRAMS / RESEARCH / COLLAGE



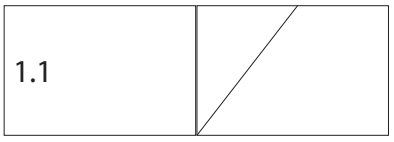




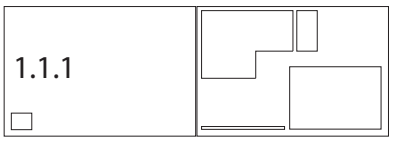
3D MODELS



1 OF N - ZOOM SUB LENS



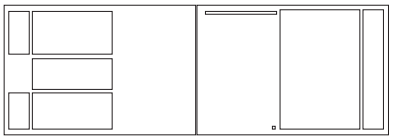
ETYMOLOGY + DEFINITION x N



A

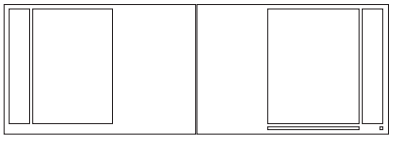
SITE

B



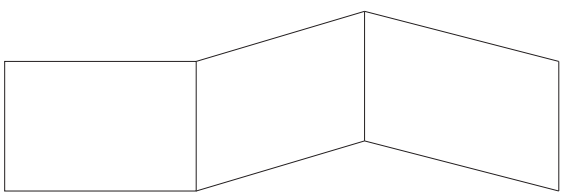
DRAWINGS

DIAGRAMS / PLANS / SECTIONS / AXONOMETRIC / XRAY

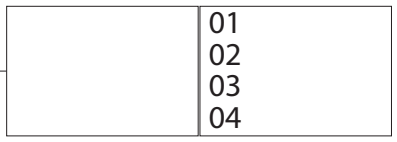


C

SEQUENCE



EXPANSION



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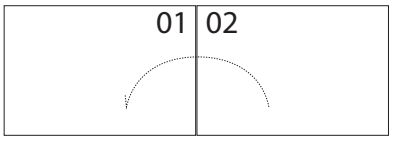
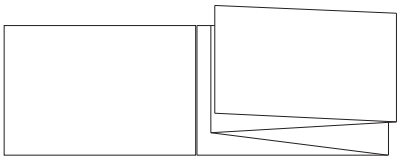


CONSTRUCTION



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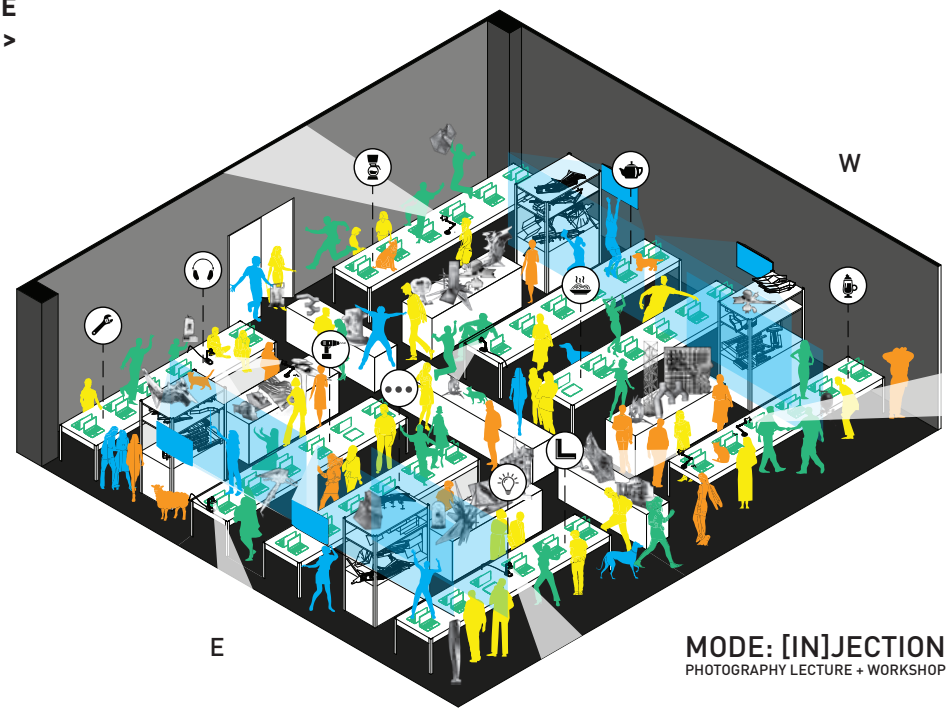
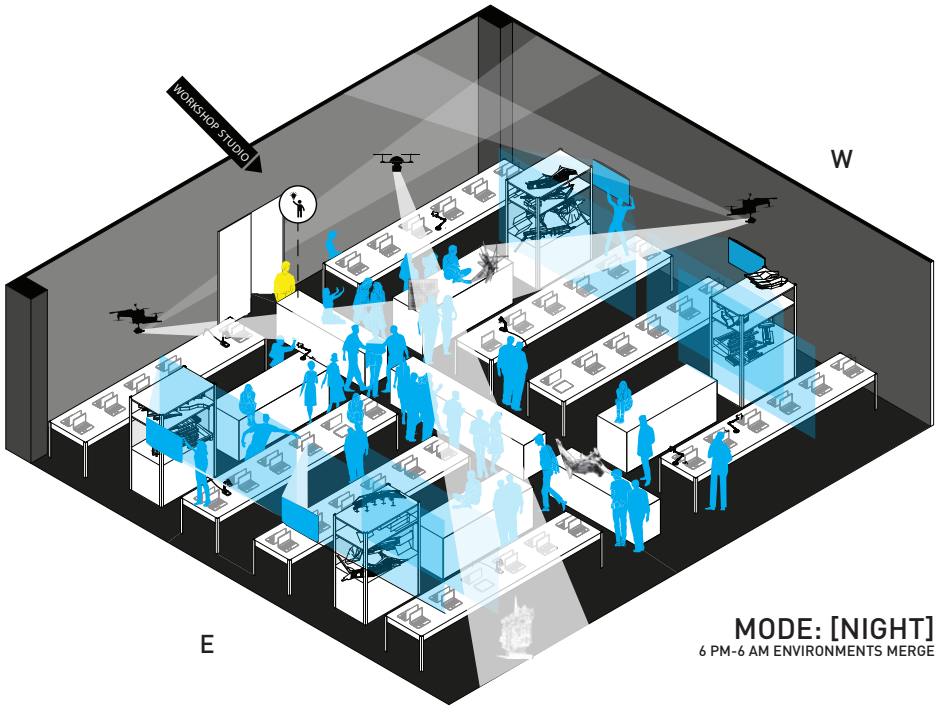
ACTIVATED STUDIO SPACE >



MODE: [IN]JECTION
PHOTOGRAPHY LECTURE + WORKSHOP

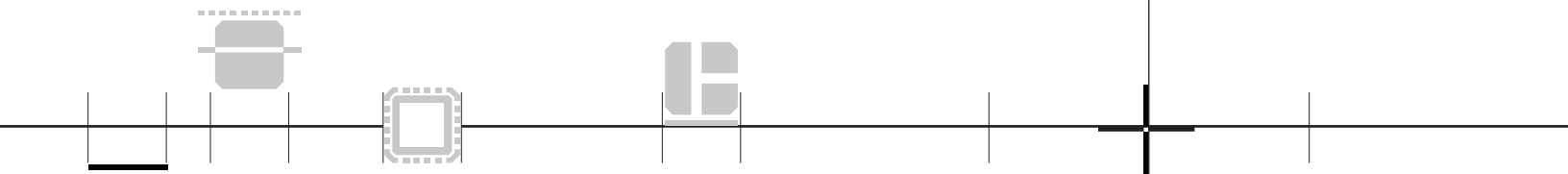


MODE: [NIGHT]
6 PM-6 AM ENVIRONMENTS MERGE

CORE I

NAVIGATOR

GSAPP FALL 2015



UNDER

EXTENDED READINGS

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CONCEPTUAL

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Archigram, *Walking City*

Buckminster Fuller, *Dymaxion Car*

Fischli and Weiss, Equilibres photo series, 1984-1987

Fischill and Weiss, The Way Things Go

Laszlo-Moholy Nagy, *Light Space Modulator*

Dustin Yellin

Edward Muybridge, photograph series of motion

Étienne-Jules Marey, *Seagull*

Frank and Lily Gilbreth, motion studies (part of Taylorist scientific management studies)

Kevin Francis Gray, *Kids on a Tomb*

Kisho Kurokawa, Helix City, 1961

Kiyonori Kikutake, Marine City, 1959

Lebbeus Woods, *Photon Kite*

Liu Bolin, Camouflage

Louis Kahn, *Point Counterpoint II*

Oil platforms (AKA coast of Brazil where oil industry is booming)

Robert Gober, *Untitled*, Wax, cloth, wood, leather and human hair 1991, @The Whitney Museum, Floor 5

Robert Smithson, Floating Island, 1970

Desiree Palmen, camouflage art, *old city suit / surveillance camera (jerusalem 2006)*

Wes Andersen, *The Belafonte*

The floating islands of Lake Titcaca, Bolivia, history of floating cities

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A *Transmitter*, Bjoern Schuelke, 2011

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>

BODY EXTENSION

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Haus Rucker, *Yellow Heart / Oasis 7 / Flyhead*

Kazimir Malevich, *Dance of Forms*

Meejin Yoon, Defensible Dress, 2001

Oskar Schlemmer, *Triadic Ballet*

Walter Pichler, *Prototypes*, 1967

MODEL MAKING KINETIC SCULPTURE

> Andrew Smith, Kinetic Sculptures

Bjoern Schuelke, *The Observer, Drone #7*

Chuck Hoberman, *Hypar*

Constant Nieuwenhuys, Models for *New Babylon*

Hugh Broughton, *The Halley VI Centre*

Karl Normanton and Ian Laurance, *Neon Cactus*

Philip Beesley, *Protocell Mesh, Hylozoic Ground*

SLO Architecture, *Harvest Dome 2.0*

Smout Allen, *Surface Tension*

Tim Hawkinson, Uberorgan, 2000

Theo Jansen, *Strandbeest*

UNDER

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1. 
THEO JANSEN, *STRANDBEEST*

2. 
WALTER PICHLER, *PROTOTYPES,* 1967

3. 
KAZIMIR MALEVICH, *DANCE OF FORMS*

4. 
ANDREW SMITH

5. 
COOP HIMMELBLAU, *THE CLOUD*

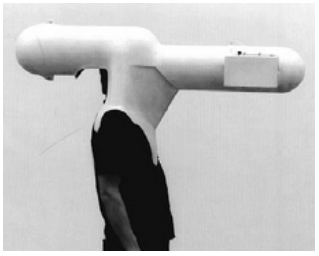
6. 
HAUS RUCKER, *FLYHEAD*

7. 
LASZLO-MOHOLY NAGY,
LIGHT SPACE MODULATOR

8. 
OSKAR SCHLEMMER, *TRIADIC BALLET*

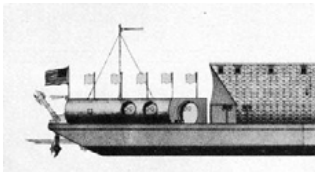
9. 
KLINGERT DIVING MACHINE

1. 
ÉTIENNE-JULES MAREY, *SEAGULL*

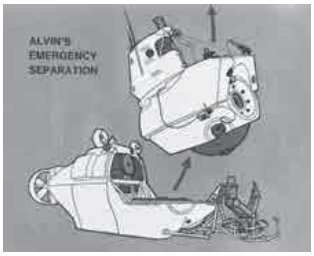
2. 
WALTER PICHLER, *PROTOTYPES,* 1967

3. 

WES ANDERSON, *THE BELAFONTE*

4. 
LOUIS KAHN, *POINT COUNTERPOINT II*

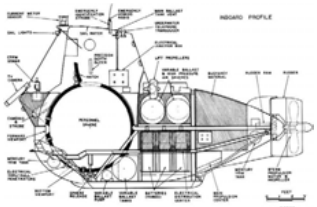
5. 
ZAHA HADID, *UNIQUE CIRCLE YACHTS*

6. 

DSV ALVIN

7. 
PHILIP BEASLEY, *HYLOZOIC GROUND*

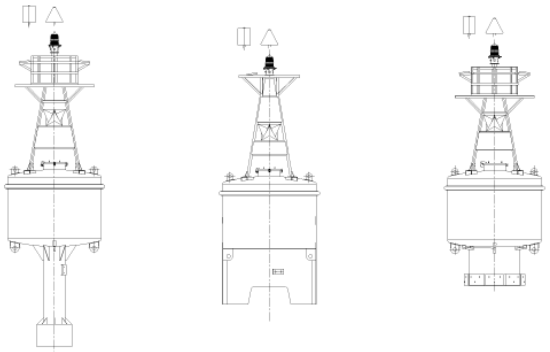
8. 
DESIREE PALMEN, *CAMOUFLAGE*

9. 
US NAVY, *SMALL SUBMERSIBLE*

FACT SHEET

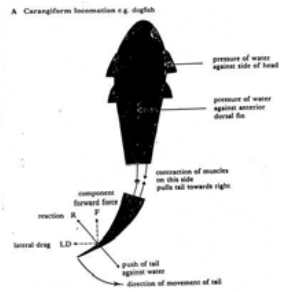
BUOYANCY DETAILS

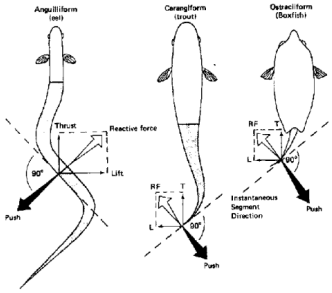
buoy
bɔɪ/
verb
1.
keep (someone or something) afloat.
"the creatures could swim, both buoyed up and cooled by the water"
noun
1.
an anchored float serving as a navigation mark, to show reefs or other hazards, or for mooring.



FISH LOCOMOTION

Vector forces exert on the plane, surface and volume of water by a motion which generates thrust, a force backwards in which propels the object forward. Fish swim by creating this force against its surrounding environment. Muscles, Tendons, Contraction and expansion allow for these propulsions;





Body propulsion
Anguilliform locomotion
Sub-carangiform locomotion
Carangiform locomotion
Thunniform locomotion
Ostraciiform locomotion
Dynamic lift
Oscillatory

LOCAL SUPPLIES

*see MODEL MAKING FACT SHEET

Janoffs	112th + Broadway
Artist and Craftsman Supplies	125th + Adam Clayton Powel Blvd.
Canal Plastics -	Canal Street / 14st - 1 Train
Canal Rubber	Canal Street / 14st - 1 Train
Canal Street	Canal Street / 14st - 1 Train
Blick Art Supplies	Manhattan
Home Depot	Manhattan
Compleat Sculptor	Houston Stop - 1 train

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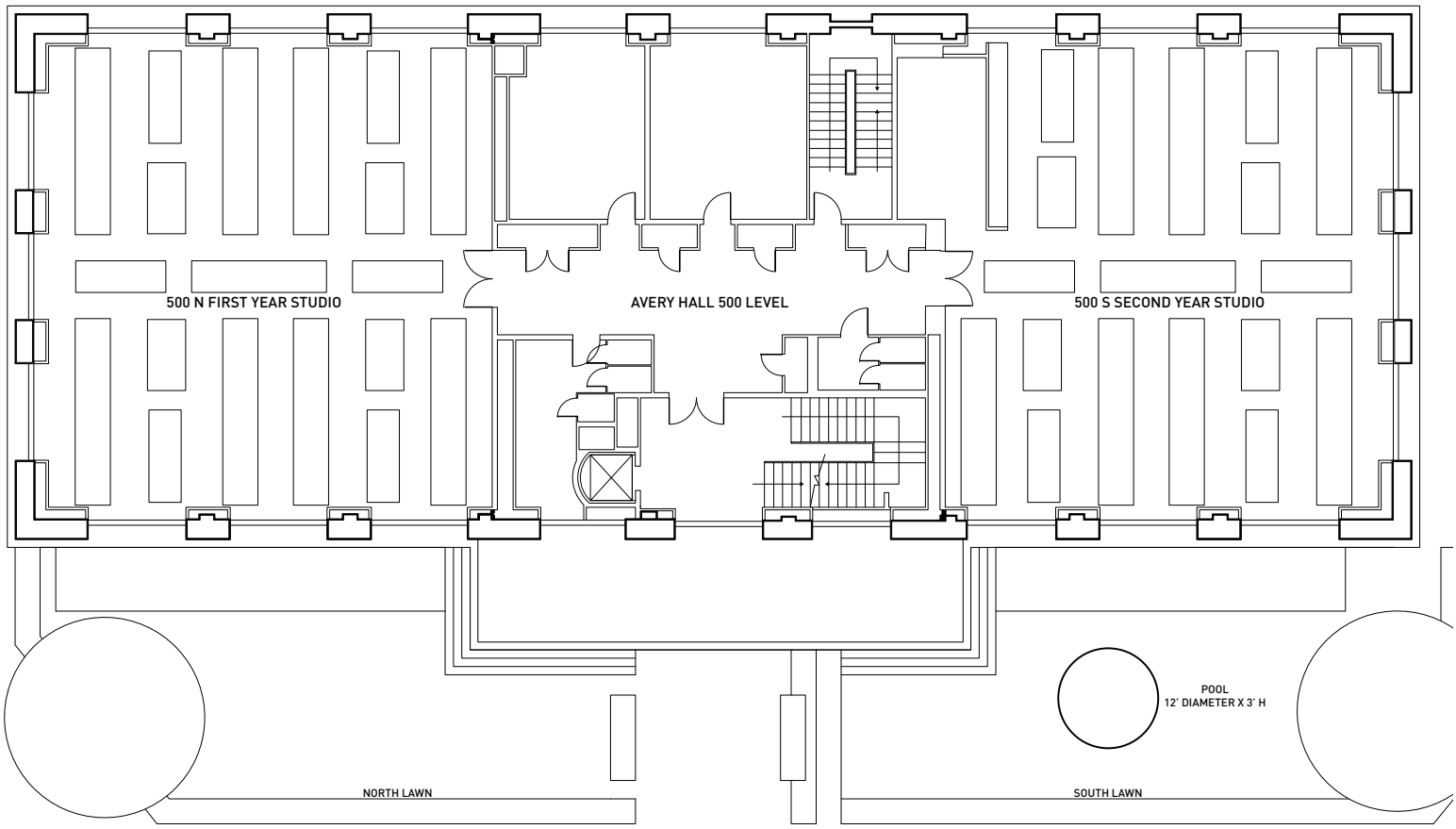
MAIDEN VOYAGE

>



AVERY HALL GROUND

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MAIDEN VOYAGE

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MAIDEN VOYAGE

>