

**Type of Course:** Advanced Studio ARCH 86101 / 62001  
**Class Meetings:** M/TH: 2:00PM – 6:00PM  
**Instructor:** Professor Christian Volkmann  
**Location:** Room #206  
**Semester/Year:** Spring 2018

## MicroArchitecture | MicroHistories | MicroNarratives

*“God is in the detail.”* Ludwig Mies van der Rohe

*“An architectural experience fuses our image of oneself with our experience of the world”* Juhani Palasmaa

### Introduction

The most engaging Architecture is arguably the one to which tactile concepts are applied.

Tangibility relies upon keeping craft in mind while designing. The detail is paramount to connecting architectural experience (you – the subject) with material strategies (it – the object).

As we know, Architecture is more than the sum of its parts.

*Physical* architecture must be a discipline of artistic joinery.

As in composing music, it is paramount to develop rules (and to break rules by doing so). If notes or sounds were only added randomly, we would seldom perceive them as music. Motives (and semiotics) have to be developed as conceptual materialization strategies, with intellectual technique.

The awareness of how to articulate rules is crucial to design.

We will attempt to test such rules on a small test project, your “design artifact”.

### Course Description – Trajectory:

We will investigate different ways of understanding architectural motives and develop a systematic (1) “vocabulary of details”, which is set up to become a catalogue of tangible solutions.

We will learn how to take advantage of details in relation to an overall parti.

We will start by looking at how material solutions are related to tools and common fabrication methods as they reflect history - from making with hands to making with machines. We will categorize these investigations and develop a framework to utilize the details evocatively.

We will apply a particular part of this investigation and (2) design to a walkable/utilizable artifact related to our human bodies. We will develop a design narrative to relate the detail scale to the overall scale of design and investigate the particular relationship between different realms of design.

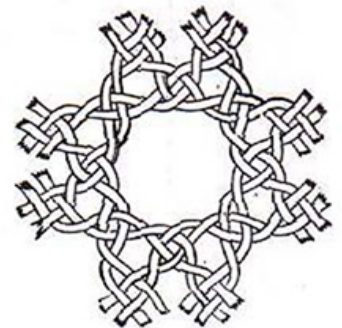
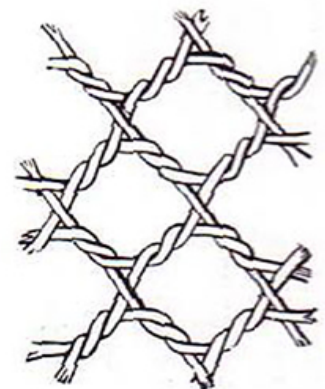
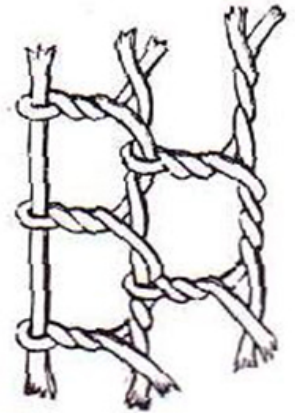


Fig.1: “Style ...”, Semper;  
The knot as the cradle of  
production and civilization.

## Methodology:

### [Step 1] – Vocabulary Catalogue

We will start the process by using Gottfried Semper's "Style in the Technical and Tectonic Arts - or Practical Aesthetics" (1863) as a template. In this book, Semper differentiates "modes of making" according to their use in a building:

- (1) Masonry (Stereotomy) to mound and base,
- (2) Ceramics and metallurgy to hearth and kitchen,
- (3) Carpentry to roof and structure (Tectonics), and
- (4) Weaving to enclosure.

We will systematically expand on these categories, based on actions of fabrication:

Stacking – the action of the mason

Weaving – the action of the weaver and fabricmaker

Folding – the action of the tinsmith

Connecting – the action of the woodworker, metalworker, or tailor

Molding – the action of the founder, the sculptor, or plasterer

Blowing – the action of the glass blower

Engraving – the action of the decorator, or of the (wood) carver

Tiling – the action of the tiler, or of the decorator

Pivoting – the action of the metalworker, or of the cabinet maker

Covering – the action of the painter, or plasterer

Etc.

[We will add to these classifications based on your input.]

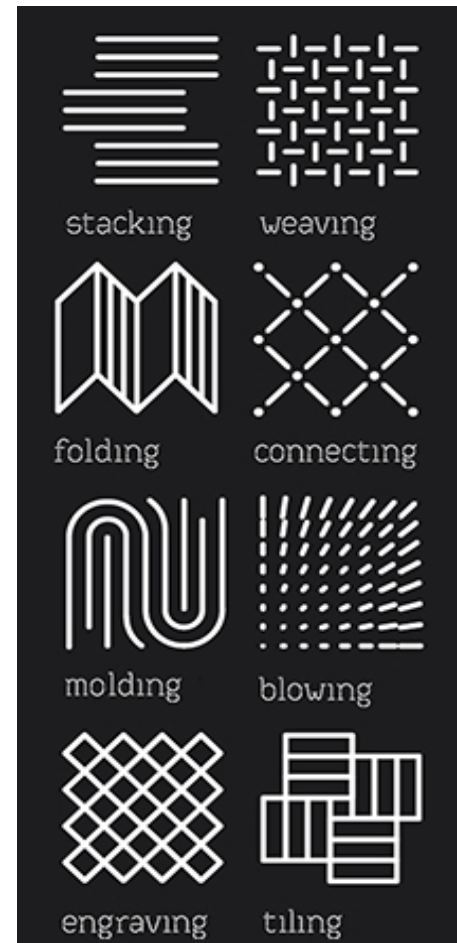


Fig.2: "Sempering", Collina/Zucchi

Not only are these categories related to actions of fabrication. They have geometric effects on an overall organization, and due to our phenomenological consciousness, implications on architectural expression. We will investigate the physics and metaphysics of diverse material approaches to develop architectural vocabulary:

What ways of treating a material are (and: were / will be) at all possible? (Be curious and hypothetical!!)  
What is the result of each particular treatment? How can certain "material natures" be emphasized?

### [Step 2] – Design Artifact

The analysis leads to a critical investigation of whether the categories overlap and/or influence one other. The cross examination of techniques reveals hybridization of design processes.

Are hybridizations/juxtapositions/synergies/transitions/repetitions necessary to form a creative whole?

From the beginning of the semester, you will search for a design topic and program that allows you to express motives of materialization. Neither program nor material are given to you, but will emerge from understanding the possibilities and benefits of particular materialization strategies. The design artifact can be i.e. an exhibit booth, a small pavilion, an installation, or a large piece of furniture.

The maximum project is limited to 12' x 12' x 12'.

## Documentation requirements:

Large-scale plan(s)-section(s)-elevation(s)  
Models and detail models  
Detail catalogue and overview of alternatives  
Axonometric System drawing(s)  
Key Details  
Diagrams of system and construction sequence  
Spatial and material representations (ext./int.)

## Topics of Research:

- Comprehensive Design: Exploring design by demonstrating unique linkages between space making and construction systems to generate form, program and detail.
- Material Innovation + Research: Developing new techniques for materials by cross-examination and haptic understanding of production. Influence form finding skills by hands-on research.
- Case study analysis: Understand projects based on detail resolution and by analytic comparison
- Categorization of Design Principles

## Summary:

Design Studio, 8<sup>th</sup>/10<sup>th</sup> semester B.Arch./M.Arch. (6credits);  
15-week design project, individual or group student work

## NAAB 2014 Student Performance Criteria (SPC) addressed:

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

C.2 Integrated Evaluations and Decision-Making Design Process: *Ability* to demonstrate skills associated with making integrated decisions across multiple systems and variables in completion of a design project. This demonstration includes problem identification, evaluating criteria, analyzing solutions, and predicting the effectiveness of implementation.

## Additional Graduate Requirements:

All M Arch I second and third year students and all M Arch II students are required to submit a portfolio on Feb. 1st, 2018. 2<sup>nd</sup>-year students must submit a hardcopy portfolio to Hannah Borgeson's office by 5pm. 3<sup>rd</sup>-year students and M Arch II students may submit either a hardcopy portfolio or email a link to a digital portfolio to [hborgeson@ccny.cuny.edu](mailto:hborgeson@ccny.cuny.edu). Digital submissions must be a link, not a file attachment.

## Contact information:

Prof. Christian Volkmann ([cvolkmann@ccny.cuny.edu](mailto:cvolkmann@ccny.cuny.edu));  
Office hours: Wed., 4:30pm – 6:30pm, or by appointment

Library Contact:

Prof.. Nilda Sanchez, [nsanchez@ccny.cuny.edu](mailto:nsanchez@ccny.cuny.edu) 212-650-8766

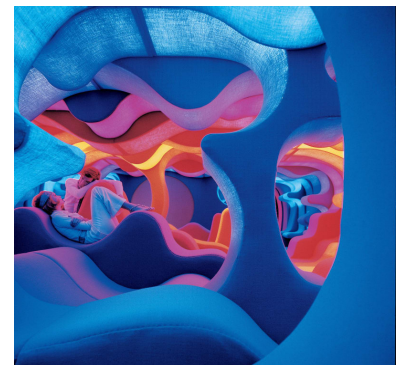
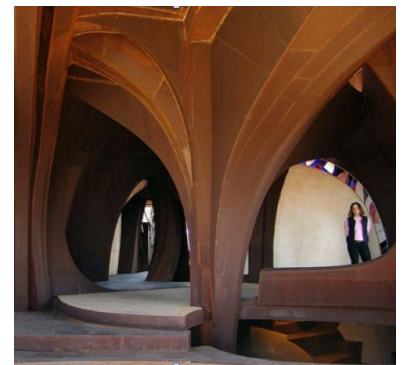


Fig.3: a) Ville Hara, Aalto University Wood Program  
b) Final Wooden House (Solo), Sou Fujimoto  
c) Steel House, Robert Bruno  
d) Visiona 2 environment, Verner Panton  
e) Earth bag dome House, Nader Khalili



## Studio Requirements:

Performance in studio is evaluated on the basis of frequent pin-ups and interim and final reviews corresponding to each phase of the course organization.

## Grading/Attendance/Lateness:

Students are expected to attend all class meetings and both students and professors are expected to be in studio on time, ready to work. Lateness will be recorded 15 minutes after class has started. On days when desk crits are scheduled, students should have work-in-progress prepared for discussion; if the work is digital then prints should be readied in advance of class. Students must understand that their continuous presence in the studio, during and beyond class time is a necessary requirement for good work and a successful completion of the project.

- **More than three absences** excused or otherwise constitutes an effective withdrawal from the studio and will result in a minimum consequence of a recorded grade of WU (withdrew without approval), or possible F (failure) as noted in CCNY Academic Bulletins.
- **All students must attend the Thursday evening lecture series.** Lectures provide a critical forum for the airing and exchange of ideas about architecture, theory and practice and are vital for all students. The lectures are considered research, necessary to develop cognitive skills for design thinking.
- **A Sketchbook must be maintained** and carried whenever possible to facilitate constant thought and reflection.
- **Graduate students must attend the weekly studio seminar component.** Satisfactory attendance and participation in the seminar will be recorded and factored into the final studio grade.

Final grades represent the instructor's assessment of each student's: a) completeness of work and work ethic during the semester, b) facility as an emerging architect, and c) level of progress within the overall program for a professional degree in Architecture with responsibilities to society at large. Assessment parameters such as "skill" and "talent" are complementary to each other; neither is sufficient in isolation. Success is reliant on hard work, personal facility, and the thoughtful application of knowledge. Working in teams does not warrant the same grade for each team member; grading evaluation considers a range of criteria in each student.

## Evaluation Criteria:

1. **Effort**, motivation, and a willingness to work at an intense level of involvement.
2. **Quality** - a comparative judgment of the quality of an individual's work with respect to the highest quality of work produced in class.
3. **Ability** - a subjective evaluation of the student's analysis, creativity, and level of investigation as exhibited by their work.
4. **Participation** - an evaluation of the student's contributions to the social and intellectual life— participation in class discussions, mutual criticism, paying attention, pitching-in, etc.
5. **Presentations** – the highest quality and complete presentations that can communicate clearly and accurately your intentions to an outsider.
6. **Completion** of all assigned work in a timely manner. Simply 'doing the work' does not mean that the work will receive a passing grade. Work is to be completed before studio and discussed during class.

For more information on grading guidelines and other CCNY policies and procedures, consult the current Academic Bulletins: <http://www.ccny.cuny.edu/registrar/bulletins.cfm>

For CCNY Academic Integrity Policies, see: <http://www.ccny.cuny.edu/academicaffairs/integrity-policies.cfm>

In particular, consult the Academic Integrity Brochure for students:

<http://www.ccny.cuny.edu/academicaffairs/upload/BrochurePDFVersion.pdf>

## A Note on Representational Tools and Media:

By the final stage of study towards the professional degree, students are expected to have developed skill in a variety of representational tools – 2d and 3d, physical and digital. A primary challenge in advanced studios is the exercise of awareness and judgment about what tools to use when in the design process. In general, hand sketches, physical models and 3d digital models (SketchUp or Rhino) will be encouraged in the early, site planning and schematic design phases of the studio. CAD drafting should be delayed until the later, design development phase of the studio. Students are required to hand sketch throughout the semester, progressively incorporating additional representational tools and software to refine their design output and technical resolution.

## Reading List / Bibliography / Additional Resources:

- Luisa Collina/Cino Zucchi "Sempering", Silvana Editoriale 2016, ISBN 978-8836634392
- Gottfried Semper, "Style in the Technical and Tectonic Arts; or, Practical Aesthetics" (Texts & Documents); Translated: Harry Mallgrave, Michael Robinson; Getty Research Institute 2004 (1862), ISBN 978-0892365975
- Juhani Pallasmaa, The eyes of the skin, Wiley 2005
- Kenneth Frampton, "Rappel à l'Ordre: The Case for the Tectonic" in Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory, ed. Kate Nesbitt (New York: Princeton Architectural Press 1996)
- Marco Frascari, "The Tell-the-Tale Detail," in Nesbitt, Theorizing a New Agenda, same Journal (see above)
- Kenneth Frampton, Studies in Tectonic Culture: The Poetics of Construction in 19th and 20th Century Architecture", Cambridge, Mass.: MIT Press, 1995
- Stephen Emmitt, John Olie, Peter Schmid, Principles of Architectural Detailing, Wiley 2004
- William Braham, Rethinking Technology – A Reader in Architectural Theory; Routledge, 2007;
- Christian Schittich (ed.): In Detail: Building Simply, Birkhäuser 2005; ISBN 978-3764372712
- Manfred Hegger: Construction Materials Manual; Birkhäuser, 2006; ISBN: 978-3-764375706
- Andrea Deplazes, *Constructing Architecture*; Birkhäuser 2008; ISBN: 978-3-764371890
- Andrew Watts, *Modern Construction Handbook*; Springer, 2011, 2<sup>nd</sup> edition; ISBN: 978-3-709110096
- Graham Bizley, *Architecture in Detail I and II*; Routledge Architectural Press, 2008 and 2011; ISBN: 978-0-080965352 and ISBN: 978-0-750685856
- Edward Ford, *The Architectural Detail*, Princeton Arch. Press, 2011; ISBN: 978-1-568989785  
\* see also from the same author: <sup>1</sup> The Details of Modern Architecture: ISBN: 978-0-262562010
- Detail in Practice (Edition Detail) Birkhauser; Various editions focused on: Insulating Materials, Building with Steel, Dry Construction, Translucent Materials, Plastics, Concrete, Glass, Stairs
- Auguste Choisy: "Histoire de l'architecture", Bibliotheque de l' Image 1999; ISBN 978-2909808345
- Owen Jones: "The Grammar of Ornament", Deutsch Press, 2010 (1856), ISBN 978-1445566238

## Schedule

### W1

- Mon 01.29.18 First Day of Class, lottery and general presentation.  
Assignment: Case study collection related to material strategies; principle diagrams
- Thu 02.01.18 Pin-Up: Case studies and techniques: principle diagrams  
Adjustment of Catalogue responsibilities; research set-up (groups/indiv.)  
Investigation of material strategies  
*Studio (Portfolios DUE: M.Arch I, M.Arch II, and B.Arch 4<sup>th</sup> year students)*

### W2

- Mon 02.05.18 Desk crits
- Thu 02.08.18 Coordination of representation of material strategies: axonometric overall system  
Assignment: Investigation/representation of material strategies (groups/indiv.)  
*Lecture: Elizabeth Christoforetti 6:30pm /SSA 107*

### W3

- Mon 02.12.18 College closed: Lincoln's Birthday
- Thu 02.15.18 Studio Pin-Up: Material strategies; discussion of catalogue organization  
Assignment: Catalogue vignettes; rendered representations w/ section; working models (possible interviews with craftsmen/-women)  
*Lecture: Ivan Rupnik 6:30pm /SSA 107*

### W4

- Mon 02.19.18 College closed: Presidents' Day
- Tue 02.20.18 Desk crits: Square vignettes; corrections/add-ons; categorization system discussion;  
Assignment: working models; vignettes; rendered representations w/ section
- Thu 02.22.18 Pin-Up: Catalogue and working models  
Assignment: Draft proposal of test project: program; anatomy; technique; "postcard"  
*Lecture: Iñáqui Carnicero 6:30pm /SSA 107*

**W5**

Mon 02.26.18  
Thu 03.01.18

Desk crits: working models rel. to catalogue studies; "postcard"; proposal description  
**Review w/ guest critics:** Catalogue + material alternatives; models; draft proposals  
*Lecture: Vishaan Chakrabarti 6:30pm /SSA 107*

**W6**

Mon 03.05.18  
Thu 03.08.18

Desk crits/studio work: schematic design of artifact proposals: sections/ elevations;  
**Assignment:** Schematic section and elevation; floor plan organization  
Work in class: pin-up/desk crits: Development of sectional sketches/elevations;  
Related diagrams of techniques/models; structure studies.  
*Lecture: Celeste Olalquiaga 6:30pm /SSA 107*

**W7**

Mon 03.12.18  
Thu 03.15.18

Desk crits: development of artifact project  
Work in class: desk crits/pin-up; Identify/develop key details  
**Assignment:** Key details + close-up renderings (connect to overall narrative)

**W8**

Mon 03.19.18  
Thu 03.22.18

Work in class: desk crits/pin-up  
Work in class: Pin-up: Discussion of approaches  
**Assignment:** Exploded assembly

**W9**

Mon 03.26.18  
Thu 03.29.18

Work in class: desk crits/pin-up  
**Assignment:** Review project narrative + schematic design  
Pin-Up/individual critique; discussion of refinement strategies

**W10**

Mon 04.02.18  
Thu 04.05.18

College closed: Spring Break  
College closed: Spring Break

**W11**

Mon 04.09.18  
Thu 04.12.18

**Review w/ guest critics:** Schematic design artifact; all assignments  
Work in class: desk crits; review of guest critic comments  
*Lecture: Mario Gooden 6:30pm /SSA 107*

**W12**

Mon 04.16.18  
Thu 04.19.18

Work in class: desk crits/pin-up  
**Assignment:** Lay-Out, presentation concept  
Work in class: desk crits/pin-up; element protection/update details  
Organization/time management: set of drawings for final review

**W13**

Mon 04.23.18  
Thu 04.26.18

Work in class: desk crits/pin-up  
Desk crits: Individual redlining  
*Lecture: Georgeen Theodore and Tobias Armbrorst (Inteboro) 6:30pm /SSA 107*

**W14**

Mon 04.30.18  
Thu 05.03.18

Desk crits: Individual redlining  
Pin-Up: Presentation concept

**W15**

Mon 05.07.18  
Thu 05.10.18

Desk crits: Presentation concept adjustments + redlining  
Desk crits: Presentation concept adjustments + redlining

**W16**

Mon 05.14.18

**Final Review w/ guest critics (tentative date)**

*Last studio meeting during final exam week to be scheduled after final review – complete project documentation due; receipt of documentation is required to receive grade.*