

[2] Exercise 3: Design Methods Fundamentals

Issued: Mon. 11 September
Pin-ups: Mon 2/16 & Wed 4/11/18 October
Review: Mon 23 & Wed 25 October
Upload: Wed. 1 November by 10:00am

Modality: Teamwork (groups of 2 students)

Grading: 40% of course grade

“Design methods generally help to formalize and systematize activities within the design process and externalize design thinking, that is they try to get the designer’s thoughts and thinking processes out of the head ... Design methods were also considered to exhibit certain characteristics in terms of their usage, such as the goals the methods serve, their general applicability, conditions under which they can be used, whether the methods are intended for single designers or for design teams, their origins, how they function (modus operandi) and the time demanded by the methods.”

NFO Evbuomwan, S Sivaloganathan, A Jebb (A Survey of Design Philosophies, Models, Methods and Systems, *Proc Instn Mech Engrs* Vol 210, 1991, p 315)

Challenge

The overall premise of this course is that every design process occurs within a general methodology that (pre)determines its ideology, universe and mode of inquiry (i.e., questions, strategies and tactics), knowledge base, representation techniques, goals, and expectations. In this assignment you will investigate 3 design methods using an analysis of specific architects and architectural projects to enable you to make insightful comparisons. The challenge is for you to distill the strengths, weaknesses, ideology and attitudes intrinsic to each method.

PART A: Comparative Study

A comparative investigation of 3 methods using 6 projects (teams of 2 students). Each team will study 3 methods to be assigned by lottery. See attached.

1. Discovery (projects selection for 2 Methods due 20 September)

For each of the 3 methods assigned you are to select 2 projects to investigate -- ideally these 2 projects should be from the same architect (but I'd consider 2 projects by 2 different architects). See suggestions on attached sheet, other architects may be allowed with approval by the instructors. During the selection of project, it will be critical for you to choose ones that have ample published information to allow you insight into the architects' process, ideology, and mode of inquiry and ultimately allow you to draw comparisons between each methodology.

During the discovery phase you are to collect information about each project that allows you insight into the evolution of the work and the specific method utilized for the design. This will include typical orthographic drawings and photographs; but more importantly must include images from the design process (sketches, models, diagrams, material investigations, studio photos, etc.), writings about the work, and lectures or interviews given by the architects about the projects (The AA's lecture archive is a good resource for lectures given by contemporary architects:
<http://www.aaschool.ac.uk/PUBLIC/AUDIOVISUAL/videoarchive.php>

2. **Analysis**

Proceed to organize the information visually in ways for you to graphically observe how the methodology influences the design process. Specifically seek images that illustrate the project's or architect's response to: 1) the white canvas problem, 2) program/function, 3) memory (history and/or knowledge base), 4) context, 5) form, 6) experience (i.e., building reception), 7) materiality/tectonics, 8) representation/communication technique-media, 9) goals and expectations, and 10) ideology. Alternatively, you may decide to add (or exchange) other variables such as "budget", "user's response", etc. (as long as you consider them across the board). Image selection will be critical to clearly communicating the methodology's embodiment within the project. Note that each methodology may not respond to all of the above criteria, it is critical to identify a lack/weakness of response.

3. **Synthesis** (*the study of 2 methods should have been completed by 2/4 October*)

Utilizing the matrix provided compose and format the graphic analyses of each project. Make sure to diagram the design process phases which, in general, may be defined as a) inquiry/research/analysis, b) idea generation/exploration, c) schematic design/synthesis, d) evaluation, and e) final. Then take a step back and by using both projects consider each methodology's influence on the design process. Add notes, diagrams or additional illustrations to the matrix.

4. **Reflection** (*pin up 16-18 October*)

Having completed the synthesis, work comparatively to identify the strengths, weaknesses, ideology and attitudes of each methodology, again add notes, diagrams or additional illustrations to the matrix. Take time to consider - what/why/when/how to use a particular approach, method and process. Specifically reflect upon: What ideology is central to the method? What sorts of design problems does the method allow the architect to answer? What are the goals the method serves? What are the expectations for the method? Under what conditions can the method be utilized? What is the time demanded by the method? Be prepared to present and discuss your conclusions. Make sure to consider the 'ends' of the matrix as the places where such insights are recorded.

PART B: COMMUNICATION (Presentation Media And Format)

1. *Graphic media format should follow matrix provided. Vertical or horizontal format is up to the students.* Recommended size: 4' (48") x 6' (72")
2. *Written summary of your inquiry* – in addition to what you include in your boards (500 word max).
3. *Oral presentation.* You'll have 5 minutes to present what you learn from this comparative analysis. Please, do not discuss what its already on the boards but focus on

the comparative differences and/or specific characteristics that make each methodology/ideology unique.

4. Document your work (JPG or PDF at 150dpi) and upload the files to the class GOOGLE DRIVE site using a coherent labeling system (e.g., lastname1-lastname2_project3.pdf). Deadline: Nov 2.

BIBLIOGRAPHY

Main Methodology Book Assigned To You (at beginning of semester)

Antoniades, Anthony. *Poetics of Architecture: Theory of Design*. New York: Van Nostrand Reinhold, 1992

Ching, Francis. *Architecture: Form, Space, and Order*. New York: J.Wiley, 2007

Clark, Roger and Pause, Michael. *Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis*. New York: J.Wiley, 2012

Unwin, Simon. *Analysing Architecture*. New York: Routledge, 1997

Books/articles/web resources, etc. based on your own research/studies.

TEAM ASSIGNMENTS

team 1	team 2	team 3	team 4	team 5	team 6	team 7
1	2a	3a	3b	3d	4	1
2b	2c	3c	5	10	6	11
4	6	7	8	13	9	12

team 8	team 9	team 10	team 11	team 12	team 13	team 14
3a	3c	2a	2b	2c	2a	8
5	10	7	12	3d	3d	10
9	11	8	13	6	5	11

Design Processes & Methods

CUArch — Fall 2017

Instructor: Julio Bermudez. TA: Anh-Tu Nguyen

Design Method	Short Explanation/Definition	Focus*	most related to methods	architects and projects	
1. archetypal	fundamentals, elements, myths, place making, rituals	4	2a, 5, 6, <u>7</u> , <u>9</u> , 10	not based on architect but ancient architecture, Louis Kahn	
2. typological	2a. form	linear, central, 9 squares, etc.	3	1,2b, 3d, 5, <u>6</u> , <u>10</u>	not based on architect but Mario Botta, Aldo Rossi, Andrea Palladio
	2b. building	tower, row houses, courtyard, etc.	3	2a, 2c, 5, <u>12</u>	not based on architect but ... Victor Gruen, UN Studio (towers)
	2c. function	Libraries, Monasteries, Museums	3	2a, 4, <u>9</u> , <u>10</u>	not based on architect but ... Alvar Aalto (libraries), Moshe Safdie (libraries), Rudolf Schwarz (churches)
3. canonic	3a. exemplar-based	start with villa saboye, Palladio's villa, etc.	3	2a, 2b, 2c	Frank Lloyd Wright (prairie houses), Le Corbusier (villas)
	3b. style-based		3	3d, 9, 10	Richard Meier, Phiioph Johnson, Duncan Stroik
	3c. rule-based	follow LC 5 principles, Eisenman's houses series	3	2a, 5, 8	Le Corbusier's 5 pples, Peter Eisenman (House series)
	3d. historicist	post-modernism, all the neos (even neomodernism)	3	3b, 9, 10	Allan Greenberg, Michael Graves, Robert Stern, Richard Meier
4. Functional/Ethics	respond to needs, program	2	2c, 6, <u>12</u>	Cesar Pelli, Alvar Aalto, E. Fay Jones, Architecture Research Office, Lewis Tsurumaki Lewis, Toyo Ito, Alejandro Aravena, Shigeru Ban. Studio Gang Architects	
5. Formal/Aesthetic	order, geometric, space, experimental (e.g., expressive, improvisational)	3 (1)	1, 2a, 2b, 3c, <u>6</u> , 10, <u>11</u>	Alberto Campo Baeza, Luis Barragan, John Pawson, Antoine Predock, Frank Gehry, Daniel Libeskind, SANAA, Yoshio Taniguchi, Mecanoo, Alvaro Siza, Christian de Portzamparc, Rafael Viñoly	
6. Phenomenological	experience, feeling, psychology, embodiment, immersive	1	1, 2a, <u>5</u> , <u>7</u> , 10	Tadao Ando, James Turrell, Peter Zumthor, Steven Holl, Bormida & Yanzon, Rick Joy	
7. Tectonic	materiality, light, technology, structure, fabrication	3	<u>1</u> , 5, <u>6</u> , 12	Santiago Calatrava, Herzog-de Meuron, Renzo Piano, Norman Foster, NADAAA, SHoP, Snøhetta, Shigeru Ban, Carlo Scarpa, Ben van Berkel	
8. Theoretical	philosophical, ideological, or theoretical inquiry followed thru architecture (e.g., deconstructivism, VAS)	depends	depends	Le Corbusier, Peter Eisenman, Mies van der Rohe, John Pawson, Morphosis/Thom Mayne, Zaha Hadid, Rem Koolhaas	
9. Contextual	socio-cultural issues, environmental factors-sensitivity, vernacular, site, sustainability, nature	2 and 3	1, 2b, 3d, 10, <u>12</u>	Hassan Fathy, Venturi & Scott Brown, Glenn Murcutt, Charles Correa, Luis Barragan, Wang Shu, Kengo Kuma	
10. Symbolic	meaning, semiotic, experience (the semantic, syntax and pragmatics of bldgs)	2 (1)	1, <u>2a</u> , <u>2b</u> , <u>3b</u> , <u>3d</u> , 5, 6	Antonio Gaudi, Maya Lin, Oscar Niemeyer	
11. Conceptual	idea or concept driven process coming from within (e.g., 'machine in the garden') or without (literature, science, art, etc.) discipline	depends	depends	John Hejduk, Emilio Ambasz, Diller Scofidio+Renfro, FOA, Rem Koolhaas, Bernard Tschumi, REX	
12. Collaborative	social, participatory, market-driven, hands-on, design-build	2	<u>4</u> , <u>7</u> , <u>9</u>	Lucien Kroll, Onion Flats (Tim McDonald), ShoP, GA Collaborative, Public Architecture	
13. Other	representation-media, production-market (e.g., blob architecture), evidence-based design (i.e., research-based)	depends	depends	Bjarke Ingels, Daniel Libeskind (early), Greg Lynn, Kieran-Timberlake, Jorn Utzon, Eero Saarinen	

Notes

* **1st** Person (I): subject, me, self. **2nd** Person (WE/YOU): other, social, intersubjective. **3rd** Person (IT): object, building. **4th** Person: all 3 considered.

4 an underlined number suggest a natural stronger connection to this method (but may-may not be there depending on how one approaches it)

		Method 1		Method 2		Method 3		3 Methods
		Project 1	Project 2	Project 1	Project 2	Project 1	Project 2	Comparative Analysis
Memory (History and/or Knowledge-base)	White Canvas							
	Problem							
	Program / Function							
	Context							
	Form							
	Experience							
	Materiality / Technics							
	Representation							
	Ideology / Goals & Expectations							
	Design Process Phases Diagram							
Comparative Analysis (Strengths & Weaknesses)								
	conclusions							