Course Syllabus

Architectural Visualization since 1900

Reinhold Martin

Wed 11am-1pm

412 Avery Hall

Spring 2019

As a rule, architects do not build. They draw, write, annotate, diagram, model, map, sketch, photograph, animate, and otherwise visualize objects, spaces, and territories; they make visual and verbal presentations; they compile visual and written analyses and reports; and they issue visual and written instructions.

These seminar-based lectures introduce key episodes in the history of architectural visualization, in a variety of geographic and cultural contexts across the “long” twentieth century. The approach is thematic; it follows a loose chronology built around concepts, problems, and practices associated with international modernism and its aftermath. In and through these, we will observe architectural knowledge being constructed, drawings and buildings interacting, and ideas, techniques, and imagery circulating.

Each lecture considers a specific set of techniques within the history and theory of modern and contemporary architecture, the history of technology, and theories and practices of visualization. A limited number of drawings, models, photographs, and other visual artifacts will be analyzed in depth. Some readings situate these examples historically, while others offer conceptual orientation. Together, the lectures offer a historical perspective that reframes concerns shared among different aspects of the GSAPP architecture curriculum, including the design studios, visual studies, and the technology sequence. We will also visit the Avery Library Drawings and Archives Collection and Avery Classics to view original drawings and important publications.

The history of architectural visualization is also a history of circulation and ultimately, of globalization. Architectural discourse and techniques move constantly and unevenly across a variety of national, cultural, and geographic boundaries, both historically and in the present. The lectures will therefore emphasize problems and effects of visual translation, standardization, reproduction, interface, transformation, site, and circulation that accompany this movement.

Material covered includes diagrams, travel sketches, orthographic projection, axonometry, perspective, representations of movement, construction drawings, urban cartography, architectural and aerial photography, rendering, and stages of digitalization, from the period around 1900 to the present. Through these
visual materials we will witness the ongoing invention and dissemination of “architecture” as a category in a manner that explains much about contemporary assumptions.

**Course Requirements**

Students are required to attend all classes, complete the required readings, and complete the class assignments. Additional materials listed as Further Reference are suggested for those wishing to read more deeply in a given subject, or those writing research papers. In addition, each student will be expected to post a 200-300 word response that poses one question related to the reading(s) for each of two sessions, accompanied by one relevant image in each case, to be discussed in class. These will be arranged by sign-up on Canvas and will be due to be uploaded to the Canvas site at 11:00pm the evening before that class.

There will be two written assignments during the semester: A 500-word (max.) paper abstract and research bibliography and a final research paper of 15-20 pages (max.), plus illustrations. The paper will be due on Friday, 10 May at 5:00pm.

All papers should be 12-point double-spaced and follow bibliographic, footnoting, and other guidelines outlined in the Chicago Manual of Style (available as an E-Book through CLIO).

All required and further readings are available on Courseworks or through e-journals on different online databases as indicated (JSTOR, MUSE, WILEY ONLINE, etc.). Most books are available in Avery Library. E-Books are listed as such and may be accessed through CLIO. E-journals may be accessed through the Columbia University Libraries “Databases” at: [http://library.columbia.edu/Links to an external site.](http://library.columbia.edu/Links to an external site.)

**Grading**

Grades for the class will be determined as follows:

- Attendance / participation 20%
- Paper abstract 20%
- Final paper 60%
Students with limited experience in writing research papers or writing in academic English are STRONGLY encouraged to seek support at the Columbia College Writing Center:


Students should adhere to standard guidelines regarding academic honesty, such as those described in the GSAS Statement on Academic Honesty, available at:


Schedule and Readings

NOTE: Visit to Avery Drawings and Archives and Avery Classics TBD

Week 1 Media: From Representation to Communication to Environment

23 January 2019

Required Reading


Eva Horn, “Air as Medium,” Grey Room 73 (Fall 2018): 6-25.

Further Reference


Week 2 Drawing Architecture
30 January 2019

Required Reading


Further Reference


**Week 3 Translation: The Movement of Information**

6 February 2019

**Required Reading**


Further Reference


Julien Guadet, Éléments et théorie de l'architecture: cours professé a l'École nationale et spéciale des beaux-arts, 4 v. (Paris: Librarie de la construction modern, 1901-1904) EBOOK


Patricia A. Morton, “Disorienting Le Corbusier: Charles-Edouard Jeanneret’s 1911 Voyage d’Orient,” in Tyler Stovall and Georges van den Abbeele,


**Week 4 The World Picture: Numbers and Standards**

13 February 2019

Required Reading


Further Reference

Don Graf, Data Sheets: Thousands of Simplified Facts about Building Materials and Construction (New York: Reinhold, 1944)

Ernst Neufert, Bau-Entwurfslehre (Berlin: Bauwelt Verlag, 1936)


**Week 5**

Object-Experience: Axonometry versus Photography

20 February 2019

Required Reading


Further Reference


Thierry Mandoul, “From Rationality to Utopia: Auguste Choisy and Axonometric Projection,” in Mario Carpo and Frédérique Lemerle eds., Perspective,


**Week 6Dynamism: Time and Movement, Machines and Organisms**

27 February 2019

**Required Reading**


Further Reference


Gyorgy Kepes, *Language of Vision* (Chicago: Paul Theobald, 1944) EBOOK


László Moholy-Nagy, *Vision in Motion* (Chicago: Paul Theobald, 1947)


**Week 7**

**Horizon as Symbolic Form: Plans and Grids**

6 March 2019

**Required Reading**


**Further Reference**


Bruce Brooks Pfeiffer, *Frank Lloyd Wright Drawings: Masterworks from the Frank Lloyd Wright Archives* (New York: Abrams, 1990)


**Week 8 Pattern Seeing: Systems**

13 March 2019


Further Reference


Gyorgy Kepes, Module, Proportion, Symmetry, Rhythm (New York: George Braziller, 1966)

Gyorgy Kepes, Sign, Image, Symbol (New York: George Braziller, 1966)

Gyorgy Kepes, Education of Vision (New York: George Braziller, 1965)

Gyorgy Kepes, The Nature of Art and Motion (New York: George Braziller, 1965)

Gyorgy Kepes, Structure in Art and Science (New York: George Braziller, 1965)


Gyorgy Kepes, Arts of the Environment (New York: George Braziller, 1972)


**Week 9 From Above, From Below: Power and Control**

27 March 2019

PAPER ABSTRACTS DUE 11:00pm (uploaded to Canvas)

NOTE: Avery Drawings & Archives visit: 9:00-11:00am; meet in the Avery Drawings & Archives Wallach seminar room

Required Reading


Further Reference


Catherine de Zegher and Mark Wigley, eds. The Activist Drawing: Retracing Situationist Architectures from Constant’s New Babylon to Beyond (Cambridge: MIT Press, 2001)

**Week 10** Risk: The International Division of Labor

3 April 2019

Required Reading


Further Reference


**Week 11 Black and White and Color: Form/Figure/Context**

10 April 2019

Required Reading


Further Reference
Christopher Alexander, Notes on the Synthesis of Form (Cambridge: Harvard University Press, 1964)


Klaus Herdeg, Formal Structure in Indian Architecture (New York: Rizzoli, 1990)


Colin Rowe and Fred Koetter, Collage City (Cambridge: MIT Press, 1978)


**Week 12**

**Computerization Takes Command**

17 April 2019

**Required Reading**


Further Reference


Peter Eisenman, Diagram Diaries (New York: Universe, 1999)


Thomas Keenan and Eyal Weizman, Mengele’s Skull: The Advent of Forensic Aesthetics (Berlin: Sternberg Press, 2012)


Timothy Lenoir, "All but War Is Simulation: The Military Entertainment Complex," Configurations 8, n. 3 (Fall 2000): 238-335. MUSE (online)


**Week 13 Invisibility: Environment and the "Anthropocene"**

24 April 2019

Required Reading


[https://theintercept.com/2018/12/05/green-new-deal-proposal-impacts/](https://theintercept.com/2018/12/05/green-new-deal-proposal-impacts/) (Links to an external site.)


http://www.youtube.com/watch?v=ABZjlfhN0EQ

Further Reference


Albert Ferré and Tomokoko Sakamoto eds., From Control to Design: Parametric/Algorothmic Architecture (Barcelona : Actar, 2008)


http://www.youtube.com/watch?v=RgqtrlixYR4


http://www.youtube.com/watch?v=ABZjlfhN0EQ

Albena Yaneva, Made by the Office for Metropolitan Architecture: An Ethnography of Design (Rotterdam: 010, 2009)