

Production of Digital Space

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Production of Digital Space

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Credit Points 12.5

Overview

The subject explores theories and technologies of representations ranging from analog to digital and their implications on the production of space. Specifically, the subject will focus on digital technologies and their consequences on reconfiguration of vision, knowledge, professional practice and embodied experience in spatial design.

On completion of the subject students should have developed:

- Knowledge of the historical background to representation in spatial design and the impact of digital technology on theoretical issues in spatial design.
- Critical awareness of the relationship between representation and spatial design with a particular emphasis on digital design environments.

Assessment

Class participation (15%); essay of up to 1000 words due week 4 (20%); essay of at least 4000 words due at the end of semester (65%)

Generic Skills

On completion of the subject students should have developed the following:

- Critical thinking skills and analysis.
- Information gathering and critical synthesis.
- Comprehension of complex concepts and the ability to express them lucidly in writing.

SCHEDULE

Monday, 9-12:00

01	03 Mar	Introduction	
02	10 Mar	Quantification: From Raphael to Sutherland	
03	17 Mar	Numbers and Symbols (Perez-Gomez, MIT)	
04	24 Mar	<i>Easter break</i>	
05	31 Mar	Numbers and Bits (Sutherland, CG)	Essay proposal due
06	07 Apr	<i>Essay proposals: discussion</i>	
07	14 Apr	<i>Essay proposals: discussion</i>	
08	21 Apr	<i>Essay proposals: discussion</i>	
09	28 Apr	Models to Methods (Negroponte, Mitchell) Orality, Visuality, Interactivity (Ong, Foucault)	
10	05 May	Bits to Buildings (Rahim) Performative Architecture (Kolarevic)	
11	12 May	Fabrication, Non-standard Architectures	Essay drafts due
12	19 May	Networked Practices	
13	26 May	Summation	

ASSESSMENT

- Class participation (15%)
- Essay of up to 1000 words due 31 March 2008
- Essay of at least 4000 words due at the end of semester (65%)

REFERENCES

INTRODUCTION

- John Frazer. Computing without computers. *Architectural Design*, Special Issue: The 1970s is Here and Now . Issue Edited by Samantha Hardingham, Volume 75, Issue 2, Mar-Apr. 2005, Volume 75, Issue 2 , Pages 44 – 49.
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- Mitchell, William J. (2005) Constructing Complexity, *Computer Aided Architectural Design Futures 2005* [Proceedings of the 11th International Conference on Computer Aided Architectural Design Futures] Vienna (Austria) 20–22 June 2005, pp. 41-50.

QUANTIFICATION, NUMBERS & SYMBOLS

- Pérez Gómez, Alberto, 1949- *Architecture and the crisis of modern science*. Mass. : MIT Press, c1983.
- Carpo, M. (2001). *Architecture in the age of printing : orality, writing, typography, and printed images in the history of architectural theory*. Cambridge, Mass., MIT Press.
- Jardine, Lisa. *Ingenious pursuits : building the scientific revolution*. New York : Nan A. Talese, 1999.
- *Architecture and its image : four centuries of architectural representation : works from the collection of the Canadian Centre for Architecture / edited by Eve Blau and Edward Kaufman ; with essays by Robin Evans ... [et al.]*. Montreal : Centre Canadien d'Architecture/Canadian Centre for Architecture ; Cambridge, Mass. : Distributed by the MIT Press, 1989.
- Evans, R. (1995). *The projective cast : architecture and its three geometries*. Cambridge, Mass., MIT Press.
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- Crosby, Alfred W. *The Measure of Reality: Quantification and Western Society, 1250-1600*. Cambridge, MA: Cambridge University Press, 1997.
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MODELS TO METHODS

- Negroponte, Nicholas. *The architecture machine : toward a more human environment*. Cambridge, Mass. ; London : MIT Press, c1970 1972
- Negroponte, Nicholas. *Soft architecture machines*. Cambridge, Mass. : The MIT Press, c1975.
- Mitchell, William J. (William John), 1944- *The logic of architecture : design, computation, and cognition*. Cambridge, Mass. : MIT Press, c1990.

ORALITY, VISUALITY, INTERACTIVITY

- Ong, Walter J. *Orality and literacy : the technologizing of the word*. London ; New York : Routledge, 2002.
- Foucault, Michel, 1926-1984. *The archaeology of knowledge*; translated from the French by A.M. Sheridan Smith. London ; New York : Routledge, 1989, c1972.

BITS TO BUILDINGS

- Rahim, Ali. *Title Contemporary processes in architecture*. London : Architectural Design, 2000.
- *Contemporary techniques in architecture / [guest-edited by] Ali Rahim*. New York ; Chichester : Wiley, 2002.
- *Digital design and manufacturing : CAD/CAM applications in architecture and design / by Daniel Schodek ... [et al.]*. Hoboken : John Wiley & Sons, c2005.
- Chaszar, A. (ed.), (2006) *Blurring the Lines: Computer-Aided-Design and -Manufacturing in Architecture*, Wiley-Academy, London 224 pp. *Architecture in Practice* series.

PERFORMATIVE ARCHITECTURE

- *Architecture in the digital age : design and manufacturing / edited by Branko Kolarevic*. New York, NY : Spon Press, c2003.
- *Performative architecture : beyond instrumentality / edited by Branko Kolarevic & Ali M. Malkawi*. New York : Spon Press, 2005.

NON-STANDARD ARCHITECTURE

- *Programming cultures : art and architecture in the age of software / guest edited by Mike Silver*. London : Wiley-Academy, c2006.
- *Emergence : morphogenetic design strategies / guest-edited by Michael Hensel, Achim Menges and Michael Weinstock*. Chichester : Wiley-Academy, 2004.
- *4dsocial : interactive design environments / guest-edited by Lucy Bullivant*. London : Wiley, 2007.
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GLOBALISED SERVICES

- *The Architect : chapters in the history of the profession / edited by Spiro Kostof*. New York : Oxford University Press, 1986, c1977.
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