

---

Taubman College of Architecture and Urban Planning  
Architecture 531  
Winter 2009  
Malcolm McCullough

---

*Course overview:*

## Networked Cities

- Background:* The latest layer of urban infrastructure is digital. Mobile communications, embedded computation, and geospatial data have taken information technology beyond the desktop into the sites and situations of everyday life. Instead of disappearing into placeless cyberspace, the global information society is becoming increasingly urban. Besides extending anytime-anyplace connectivity, recent technological developments intensify local situations. The design challenge of urban computing unites the agendas of architecture and interaction design, and aligns both of these disciplines on a more human centered process.
- Goals:* This course should help you understand the role of design in urban computing, or the locative media arts. Through lectures, you will gain some exposure to several key issues and be invited to take a longer view. Through seminars, you will get a chance to take a position on several of these issues, and to discuss them in depth in an open setting. Through a set of storyboard projects, you are invited to identify significant design opportunities, past, present, and future. In all these cases, the course format will demand conciseness, intelligibility, and openness to other disciplines.
- Requirements:* There are five components to the course requirements, and each is weighted equally toward the your course grade. The first of these is spoken—regular and sensible participation in the seminars is the main focus of the course. Second, the written component of the course is a take-home exam asking paragraph length responses. Also as a part of this, your set of weekly reading responses will be reviewed for overall quality of engagement. There is no research paper; instead the remaining three components are short case study projects. These are to be presented in storyboards and posters: one in historical research, the second a comparative critique of recent art projects; and the third a creative proposal of in urban computing. Although the latter may invite some additional interpretation, it will remain at the level of an idea narrative. This is not a studio.
- Enrollment:* There are no course prerequisites, but you must be a graduate student, or else 4<sup>th</sup> year undergraduate. Participants from outside the College are especially welcome, particularly from the School of Information. Our diverse skill set may include graphic communication, interface design, building technologies, urbanism, network sociology, and technological history. All will come into play. No participant is expected to bring most of this; the course is about exposure and adaptation to these interrelated forms of design knowledge.
-

# Networked Cities

Architecture 531  
Malcolm McCullough  
Winter 2009

---

## Schedule of Topics

### INTRODUCTION

1/7 Overview: Objectives, organization, scope, and format

### PART I: INFRASTRUCTURE

- 1/12 Seminar: Stilgoe: "Gateway"  
1/14 Lecture: A short history of urban infrastructures
- 1/19 Holiday: MLK day / no session  
1/21 Discussion: Obama day / on future infrastructures
- 1/26 Seminar: Cronon: "Pricing the Future: Grain"  
1/28 Lecture: Case study: Chicago
- 2/2 Seminar: Nye: "Middletown Lights Up"  
2/4 Lecture: Case study: Electrification
- 2/9 Seminar: Innis: "The Problem of Space" and  
McCarthy: "Out of Home Networks in the 1990s"  
2/11 Presentation: Project 1: Crossovers between infrastructures
- 2/16 Seminar: Castells: "The Space of Flows," "The Geography of the Internet,"  
and "Virtual Communities or Network Society"  
2/18 Lecture: Geographies of the internet and the city

### PART II: AMBIENT INFORMATION

- 3/2 Seminar: Greenfield: *Everyware*  
3/4 Lecture: Ambient, pervasive, tangible, ubiquitous computing
- 3/9 Seminar: Johnson: "Street Level" and Rheingold: "Shibuya Epiphany"  
3/11 Lecture: Toward environmental criticism of information
- 3/16 Seminar: Struppek: threads from *www.urbanscreens.net*  
3/18 Presentation: Project 2: Urban markup
- 3/23 Seminar: Taylor: "Noise in Formation"  
3/25 Workshop: Narratives of making use
- 3/30 Seminar: Thackara: "Lightness" and Mitchell: "Lean and Green"  
4/1 Lecture: The greening of urban computing
- 4/6 Workshop: Individual project consultations  
4/8 Workshop: Narratives of design value
- 4/13 Presentation: Project 3: Inhabiting information

## Networked Cities

Architecture 531

Malcolm McCullough

Winter 2009

---

## Creative Projects

This course provides an opportunity to take part in interdisciplinary design ideation in a low-risk and culturally-literate setting. The creative projects in this course differ from usual work in architecture and interaction design in a number of ways. First, they are less directly about appearance, performance, or usability than about cultural situations. Or at least they treat the former concerns as necessary but not sufficient to the latter. Second, they tend to be collaborative—you will be asked to make assumptions, decisions, and design moves outside your customary domain of inquiry. Third, these projects are developed as self-explanatory narratives. This is not a studio; these projects are intended mainly to stimulate your thinking about the issues under consideration in the seminars. We will have time neither to labor on formal artifacts nor to explain them for discursive juries. This limitation can help shift our focus, however, from interpretation of objects to documentation of experiences. And since this is a course in imaginative propositions (another of our limitations is on field observation) our production focus becomes intervention in situations in the digitally augmented city. In support of this approach, we will be using the document genre of storyboard: a time-based series of illustrations about a situation. A class session will be devoted to the presentation and collective review of each of these projects. You will be expected to provide a disk of your documents in standard format such as html or pdf. Projects will be graded for character, specificity, legibility, and depth of research.

- Project 1:* “Crossovers between infrastructures,” will ask you to identify and research one phenomenon or pattern in the history of the city, in the meetings of various technology grids, and in the role of inscribed information.
- Project 2* “Urban markup,” will ask you to identify and make a comparative critique of two projects in the recent surge of ambient, locative, and responsive urban computing installations.
- Project 3:* “Inhabiting information” gives the chance to develop a creative proposal, at least at storyboard level. This will explore a role of pervasive media in an everyday site of recreation, travel, dwelling, or work, and toward some chosen aspect of social production, resource economics, or public education. You should do this project with a partner.

## Networked Cities

Architecture 531

Malcolm McCullough

Winter 2009

---

## Seminars

Discussions are the heart of this course. Each seminar meeting will respond to a selected short reading. To help focus your reading and response, and also to launch discussion, you are asked to prepare an informal, email-screenful-length (half page) “claim” about the text, and to bring a printout of that to the seminar. This is so named to remind that it is neither a synopsis nor a general riff, but a distinct reaction to the text. At the seminar, all claim sheets are put in a physical inbox. Whenever the conversation needs a jump start (usually only at the beginning) anyone may randomly draw one of these statements and read it aloud.

In preparing a statement, you might find it helpful to work from these points of departure:

- 1: What is your interpretation of the text’s essential thesis—what is the author saying, where is the author coming from, and why is that significant?
- 2: What is your main objection or qualification to that position—how do you react?
- 3: What example in this text made you think of another that is not? In other words, what analogies did this text help you make?

Remember that the purpose of this statement is to stimulate discussion. Prepare your remarks for your peers, knowing that they, too, are preparing remarks.

These claim sheets will be collected each week as a record of your participation. Although they will not be graded as writing assignments, their overall quality and consistency will count as a part of your take-home exam.

This is *your* seminar. Except to flag general digressions, the instructor will not speak for the first half of the session each week, and in the second half will only participate to guide the group further into the issues that it has raised.

# Networked Cities

Architecture 531

Malcolm McCullough

Winter 2009

---

## Seminar Texts

- 1 “Gateway”  
John Stilgoe. 1983. *Metropolitan Corridor*. New Haven: Yale Press. pp. 17-47.  
A fine introduction to cultural landscape studies.
- 2 “Pricing the Future: Grain”  
William Cronon. 1994. *Nature’s Metropolis*. New York: Grossman. pp. 28-41.  
A classic of technological-environmental history.
- 3 “Middletown Lights Up”  
David Nye. 1992. *Electrifying America—Social Meanings of a New Technology, 1880-1940*.  
Cambridge: MIT Press. pp. 1-28. Electrification has commonly been cited as the best analogy  
for current challenges in pervasive computing.
- 4 “The Problem of Space”  
Harold Innis. 1951. *The Bias of Communications*. Toronto: University of Toronto Press.  
McLuhan’s mentor.  
“Out of Home Networks in the 1990s”  
Anna McCarthy. 2002. *Ambient Television: Visual Culture and Public Space*. Durham: Duke  
University Press. Fine recent ethnography. pp 89-114.
- 5 “Virtual Communities or Network Society” and “The Geography of the Internet”  
Manuel Castells. 2001. *The Internet Galaxy—Reflections on the Internet, Business, and  
Society*. London, Oxford University Press. pp 116-136 and 207-246. The leading sociologist’s  
summary for general readers.  
“The Space of Flows,” the classic coinage from Castells’ early landmark work, *The Informational  
City*. pp 167-171.
- 6 *Everyware—The Dawning Age of Ubiquitous Computing*. Adam Greenfield. A manifesto.
- 7 “Shibuya Epiphany”  
Howard Rheingold. 2002. *Smart Mobs*. New York: Basic Books. The most widely cited  
writer on social software and virtual community.  
“Street Level”  
Stephen Johnson. 1988. *Emergence—The connected lives of Ants, Brains, Cities, and  
Software*. New York: Touchstone. pp. 73-100. A popular interpretation of self-organized,  
agent-based systems.  
“Digitally Mediated Urban Space: New Lessons for Design”  
Anthony Townsend. 2004. In *Praxis 6*,  
8 [www.urbanscreens.net](http://www.urbanscreens.net)  
Mirjam Struppek, ed. 2005->. A noteworthy blog and conference series.
- 9 “Noise in Formation.”  
Taylor, Mark C. 2001. *The Moment of Complexity—Emerging Network Culture*. Chicago:  
University of Chicago Press. pp 99-124. A foremost architectural theorist on emergence.
- 10 “Lightness”  
John Thackara, *In the Bubble—Designing in a Complex World*. Cambridge: MIT Press. Pp 9-  
28. The lead to the noted symposiarch’s print compilation.  
“Lean and Green.”  
William Mitchell. 2003. *e-Topia*. Cambridge: MIT Press. pp 1-40. Revisiting the green entry  
in Mitchell’s much-read technofuturist trilogy.

## Networked Cities

Architecture 531  
Malcolm McCullough  
Winter 2009

---

### Resources (*university network*)

- cTools:* Text files of assignments issued on paper in class will be posted on cTools.
- Library Reserves:* PDF files of assigned readings will be available on Mirlyn and linked from cTools
- Mail:* networkedcities@umich.edu for announcements by anyone, not just the instructor
- IFS space:* Project PDFs should be posted to your public/html directory

### Links (*ten jumping-off points*)

- [www.worldchanging.org](http://www.worldchanging.org) Worldchanging (the leading green solutions news site)
- [www.we-make-money-not-art.com](http://www.we-make-money-not-art.com) We Make Money Not Art. Regine Debatty. If any blog is famous...
- [www.doorsofperception.com/](http://www.doorsofperception.com/) Doors of Perception. John Thackara. A conference and news organization.
- [www.benkler.org](http://www.benkler.org) The Wealth of Networks. Yochai Bankler. The new authoritative standard on networked social production.
- [itp.nyu.edu](http://itp.nyu.edu) Interactive Technology Program, NYU. The leader in physical computing design education.
- [www.urbanscreens.org](http://www.urbanscreens.org) Urban Screens. Mirjiam Struppek. A leading blog on media facades.
- [weburbanist.com/](http://weburbanist.com/) A more general-interest blog.
- [www.historyoftechnology.org/](http://www.historyoftechnology.org/) A respected academic society.
- [conferences.oreillynet.com/where/](http://conferences.oreillynet.com/where/) Where 2.0 (the biggest locative media conference):
- [leoalmanac.org/journal/vol\\_14/lea\\_v14\\_n03-04/home.asp](http://leoalmanac.org/journal/vol_14/lea_v14_n03-04/home.asp) Leonardo Online Almanac, a rarified critical journal, special issue on locative media
- [www.delicious.com/mmmc/](http://www.delicious.com/mmmc/) The instructor's start. You might have your own.

### Books (*for going deeper*)

- Bruce Sterling. 2005. *Shaping Things*. Cambridge: MIT Press. A design manifesto.
- Paul Hawken, Amory Lovins and Hunter Lovins. 1999. *Natural Capitalism—Creating the Next Industrial Revolution*. Boston: Little, Brown. [www.natcap.org](http://www.natcap.org) The standard early work on design economics in industrial ecology.
- William Cronon. 1994. *Nature's Metropolis*. New York: Grossman. A classic of technological-environmental history.
- Peter Morville. 2005. *Ambient Findability*. Sebastopol: O'Reilly. Very smart and practical overview of the information architecture challenges in ubiquity.
- William J. Mitchell. 2003. *Me++ The Cyborg Self and the Digital City*. Cambridge: MIT Press. The last and deepest in the much-read technofuturist trilogy..
- John Thackara, *In the Bubble—Designing in a Complex World*. The noted symposiarch's print compilation.
- Mark C. Taylora. 2001. *The Moment of Complexity—Emerging Network Culture*. Chicago: University of Chicago Press. Philosophy pick.

## Networked Cities

Architecture 531

Malcolm McCullough

Winter 2009

---

### SURVEY

Name:

UM unickname (mail):

School , degree program, and year:

Undergraduate degree, if not the above:

Nationality:

City you know best:

Social software you know best:

Most frequently-read blog:

Book pick from nonfiction that you have read in the last year:

Likely seminar affinity (circle one):

language barrier   shy   off days / on days   with the group   steer sometimes   monologue