

## **Anthropology 315/515: Introduction to the Anthropology of Information and Networks**

MWF 10-11  
Sewall Hall 560  
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**Introduction:** This class is an exploration of contemporary society through its software and networks. We will examine the tightly coupled nature of social, technical, legal, and economic processes in a globally connected and information-rich world. Because it is an anthropology class, it will linger on questions concerning the role, status, development and necessity of human beings in a world now primarily populated by algorithms and radiowaves, silicon and plastic. Neither the 'computer' as an object, nor the 'human' as a subject will be taken for granted. The class will touch equally on the very practical concerns of everyday experience (e.g. how email works) as well as sometimes difficult theoretical problems (e.g. how email works) that can affect the public sphere, or individual subjective action.

**Prerequisites:** Many readings and assignments will require basic familiarity with computers, the internet, and email. You will be expected (with help) to teach yourself how to learn new techniques and tools.

### **Requirements:**

1. Reading and Discussion of around 100 pages of reading per week.
2. Mandatory class and lab attendance.
3. One midterm examination and one final examination. These exams will happen during the class period. Plagiarism will be rewarded with failure. Learn to keep track of and properly cite your sources. This includes online sources.
4. Lab. During the course of the class, you will become familiar with a variety of aspects of software and networks. The goal is to teach you how to distinguish relevant information, understand where and from what source it comes, and discern how networks are connected. In order to do this you will need to develop basic computing skills (the lab classes are intended to teach them). There will be small assignments for each lab. Because this is the first iteration of this class, the infrastructure will necessarily be somewhat unstable. Apologies in advance.

Required Texts at the bookstore:

- Ray and Charles Eames, *A Computer Perspective*, Harvard University Press, 1973
- William Aspray and Martin Campbell-Kelley, *Computer: A History of the Information Machine*, Basic Books 1996.
- Janet Abbate, *Inventing the Internet*, MIT Press, 1999.
- Lawrence Lessig, *Code and Other Laws of Cyberspace*, Basic Books, 2000.

Class mailing list for Fall 2001: anth315@kelty.org

### **Preliminary Schedule**

#### **Section 1: Introduction. What information? Which Network?**

- Aug 27: Introduction to the Class
- Aug 29: Networks and Information without Computers

*Required:*

- Stanley Milgram, “The Small World Problem” in *The Individual in a Social World*, Reading, MA: Addison-Wesley, 1977, pps. 281-295.
- Clifford Geertz, “The Bazaar Economy: Information and Search in Peasant Marketing,” *The American Economic Review*, Vol. 68, No. 2, (May, 1978), pp. 28-32. (JSTOR)

*Optional:*

- George Stigler, “The Economics of Information,” *The Journal of Political Economy*, Vol. 69, No. 3 (June 1961).(JSTOR)
  - Manfred Kochen and Ithiel De Sola Pool “Contacts and Influence” *Social Networks*, 1, (1978/9)pgs 5-51.
- Aug 31: Introduction to Lab, Sewell Hall 133.

#### **Section 2: Where is the Internet?**

- Sep 03: Labor Day, no meeting

- Sep 05: Where is the internet? Why Cyberspace is Not.

*Required:*

- Neal Stephenson “Mother Earth, Mother Board” *Wired*, 4.12, December 1996, pps 97-160. ([www.wired.com](http://www.wired.com)).
- Philip Agre, “Yesterday’s Tomorrow,” *Times Literary Supplement*, 3 July 1998, pages 2-3.

*Optional:*

- Carl Malamud, *Exploring the Internet: A technical travelogue*, Englewood Cliffs, NJ: Prentice Hall, 1993.

- Sep 07: Lab: Visualizing the internet

### **Section 3: History of Networks: Virtual, Actual, and Possible.**

- Sep 10: Networks and Public Spheres

*Required:*

- Greg Downey “Virtual Webs, Physical Technologies and Hidden Workers” *Technology and Culture* 42, April 2001.

*Optional:*

- Jürgen Habermas, *Structural Transformation of the Public Sphere*, MIT Press, 1991 [orig. 1962]. Chapters 1,2

- Sep 12: The Network of Networks,

*Required:*

- Janet Abbate, *Inventing the Internet* MIT Press, 1999. Chapters 1-3.
- J.C.R. Licklider “Man-Computer Symbiosis” from *IRE Transactions on Human Factors in Electronics*, volume HFE-1, Pages 4-11, March 1960.

- Sep 14: Lab: Understanding how the internet works

- Sep 17: Network of Networks Cont’d

*Required:*

- Janet Abbate, *Inventing the Internet* MIT Press, 1999. Chapters 4-6,

**Section 4: History of Information: Abstract Machines, Paper Machines, and Big Whirring Machines.**

- Sep 19: Abstract and Paper Machines, the universal story.

*Required:*

- Martin Davis *The Universal Computer*, W.W. Norton, 2000, chapter 7, Chapters 5,6,8 optional.
- Michael S. Mahoney “Computer Science: The Search for a Mathematical Theory” from *Science in the Twentieth Century*, ed. John Krige and Dominique Pestre, Amsterdam : Harwood Academic Publishers, 1997.

- Sep 21: Information Machines, From Weaving to Xeroxing

*Required:*

- Eames and Eames, *A Computer Perspective*
- Aspray and Campbell-Kelly, *Computer* Chs. 1-4.

- Sep 24: War Machines

*Required:*

- Paul Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*, Cambridge, MA: MIT Press, 1996, Chapters 3 and 4.

- Sep 26: International Business Machines, for example.

*Required:*

- Aspray and Campbell-Kelley, Chs. 5-7
- Brandon Hookway, *Pandemonium: The Rise of Predatory Localities in the Post-War World*, New York: Princeton Architectural Press, 1999.

*Optional:*

- Sigfried Gideon, *Mechanization Takes Command*, New York: Norton Publishing, 1948.

- Sep 28: Lab: More intro to networks and information.

### **Section 5: Software**

*Required:*

- Oct 1: Around 1968
  - Aspray and Campbell-Kelly, chs. 8-9.
  - Michael Mahoney, “Roots of Software Engineering,” *CWI Quarterly*, 3,4(1990), 325-334

- Oct 3: The Perpetual Software Crisis, The Rise of Offshore Software Development, Migration and High-Tech Labor

*Required:*

- “Software’s Chronic crisis,” *Scientific American*, September 1994

*Optional:*

- Fred Brooks, *The Mythical Man-Month*, Reading, Mass. : Addison-Wesley Pub. Co., c1995

- Oct 5: Lab: Offshore development, international migration of labor

*Required:*

- “Hi, Im in Bangalore (but I can’t say),” *New York Times*, March 21, 2001.
- Discussion topics: Bodyshopping, H1-B Visas, outsourcing, concentration, personal networks, 24-hour production, etc.
- Assignment: TBA

- Oct 08: Electronic and Outsourced Spaces

*Required:*

- Asma Lateef, “Linking up with the Global Economy: a case study of the Bangalore software industry,” *International Institute for Labor Studies Report DP/96/1997*, 1997.
- Saski Sassen *Globalization and its Discontents*, New York: New Press, 1998, chapter 9.

- Oct 10: Midterm

- Oct 12: No Class (<http://www.wizards-of-os.org>)
- Oct 15: Midterm Recess

### Section 6: Standards

- Oct 17: What is a standard? Classification, Standardization, and Compatibility

*Required:*

- Susanne K. Schmidt and Raymund Werle, *Coordinating Technology: Studies in the international Standardization of Telecommunications*, Cambridge, MA: MIT Press, 1998, pgs 1-84
- William Drake “The Internet Religious. . . War,” *Telecommunications Policy* 17 (December, 1993): 643-649.

*Optional:*

- Geoffrey Bowker and Susan Leigh Star, *Sorting Things Out: Classification and it's consequences*, Cambridge, MA: MIT Press, 1999 esp. pgs 1-50, 283-326.
- Christopher Kelty, *Scale and Convention: Programmed Languages in a Regulated America*, PhD Thesis, MIT, 2000, chapters B-H.

- Oct 19: The Economic significance of standards

*Required:*

- Brian Arthur, “Increasing returns and the new world of business,” *Harvard Business Review*, July 1996, pages 100-109.
- Paul David, “Clio and the Economics of QWERTY” *The American Economic Review*, Vol. 75, No. 2, (May, 1985), pp. 332-337.
- John Cassidy, “The force of an idea,” *New Yorker*, 12 January 1998, pages 32-37.
- Charles Sabel “Intelligible Differences,” 36th Annual Meeting of the Societ Italiana degli Economisti, Florence, October 20-21, 1995. Available at:  
<http://www.law.columbia.edu/sabel/papers/IntelDif.html>

- Oct 22: Political Significance of Standards: Law, Regulation, Standard, Custom.

*Required:*

- Larry Lessig, *Code and Other Laws of Cyberspace*, New York:Basic Books, 2000, pgs. 1-111

### **Section 7: Intellectual Property and Free Software.**

- Oct 24: Copyright, Patent, Trademark

*Required:*

- Larry Lessig, *Code and Other Laws of Cyberspace*, New York: Basic Books, 2000, 111-231
- Assignment: Go to <http://www.uspto.org/> and familiarize yourself with the differences amongst copyright, trademark and patent.

- Oct 26: Lab: Intellectual Property

*Required:*

- Assignment: Intellectual Property and YOU!! Details TBA

- Oct 29: Commons, Public Domains, and Enclosures.

*Required:*

- “A Politics of Intellectual Property: Environmentalism for the Net?” by James Boyle, at <http://www.law.duke.edu/boylesite/intprop.htm> or at <http://www.james-boyle.com>
- “Control\_Shift\_Commons,” an interview with James Boyle, by Ted Byfield, *Mute Magazine*, July 20, Issue 20.

- Oct 31: Content Control, DVDs, DMCA, DeCSS, Napster, etc. Assignment on P2P and security.

*Required:*

- “Anticircumvention Rules: A Threat to Science” by Pamela Samuelson, *Science*, Volume 293(5537) 14 September 2001 p. 2028.
- David Touretsky’s “Gallery of CSS descramblers” at <http://www-2.cs.cmu.edu/~dst/DeCSS/Gallery/>

- Nov 02: Special Guest Speaker: Dr. Dan Wallach of the CS dept.
- Nov 05: No Class (<http://firstmonday.com>)
- Nov 07: The Free Software Movement

*Required:*

- As much FSF Philosophy as you can stomach:  
<http://www.fsf.org/philosophy/philosophy.html>
- As much libertarian wackiness as you can stomach: at least “The Cathedral and The Bazaar” and “Homesteading the Noosphere” by Eric Raymond at  
<http://tuxedo.org/~esr/writings/>

*Optional:*

- “Hau To Do Things with Words” Christopher M. Kelty, *Knowledge and Society*, forthcoming.
- Nov 09: Lab: where free software is and is not. A tour of free software and it’s uses. Example: crypto-signing software. SSH, GNUPG, etc. Freeware, Shareware, EULAs and other contracts.

## **Section 8: Movements, networks, people and technology**

- Nov 12: Content is dead, Long live Content!

*Required:*

- “Content is not King” by Andrew Odlyzko, AT&T Research Labs, available at  
<http://www.research.att.com/>
- Selected Salon.com articles concerning Napster, p2p technology and the entertainment industry:
  - “The Music Revolution will not be Digitized” 1 June 2001:  
[http://www.salon.com/tech/feature/2001/06/01/digital\\_music/index.html](http://www.salon.com/tech/feature/2001/06/01/digital_music/index.html)
  - “Revenge of the File-Sharing Masses!” 20 July, 2001:  
[http://www.salon.com/tech/col/rose/2001/07/20/napster\\_diaspora/index.html](http://www.salon.com/tech/col/rose/2001/07/20/napster_diaspora/index.html)
  - “Courtney Love does the Math” 14 June, 2000:  
<http://www.salon.com/tech/feature/2000/06/14/love/index.html>
  - “Peer to Peer Terrorism” 26 September 2001:  
[http://www.salon.com/tech/feature/2001/09/26/osama\\_bin\\_napster/index.html](http://www.salon.com/tech/feature/2001/09/26/osama_bin_napster/index.html)



- Nov 14: Controlling content through Brands and Technology

*Required:*

- Jessica Litman, “Breakfast with Batman: The Public Interest in the Advertising Age” 108 *Yale Law Journal* 1999.
- The Economist, “Who’s wearing the Trousers?” *Economist*, 6 Sept 2001.  
[http://www.economist.com/business/displayStory.cfm?Story\\_ID=770992](http://www.economist.com/business/displayStory.cfm?Story_ID=770992)
- See Also: <http://www.nologo.org/> for information on the book referred to by the above article.
- “Trusted Systems,” by Mark Stefik, *Scientific American*, March 1997  
<http://www.sciam.com/0397issue/0397stefik.html>

- Nov 16: Lab/Discussion: Digital Rights Management systems, Viral Marketing and Brand Recognition. Assignment TBA

- Nov 19: The Zapatistas and the return of RAND

*Required:*

- selections from *The Zapatista Social Netwar in Mexico* by Ronfeldt, Arquilla, Fuller and Fuller, RAND Corporation, 1998.
- selections from *Zapatista! Reinventing Revolution in Mexico*, John R. Holloway and Eloina Pelaez, Pluto Press, 1998.

- Nov 21: Zapatistas cont’d

- Nov 23: Lab/Discussion: Social network technologies, independent media and networked communication tools.

- Nov 26: TBA

- Nov 28: Small World after all? Return to Milgram and Geertz.

*Required:*

- Stanley Milgram, “The Small World Problem” in *The Individual in a Social World*, Reading, MA: Addison-Wesley, 1977, pps. 281-295.
- Clifford Geertz, “The Bazaar Economy: Information and Search in Peasant Marketing,” *The American Economic Review*, Vol. 68, No. 2, (May, 1978), pp. 28-32. (JSTOR)

*Optional:*

- George Stigler, “The Economics of Information,” *The Journal of Political Economy*, Vol. 69, No. 3 (June 1961).(JSTOR)
- Manfred Kochen and Itzhak De Sola Pool “Contacts and Influence” *Social Networks*, 1, (1978/9)pgs 5-51.

- Nov 30: No Class

### **Section 9: Conclusions**

- Dec 03: Student Presentations
- Dec 05: Student Presentations
- Dec 07: Final