

**Science & Technology Studies for Communication & Media Studies
COMM 620**

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Spring 2017
Meets W 12-2:50 pm
ASC 236

“Technology is society made durable.” (Bruno Latour)

It’s tempting to see new technologies, especially new media technologies, as drivers of political and social change. But technological artifacts also embody the values and assumptions — and conflicts — of the societies that produce them, in complicated and surprising ways. This course provides an introduction to the field of Science & Technology Studies, examining the intersection of technology, knowledge, power, and society, with particular attention to cases and theories relevant to the study of communication and media. It takes as its premise that assumptions about society may come to be embodied in technological artifacts and technical knowledge, and undertakes to study how social relations get “inside” technology. We will read examples of sociological, historical, and ethnographic approaches to the study of media and information technologies. This will provide doctoral students with a foundation for analyzing the material dimensions of media and communication.

Course objectives:

- achieve a command of foundational literature in Science & Technology Studies, especially as they relate to research in Communication;
- articulate differences and similarities between how STS and Communication scholars approach the study of media technologies, media institutions, technological practices, and technological cultures;
- complete a literature review and propose how this contributes to original research at the intersection of Communication & STS.

COURSE POLICIES:

The most important assignment is to complete all of the reading assigned. Your participation is also crucial to the success of the course. It is the best way to demonstrate what you have been learning as well as to fine-tune your ideas in dialogue with your classmates.

Readings:

Complete the readings before class on the day they are listed on the syllabus.

Journal articles are available through USC library electronic access. Some readings are available online, via a URL provided on the syllabus. The assigned books are recommended for purchase, but are also on reserve at Leavey Library. All other readings will be available as PDFs on the

Blackboard site for our course (alphabetical by author last name), and they will be posted no later than one week before the session for which they are assigned.

If readings are not where they seem like they should be, or there is a problem with a reading, please send an email about the problem as soon as you notice it. A logistical problem is not a reason for us to fail to address a reading!!

Required Books:

Etienne Benson. *Wired Wilderness*. Baltimore: Johns Hopkins University Press, 2010.

Wiebe Bijker, Thomas Hughes, and Trevor Pinch (eds.). *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge, MA: MIT Press, 1987.

Greg Downey. *Telegraph Messenger Boys*. New York: Routledge, 2002.

Virginia Eubanks. *Digital Dead End*. Cambridge, MA: MIT Press, 2012.

Tarleton Gillespie, Pablo Boczkowski, Kirsten Foot (eds.). *Media Technologies: Essays on Communication, Materiality, and Society*. Cambridge, MA: MIT Press, 2014.

Medina, Eden. (2011). *Cybernetic revolutionaries: Technology and politics in Allende's Chile*. Cambridge, MA: MIT Press.

Merritt Roe Smith and Leo Marx. *Does Technology Drive History?* Cambridge, MA: MIT Press, 1994.

Recommended Books:

Anita Chan. *Networking Peripheries*. Cambridge, MA: MIT Press, 2014.

E. Gabriella Coleman. *Coding Freedom*. Princeton, NJ: Princeton University Press, 2012.

Peters, Benjamin. *How Not to Network a Nation: The Uneasy History of the Soviet Internet*. Cambridge, MA: MIT Press, 2016.

Sharma, Sarah. (2014). *In the meantime: Temporality and cultural politics*. Durham, NC: Duke University Press.

Takhteyev, Yuri. (2012). *Coding places: Software practice in a South American city*. Cambridge, MA: MIT Press.

Wajcman, Judy. (2014). *Pressed for time: The acceleration of life in digital capitalism*. Chicago, IL: University of Chicago Press.

Attendance:

Everyone is expected to attend all class meetings. If you need to miss class for any reason, please notify the instructors in advance.

Students who observe religious holidays that may conflict with the class schedule should let us know at the beginning of the semester. There is no penalty for missing class due to religious observance. Given that this is a small seminar, if we will have a critical mass who will be absent on a scheduled course day, we can discuss possibly rescheduling class that day, or else we will accept make-up work for the individual student(s).

Methods of Evaluation:

Weekly memos (20%): Each week, *by Tuesday at 7pm*, each student will post to Blackboard a short reflective memo (approximately 350-500 words) focused on that week's readings. Your memo should engage with *at least two* of the required readings but, beyond that, you have considerable freedom; you might, *e.g.*, pose questions you had as you read; juxtapose readings that you saw in conflict; connect themes you saw among texts; critique authors' arguments or terminology; reflect upon the methods authors used to develop their arguments. The goal is to reflect upon the readings and share reflections with your classmates so you arrive to class ready to participate. Memos will not be graded but they are required; especially at the beginning of the semester, we'll provide feedback on whether memos are meeting expectations.

Discussion leader + participation (20%): Each student will sign up to be the discussion leader for three weeks of their choosing. While it is not expected that you will lecture or give a formal presentation, it is expected that you will be well prepared with a series of questions and/or topics, based on the week's readings, which will serve to provide focus and direction for in-class discussion. You do not need to prepare a PowerPoint™ presentation or something similarly formal. You may wish to bring a written summary/analysis of the readings and a list of questions to distribute, but this is not required.

Project proposal (5%, due March 29): This is a short (2-4 page) proposal for your final project. You will sketch out a research project or a literature review, and a consultation with one of us to discuss the project is strongly encouraged. Not graded but required.

Final project (55%, due May 10): In approximately 5000 words, undertake one of the following:

1. Literature-focused project:

Identify and then examine a sampling of important literature from outside our class on media and information technology (may be around a particular technology or an area of literature). Using the literature from the course, critically evaluate this outside literature. Write a paper in the style of Pinch and Bijker's "The Social Construction of Facts and Artifacts" or Boczkowski's and Lievrouw's "Bridging STS and Communication Studies." How can the theories of technology we have read in this course inform and improve our study of media and information technologies? What gaps and/or resonances do you encounter between tech studies and the literature you have sampled? How might a study of media and information technologies

generate theory about technology more generally? Does a study of these particular technologies point to issues that more general studies of technology can or cannot account for?

This may be written as a literature review or as a research proposal for a specific project.

2. Book review project:

Choose a cluster of new books, from this syllabus and/or from elsewhere, and review them in a review essay. This can be geared towards a review essay publication. If you wish to do this, confer about a journal to approach. *IJOC* would be a sensible target. *Feminist Media Studies* has expressed interest in review essays if you are considering books that address feminism or gender.

3. Artifact/empirically-focused project:

Choose a technology—old, new, or “new”—and analyze it using appropriate concepts, theories, and methodologies from the literature we have read in the course (and probably other literature identified by you in conversation with me). You may still draw conclusions relevant to answering the questions in option one, but the primary focus should be on using what you have gained from the tech studies literature to provide a critical account of development and use in a particular case. You are encouraged to think of this as the kernel of a conference paper or publication, and thus you are more than welcome to map this to your larger research agenda (dissertation).

For all options, cite appropriately and include a bibliography. You are free to use your preferred citation style, but please use it consistently throughout your writing. Type and double-space written work, and number and staple multiple pages.

NB: Get in the habit of adding page numbers as soon as you start an electronic file. It is always useful for people giving you feedback to have page numbers to refer to, whether on hard copy or electronic file.

Human subjects and institutional review:

If you want to do a paper that involves human subjects, you will need to submit your IRB (Institutional Review Board) application in time to get approval in time to do the research and analysis before the end of the semester. (It takes a few to several weeks to get approval.) Right now, IRB boards often have a very broad understanding of what constitutes a “human subject” online. Because of the lack of standardization about online research in federal regulations on research, IRB wants people doing online research that could even remotely be conceived to involve humans (like online ethnography) at least to submit forms arguing that the research is exempt from oversight.

See: <https://oprs.usc.edu/education/social-behavioral/> ; <https://oprs.usc.edu/review/>

Academic integrity:

Academic integrity is essential to the success of the educational enterprise and breaches of academic integrity constitute serious offenses against the academic community. Every member of that community bears a responsibility for ensuring that the highest standards of academic integrity are upheld. Students who plagiarize will automatically fail the class and it will be at the instructor's discretion to report the student to the university. Remember, it is plagiarism if you use someone else's ideas without attribution or someone else's words without quotation. If you have any questions as to what constitutes plagiarism or how to properly cite your colleagues or reference resources, confer with instructors and/or turn to these helpful online resources:

USC guide to academic integrity for graduate students:

http://www.usc.edu/student-affairs/student-conduct/grad_ai.htm

A useful site about citation and avoiding plagiarism:

<http://www.lib.berkeley.edu/TeachingLib/Guides/Citations.html>

And another about how to think about bibliographies beyond their technical requirements:

<http://reagle.org/joseph/2007/teaching/bp-bibliography.html>

Student resources:

- Dornsife Writing Center: <http://dornsife.usc.edu/writingcenter/>
- The instructors respect and uphold all university policies with regard to disability, and support efforts to assist students in obtaining appropriate accommodations and services. Students with documented disabilities who wish accommodations in this class must seek assistance and documentation through the USC Disabilities Services and Programs department. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. See <https://dsp.usc.edu/> for details.

Students who develop disabling medical problems or other issues during the semester that affect their ability to complete coursework should request advising and/or referral from Anne Marie Campian, campian@usc.edu.

Communication: Make sure to check your USC email regularly, or to have your USC email forward to the email you use so you don't miss any announcements sent over email. You can expect prompt responses to email (within 24-48 hours, more likely to be 48 on weekends).

Grading:

A = Outstanding – excellent, exceptional, superior. Work is comprehensive and integrates themes and concepts from readings and discussions, building an original analysis. Writing is clear, detailed, analytical, and organized. Students who earn this grade are prepared for class, contribute insightfully, synthesize course materials, and develop connections between course themes and their independent research agendas.

B = Good – competent, respectable, solid. References to the course material are complete, well-selected, and topical. Writing is clear and critical analysis is present, but may fall short in its

extension beyond course topics to develop independent analysis. Classroom participation is consistent and thoughtful.

C = Satisfactory – adequate, average, acceptable. References to the course material are well-selected and topical, but student performs little or no critical analysis. Problems exist in student's work. Work includes underdeveloped ideas, off-topic sources or examples, inappropriate research, or anecdotes. Work is descriptive, and/or fails to integrate course material into an original analysis. Participation is inadequate or inconsistent.

F = Failing – inadequate, pervasive problems.

IN = incomplete.

How your grade will be calculated:

Final assignment: 65%

Project proposal (not graded): 5%

Kick off discussion week(s): 30%

Schedule:

The following is a “working schedule.” We may make changes as we move through the semester. Please stay on top of any changes.

Week 1: January 12: Course introduction, mechanics

Week 2: January 19: Science, epistemography

Lorraine Daston and Peter Galison. “The Image of Objectivity.” *Representations* 40 (1992): 81-128.

Adrian Johns. pp. 108-160 (portion of chapter “Literary Life”). *The Nature of the Book*. Chicago: Chicago University Press, 1998.

Steven Shapin and Simon Schaffer. Chapter 2: “Seeing and Believing”. *Leviathan and the Airpump*. Princeton: Princeton University Press, 1985.

Come prepared to assign yourselves to discussion leader slots.

Recommended:

Jan Golinski. “Introduction” and “Chapter 1: An Outline of Constructivism”. *Making Natural Knowledge: Constructivism and the History of Science*. Chicago: University of Chicago Press. 1998. pp. 1-46.

Background/framing reading for the course (not required but recommended):

Pablo Boczkowski and Leah Lievrouw. "Bridging STS and Communication Studies: Scholarship on Media and Information Technologies." In *New Handbook of Science and Technology Studies*. E.J. Hackett, O. Amsterdamska, M. Lynch and J. Wajcman (eds.) Cambridge, MA: MIT Press, 2008.

Ignacio Siles and Pablo Boczkowski. "At the intersection of content and materiality: A text-material perspective on agency in the use of media technologies." *Communication Theory* 22 (2012): 227-249.

Leah Lievrouw. "Materiality and Meaning in Media and Technology Studies: An Unfinished Project." In *Media Technologies*. Tarleton Gillespie, Pablo Boczkowski, Kirsten Foot (eds.). Cambridge, MA: MIT Press, 2014.

Sophia Roosth and Susan Silbey. "Science and Technology Studies: From Controversies to Post-Humanist Social Theory." In *Blackwell Companion to Social Theory*, Bryan S. Turner (ed.), 2008.

Week 3: January 26: What is technology?

Michel Foucault. "Panopticism." In *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan. New York: Vintage Books, 1977. pp. 195-228.

Leo Marx. "The Idea of 'Technology' and Postmodern Pessimism." In *Does Technology Drive History?* ed. Merritt Roe Smith and Leo Marx (Cambridge, Mass., 1994), 238–57.

Leo Marx. "Technology: The Emergence of a Hazardous Concept." *Technology and Culture*, Volume 51, Number 3 (2010): 561-577.

Yaron Ezrahi. "Technology and the Civil Epistemology of Democracy." *Inquiry* 35 (1992): 363-376.

Week 4: February 2: Technological determinism?

James Carey. "Technology and Ideology: The Case of the Telegraph." *Communication as Culture: Essays on Media and Society*, Revised Edition, pp. 155–177. Taylor & Francis.

Merritt Roe Smith. "Technological Determinism in American Culture." In Merritt Roe Smith and Leo Marx, eds. *Does Technology Drive History?* Cambridge, MA: MIT Press, 1994.

Thomas Hughes. "Technological Momentum." In Merritt Roe Smith and Leo Marx, eds. *Does Technology Drive History?* Cambridge, MA: MIT Press, 1994.

Langdon Winner. "Do Artifacts Have Politics?" In *The Whale and the Reactor*. Chicago: University of Chicago Press, 1988.

Week 5: February 9: Social Construction of Technology

Trevor Pinch and Wiebe Bijker. "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other." In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Wiebe Bijker, Thomas Hughes, and Trevor Pinch, eds. Cambridge, MA: MIT Press, 1987.

Ruth Schwartz Cowan. "How the Refrigerator Got Its Hum." In *The Social Shaping of Technology*. Donald Mackenzie and Judy Wajcman (eds). Open University Press, 1985.

Thomas Hughes. "The Evolution of Large Technological Systems." In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Wiebe Bijker, Thomas Hughes, and Trevor Pinch, eds. Cambridge, MA: MIT Press, 1987.

Ronald Kline and Trevor Pinch. "Users as Agents of Technological Change: The Social Construction of the Automobile in the Rural United States." *Technology and Culture* 37 (1996): 763-795.

Recommended:

David Bloor. "The Strong Programme in the Sociology of Science." Excerpted reprint from *Knowledge and Social Imagery*. Chicago: University of Chicago Press, 1976.

Ruth Schwartz Cowan. "The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology." In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Wiebe Bijker, Thomas Hughes, and Trevor Pinch, eds. Cambridge, MA: MIT Press, 1987.

Langdon Winner. "Upon Opening the Black Box and Finding It Empty: Social Constructivism and the Philosophy of Technology." *Science, Technology, & Human Values* 18.3 (1993): 362–378.

Week 6: February 16: Actor-Network Theory

Michel Callon. "Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay." Available online: http://unesco.sciences-po.fr/com/moodledata/3/Callon_SociologyTranslation.pdf

Madeleine Akrich. "The De-Description of Technical Objects." In Wiebe Bijker and John Law, eds. *Shaping Technology / Building Society: Studies in Sociotechnical Change*. Cambridge, MA: MIT Press, 1994.

Bruno Latour. "Where are the Missing Masses? The Sociology of a Few Mundane Artifacts." In Wiebe Bijker and John Law, eds. *Shaping Technology / Building Society: Studies in Sociotechnical Change*. Cambridge, MA: MIT Press, 1994.

Bruno Latour. "Visualisation and Cognition: Thinking with Eyes and Hands." In Henrika Kuklick (editor). *Knowledge and Society Studies in the Sociology of Culture Past and Present*

vol. 6. Jai Press, 1986 pp. 1-40.

Recommended:

Madeleine Akrich and Bruno Latour. "A Summary of a Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies." In Wiebe Bijker and John Law, eds. *Shaping Technology / Building Society: Studies in Sociotechnical Change*. Cambridge, MA: MIT Press, 1994. (NB: This is at the end of the Latour "Missing Masses" piece in the same PDF.)

Further reading on ANT:

Bruno Latour. "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern." *Critical Inquiry* 30 (2004): 225-248.

Javier Lezaun. "Actor Network Theory." Claudio Benzecri, Monika Krause and Isaac Reed (eds.), *Social Theory Now*. Chicago University Press, forthcoming.

Further reading on visualization in science:

Martin Rudwick. "The Emergence of a Visual Language for Geological Science, 1760-1840." *History of Science* 14.3 (1976): 149-195.

IRB DEADLINE??

Week 7: February 23: Expertise and Translation

Carolyn Marvin. "Chapter 1: Inventing the Expert." In *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth Century*. New York: Oxford University Press, 1988.

Susan Douglas. "Chapter Six: Popular Culture and Populist Technology: The Amateur Operators, 1906-1912." In *Inventing American Broadcasting, 1899-1922*. Baltimore: Johns Hopkins University Press, 1987.

Susan Leigh Star and James Griesemer. "Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39." *Social Studies of Science* 19 (1989): 387-420.

Brian Wynne. "Misunderstood Misunderstandings: Social Identities and the Public Uptake of Science." In *Misunderstanding Science? The Public Reconstruction of Science and Technology*. Eds. Alan Irwin and Brian Wynne. Cambridge: Cambridge University Press, 1996.

Further reading:

Christina Dunbar-Hester. "What's Local? Localism as a Discursive Boundary Object in Low-Power Radio Policymaking." *Communication, Culture & Critique* 6 (2013): 502-524.

Steven Epstein. "The Construction of Lay Expertise: AIDS activism and the forging of credibility in the reform of clinical trials." *Science, Technology & Human Values* 20 (1995): 408-437.

Week 8: March 1: Feminist STS

Donna Haraway. "The Cyborg Manifesto." In *Simians, Cyborgs and Women: The Reinvention of Nature*. New York: Routledge, 1991.

Donna Haraway. "Situated Knowledges." In *Simians, Cyborgs and Women: The Reinvention of Nature*. New York: Routledge, 1991.

Susan Leigh Star. "Power, technology, and the phenomenology of conventions: On being allergic to onions." In *A Sociology of Monsters: Essays on power, technology and domination*. John Law, ed. New York: Routledge, 1991.

Lucy Suchman. "Located Accountabilities in Technology Production." Published by the Centre for Science Studies, Lancaster University. Online at: <http://www.lancs.ac.uk/fass/sociology/papers/suchman-located-accountabilities.pdf>

Judy Wajcman. "TechnoCapitalism Meets TechnoFeminism." *Labour & Industry* 16 (2006): 7-20.

Recommended:

Nelly Oudshoorn, Els Rommes & Marcelle Stienstra. "Configuring the User as Everybody: Gender and Design Cultures in Information and Communication Technologies." *Science, Technology & Human Values* 29 (2004): 30-63.

Week 9: March 8: Standards, Infrastructure, Platforms

DeNardis, Laura. (2012). Hidden levers of internet control: An infrastructure-based theory of internet governance. *Information, Communication & Society*, 15(5), 720-738.

Gillespie, Tarleton. (Forthcoming). Governance of and by platforms. In Jean Burgess, Thomas Poell, & Alice Marwick (Eds.), *SAGE Handbook of Social Media*. London, UK: SAGE.

Susan Leigh Star. "The Ethnography of Infrastructure." *American Behavioral Scientist* 43 (1999): 377-391.

Geoffrey Bowker and Susan Leigh Star. "Chapter 6: The Case of Race Classification and Reclassification Under Apartheid." *Sorting Things Out*. Cambridge, MA: MIT Press, 1999.

Lilly Nguyen. "Infrastructural Action in Vietnam: Inverting the technopolitics of hacking in the global South." *New Media & Society* 18.4 (2016): 637-652.

Recommended:

Mike Ananny. "Toward an Ethics of Algorithms: Convening, Observation, Probability, and Timeliness." *Science, Technology & Human Values* 2016 (41): 93-117.

Edwards, Paul. (2003). Infrastructure and modernity: Force, time, and social organization in the history of sociotechnical systems. In T.J. Misa, P. Brey, & A. Feenberg (Eds.), *Modernity and technology* (pp. 185-225). Cambridge, MA: The MIT Press.

Tarleton Gillespie. "The Politics of Platforms." *New Media & Society* 12 (2010): 347-364.

Larkin, Brian. (2013). The politics and poetics of infrastructure. *Annual Review of Anthropology*, 42, 327-343. doi:10.1146/annurev-anthro-092412-155522

Jonathan Sterne. "The MP3 as Cultural Artifact." *New Media & Society* 8 (2006): 825-842.

Week 10: March 15: NO CLASS, SPRING BREAK **Think about final projects.**

Week 11: March 22: Work

Greg Downey. *Telegraph Messenger Boys*. New York: Routledge, 2002.

Sareeta Amrute. "Proprietary freedoms in an IT office: how Indian IT workers negotiate code and cultural branding." *Social Anthropology* 22.1 (2014): 101-117.

Julian Orr. "Sharing Knowledge, Celebrating Identity: Community Memory in a Service Culture." In *Collective Remembering*. David Middleton and Derek Edwards, eds. London: Sage, 1990.

Recommended:

Fred Turner. "Burning Man at Google: A Cultural Infrastructure for New Media Production." *New Media & Society* 11 (2009): 73-94.

Amrute, Sareeta. (2016). *Encoding race, encoding class: Indian IT workers in Berlin*. Durham, NC: Duke University Press.

Week 12: March 29: Time

Clark, Adele E. (2016). Anticipation work: Abduction, simplification, hope. In Geoffrey C. Bowker, Stefan Timmermans, Adele E. Clarke, & Ellen Balka (Eds.), *Boundary objects and beyond: Working with Leigh Star* (pp. 85-120). Cambridge, MA: MIT Press.

Sharma, S. (2013). Critical time. *Communication and Critical/Cultural Studies*. doi:10.1080/14791420.2013.812600

Thompson, Edward P. (1967). Time, work-discipline, and industrial capitalism. *Past and Present*, 38, 56-97.

Weltevrede, Esther, Helmond, Anne, & Gerlitz, Carolin. (2014). The politics of real-time: A device perspective on social media platforms and search engines. *Theory, Culture & Society*, 31(6), 125-150. doi:10.1177/0263276414537318

Yates, Joanne. (2014). Time, history, and materiality. In Francois-Xavier de Vaujany, Nathalie Mitev, Pierre Laniray, & Emmanuelle Vaast (Eds.), *Materiality and time: Historical perspectives on organizations, artefacts and practices* (pp. 17-32). New York, NY: Palgrave Macmillan.

Recommended:

Ananny, Mike. (2016). Networked news time: How slow—or fast—do publics need news to be? *Digital Journalism*. doi:10.1080/21670811.2015.1124728

Sharma, Sarah. (2014). *In the meantime: Temporality and cultural politics*. Durham, NC: Duke University Press.

Steinhardt, Stephanie B., & Jackson, Steven J. (2015). Anticipation work: Cultivating vision in collective practice. *Paper presented at the Computer Supported Cooperative Work*, Vancouver, British Columbia.

Wajcman, Judy. (2014). *Pressed for time: The acceleration of life in digital capitalism*. Chicago, IL: University of Chicago Press.

FINAL PROJECT PROPOSAL DUE.

Week 13: April 5: Freedom, Universalism

Turner, Fred. (2006). *From counterculture to cyberculture: Stewart Brand, the Whole Earth Network, and the rise of digital utopianism*. Chicago, IL: University of Chicago Press.

Christopher Kelty. “Chapter 10: The Fog of Freedom.” In *Media Technologies*. Tarleton Gillespie, Pablo Boczkowski, Kirsten Foot (eds.). Cambridge, MA: MIT Press, 2014.

Christina Dunbar-Hester. “Paradoxes of Participation.” In *The Participatory Condition*. Darin Barney, Gabriella Coleman, Christine Ross, Jonathan Sterne, Tamar Tambeck, eds. Minneapolis: University of Minnesota Press, 2016.

Recommended:

E. Gabriella Coleman. *Coding Freedom*. Princeton, NJ: Princeton University Press, 2012.

Christopher Kelty. *Two Bits*. Durham, NC: Duke University Press, 2008.

Week 14: April 12: Periphery-Metropole

Medina, Eden. (2011). *Cybernetic revolutionaries: Technology and politics in Allende's Chile*. Cambridge, MA: MIT Press.

Recommended:

Anita Chan. *Networking Peripheries*. Cambridge, MA: MIT Press, 2014.

Takhteyev, Yuri. (2012). *Coding places: Software practice in a South American city*. Cambridge, MA: MIT Press.

Week 15: April 19: Animal Studies

Etienne Benson. *Wired Wilderness*. Baltimore: Johns Hopkins University Press, 2010.

Donna Haraway. "When Species Meet: Introductions." *When Species Meet*. Minneapolis: University of Minnesota Press, 2008.

Week 16: April 26: (Resisting) Amnesia, Novelty, Progress (LAST CLASS DAY)

Virginia Eubanks. Chapters 2, 3, 4, 6. *Digital Dead End*. Cambridge MA: MIT Press, 2012.

Sally Wyatt. "Challenging the digital imperative." Inaugural lecture presented upon the acceptance of the Royal Netherlands Academy of Arts and Sciences (KNAW) Extraordinary Chair in Digital Cultures in Development at Maastricht University, 28 March 2008.

Jenna Burrell. "User Agency in the Middle Range: Rumors and the Reinvention of the Internet in Accra, Ghana." *Science, Technology, & Human Values* 36.2 (2011): 139-159.

Steven Jackson. "Chapter 11: Rethinking Repair." In *Media Technologies*. Tarleton Gillespie, Pablo Boczkowski, Kirsten Foot (eds.). Cambridge, MA: MIT Press, 2014.

Recommended:

Woodhouse, Edward, David Hess, Steve Breyman, and Brian Martin. "Science Studies and Activism: Possibilities and Problems for Reconstructivist Agendas." *Social Studies of Science* 32.2 (2002): 297-319.

Burrell, Jenna. (2012). *Invisible Users: Youth in the Internet Cafés of Urban Ghana*. Cambridge, MA: MIT Press.

Sally Wyatt. "Non-Users Also Matter: The Construction of Users and Non-Users of the Internet." In *How Users Matter*. Nelly Oudshoorn and Trevor Pinch, eds. Cambridge, MA: MIT Press, 2003.

Lee Vinsel. "How to Give Up the I-Word, parts 1 and 2." *Culture Digitally Blog*, September 2014. Online at:

<http://culturedigitally.org/2014/09/how-to-give-up-the-i-word-pt-1/>

<http://culturedigitally.org/2014/09/how-to-give-up-the-i-word-pt-2/>

FINAL PAPERS DUE MAY 10 (DISCUSS). Instructions will be given for how to hand them in.