

Media and Materiality

NMDS 5275 / CRN 6911

Mondays 8:00 – 9:50pm

65 West 11th Street, #263

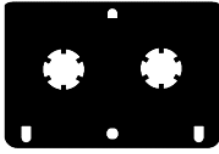
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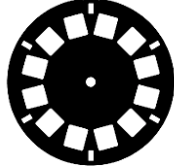
Office Hours: **By Appointment**



MicroCassette

Dimensions: 2.25x1.5x0.3 inch
Storage Capacity: up to 90 min
Manufacturer: Olympus

Not to be mistaken with the MiniCassette which is slightly larger. Later joined by the PicoCassette. As seen in dictaphones and answering machines.



ViewMaster

Dimensions: about 3.5 inch
Storage Capacity: 7 pics/stereo
Manufacturer: Sawyers

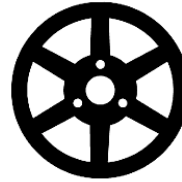
Introduced in 1939. Viewmaster was a stereoviewer which used paper reels with little slides. Viewers were available with back illumination, there were projectors and there was even a 'talking' variety.



PaperPunchCard

Dimensions: Various
Storage Capacity: 80 columns
Manufacturer: IBM

Being able to store 80 characters per card programmers would try anything to economize use of card space, including shortening dates to their last two digits. Thus responsible for 'Y2K'. Used from 1890 to the 1970's.



SteelWireReel

Dimensions: unknown
Storage Capacity: unknown
Manufacturer: unknown

Introduced in 1889 by Valdemar Poulsen after an invention by Oberlin Smith. First Practical Use: 1900, the Telephonograph, a telephonic answering machine!



EightTrack

Dimensions: 5.25 x 4 x 0.9 inch
Storage Capacity: 80 minutes
Manufacturer: RCA

William Lear (of Lear Jets) built FourTrack players into his jets. Dissatisfied with the technology he further developed it into the EightTrack format.

Experimental Jet Set, Émigré 57: "[Lost Formats Preservation Society](#)"

Ours is an existence characterized by cultural flux and political economic flows, by the virtualization of place and the acceleration of time, the disembodiment of labor, the fluidity of identity, the “conceptualization” of art, the etherealization of communication. Yet even these financial flows and digital networks rely on physical supports, on material storage devices and infrastructures, and embodied interactions with human actors. This seminar examines media as material objects, as “things,” as symbolically charged artifacts, as physical supports for communication. In the first third of the semester we’ll explore various theoretical frameworks and methodologies – from “thing theory” to media archaeology to object-oriented ontology – that can be useful in studying the material culture of media. The second third will be dedicated to topical or theoretical “plug-ins” that pertain to students’ research interests. And in the final third, we’ll focus on the creation of online exhibitions of material media – an endeavor we’ll approach as a form of “multimodal scholarship,” an alternative means of performing and publicizing academic work. The particular format of our projects will also provide an opportunity for us to think through the central concepts of our class: what does it mean to mediate the materiality of media objects, and to create a virtual exhibition that addresses their physicality?

COURSE MATERIALS

All readings will be posted as pdfs to the [class website](#):

<http://wordsinspace.net/...>

You’ll be prompted to enter the **user name** _____ and **password** _____.

YOUR CONTRIBUTIONS

Attendance and Participation

We need everyone to show up regularly, on-time, and prepared to ensure that we have sufficient time for discussion and that everyone is contributing meaningfully to the class exhibition project. You will be permitted **one excused absence** (“excused” means that you must have contacted me *prior* to class to inform me of your absence) for the semester. Additional excused absences – and any unexcused absences – will negatively affect your grade. **More than three absences**, excused or unexcused, will result in failure of the course; if you anticipate needing to miss several classes, you are advised to drop the course. A pattern of late arrivals is likewise detrimental.

I do not require you to complete weekly reading responses, as I do in most of my other graduate courses, simply because your work on the individual and group projects should keep you plenty busy. That said, I still do *encourage* you to take time before class to annotate the weekly readings, abstract them, and reflect on how they contribute to our understanding of materiality.

Exhibition Reviews

Because our final project will be an online exhibition, we’ll spend some time at the beginning of most classes reviewing and critiquing some exemplary exhibitions, both onsite and online, encompassing the world of art, history, and science exhibition. Each student must present one review over the course of the semester. For the first few weeks of the semester, I will identify particular exhibitions that are pertinent to the week’s reading and discussion, but in later weeks, I’ll offer some options; you’re encouraged to choose an **exhibition that both raises practical questions that we’ll need to address as we curate our own exhibition and pertains to the readings for the week.**

Start by quickly strolling through the site to get a sense of its overarching theme or objective, its general aesthetic and presentational style, the types of individual exhibits it includes, as well as how they’re positioned in relation to one another. Then take some time to closely examine each piece in the exhibition. Ask yourself these questions: What seems to be the overall mission of the exhibition? Where and when is/was it hosted, who curated it and funded it, what contributors are/were involved – and how does all of this make a difference? How is each piece introduced, analyzed, and contextualized? What linguistic registers, styles of communication, rhetorical and pedagogical strategies, and modes (media) of communication are used? Who are the exhibition’s audiences? How is each piece *materially* presented: what lighting, framing, cropping, and other display choices were made? What are the relationships between the material and immaterial dimensions (e.g., the physical object vs. its photographic or textual representation, the concretization of an abstract concept, the material exhibition of immaterial artworks, etc.) of the exhibition? What practical lessons, both positive and negative, can we learn from this exhibition? What is this exhibition saying about the (im)materiality of media?

Before class begins, **post your ~1000-word review to our class blog.** Please incorporate relevant media (with appropriate captions) and proper citations. You’ll have **five minutes** for your individual presentation, but then we’ll take 10 or 15 minutes to discuss all the week’s presentations collectively (and you can take comfort in knowing that your fleshed-out review is posted online for others to reference later!). You’re encouraged to show photos, videos, audio, catalogues, guides, maps, etc., but please be sure to have this material loaded/booted/hung/distributed before class begins so we can start on time. Your review is worth **20% of your final grade.**

Individual Exhibit Proposals

You should begin thinking about potential topics early in the semester, and you're welcome to explore project ideas on our class website or in conversation with me and your classmates. Before our class on **March 26** I'd like for you to submit **via Google Docs a formal 900- to 1200-word project proposal** (you'll then post your revised proposal to our **course blog**). This proposal must include (1) a problem statement, research question, or topic description; (2) a discussion of your topic's relevance, significance, and/or timeliness (in other words, why is it worth studying, and why now?); (3) a discussion of your proposed research methodology, including primary resources you plan to consult; and (4) a tentative bibliography containing at least ten sources, half of which must be scholarly sources. You'll be expected to deliver a **two-minute presentation** in class on the day your proposal is due. You'll have an opportunity to revise and resubmit the proposal if necessary. Your proposal is worth **15% of your final grade**.

A Word of Advice About Process:

You should consider maintaining a dossier of the secondary and primary research you conduct throughout the semester. This dossier would essentially be your "multimodal" notebook or research database; it would show all the "behind-the-scenes" work you've done that either will or won't manifest itself in your exhibition. The dossier could contain abstracts of relevant secondary sources you've read/viewed/listened to; scans of original documents you've discovered; clips of relevant time-based media you've either collected or created; etc. And it's imperative that each item be thoroughly *cited and annotated*, since you will be expected to cite your sources in your final exhibitions.

Exhibiting Arguments

Even though our final projects represent an alternative to traditional text-based scholarship, *text* (written, typed, audio- or video-recorded, etc.) will still be an integral component of our work. Your exhibition text will still have to adhere to the standards of written scholarship (e.g., based on rigorous research, citing sources properly, etc.), but it should be written to serve our distinct purposes and audiences (e.g., do we want dozens of distracting footnotes, or an extensive lit review?). Please share with me **via Google Docs, no later than April 30 (earlier is better!)**, a **900- to 1200-word sample** of text that you'll be using in various segments of your exhibition – in the overall introduction; in the introductions to and transitions between various sub-sections; or in navigational cues (particularly if you're designing a structurally complex project). Please label the various segments so I know how they'll be used in your final project. This text should demonstrate that you've carefully considered how to contextualize the material "on display" and how to manifest an argument and/or proposition in "exhibition form."

While the point of this submission is to allow you to receive feedback and revise accordingly, the work you submit should still reflect careful planning and polish. The submission is worth **20% of your final grade**.

Final Exhibition

You'll work independently to create your own final project, but you're welcome to organize into groups based on shared topical (e.g., media objects in the workplace, forms of recorded music, filing technologies) or theoretical (e.g., obsolescence, miniaturization, immaterial labor, reuse) interests and collectively curate and "install" an online exhibition.

Regardless of whether you choose to work independently or collectively, you should decide upon an institutional identity (are you an arts organization featuring creative work, a science education organization, a history museum, etc.?) and choose a site platform (e.g., blog, Flash site, Omeka site, etc.) with a physical and symbolic architecture that suits your purposes. Consider how your exhibition's form and content support one another.

All exhibitions are to be completed by **Monday, May 7**, although presentations of these final projects will extend across our final two class meetings. All students are expected to be

present for both weeks. I will provide more details on these presentations as the end of the semester draws near. The exhibition is worth **40% of your final grade.**

In addition, by **Monday, May 14**, at 8pm, you are expected to submit, **via Google Docs**, a **600-word self** (and, if applicable, group) **assessment**. You should assess your project's success in meeting our class's and your own evaluative criteria, discuss your work process, and, if applicable, address the contributions of each group member, including yourself. Your assessment is worth **5% of your final grade.**

Submitting Work Via Google Docs

Please give all your assignments a **filename** that helps me identify *you* and *the assignment* (e.g., **Mattern_ProjectProposal.doc**).

I'll email you with summary comments, and when necessary, I'll provide editorial and margin comments on the document itself. Depending upon your level of comfort with Google Docs, you could either (1) create your work *as* a Google Doc, in which case I'll simply use GD's own commenting features; or (2) upload your work as a Word doc and *not* convert it to a Google Doc, in which case I'll add comments via Word's "track changes" and email your edited work to you.

To share your work with me, simply click the **"share" button** in the top-right corner of Google Docs. Make sure the "sharing settings" are set to "Private," so "only people explicitly granted permission can access," and under "Add People," type my email address. That's it.

Academic Dishonesty All students are expected to familiarize themselves with the University's academic honesty policy; see "[Academic Honesty](#)" on the Media Studies department website. Because our semester project is a collective one, any acts of academic dishonesty reflect poorly not only on the perpetrator(s), but also on the class and the instructor. Academic dishonesty will result in automatic failure of the course.

Late Work All assignment deadlines are listed on the syllabus. Because we are working collaboratively this semester, it is important that we all move at the same pace. Late work will be penalized, and extensions will be granted only rarely, and only after consulting with me well in advance of the assignment deadline.

A student who has not submitted all assigned work by the end of the semester does not receive an "Incomplete" by default. "Incompletes" are assigned only in extreme circumstances, and require that the student consult with me before the end of the semester and sign a contract obligating him or her to complete all outstanding work by a date that we agree upon.

OUR SCHEDULE

Week 1: January 23 **Introductions & Course Overview**

FILM *Objectified* (Gary Hustwit, 2009).

Week 2: January 30 **The Myth of Immateriality**

EXHIBITION REVIEWS *SM: Software: Information Technology: Its New Meaning for Art* (Jack Burnham, Jewish Museum, New York, 1970)

Les Immatériaux (Jean-François Lyotard and Thierry Chaput, Centre Georges Pompidou, Paris, 1985).¹

READINGS *Shards of Vapor: An Immaterial Scrapbook* [a collection of texts, sounds, images, videos on dematerialization and immateriality; yes, the name is intentionally pretentious]

Week 3: February 6 **The Persistence of Materiality**²

7pm: Optional Before-Class Visit with Artist Jamie Kruse @ “Thingness of Energy” Exhibit. Jamie will be joining us in class on 2/27.

EXHIBITION REVIEWS *SM:* Browse through reviews from the Fall 2010 class. Discuss evaluative criteria.

READINGS Bill Brown, “Materiality” in *Critical Terms for Media Studies*, Ed. W. J. T. Mitchell and Mark B.N. Hansen (Chicago: University of Chicago Press, 2010): 49-63.

Bill Brown, “Introduction: Textual Materialism” *PMLA* 125:1 (January 2010): 24-28.

N. Katherine Hayles, “Media and Materiality” and “Material Metaphors, Technotexts, and Media-Specific Analysis” In *Writing Machines* (Cambridge, MA: MIT Press, 2002): 8-33.

Vilém Flusser, “Form and Material” In *The Shape of Things: A Philosophy of Design* (London: Reaktion Books, [1999] 2009): 22-29.

Recommended: Rosalind Krauss, “Reinventing the Medium” *Critical Inquiry* 25:2 (Winter 1999): 289-305.

February 10-11: Paper Tiger TV + the Vera List Center for Art & Politics Present: [“Designing a New Rradical Media” Conference](#)

Week 4: February 13 **Material Media Culture, Social Lives of Things**³

Methods for Investigating Materiality⁴ (Primary Research & Rights Clearances)

EXHIBITION REVIEWS **Student Presentations begin. Choose from options in Exhibition Gallery on course website.**

READINGS Thomas J. Schlereth, “Material Culture and Cultural Research” In Thomas J. Schlereth, Ed., *Material Culture: A Research Guide* (Lawrence: University of Kansas Press, 1985): 1-34.

Arjun Appadurai, “The Thing Itself” *Public Culture* 18:1 (2006): 15-21.

Bill Brown, “Thing Theory” *Critical Inquiry* 28:1 (August 2001): 1-22. [Brown signals a turn away from the above approaches and foreshadows what we’ll be discussing next week.]

February 20 **NO CLASS: PRESIDENTS’ DAY**

Week 5: February 27

Objects, Assemblages & Ecologies⁵

- GUEST** 8:45: Return visit w/ **Jamie Kruse**, Vera List Center Invited Artist
- READINGS** Bruno Latour, Interviewed by Tomás Sánchez-Criado. "Making the 'Res Publica'" *Ephemera: Theory & Politics in Organization* 7:2 (2007): 364-371 – **read 364-367.**
- Jussi, Parikka, "[Ding to Process – Object \(and Non-Object\) Oriented Media Studies](#)" *Machinology* [blog post] (June 6, 2011).
- Levi Bryant, "[Extensions: McLuhan, Media, Objects, and Ontology](#)" *Larval Subjects* [blog post] (November 26, 2010).
- Jane Bennett, "The Force of Things" and "The Agency of Assemblages" In *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010): 1-38.
- Rob Holmes, "[A Preliminary Atlas of Gizmo Landscapes](#)" *mammoth* [blog post] (April 1, 2010).
- Skim through [Friends of the Pleistocene Posts on "The Thingness of Energy"](#) and visit the exhibition

March 5 @ ??: Vera List "Thingness" Event??

Week 6: March 5

Media Archaeology⁶ + The Gears in Your Hard Drive⁷

- EXHIBITION REVIEWS** Choose from options in Exhibition Gallery on course website.
- READINGS** Lisa Gitelman, "Introduction: Media as Historical Subjects" and excerpt from "New Media Users" In *Always Already New: Media, History, and the Data of Culture* (Cambridge, MA: MIT Press, 2008): 1-22, 59-64.
- Matthew G. Kirschenbaum, "Introduction: 'Awareness of the Mechanism' and 'Extreme Inscription: A Grammatology of the Hard Drive'" In *Mechanisms: New Media and the Forensic Imagination* (Cambridge: MIT Press, 2008): 1-23, 73-109.

March 12 **NO CLASS: SPRING BREAK**

Week 7: March 19

An Immaterial Exhibition of Material Media⁸

- GUESTS** **Christiane Paul**, Adjunct Curator, Whitney Museum of American Art; (tentative) **Timothy Ventimiglia**, Ralph Appelbaum Associates; and **Alison Cornyn**, Picture Projects
- READINGS** Susanne Lehmann-Brauns, Christian Sichau, & Helmuth Trischler, Eds., *The Exhibition as Product and Generator of Scholarship* [preprint] (Berlin: Max Planck Institute for the History of Science, 2010). Read the following (34 pp.):
- Jochen Brüning, "Exhibitions vs. Publications – On Scientific Achievements and their Evaluation": pp. 25-28.
 - Martha Fleming, "Thinking Through Objects": pp. 33-47.
 - Ulrich Raulff, "Old Answers, New Questions – What Do Exhibitions Really Generate?": pp. 69-77.
 - Thomas Schnalke, "Arguing with Objects - The Exhibition as a Scientific Format of Publication": pp. 103-110.
- Christiane Paul, "Flexible Contexts, Democratic Filtering and Computer-Aided Curating: Models for Online Curatorial Practice" In Joasia Krysa, Ed., *Curating, Immateriality, Systems: On Curating Digital Media*, Data Browser Series Vol. 3 (New York: Autonomedia Press, 2006): 85-105.
- Sarah Cook, "Immateriality and Its Discontents: An Overview of Main Models and Issues for Curating New Media" In Christiane Paul, Ed., *New Media in the White Cube and Beyond: Curatorial Models for Digital Art* (Berkeley: University of California Press, 2008): 26-49. (24 pp.)
- Beryl Graham & Sarah Cook, Eds., *Rethinking Curating: Art After New Media* (Cambridge: MIT Press, 2010): 51-57; 63-80; 161-176; 266-277. (53 pp.)

Week 8: March 26

Plug-Ins

**Two-Minute Presentations of Final Project Proposals
Conceptual Planning w/ Sepand**

EXHIBITION REVIEWS
READINGS
AFTER CLASS

Choose from options in Exhibition Gallery on course website.
TBD

After you've received feedback on your project proposal, and before April 6, please post to our class website (choose "Project Proposal" category) a **150-word** (*maximum!*) **synopsis** of your proposed project. Please explain succinctly the *things* and *theories* you plan to address and the exhibition *formats* and *strategies* you might like to employ.

Week 9: April 2

Wax & Wire, Emulsion & Electricity: Material History Through Edison

FIELD TRIP

Saturday, March __ @2pm: Thomas Edison National Historical Park, West Orange, NJ

READINGS

Lisa Gitelman, "Introduction: Writing Things Down, Storing Them Up" *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era* (Stanford: Stanford University Press, 1999): 1-20.⁹

Jonathan Sterne, "Plastic Aurality: Technologies Into Media" In *The Audible Past: Cultural Origins of Sound Reproduction* (Durham: Duke University Press, 2003): 179-214.

Thomas Elsaesser, "Early Film History and Multi-Media: An Archaeology of Possible Futures?" In Wendy Hui Kyong Chun & Thomas Keenan, Eds., *New Media Old Media: A History and Theory Reader* (New York: Routledge, 2006): 13-25.

Week 10: April 9

Plug-Ins

Design Development Discussion w/ Sepand

EXHIBITION REVIEWS
READINGS

Choose from options in Exhibition Gallery on course website.
TBD

Week 11: April 16

PechaKucha Peer-Review (Two Groups in Two Adjacent Classrooms)

PREPARE FOR CLASS

This exercise will serve to (1) help your classmates learn about your particular theoretical and topical interests (which might help you generate ideas about potential collaborations); and (2) encourage *you* to start thinking about the "stuff" of your exhibition – i.e., how you'll transform your conceptual interests into exhibitable "things" and arguments that can be *shown*, rather than simply *told* (recall our readings for **3/19**). Your plans are undoubtedly still taking shape at this stage of the semester, and they'll continue to evolve – so, rather than thinking of this presentation as a demonstration of "your final project," I encourage you to approach it more as an opportunity to solicit feedback on potential "treatments" for your final project.

Learn about PechaKuchas [here](#). See also Olivia Mitchell's "[Five Presentation Tips for Pecha Kucha or Ignite Presentation](#)" *Speaking About Presenting* [blog post], and check out some videos of [Ignite presentations](#). As you'll see, PechaKucha presentations typically involve presentations consisting of 20 slides, with 20 seconds dedicated to each. In the interest of time, we're going to limit our presentations to **15 slides at 20 seconds each**.

Prepare a 15-slide, automatically advancing (timed) presentation that (1) encapsulates the topics, themes, and arguments that are central to your project; (2) that previews the breadth of media forms and formats that you're likely to include in your exhibition; and (3) previews your design concept, or surveys other projects from which you're drawing inspiration. Because our projects are not solely visual, you're welcome to incorporate audio and video clips – as long as they're limited to 20-second bites.

Week 12: April 23 **Tech Lab w/ Sepand + Design Review**

Meet in Computer Lab – Location TBD

PREPARE FOR CLASS Post a prototype or a draft of your work online, and/or bring some of your exhibition “working materials” with you to class.

Week 13: April 30 **Plug-Ins**

EXHIBITION REVIEWS Choose from options in Exhibition Gallery on course website.

PREPARE FOR CLASS TBD

Week 14: May 7 **FINAL PRESENTATIONS**

Week 15: May 14 **FINAL PRESENTATIONS**

Possible Plug-Ins

Embodiment

- Erkki Huhtamo, "Twin-Touch-Test-Redux: Media Archaeology Approach to Art, Interactivity, and Tactility" In Oliver Grau, ed., *MediaArtHistories*, (Cambridge: MIT Press, 2007): 71-101.
- Mark B. N. Hansen, Introduction In *New Philosophy for New Media* (Cambridge, MA: MIT Press, 2004): 1-18.
- Laura U. Marks, *Touch: Sensuous Theory and Multisensory Media* (Minneapolis: University of Minnesota Press, 2002).
- John Durham Peters, "History of an Error: The Spiritualist Tradition" In *Speaking Into the Air: A History of the Idea of Communication* (Chicago: University of Chicago Press, 1999): 63-108.
- Jonathan Sterne, "Audible Technique and Media" In *The Audible Past: Cultural Origins of Sound Reproduction* (Durham: Duke University Press, 2003): 137-177.
- Vivian Sobchack, "What My Fingers New: The Cinesthetic Subject, or Vision in the Flesh" and "The Scene of the Screen: Envisioning Photographic, Cinematic, and Electronic 'Presence'" In *Carnal Thoughts: Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004): 53-84, 135-162.
- Michele White, "The Flat and the Fold: A Consideration of Embodied Spectatorship" In *The Body and the Screen: Theories of Internet Spectatorship* (Cambridge, MA: MIT Press, 2006): 177-197.

Recorded Sound

- John Corbett, "Free, Single, and Disengaged: Listening Pleasure and the Popular Music Object" *October* 54 (Autumn 1990): 79-101.
- John Davis, "Going Analog: Vinylphiles and the Consumption of the 'Obsolete' Vinyl Record" In Charles Acland, Ed., *Residual Media* (Minneapolis: University of Minnesota Press, 2007): 222-236.
- Frances Dyson, *Sounding New Media: Immersion and Embodiment in the Arts and Culture* (Berkeley: University of California Press, 2009).
- Aden Evans, *Sound Ideas: Music, Machines, and Experience* (Minneapolis: University of Minnesota Press, 2005).
- Lisa Gitelman, "Imagining Language Machines" In *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era* (Palo Alto: Stanford University Press, 1999): 62-96.
- Greg Hainge, "Vinyl Is Dead, Long Live Vinyl: The Work of Recording and Mourning in the Age of Digital Reproduction" *Culture Machine* (2007).
- Caleb Kelly, *Cracked Media: The Sound of Malfunction* (Cambridge, MIT Press, 2009).
- Stan Link, "The Work of Production in the Mechanical Aging of an Art: Listening to Noise" *Computer Music Journal* 25:1 (2001): 34-47.
- Hillegonda C. Reitveld, "The Residual Soul Sonic Force of the 12-inch Dance Single" In Charles Acland, Ed., *Residual Media* (Minneapolis: University of Minnesota Press, 2007): 97-114.
- Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Production* (Durham: Duke University Press, 2003).
- Will Straw, "The Music CD and Its Ends" *Design & Culture* 1:1 (2009): 71-92.
- Emily Chivers Yochim & Megan Biddinger, "'It Kind of Gives You that Vintage Feel': Vinyl Records and the Trope of Death" *Media, Culture & Society* 30 (2008): 183-95.
- Some delicious links on "records" and "cassettes" and some other relevant stuff.

Letters and Handwriting

- Jennifer Adams, "Recovering a Trashed Communication Genre: Letters as Memory, Art, and Collectible" In Charles Acland, Ed., *Residual Media* (Minneapolis: University of Minnesota Press, 2007): 185-199.
- Kitty Burns Florey, *Script & Scribble: The Rise and Fall of Handwriting* (Brooklyn: Melville House, 2009).
- Sigmund Freud, "A Note Upon the Mystic Writing Pad" In *The Complete Psychological Works of Sigmund Freud*, Vol. 19, Trans. James Strachey (London: Hogarth Press, 1971).
- Lisa Gitelman, "Making History, Spelling Things Out" In *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era* (Stanford: Stanford University Press, 1999): 21-61.
- Esther Milne, "Email and Epistolary Technologies: Presence, Intimacy, Disembodiment" *Fibreculture* 2.
- Sonja Neef & José van Dijck, *Sign Here!: Handwriting in the Age of New Media* (Amsterdam: Amsterdam University Press, 2006).
- Denise Schmandt-Besseratt, *How Writing Came About* (Austin: University of Texas Press, 1996).
- Tamara Plakins Thortin, *Handwriting in America: A Cultural History* (Yale University Press, 2006).
- José van Dijck, "Composing the Self: Of Diaries and Lifelogs" *Fibreculture* 3.
- My delicious links on writing and notes.

Typewriter

- Lisa Gitelman, "Automatic Writing" In *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era* (Palo Alto: Stanford University Press, 1999): 184-218.
- Friedrich A. Kittler, *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young (Palo Alto: Stanford University Press, 1999).
- Martin Stügelin, "Comments on a Ball: Nietzsche's Play on the Typewriter" In Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, Eds., *Materialities of Communication*, Trans. William Whobrey (Palo Alto: Stanford University Press, 1994): 70-82.
- Darren Werschler-Henry, *The Iron Whim: A Fragmented History of Typewriting* (Toronto: McClelland & Stewart, 2005).
- My delicious links on the typewriter.

Photography

- George Baker, "Photography's Expanded Field" *October* 114 (Fall 2005): 120-140.
- Eduardo Cadava, *Words of Light: Theses on the Photography of History* (Princeton: Princeton University Press, 1997).
- Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge: MIT Press, 1990).
- Elizabeth Edwards, "Material Beings: Objecthood and Ethnographic Photographs" *Visual Anthropology* 17:1 (April 2002): 67-75.
- Elizabeth Edwards & Janice Hart, Eds., *Photographs Objects Histories: On the Materiality of Images* (New York: Routledge, 2004).
- W. J. T. Mitchell, *What Do Pictures Want?: The Lives and Loves of Images* (Chicago: University of Chicago Press, 2005).
- Michael Shanks, "Photography and Archaeology" In Brian Leigh Molyneux, Ed., *The Cultural Life of Images: Visual Representation in Archaeology* (New York: Routledge, 1997): 73-107.
- Susan Laxton, "Flou: Rayographs and the Dada Automatic" *October* 127 (2009): 25-48.

Print/The Book

- Nicholas A. Basbanes, *A Splendor of Letters: The Permanence of Books* (New York: HarperCollins 2003).
- Roger Chartier, *Forms and Meaning: Texts, Performances, and Audiences from Codes to Computer* (Philadelphia: University of Pennsylvania Press, 1995).
- Roger Chartier, *The Order of Books* (Palo Alto: Stanford University Press 1992).
- Johanna Drucker, *The Visible Word: Experimental Typography and Modern Art, 1909-1923* (Chicago: University of Chicago Press, 1994).
- Jan-Dirk Müller, "The Body of the Book: The Media Transition from Manuscript to Print" In Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, Eds., *Materialities of Communication*, Trans. William Whobrey (Palo Alto: Stanford University Press, 1994): 32-44.
- Peter Stallybrass, "The Library and Material Texts" *PMLA* 119:5 (October 2004): 1347-1352.
- Garrett Stewart, "Bookwork as Demediation" *Critical Inquiry* 36 (Spring 2010): 410-457.
- My delicious links on [books and textual form](#), and on [e-books](#).

Paperwork/Files

- Lisa Gitelman, "Paperwork and Performance" In *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era* (Stanford: Stanford University Press, 1999): 148-183.
- Malcolm Gladwell, "The Social Life of Paper" *The New Yorker* (March 25- 2002): 92-96.
- Ben Kafka, "The Demon of Writing: Paperwork, Public Safety, and the Reign of Terror" *Representations* 98 (Spring 2007): 1-24.
- Sven Spicker, *The Big Archive: Art From Bureaucracy* (Cambridge: MIT Press, 2008).
- Cornelia Vismann, *Files: Law and Media Technology* (Palo Alto, CA: Stanford University Press, 2008).
- Rowan Wilken, "The Card Index as Creativity Machine" *Culture Machine* 11 (2010).

Film

- Giuliana Bruno, *Atlas of Emotion: Journeys in Art, Architecture, and Film* (New York: Verso, 2002).
- Boaz Hagin, "Examples in Theory: Interpassive Illustrations and Celluloid Fetishism" *Cinema Journal* 48:1 (Fall 2008): 3-26.
- Miriam Bratu Hansen, "Benjamin's Aura" *Critical Inquiry* 34 (Winter 2008): 336-75.
- Amelie Hastie, "Detritus and the Moving Image: Ephemera, Materiality, History" *Journal of Visual Culture* 6:2 (2007): 171-174.
- Pavle Levi, "Cinema by Other Means" *October* 131 (Winter 2010): 51-68.
- Dominique Paimi, "Should We Put an End to Projection?" *October* 110 (Fall 2004): 23-48.
- Vivian Sobchack, *Carnal Thoughts: Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004).
- Jonathan Walley, "The Material of Film and the Idea of Cinema; Contrasting Practices in Sixties and Seventies Avant-Garde Film" *October* 103 (Winter 2003): 15-30.

Television

- Anna McCarthy, *Ambient Television: Visual Culture and Public Space* (Durham: Duke University Press, 2001).
- Anna McCarthy, "From Screen to Site: Television's Material Culture, and Its Place" *October* 98 (Fall 2001).
- Lynn Spigel, *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992).
- Samuel Weber, "Television: Set and Screen" *Mass Mediauras: Form, Technics, Media* (Palo Alto: Stanford University Press, 1996): 108-28.

Telecommunications

- Avital Ronell, *The Telephone Book: Technology, Schizophrenia, Electric Speech* (Lincoln: University of Nebraska Press, 1989).
- Tom Standage, *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's Online Pioneers* (London: Weidenfeld & Nicolson, 1998).

- Kazys Varnelis, "Invisible City: Telecommunication," in *The Infrastructural City: Networked Ecologies in LA*, ed. Kazys Varnelis (New York: Actar, The Los Angeles Forum for Architecture and Urban Design, and The Network Architecture Lab at Columbia University, 2009), 120-129.

Wirelessness

- Adrian McKenzie, *Wirelessness: Radical Empiricism in Network Cultures* (Cambridge, MA: MIT Press, 2010).

The Internet of Things (Physical Computing, UbiComp, etc.)

- Paola Antonelli, Ed., *Talk to Me: Design and the Communication between People and Objects* (New York: Museum of Modern Art, 2011).
- "The Internet of Things" Special Issue of *Volume* 28 (2011).
- Mark Shepard, Ed., *Sentient City: Ubiquitous Computing, Architecture, and the Future of Urban Space* (Cambridge, MA: The Architectural League of New York and MIT Press, 2011).
- Bruce Sterling, *Shaping Things* (Cambridge: MIT Press, 2005).

Gaming

- Paul Atkinson, "The Best Laid Plans of Mice and Men: The Computer Mouse in the History of Computing" *Design Issues* 23:3 (Summer 2007): 46-61.
- Patrick Crogan, "[The Nintendo Wii, Virtualization, and Gestural Analogies](#)" *Culture Machine* 11 (2010).
- Raiford Guins, "Concrete and Clay: The Life and Afterlife of *E.T. The Extra-Terrestrial* for the Atari 2600" *Design and Culture* 1:3 (November 2009): 345-364.
- David Parisi, "Fingerbombing, of 'Touching is Good': The Cultural Construction of 'Technologized Touch'" *The Senses and Society* 3:3 (November 2008): 307-327.
- Bart Simon, "Geek Chic: Machine Aesthetics, Digital Gaming, and the Cultural Politics of the Case" *Games and Culture* 2:3 (July 2007): 175-193.
- Melanie Swalwell, "The Remembering and the Forgetting of Early Digital Games: From Novelty to Detritus and Back Again" *Journal of Visual Culture* 6:2 (2007): 255-273.
- Nanna Verhoef, "Theoretical Consoles: Concepts for Gadget Analysis" *Journal of Visual Culture* 8:3 (December 2009): 279-298.

Media Waste

- Elizabeth Grossman, *High Tech Trash: Digital Devices, Hidden Toxics, and Human Health* (Washington, D.C.: Island Press, 2006).
- Richard Maxwell & Toby Miller, "[E-Waste: Elephant in the Living Room](#)" *FlowTV* (December 2, 2008).
- Richard Maxwell & Toby Miller, "[Ecological Ethics and Media Technology](#)." *International Journal of Communication* 2 (2008): 331-353.
- Lisa Parks, "Falling Apart: Electronics Salvaging and the Global Media Economy" In Charles R. Aclund, ed., *Residual Media* (Minneapolis: University of Minnesota Press, 2007): 32-47.
- Julian Stallabrass, "Trash" In Fiona Candlin and Raiford Guins, Eds., *The Object Reader* (New York: Routledge, 2009): 406-424.
- Jonathan Sterne, "Out with the Trash: On the Future of New Media" In Charles R. Aclund, ed., *Residual Media* (Minneapolis: University of Minnesota Press, 2007): 16-31.

¹ Beryl Graham & Sarah Cook, Eds., *Rethinking Curating: Art After New Media* (Cambridge: MIT Press, 2010): 19-21.

² **MORE ON MATERIALITY**: Karlheinz Barck, "Materiality, Materialism, Performance" In Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, Eds., *Materialities of Communication*, Trans. William Whobrey (Palo Alto: Stanford University Press, 1994): 258-272; Ian Bogost, "Platform Studies" Presentation at *SoftWhere 2008*, May 21-22, 2008, UC San Diego; Ian Bogost "[Platform Studies](#)" website; Ian Bogost & Nick Montfort, "[Platform Studies: Frequently Asked Questions](#)" *Digital Arts and Culture* (2009); Diana Coole & Samantha Frost, "Introducing the New Materialisms" In Coole & Frost, Eds., *New Materialisms: Ontology, Agency, and Politics* (Durham, NC: Duke University Press, 2010): 1-43; Johanna Drucker, *The Visible Word: Experimental Typography and Modern Art, 1909-1923* (Chicago: University of Chicago Press, 1994): 35-46; Hans Ulrich Gumbrecht, "A Farewell to Interpretation" In Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, Eds., *Materialities of Communication*, Trans. William Whobrey (Palo Alto: Stanford University Press, 1994): 389-402; N. Katherine Hayles, "Print is Flat, Code is Deep: The Importance of Media-Specific Analysis" *Poetics Today* 25:1 (2004): 67-90; JeeHee Hong, "[Material, Materiality](#)" *University of Chicago: Theories of Media: Keywords Glossary* (2004); Friedrich A. Kittler, *Gramophone, Film, Typewriter*, Trans. Geoffrey Winthrop-Young (Palo Alto: Stanford University Press, 1999); Daniel Miller, "Materiality: An Introduction" In *Materiality* (Durham: Duke University Press, 2005): 1-50; Jussi Parikka, "New Materialism as Media Theory: Medianatures and Dirty Matter" *Communication and Critical/Cultural Studies* (2011); K. Ludwig Pfeiffer, "The Materiality of Communication" In Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, Eds., *Materialities of Communication*, Trans. William Whobrey (Palo Alto: Stanford University Press, 1994): 1-12; Geoffrey Winthrop-Young and Michael Wutz, "Media Materiality, "Memory" Special Issue, *Configurations* 10:1 (Winter 2002). **MORE ON MEDIUM SPECIFICITY**: Mary Ann Doane, "The Indexical and the Concept of Medium Specificity" *differences: A Journal of Feminist Cultural Studies* 18:1 (2007): 128-152; Rosalind Krauss, "The Guarantee of the Medium" In Tiina Arpee, Timo Kaitaro & Kai Mikkonen, Eds., *Writing in Context: French Literature, Theory and the Avant-Gardes* (Helsinki: Helsinki Collegium for Advanced Studies, 2009): 139-145.

³ **MORE ON THINGS & MATERIAL CULTURE**: Adam Bencard's "Do Things Talk?" In Susanne Lehmann-Brauns, Christian Sichau, & Helmuth Trischler, Eds., *The Exhibition as Product and Generator of Scholarship* [preprint] (Berlin: Max Planck Institute for the History of Science, 2010): 93-102; Luis Brennan, "[Things](#)" *University of Chicago: Theories of Media: Keywords Glossary* (2004); Bill Brown, "Objects, Others, and Us (The Refabrication of Things)" *Critical Inquiry* 36 (Winter 2010): 183-217; **Matthew Fuller**, *Media Ecologies: Materialist Energies in Art and Technoculture* (Cambridge: MIT Press, 2005); Amelie Hastic and Raegan Kelly, "[Objects of Media Studies](#)" *Vectors Journal* 2.1 (Fall 2006); Martin Heidegger, "The Thing" In Fiona Candlin and Raiford Guins, Eds., *The Object Reader* (New York: Routledge, 2009): 113-23; **Elizabeth Grosz**, "The Thing" In Fiona Candlin and Raiford Guins, Eds., *The Object Reader* (New York: Routledge, 2009): 124-138; Daniel Miller, *Stuff* (Malden, MA: Polity Press, 2010); Marshall McLuhan, "The Gadget Lover: Narcissus as Narcosis" In *Understanding Media: The Extensions of Man*, Ed. W. Terrence Gordon (Corte Madera, CA: Gingko Press, [1964] 2003): 61-70; Bjornar Olsen, "Material Culture After Text: Re-Membering Things" *Norwegian Archaeological Review* 36:2 (2003): 87-104; Dick Pels, Kevin Hetherington & Frederic Vandenberghe, "The Status of the Object: Performances, Mediations, and Techniques" *Theory, Culture & Society* 19:5 (December 2002): 1-21; Jules David Prown, "Mind in Matter: An Introduction to Material Culture Theory and Method" *Winterthur Portfolio* 17:1 (Spring 1982): 1-19; Sherry Turkle, Ed., *Evocative Objects: Things We Think With* (Cambridge: MIT Press, 2007) [includes chapters on the archive, the datebook, the laptop, the radio, the World Book, the SX-70 instant camera, salvaged photos]; Phil van Allen, Anne Burdick, Holly Willis, Jamie Cavanaugh, et. al., *New Ecology of Things*; my links on "[material texts](#)."

⁴ **MORE ON METHODS**: Roland Barthes, *Mythologies*, Trans. Annette Lavers (New York: Hill and Wang, 1972); Jean Baudrillard, *The System of Objects*, Trans. James Benedict (New York: Verso, 1996); Alon Confino, "Collective Memory and Cultural History: Problems of Method" *The American Historical Review* 102:5 (December 1997): 1386-1403; Siegfried Giedion, *Mechanization Takes Command: A Contribution to Anonymous History* (Oxford University Press, 1948); E. McClung Fleming, "Artifact Study: A Proposed Model" *Winterthur Portfolio* 9 (1974): 153-173; Igor Kopytoff, "The Cultural Biography of Things: Commoditization as Process" In Arjun Appadurai, Ed., *The Social Life of Things: Commodities in Cultural Perspective* (New York: Cambridge University Press, 1986): 64-91; Peirce F. Lewis, "Learning From Looking" In Thomas J. Schlereth, Ed., *Material Culture: A Research Guide* (Lawrence: University of Kansas Press, 1985): 35-56; Lewis Mumford, *Technics and Civilization* (New York: Harcourt Brace, 1934); Carroll W. Pursell, Jr., "The History of Technology and the Study of Material Culture" In Thomas J. Schlereth, Ed., *Material Culture: A Research Guide* (Lawrence: University of Kansas Press, 1985): 113-126; Christopher Tilley, Ed., *Reading Material Culture* (Cambridge, MA: Basil Blackwell, 1990).

⁵ **MORE ON ACTOR-NETWORK THEORY**: Lorraine Daston, Ed., *Things That Talk: Object Lessons from Art and Science* (Brooklyn, NY: Zone Books, 2004); Jan Harris, "The Ordering of Things: Organization in Bruno Latour" *The Sociological Review* 53 (2005): 165-177; Anthony Iles, "Remnants of Democracy" *Mute* (March 23, 2006); Bruno Latour, *Making Things Public: Atmospheres of Democracy* (Cambridge, MA: MIT Press, 2005); Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network Theory* (New York: Oxford University Press, 2005); Felix Stalder, "[More on Bruno Latour](#)" *nettime* (September 6, 1997); **MORE ON OOO**: Sources too numerous to mention! See the work of Levi Bryant, Ian Bogost, and Graham Harman, e.g., Levi Bryant, Nick Srnicek & Graham Harman, Eds., *The Speculative Turn: Continental Materialism and Realism* (Melbourne, Australia: re.press, 2011); these posts from Bogost's blog ("[What's In a Medium?](#)" "[Media Studies and Realism](#)," "[What Is Object-Oriented Ontology?](#)")

⁶ **MORE ON MEDIA ARCHAEOLOGY**: Erkki Huhtamo, "Kaleidoscomaniac to Cybernerd: Notes Toward an Archaeology of the Media" *Leonardo* 30:3 (1997): 221-4; Erkki Huhtamo and Jussi Parikka, Eds., *Media Archaeology: Approaches, Applications, and Implications* (Los Angeles: University of California Press, 2011); NYU Department of Culture and Communication, "[Critical Techniques](#)" *Dead Media Archive*; Jussi Parikka, "Operative Media Archaeology: Wolfgang Ernst's Materialist Media Diagrammatics" *Theory, Culture & Society* 28:5 (2011): 52-74; Jussi Parikka and Garnet Hertz, "[Archaeologies of Media Art](#)" *CTheory* (April 1, 2010); Siegfried Zielinski, "Introduction: The Idea of a Deep Time of the Media" and excerpts from "Fortuitous Finds Instead of Searching in Vain: Methodological Borrowings and Affinities for an Anarchaeology of Seeing and Hearing by Technical Means" In *Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means* (Cambridge, MIT Press, 2006): 1-11, 27-38.

⁷ **MORE ON STORAGE**: Vannevar Bush, "Memex Revisited" In Wendy Hui Kyong Chun and Thomas Keenan, Eds., *New Media Old Media: A History and Theory Reader* (New York: Routledge, 2006): 85-95; Wendy Hui Kyong Chun, "The Enduring Ephemeral, or the Future Is a Memory" *Critical Inquiry* 35 (Autumn 2008): 148-71; Paul Dourish & Melissa Mazmanian, "Material Media: Information Representations as Material Foundations for Organizational Practice," Working Paper for the Third International Symposium on Process Organization Studies, Corfu, Greece, June 2011.

⁸ **MORE ON EXHIBITION DESIGN**: Archimuse [Bibliography](#); Beryl Graham & Sarah Cook, Eds., *Rethinking Curating: Art After New Media* (Cambridge: MIT Press, 2010): **30-32** [on self-referentiality]; **43** [hybrid presentation formats]; 153-155 [iterative, modular, distributed curation]; Walter Hauser, "Exhibition Making as Knowledge Production, or: Struggling with Artefacts, Visuals and Topographies" In Susanne Lehmann-Brauns, Christian Sichau, & Helmuth Trischler, Eds., *The Exhibition as Product and Generator of Scholarship* [preprint] (Berlin: Max Planck Institute for the History of Science, 2010): 49-58; Jon Ippolito, "Death by Wall Label" In Christiane Paul, Ed., *New Media in the White Cube and Beyond: Curatorial Models for Digital Art* (Berkeley: University of California Press, 2008): 106-132 [limitations of existing labeling practices – variable authors, titles, versioning,

hybrid media forms]; Joasia Krysa, "Distributing Curating and Immateriality" In Christiane Paul, Ed., *New Media in the White Cube and Beyond: Curatorial Models for Digital Art* (Berkeley: University of California Press, 2008): 87-105 [immaterial labor, viral curating; curator's role in collectively-organized exhibition; runmc.org]; **Patrick Lichty**, Excerpts from "Reconfiguring Curation: Noninstitutional New Media Curating and the Politics of Cultural Production" In Christiane Paul, Ed., *New Media in the White Cube and Beyond: Curatorial Models for Digital Art* (Berkeley: University of California Press, 2008): 174-187. [on curating everyday life, exhibiting the "drafts" that lead to net.art projects, parallel physical/virtual exhibitions]; Ad Maas, "The Storyteller and the Altar: Museum Boerhaave and its Objects" In Susanne Lehmann-Brauns, Christian Sichau, & Helmuth Trischler, Eds., *The Exhibition as Product and Generator of Scholarship* [preprint] (Berlin: Max Planck Institute for the History of Science, 2010): 59-68; Christiane Paul, "Challenges for a Ubiquitous Museum: From the White Cube to the Black Box and Beyond" In Christiane Paul, Ed., *New Media in the White Cube and Beyond: Curatorial Models for Digital Art* (Berkeley: University of California Press, 2008): 53-75 [installation models; providing documentation; assuaging audience concerns/misunderstandings]; Christiane Paul, "The Myth of Immateriality: Presenting and Preserving New Media" In Oliver Grau, ed., *MediaArtHistories*, (Cambridge: MIT Press, 2007): 251-274.

⁹ See also Friedrich A. Kittler, *Gramophone, Film, Typewriter*, Trans. Geoffrey Winthrop-Young (Palo Alto: Stanford University Press, 1999); Bruce Sterling, *Shaping Things* (Cambridge: MIT Press, 2005).