

Data, Archive, Infrastructure

Fall 2018 Graduate Seminar | NMDS 5278 | CRN 3859

Tuesdays 4-5:50pm | 6 East 16th Street, Room 611

Shannon Mattern, Ph.D. | matters@newschool.edu | office hours by appointment (write me!)

“There has been more information produced in the last 30 years than during the previous 5000.”

We’ve all heard some variation on this maxim. As we find ourselves wading through a billion websites; as publishers supply over two million books to the world’s libraries each year; as we continue to add new media – from apps to geo-tagged maps – to our everyday media repertoires, we continually search for new ways to navigate this ever more treacherous sea of information. Meanwhile, our analog audio-visual archives are deteriorating, and our ever-volatile digital media and data sets present their own preservation challenges. Throughout human history we have relied on various institutions and politico-intellectual architectures to organize, index, preserve, make sense of, and facilitate or control access to our stores of knowledge, our assemblages of media, our collections of information. This seminar looks at the past, present, and future of our archives, libraries, and data repositories, and considers what logics, politics, audiences, contents, aesthetics, physical forms, etc., define them. We will examine what roles these collections play in a variety of contexts: in democracy, in education, in science, in socio-cultural heritage, in everyday life, and in art. Throughout the semester we’ll examine myriad analog and digital artworks that make use of archival/library material, or take the archive, library, or data repository as their subject. Some classes will involve field trips and guest speakers. Students will have the option of completing a substantial traditional research project, or a research-based, theoretically-informed creative/production project for the class.

Course Materials

All readings will be posted as pdfs to the class website: http://www.wordsinspace.net/data_archive/fall2018

To access password-protected readings, you’ll be prompted to enter the **user name** <student> and **password** <seecritfilez>. Not so secret, eh?

A few notes about the weekly readings/screenings/listening exercises:

- I believe we can better appreciate the complexity, relevance, and resonance of each of our weekly themes by approaching them from multiple theoretical, historical, practical, and creative directions. That’s why, for each week, I’ve put together a mini “anthology” rather than assigning a single definitive text. Yes, sometimes those reading lists might look intimidatingly long – but the total number of pages hardly ever exceeds 150 (and a lot of those pages are illustrated!), which is a more-than-reasonable workload for a graduate student. Plus, each text on that list is there because it has the potential to add a distinctive voice to our conversation (you should see the ridiculously long lists of readings that *didn’t* make the cut!).
- That said, my selection of a particular text does not constitute an *endorsement* of it. Sometimes I choose texts that annoy me, or with which I disagree, for a few reasons: because they’re widely cited and I think it’d behoove you to be aware of them, because I want to allow you to exercise your own judgment, and because I’m pretty sure they’ll make for good conversation.
- We will not address *all* the readings in our in-class discussions. Some readings are primarily factual, some are self-explanatory, some simply present interesting illustrations or case studies; we needn’t discuss these sorts of texts in-depth – but they’re still worth your time. They provide valuable nuance and color that will inform our discussions, shape your own understanding, and, ideally, inspire ideas for your own projects.

Your Contributions

ATTENDANCE AND PARTICIPATION. Our class is a mix of seminar and workshop, and its success depends on your regular attendance and reliable participation. We need each other to show up on time, having completed the readings, and prepared to engage constructively and respectfully with one another. See below for more on our commitment to inclusion and respect.

[I apologize for the pedantry of the following. Yet recent semesters' experience has demonstrated that such codification of policy is necessary.]

If you must be absent, please notify me in advance. One absence will not affect your grade. **Two absences will result in a “one step” reduction** in your final grade (i.e., from an A to an A-). Three absences will result in a “two-step” reduction. **Four absences will result in failure** of the course; to avoid the ‘F’ on your transcript, I’ll instead advise you to withdraw from the class. Please note that absences include those days you might miss at the beginning of the semester because of late registration. Please note, too, that **a class absence does not entitle you to a private reenactment** of the missed class.

I am required by The New School to take attendance at the start of class. Students who arrive **more than 15 minutes** late will be marked absent. Your timely arrival is appreciated. Students who are consistently late disrupt their classmates and impede our class progress.

While I am happy to work with you to tailor the class’s content and assignments to your interests, and to help you develop strategies for project planning and time management – and while I aim to be sympathetic to the challenges students face both inside and outside the classroom – I ask that you please also respect *my* time and acknowledge my heavy load of responsibilities. I cannot allow expectations for accommodation to compromise my own health.

Attendance and participation are worth **20%** of your final grade.

PROCESSING POSTS. Just as archivists “process” a newly-acquired collection, I’ll ask you to process our readings before coming to class, so we can make the most of our in-class discussion. You’ll need to **post to our class blog five ~150-word (maximum! seriously!) “processing posts”** over the course of the semester; you should begin posting within the first three weeks of the semester, and keep posting at least once every three weeks for the duration of the semester. Posts are **due by noon on Tuesdays**. Seriously. Your posts should involve some **critical, synthetic reflection on the week’s assigned readings**, but would also ideally include: ideas that you find particularly captivating or frustrating and that you might like to explore through further research (perhaps your final project); questions you’d like us to address in our group discussion; connections you’ve drawn between the readings and art you’ve recently experienced, places you’ve recently been, current events you’ve heard about, etc. You’re welcome to illustrate your posts with images, audio, video, etc., where appropriate. These posts are worth **20%** of your final grade.

APPLICATION. Over the course of the semester each student will submit one **900- to 1200-word post** and deliver one **15-minute in-class presentation** focusing on a *concrete application* of the theories we discuss in class. These are not two separate assignments; your paper can be the script for your presentation!

Where do you see the week’s central themes playing out *in the world* – in the news, in a brick-and-mortar library or archive, in an artist’s work, in a particular online database, in one of the many behind-the-scenes spaces supporting our digital infrastructure, etc.? In your paper and presentation you’ll want to strike a balance between (brief) *synopsis* of the relevant theoretical frameworks or concepts; *references to* (quotes or paraphrases!) at least one of the assigned readings; *description* of your chosen concrete subject; and *critical analysis* of that subject in light of those theories and concepts.

Your paper should be **posted to our class website before class** on the date you're scheduled to present. You're encouraged to include illustrative media. And please note that, just because it's a blog post doesn't mean it's casual writing; please edit and proofread! You'll have **ten minutes for your formal presentation**, then we'll dedicate roughly five minutes to discussion. The presentation and paper are together worth **20%** of your final grade.

You'll find a few sample application projects from our Spring 2011 class [here](#), from our Fall 2012 class [here](#), from our Fall 2013 class [here](#), from our Fall 2014 class [here](#), and from our Fall 2017 class [here](#).

FINAL PROJECT PROPOSAL. See below for more on the format of the final project. Throughout the semester I hope you'll come across several ideas, arenas, individuals, etc., about which or whom you would like to know more. This final project will give you the opportunity to delve deeply into a research and/or creative area of personal interest. You can draw inspiration from previous students' work: [here's](#) what the students in my 2011 "Archives/Libraries/Databases" class did, [here's](#) what the 2012 students did, [here's](#) what the 2013 students did, [here's](#) what the 2014 students did, and [here's](#) what the 2017 students did.

You should begin thinking about potential topics early in the semester. By **5pm on Monday, October 29**, you'll need to submit to me privately, **via Google Drive**, a **formal ~900-word** (including end-matter) **project proposal**. Please share your work as a Google Doc or Word Doc so I can add margin comments.

This proposal should include:

1. a problem statement or research question;
2. a discussion of your proposed research methodology and an outline of your research/production plan*; and
3. a tentative bibliography containing at least ten sources, half of which must be scholarly sources.

You'll be expected to share your proposal in an informal **five-minute presentation in class** on October 24. I certainly don't expect your proposals to be perfect (the primary reason I ask you to submit these is *so* you can receive constructive feedback before delving too deeply into your projects), but I do expect the proposals to evince some serious contemplation, good planning, and an awareness of relevant resources in the field. The proposal is worth **10%** of your final grade. You'll have an opportunity to revise and resubmit the proposal if necessary.

***If** you're considering a research-based creative project or media production, your "research methodology" section should explain how your chosen format – video, artist's book, interactive map, audio documentary, etc. – serves as an appropriate "method" for your project, i.e., how the *form* suits the *content*.

FINAL PROJECT. Throughout the semester you should be working toward the completion of either (1) a **4,000- to 6,000-word paper** (word count includes end-matter), or (2) a **creative/production project** (that's of final-project-appropriate scope) **with a 600-word accompanying text**, in which you address the critical and/or aesthetic issues you aimed to explore through your work, explain how your chosen format aided in that exploration, and provide a bibliography listing the critical resources that informed the project. This research project is worth **30%** of your final grade, and is due **before class on December 11**, our final meeting. Papers *and* support papers for creative projects should be submitted **via Google Drive**.

Policies and Procedures

INCLUSION & RESPECT

Modified from The New School's [Safe Zone declaration](#): We in this classroom are dedicated to creating a welcoming environment for all members of the university community inclusive of race, ethnicity, national origin, culture, language, gender and gender expression, sexuality, religious and political beliefs, age, and ability. We'll aim to celebrate our diversity and to respectfully negotiate differences in experience, understanding, and expression. We will stand against all forms of discrimination and oppression, whether directed against individuals or groups. We will also make an effort to respect one another's individuality in our forms of address, which includes learning one another's preferred names and pronouns.

If you experience anything in the classroom that undermines these values – or if there is anything I can do to better cultivate inclusivity and respect – please feel free to let me know. Likewise, if you are facing personal challenges inside or outside the classroom that are impacting your class performance, I'm happy to speak with you about strategies of accommodation, and to help you find the appropriate support resources at the university.

SUBMITTING WORK VIA GOOGLE DRIVE

You'll occasionally be asked to submit your work via Google Drive. Because I prefer to insert margin comments and propose revisions directly in/on your text, I need to work with an editable document (e.g., *not* a pdf). For this reason, I ask that you please either (1) create your documents *in* Google Drive; or (2) upload documents in .doc format, which I can then download and annotate using "track changes," and return to you via email. You can share your material with me by clicking on the "Share" button in the upper-right corner of Google Drive/Docs, inserting my email address, then clicking on the little pencil icon and choosing "can edit."

I'll probably propose some line edits and add some margin comments to your Doc. I don't expect you to *respond* to my recommendations and queries, but I do hope you'll at least *consider* them! If, however, you *would* like to continue the dialogue in the comments section by responding and requesting additional feedback from me, you'll need to alert me via email because I can't continually monitor for new activity across all students' documents.

POSTING WORK ONLINE

We'll all create accounts for our class's blog, and we'll briefly review how to post. You're invited to post any class-related material – events, exhibitions, news, etc. – at any time, and you'll occasionally be asked to share your work online. If you're not comfortable posting your work, please don't hesitate to talk to me.

DEADLINES

Assignment deadlines are clearly noted on the syllabus. In all cases, you are made aware of these deadlines weeks in advance, and in some cases you even choose your own assignment deadlines. I am also more than happy to work with you, in advance of assignments deadlines, to develop your projects. Thus, there is little reason for you to miss deadlines. Work that is late for any reason will be **penalized one-half letter grade for each 24-hour period** and will not be accepted after a week. Extensions will be granted only rarely, and only after consulting with me at least two days in advance of the assignment deadline. Deadlines are rigid in the professional world, and I expect similar conscientiousness and courtesy in the classroom.

I take your work seriously, I read it closely, and I'm known for providing substantial, thorough, constructive feedback. I set aside big blocks of time for assignment review immediately after each deadline. Missing deadlines means you miss your "window of opportunity" for review, which is an essential part of your learning in this course (and any course, for that matter). **Late work = no comments.**

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 well 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. Again, late work will not receive feedback.

CHANGES TO THE SYLLABUS

I make every effort to map out the entire semester before the semester begins, so we both know what we're in for. Yet we may need to make a few small alterations to our schedule: we might host a guest who's passing through town, I might decide to cut a couple of our readings or substitute new material that's published over the course of the semester, etc. Any changes will be noted, with plenty of advance notice, on **our class website, which will always be the most the most accurate, up-to-date "control center" for our class.** This printed syllabus is really just an administrative document.

ACADEMIC HONESTY

All students are expected to familiarize themselves with the University's [academic honesty policy](#). Plagiarism or cheating of any form will result in immediate failure of the course. If you have any questions regarding proper citation of sources or other academic integrity matters, consult the [University Learning Center](#).

Week 1: August 28

Introductions + Orientation

From Profusions of Papers and Pictures to Data Deluge¹

The last two years have been an epistemological minefield. Between alternative facts and Russian bots, leaking and doxxing, Twitter (anti-)diplomacy and conspiracy theories, and threatened cuts for libraries and climate research, it's difficult to discern what forms of *knowing* (if any) our current administration values.

Today, as we preview the various themes and concepts we'll be exploring throughout the semester, we'll also consider how these concerns are particularly resonant – and of critical importance – in our contemporary climate: political, cultural, socioeconomic, and ecological. Issues of privacy, visibility, and representation; of veracity and credibility; of accessibility and sustainability: all are pertinent to the realms of information management, scholarship, creative production, cultural politics, and beyond. What role can, or should, our knowledge infrastructures – both official institutions and informal, “rogue” activities; both mega-databanks and modest community archives – play in cultivating a better educated, more equitable, more just society? A society that recognizes the value of learning and compassion and aesthetic pleasure?

We'll start thinking about these questions today, and continue our exploration throughout the semester.

We'll also look ahead to our in-class activity for next week, when we'll diagram a contemporary information system. We need to choose one (or two) case(s) to investigate in small groups. Here are just a few options, although we can certainly explore others:²

- **The Alt-Right Web:** Alice Marwick and Rebecca Lewis, [Media Manipulation and Disinformation Online](#) (New York: Data & Society Institute, May 2017) [the report's fabulous, but long; you'll need to skim].
- **Cambridge Analytica:** Andrea Valdez, “[Everything You Need to Know About Facebook and Cambridge Analytica](#),” *Wired* (March 23, 2018).
- **Data Refuge** (preserving endangered federal climate and environmental data): Bethany Wiggin, “[How Data Refuge Works, and How You Can Help Save Federal Open Data](#),” *Sunlight Foundation* (February 6, 2017)
- **Documenting the Now** (ethically collecting and preserving social media): Kritika Agarwal, “[Doing Right Online: Archivists Shape an Ethics for the Digital Age](#),” *Perspectives on History* (November 2016)
- **Internet Archive** (a massive digital library of public domain materials and web archive): Jill Lepore, “[The Cobweb: Can the InterNet be Archived?](#)” *New Yorker* (January 26, 2015); Jonathan Minard, “[The Internet Archive](#)” {video} (2012) [13:04].
- **Panama Papers** (leaked files documenting offshore tax regimes,): Mar Cabra & Erin Kissane, “[The People and Tech Behind the Panama Papers](#),” *Source* (April 11, 2016).
- **Or**, whatever fresh hell has emerged since I completed this syllabus in early August.
- What other “epistemic communities” or “belief networks” might lend themselves to network mapping? Various conspiracy circles? Supply chains?
- Consider also *historical* information ecologies, like those that Alejandra Dubcovsky describes in the early colonial American South, where, in the days before postal systems and printing presses, oral networks – composed of spies, scouts, traders, missionaries, couriers, hunting parties, shipwrecked sailors, captured soldiers, fugitive slaves – linked together Native American, African, and European communities (*Informed Power: Communication in the Early American South* (Cambridge, MA: Harvard University Press, 2016).

Week 2: September 4

Ecologies of Information: Entangled Infrastructures³

IN-CLASS ACTIVITY: We'll break into groups to create [forensic diagrams](#) of an information ecology; we'll [map](#) its actors, connections, and relations. I'll bring the craft supplies!

READINGS

What models and metaphors have we used to describe the structures and functions of our knowledge systems?:

- **Infrastructure:** Susan Leigh Star, "[The Ethnography of Infrastructure](#)," *American Behavioral Scientist* 43:3 (1999): 377-91.
 - *Skim* Paul N. Edwards, Stephen J. Jackson, Melissa K. Chalmers, Geoffrey C. Bowker, Christine L. Borgman, David Ribes, Matt Burton & Scout Calvert, [Knowledge Infrastructures: Intellectual Frameworks and Research Challenges](#) (2013).
- **Stack:** Benjamin Bratton, "[The Black Stack](#)," *e-flux* 53 (March 2014).
- **Commons:** Excerpts from Charlotte Hess and Elinor Ostrom, "[Introduction: An Overview of the Knowledge Commons](#)" in *Understanding Knowledge as a Commons: From Theory to Practice*, eds. Hess and Ostrom (Cambridge, MA: MIT Press, 2007): 3-14 [stop at "[The Knowledge Ecosystem...](#)"]
- Consider: what other spatial or conceptual models do we commonly use to make sense of our information systems? Ecologies, nets, rhizomes, clouds...?

Aestheticizing Information Ecologies (which is what we'll be practicing in class today):

- Hito Steyerl & Laura Poitras, "[Techniques of the Observer](#)," *Artforum* (May 2015) [and [here's the NSA Treasure Map](#) to which S+P refer].

Forensic Research:

- In last week's class we'll have chosen a case study – a single complex information system – for today's diagramming activity. To prepare for this activity, we'll all need to do some background research on the case: skim through some academic articles and books, review recent news, peruse the tech press, etc. We're not all going to read the same materials – and that's kind-of the point; we want to distribute our labor and cover a vast terrain. Please keep track of what you review, and bring a source list to class.
- Try to get a sense of the human, institutional, and non-human actors, hardware, software, protocols, and other entangled infrastructures that compose this information system, and the cultures and ecologies that supply and sustain it. Yeah, that's a lot of mixed metaphors.

Epistemological Architectures

Week 3: September 11

Archaeologies of the Archive⁴

FIELD TRIP: New York City Municipal Archives, with Marcia Kirk, Archives and Research Associate, NYC Department of Records and Information Services

- Meet at 4:00 at **31 Chambers** @ Centre St. Take 4/5/6 to Brooklyn Bridge. Please bring picture ID.

READINGS

To provide some context for our field trip:

- [NYC Department of Records](#) + [Collections](#) + [Digital Galleries](#)

Some canonical archival theory, and some insight into how archives work:

- We're reading this because we cannot escape it: Jacques Derrida, "[Note](#)" + "[Exergue](#)" in *Archive Fever: A Freudian Impression* (University of Chicago 1996): 1-23.
- Marlene Manoff, "[Theories of the Archives from Across the Disciplines](#)," *portal: Libraries and the Academy* 4:1 (2004): 9-25 [stop at "[Additional Formulations...](#)" on p. 18].
- Trevor Owens, "[What Do You Mean by Archive?](#)" *The Signal* (February 27, 2014).
- Jessa Lingel, "[This Is Not an Archive](#)," *Jessa Lingel* (November 5, 2013).
- "[What Do Archivists Keep \(Or Not\)?](#)" *Archives @ Peel Art Gallery* (April 4, 2018) and "[How Do Archivists Describe Collections? \(Or, How to Read a Finding Aid\)](#)" *Archives @ Peel Art Gallery* (February 29, 2016) [there are [lots of great posts](#) on the PAMA Archives blog].

Applications: on processing unorthodox collections:

- Jennifer Ulrich, "[Transmissions from the Timothy Leary Papers: Applying Archival Processing](#)," *NYPL Archives Blog* (March 26, 2012);
- "[Networked Q&A with Marvin Taylor](#)," *NYU Workshop in Archival Practice Blog* (April 20, 2012) → and the [Wojnarowicz Knowledge Base](#) Taylor and his team launched five years later.

Housekeeping:

- [Sign up for your Presentation Week!](#)

September 18: No Class: Yom Kippur

Week 4: September 25
Library Lineages⁵

FIELD TRIP: **Brooklyn Public Library** with David Giles, Chief Strategy Officer. We'll meet in the lobby of the Central Library, 10 Grand Army Plaza, at 4pm.

READINGS

- Matthew Battles, [Excerpts from “Burning Alexandria,” “The House of Wisdom” & “Books for All”](#) in *Library: An Unquiet History* (New York: W.W. Norton 2004): 22-81, 117-155.
- Shannon Mattern, [“Library as Infrastructure,”](#) *Places* (June 9, 2014).
- Brooklyn Public Library, [Now/Next: Strategic Plan 2018](#).

Consider the material concerns (and opportunities) of other institutions:

- Noah Arjomand, [“The Struggle for Kabul’s Libraries,”](#) *Public Culture* 26:3 (2014): 378-92.
- *Skim* Matthew Battles & Jeffrey Schnapp, [“Scenarios”](#) in *The Library Beyond the Book* (Cambridge, MA: Harvard University Press, 2014): 55-119.

Week 5: October 2
(Infra)Structures and Logistics⁶

We’ll recap our previous field trips and discuss the material landscapes and logistics of information.

READINGS/SCREENINGS

The Warburg Library

- Alberto Manguel, [“The Library as Mind”](#) in *The Library at Night* (Toronto: Knopf Canada, 2006): 193-212.
- The Warburg Institute [Library](#) and [Classification Scheme](#) [\[video explanation\]](#) + Cornell’s [Mnemosyne](#) project.
- *Optional:* Adam Gopnik, [“The Memory Ward,”](#) *New Yorker* (March 16, 2015).

The Prelinger Library

- Erin Kissane, [“The Library as a Map: An Interview with Rick Prelinger and Megan Shaw Prelinger,”](#) *Contents* 5 (2013).
- *Optional:* Georgina Voss with Rick Prelinger, [Situating Knowledge 3: Prelinger Library](#) (2016).

Backstage & Underground

- Shannon Mattern, [“Middlewhere: Landscapes of Library Logistics,”](#) *Urban Omnibus* (June 24, 2015).
- Arthur Ou, *The Invisible Photograph*, [“Underground: The Corbis Image Vault”](#) {video} (2014) [16:50].

Epistemological Apparatae

Week 6: October 9

Intellectual Furnishings & Containers⁷

IN-CLASS ACTIVITY: Epistemological Fieldwork: you'll be observing how people use the material environment, and the material objects in it, to structure their engagement with media and their intellectual labor. More directions to come.
– Or, depending upon our class enrollment: **PRESENTATIONS**

READINGS: It's a long list, but it's really just half an academic article (Chun); three good-sized magazine-y articles (Mattern, Springfield, Bush); a short essay (Stewart); a short blog post (Tarrish); and a couple websites.

- Susan Stewart, "[Wunderkammer: An After as Before](#)" in *Deep Storage: Collecting, Storing, and Archiving in Art*, eds. Ingrid Schaffner & Matthias Winzen (New York: Prestel, 1998): 291-5.
- Shannon Mattern, "[Before BILLY](#)," *Harvard Design Magazine* 43: Shelf Life (2016).
- Laura Tarrish, "[Hunter/Gatherer](#)," *Design Observer* (March 4, 2015) [on xylotheques].

Paul Otlet

- Molly Springfield, "[Inside the Mundaneum](#)," *Triple Canopy* 8.
- See the Google Cultural Institute's [Mundaneum Collection](#), and especially their "[The Origins of the Internet in Europe: 1895-2013](#)" exhibition. And consider what it means that *Google* is collating resources from the world's cultural institutions, and positioning itself in relation to Otlet's legacy.
- We'll also talk in class a bit about [Suzanne Briet](#), who, in advancing Otlet's work, argued that even stars and rocks and antelopes, within the right epistemological "container," can constitute "documents."

Vannevar Bush

- Vannevar Bush, "[As We May Think](#)," *The Atlantic* (July 1945).
- Wendy Hui Kyong Chun, "[The Enduring Ephemeral, of the Future is a Memory](#)," *Critical Inquiry* 35 (Autumn 2008): 148-71 [**stop at 161**].

Week 7: October 16

Ordering Logics⁸

PRESENTATIONS: TBD

GUEST: Sarah Hamerman, Poetry Cataloguing Specialist, Princeton University Library

READINGS

- Georges Perec, "[Think/Classify](#)" in *Species of Spaces and Other Pieces* (New York: Penguin, 1997): 188-205.
- Michel Foucault, [Preface](#) to *The Order of Things: An Archaeology of the Human Sciences* (New York: Vintage Books [1970]1994): xv-xxiv.
- Hope A. Olson, "[The Power to Name: Representation in Library Catalogs](#)," *Signs* 26:3 (Spring 2001): 639-68.
 - *Optional:* Emily Drabinski, "[Queering the Catalog: Queer Theory and the Politics of Correction](#)," *Library Quarterly* 83:2 (2013): 94-111.
- Kate Crawford, "[AI Now and the Politics of Classification](#)," University of Washington {video} (March 6, 2018) [focus on 31:40 to 53:10, 57:40 to 1:01:23]. Crawford, co-director of the AI Now Institute, repeats some of the history we've read about for today, yet she situates it in relation to artificial intelligence.
- Bethany Nowviskie, "[Five Spectra for Speculative Knowledge Design](#)," *Bethany Nowviskie* (April 22, 2017).
- Sarah Hamerman and David Hecht, "[Cybernetics Conference](#)," *Are.na* (January 19, 2018).

Monday, October 22: Opening Event for Digital Privacy Exhibition

Brooklyn Public Library, Grand Army Plaza | More Information To Come!

Week 8: October 23

Epistemological Aesthetics⁹

PRESENTATIONS: TBD

READINGS/LISTENINGS

- Susan Breakell, Introduction, "The Archival Impulse: Artists and Archives" Tate Modern {audio} (November 16, 2007): search iTunes for "The Archival Impulse" + Tate → choose Part 1 → listen from 2:00 to 11:30.
- Hal Foster, "[An Archival Impulse](#)," *October* 110 (Fall 2004): 3-22.
- Shannon Mattern, "[Archival Aesthetics](#)," Talk @ Princeton-Weimar Summer School on "Archive Futures," Bauhaus University, Weimar, Germany (June 18, 2015).
- Siegfried Zielinski, "[An Archaeology for AnArchives](#)" trans. Geoffrey Winthrop-Young, *Journal of Contemporary Archaeology* 2:1 (2015): 116-25.
- Check out Rhizome's [Net Art Anthology](#) – especially Antoni Muntadas's [The File Room](#)

Optional: Pick a couple other archivally-aligned artists, and explore their work:

- Kader Attia's [Continuum of Repair](#) (Palais des beaux-arts de Bruxelles, 2014): Emily Butler, "[The Infinite Library](#)," *Continuum of Repair* [exhibition catalogue] (London: Whitechapel Gallery, 2014).
- Mariam Ghani's [Index of the Disappeared](#): Bindu Bhadana, "[Index of the Disappeared: Representing the Invisible South](#)," *Art@s Bulletin* 2 (2016); Deborah Frizzell, "[Seeing the Unseen: An Interview with Mariam Ghani](#)," *Cultural Politics* 13:1 (2017).
- [Emily Jacir](#): Cynthia Cruz, "[Silence Is Enough: On Emily Jacir](#)," *Hyperallergic* (August 7, 2014); [Europa](#) @ Whitechapel, 2015-16.
- Bill Morrison's [Dawson City: Frozen Time](#) (2017); Deborah Eisenberg, "[After the Gold Rush](#)," *The New York Review of Books* (August 16, 2018).
- Walid Raad and the [Atlas Group](#): David J. Roxburgh, "[Walid Raad](#)," *Artforum* (January 2016); Kaelen Wilson-Goldie, "[By All Accounts](#)," *Artforum* (May 2015).

PROJECT PROPOSALS DUE BY NOON ON MONDAY, OCTOBER 29!

Week 9: October 30

Project Workshop

PROJECT PRESENTATIONS: In class, each student will have **five minutes** to share his/her proposed final project. This is your opportunity to draw on your classmates' collective wisdom in refining your plans, so you can make the best use of your time over the remaining six weeks of the semester. You'll want to help everyone understand your plans as concretely as possible, so please consider integrating images, video clips, models, etc., into your presentation.

Subjects & Publics

Week 10: November 6

Epistemological and Political Subjects¹⁰

PRESENTATIONS: TBD

READINGS

- Excerpt from Michel Foucault, *Archaeology of Knowledge*, trans. Smith (Harper & Row [1969]1972): 126-31.
- Ann Laura Stoler, "[Colonial Archives and the Acts of Governance](#)," *Archival Science* 2:1-2 (2002): 87-109.
- Diana Taylor, "[The Archive and the Repertoire](#)" in *The Archive and the Repertoire: Performing Cultural Memory in the Americas* (Durham: Duke University Press, 2003): 16-33 [stop at 27] Taylor discusses the limitations of the text-centric archive, then proposes more capacious and ethically and culturally sensitive archival and information management practices. She leads us into next week's discussion....

Now, check out these two short applications:

- On colonialist ideology inherent in the archival principle of "provenance": Jarrett M. Drake, "[RadTech Meets RadArch: Towards a New Principle for Archives and Archival Description](#)," Radcliffe Workshop on Technology & Archival Processing, Cambridge, MA, April 2016.
- On the ethical quandaries of digitization and visibility: Tara Robertson, "[Digitization: Just Because You Can, Doesn't Mean You Should](#)," *Tara Robertson* (March 20, 2016) – read the comments, too!

Week 11: November 13

Acknowledging and Addressing Archival Injustices¹¹

PRESENTATIONS: TBD

READINGS

- Harrison Cole and Zachary Griffith, “[Images, Silences, and the Archival Record: An Interview with Michelle Caswell](#),” *disclosure: A Journal of Social Theory* 26 (July 2018): 21-7 – **or**, if you’ve got a bit more time, and you’d like more context on the “ethics of care” and feminist philosophy underlying these archival practices, see instead: Michelle Caswell and Marika Cifor, “[From Human Rights to Feminist Ethics: Radical Empathy in the Archives](#),” *Archivaria* 81 (Spring 2016): 23-43.
- On indigenous archiving: Kimberly Christen, “[Tribal Archives, Traditional Knowledge, and Local Contexts: Why the ‘s’ Matters](#),” *Western Archives* 6:1 (2015): 1-19 [**focus on 1-8**] + explore [Mukurtu](#), an open-access platform for storing and managing indigenous communities’ cultural heritage.
- On documenting resistance movements: Evan Hill, “[Silicon Valley Can’t Be Trusted With Our History](#),” *BuzzFeed* (April 29, 2018).
- On creating collections that embody the values of communities of color: Bergis Jules, Simone Browne, Kameelah Janan Rasheed, and Doreen St. Felix, “[Failures of Care](#)” Panel, Digital Social Memory: Ethics, Privacy, and Representation in Digital Preservation [conference](#), The New Museum, February 4, 2017 {video} (1:08). Consider the politics of invisibility, erasure, and the choice *not* to be documented and archived – themes Robertson addressed last week, too. I recommend that you look up each of these panelists, too; it’s a formidable group.

Optional: Other Case Studies:

- On highlighting absences and erasures in data collection: Mimi Onuoha, “[Missing Data Sets](#)” @ Github + “[How We Became Machine Readable](#),” Eyeo Festival, Minneapolis, MN, 2017 [**21:05 > 28:32, 31:33 > 33:03**]
- On archiving Australia’s non-white residents: Tim Sherratt, “[A Map and Some Pins: Open Data and Unlimited Horizons](#),” *discontents* [blog post] (June 11, 2013) + see [Tim’s research notebook](#).
- On feminist activism in archives and libraries: Kate Eichhorn, [Interview](#) with Hope Leman, *Critical Margins* (January 1, 2014).
- On adapting technical protocols to honor linguistic and cultural difference: Elvia Arroyo-Ramirez, “[Invisible Defaults and Perceived Limitations: Processing the Juan Gelman Files](#),” *On Archiving* (October 30, 2016).
- On processing the Guatemalan National Police Historical Archive: Hannah Alpert-Abrams, “[21 Years of Peace, 21 Million Documents](#),” *Tex Libris* (January 25, 2018).
- **Highly Recommended for Your Winter Break:** Tina M. Campt, *Listening to Images* (Durham, NC: Duke University Press, 2017) [on *listening* for the unspoken – for fears and aspirations and hints toward self-definition – in quotidian and administrative archival photos from the Black Diaspora]

Collections (aka Content)

Week 12: November 20

Photo Collections¹²

PRESENTATIONS: TBD

READINGS: Yes, there are quite a few readings this week – but that’s just because there are so many excellent resources on picture collections! It’s only 88 pp in total, including *lots* of images. But you’re also welcome to read modularly: choose between either the Crimp/Springer/Spigelman set *or* the Kamin/Ernst set.

- John Tagg, “[The Archiving Machine; or, The Camera and the Filing Cabinet](#),” *Grey Room* 47 (Spring 2012): 24-37.
- If your brain is too full, you’re welcome to pick one of the following two sets:
 - *About the recognition of photography as an aesthetic object and the birth of the amazing NYPL Picture Collection:* Douglas Crimp, “[The Museum’s Old, The Library’s New Subject](#)” in *On the Museum’s Ruins* (Cambridge, MA: MIT Press, 1993): 66-83.
 - Anna Sophie Springer, “Original Sun Pictures: Institutionalization” in [Fantasies of the Library](#), eds. Anna-Sophie Springer & Etienne Turpin (Berlin: K. Verlag, 2014): 119-31 [odd pages only – although the whole book is lovely, and I highly recommend skimming through!]
 - Art Spigelman, “[Words, Worth a Thousand](#),” *The New Yorker* (February 20, 1995).
 - *About the politics, philosophy, and aesthetics of image classification, and how historical models prefigured the logics of machine vision:* Diana Kamin, “[Mid-Century Visions, Programmed Affinities: The Enduring Challenges of Image Classification](#),” *Journal of Visual Culture* 16:3 (2017): 310-36.
 - Ignore the silly “archivology” neologism, and think instead about how new technologies might make possible new ways of searching through and engaging with digital image collections: Except from Wolfgang Ernst, “[Media Archaeology as a Transatlantic Bridge](#)” in *Digital Memory and the Archive*, ed. Jussi Parikka (Minneapolis: University of Minnesota Press, 2013): 27-9.
- Nina Lager Vestberg, “[Ordering, Searching, Finding](#),” *Journal of Visual Culture* 12:3 (2013): 472-89.
- Allison Meier, “[Four Million Images from the World’s Endangered Archives](#),” *Hyperallergic* (February 23, 2015). See also the various preservation projects listed in the table of contents of Maja Kominko, Ed., [From Dust to Digital: Ten Years of the Endangered Archives Programme](#) (Cambridge, UK: Open Book Publishers, 2015).

Week 13: November 27

Collecting and Preserving Sound and Moving Images¹³

PRESENTATIONS: TBD – no more than 2

GUEST: Rachel Mattson, PhD, Curator, [Tretter Collection for GLBT Studies](#), University of Minnesota; Former Manager of Special & Digital Projects, [La MaMa Experimental Theatre Club Archives](#); Core Member, [XFR Collective](#); Historian

READINGS/SKIMMINGS/LISTENINGS

- Christine Mitchell, “[Media Archaeology of Poetry and Sound: A Conversation with Shannon Mattern](#),” *Amodern* 4 (2015).
- Rick Prelinger, “[Workshops, Workflows & Wooden Trains](#),” Keynote at Rare Books and Manuscripts Section Pre-Conference, Oakland, CA, 2015 – It’s a great presentation, but a bit difficult to follow on Slideshare. As an alternative: “[Prelinger Archives Part 1](#),” C-Span (April 11, 2013) {video}.
- Lauren J. Young, “[Ghosts in the Reels](#),” *Science Friday* (December 15, 2017).
- Explore the various kinds of sound archives: [poetry archives](#), radio archives, [bird calls](#), [sound art](#), [oral histories of Holocaust survivors](#), [genocide archives](#); [community oral histories](#), and so on.

Choose a couple from among the following applied texts regarding the material challenges of preserving and accessing/exhibiting archival audio-visual material:

- *Skim through* the program for “[Listening to the Archive: Histories of Sound Data in the Humanities and Sciences](#),” Humboldt-Universität and Max-Planck Institute, Berlin, February 11-13, 216.
- Note the breadth of the [British Library’s sound collections](#), and [its campaign](#) to preserve those materials.
- On the LOC’s preservation challenges and resources: Michael Gaynor, “[Inside the Library of Congress’s Packard Campus for Audio-Visual Conservation](#)” *Washingtonian* (May 9, 2011) [on the LoC’s preservation challenges and resources].
- On what it means to “preserve” a sonic performance piece: Joseph, “[Collecting Alvin Lucier’s I Am Sitting in a Room](#),” MoMA’s *Inside/Out* Blog (January 20, 2015). Recall Diana Taylor on archiving performance.
- On exhibiting archival film: Jeffrey Weiss, “[Revisions — Zen for Film](#),” *Artforum* (March 2016).
- *Skim through* the program for “[The Politics of Film Archival Practice](#),” Stockholm, November 2016.

Week 14: December 4
Perpetual Storage¹⁴

PRESENTATIONS: TBD

READINGS/SCREENING [tentative list; will likely be revised as I learn more about your interests over the course of the semester]

Storage Media for Deep Time

- Wolfgang Ernst, “[Archives in Transition](#)” in *Digital Memory and the Archive*, ed. Jussi Parikka (Minneapolis: University of Minnesota Press, 2013): 95-101. If it seems a bit dated, that’s because it was originally published 2002.
- Arthur Ou, “[Trapped: Andy Warhol’s Amiga Experiments](#),” The Invisible Photograph (Carnegie Museum of Art) {video} (2014) [18:52]
- Jessica Leigh Hester, “[The Quest for a Universal Translator for Old, Obsolete Computer Files](#),” *Atlas Obscura* (March 8, 2018).
- Glenn Fleishman, “[Archiving a Website for Ten Thousand Years](#),” *The Atlantic* (May 12, 2016).
- Megan Molteni, “[The Rise of DNA Data Storage](#),” *Wired* (June 26, 2018).
- Shannon Mattern, “[The Big Data of Ice, Rocks, Soils, and Sediments](#),” *Places Journal* (November 2017).
- And for a counterpoint: Jay Owens, “[Digital Dust](#),” *Disturbances* 16, *Medium* (June 24, 2018).

Week 15: December 11 – Final Class
FINAL PRESENTATIONS

¹ Ann Blair, [“Information Overload, Then and Now,”](#) *The Chronicle Review* (November 28, 2010); Ann Blair, *Too Much to Know: Managing Scholarly Information Before the Modern Age* (New Haven: Yale University Press, 2010); danah boyd and Kate Crawford, “Critical Questions for Big Data,” *Information, Communication and Society* 15:5 (2012): 662-79; John Seely Brown & Paul Duguid, *The Social Life of Information* (Boston: Harvard Business School Press, 2000); Alberto Cevolini, ed., *Forgetting Machines: Knowledge Management Evolution in Early Modern Europe* (Boston: Brill, 2016); [“The Data Deluge”](#) *The Economist* (25 February 2010); [“Data, Data Everywhere”](#) Special Report *The Economist* (25 February 2010); Rob Kitchin, [“Big Data, New Epistemologies and Paradigm Shifts,”](#) *Big Data & Society* (April – June, 2014): 1-12; Rob Kitchin, *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences* (Thousand Oaks, CA: Sage, 2014); Rob Kitchin and Gavin McArdle, “What Makes Big Data, Big Data? Exploring the Ontological Characteristics of 26 Datasets,” *Big Data & Society* 3:1 (February 2016): 1-10; Daniel Letvin, *The Organized Mind: Thinking Straight in the Age of Information Overload* (New York: Dutton, 2014); Shannon Mattern, [“Public In/Formation,”](#) *Places Journal* (November 2016); Open Scholarship Initiative, [Report from the Information Overload Workgroup](#) (June 23, 2016); Hamish Robertson and Joanne Travaglia [“Big Data Problems We Face Today Can Be Traced to the Social Ordering Practices of the 19th Century,”](#) *LSE Blog* (October 13, 2015); Daniel Rosenberg, “Early Modern Information Overload,” *Journal of the History of Ideas* 64:1 (January 2003): 1-9; Clay Shirky, [“It’s Not Information Overload, It’s Filter Failure”](#) {video} O’Reilly Web 2.0 Expo NY (2008); Richard Saul Wurman, *Information Anxiety 2* (Que, 2000); Ilkka Tuomi, “Data Is More than Knowledge: Implications of the Reversed Knowledge Hierarchy,” *Journal of Management Information Systems* 16:3 (Winter 1999/2000): 103-17; Chaim Zins, “Conceptual Approaches for Defining Data, Information, and Knowledge” *Journal of the American Society for Information Science and Technology* 58:4 (January 2007): 479-93.

² Thanks to [Twitter friends](#) who helped me identify case studies for this exercise!

³ Digital Equity Laboratory, [Take It Or Leave It: How NYC Residents Are Forced to Sacrifice Online Privacy for Internet Service](#) (The New School, March 19, 2018); Adam Greenfield, [“Commoning Systems: Organize, Don’t Jargonize,”](#) *Speedbird* (January 9, 2016); Shannon Mattern, [“A City Is Not a Computer,”](#) *Places Journal* (February 2017); Zack Lischer-Katz, [“Studying the Materiality of Media Archives in the Age of Digitization: Forensics, Infrastructures, and Ecologies,”](#) *First Monday* 22:1/2 (January 2017); Shannon Mattern, [“Stacks, Platforms + Interfaces: A Field Guide to Information Spaces”](#) Pratt Institute, New York, ACRL Conference, Baltimore, Yale School of Architecture, New Haven, March 2017; Elinor Ostrom and Charlotte Hess, “A Framework for Analyzing the Knowledge Commons” in *Understanding Knowledge as a Commons: From Theory to Practice*, eds. Hess and Ostrom (Cambridge, MA: MIT Press, 2007): 41-81.

⁴ Ariella Azoulay, [“Archive,”](#) trans. Tal Haran, in *Political Concepts: A Critical Lexicon* 1 (2012); Antoinette Burton, “Introduction: Archive Fever, Archive Stories” in *Archive Stories: Facts, Fictions, and the Writing of History*, ed. Burton (Durham, NC: Duke University Press, 2005): 1-24; Terry Cook, “What is Past is Prologue: A History of Archival Ideas Since 1898, and the Future Paradigm Shift,” *Archivaria* 43 (Spring 1997): 17-63; Wolfgang Ernst, *Digital Memory and the Archive*, ed. Jussi Parikka (Minneapolis: University of Minnesota Press, 2012); Arlette Farge, *The Allure of the Archives*, trans. Thomas Scott-Railton (New Haven: Yale University Press, 2013); Sigmund Freud, “A Note Upon the Mystic Writing Pad” (1925) In *General Psychological Theory: Papers on Metapsychology* (New York: Collier, 1925); Geert Lovink, [Interview with German Media Archaeologist Wolfgang Ernst](#), *Nettime* (26 February 2003); Tim Maly, [“Dark Archives”](#) *Contents* 5 (March 2013); *D. T. Max, “Final Destination” *New Yorker* (June 2007) [on the Ransom Humanities Research Center]; Jussi Parikka, “Archive Dynamics: Software Culture and Digital Heritage” In *What Is Media Archaeology?* (Malden, MA: Polity, 2012): 113-122; Part 3 of *The Hairpin’s “Ask an Archivist”* series (September 4, 2012); Sven Spieker, “Freud’s Files” In *The Big Archive: Art from Bureaucracy* (Cambridge, MA: MIT Press 2009): 34-49; Carolyn Steedman, “Something She Called a Fever: Michelet, Derrida, and Dust” *The American Historical Review* 106:4 (October 2001): 1159-1180; Kate Theimer, [“A Distinction Worth Exploring: ‘Archives’ and ‘Digital Historical Representations,’”](#) American Historical Association Conference, Washington, DC, January 3, 2014.

ON ARCHIVAL LABOR: Hillel Arnold, [“Critical Work: Archivists as Maintainers,”](#) *Hillel Arnold* (August 2, 2016); Michelle Caswell, [“The Archive is not an Archives: Acknowledging the Intellectual Contributions of Archival Studies,”](#) *Reconstruction* 16:1 (2016); Eira Tansey, [“Archives Without Archivists,”](#) *Reconstruction* 16:1 (2016) [on archival labor + processing].

⁵ Jan Assman, “Libraries in the Ancient World – with Special Reference to Ancient Egypt,” trans. Robin Benson, In Susanne Bieri & Walther Fuchs, Eds., *Building for Books: Traditions and Visions* (Boston: Birkhäuser, 2001): 51-67; Thomas

Augst & Kenneth Carpenter, Eds., *Institutions of Reading: The Social Life of Libraries in the United States* (Amherst: University of Massachusetts Press, 2007); Thomas Augst & Wayne E. Wiegand, eds., *Libraries as Agencies of Culture* (Madison: University of Wisconsin Press, 2002); Lionel Casson, *Libraries in the Ancient World* (New Haven: Yale 2001); Roger Chartier, "Libraries Without Walls" *Representations* 42 (Spring 1993); Alice Crawford, ed., *The Meaning of the Library: A Cultural History* (Princeton, NJ: Princeton University Press, 2015); Sean Cubitt, "Library" *Theory, Culture & Society* 23:2-3 (2006): 581-606; *Stephanie Ann Frampton, "[Alexandria in the Googleplex](#)," *Eidolon* (December 22, 2017); Daniel Heller-Roazen, "Tradition's Destruction: On the Library of Alexandria" *October* 100 (Spring 2002): 133-153; Edward Howland, "The Public Libraries of the United States," *Harper's New Monthly Magazine* (April 1877): 722-30; Fred Lerner, *The Story of Libraries: From the Invention of Writing to the Computer Age* (New York: Continuum, 1999); Alberto Manguel, "The Library as Myth" [Tower of Babel & Library of Alexandria] + "The Library as Space" [on Diderot's *Encyclopédie*] *The Library at Night* (Toronto Knopf Canada, 2006): 6-34, 81-89; Shannon Mattern, "Collected Notes on the Morgan Library for an Article I Meant to Write in 2003 But Never Did" [unpublished]; Shannon Mattern, "[Marginalia: Little Libraries in the Urban Margins](#)," *Places* (May 22, 2012); Allison Meier, "[Researchers Bury Their Noses in Books to Sniff Out the Morgan Library's Original Smell](#)," *Hyperallergic* (February 28, 2017); Proper Paper, [Tweets re: Little Artist-Run Libraries](#) (August 6, 2018); Staikos, *The Great Libraries: From Antiquity to the Renaissance* (New Castle, DE: Oak Knoll Press & The British Library, 2000); Alex Wright, *Glut: Mastering Information Through the Ages* (Ithaca, NY: Cornell University Press, 2008): "The Universal Library": 70-5 [Alexandria] + "After Alexandria": 75-7 [Roman libraries] + "Houses of Mumbler's": 86-91 [Cassiodorus, Vivarium scriptorium, subject-level classification, annotation, craft textual production].

⁶ PRELINGER: Melanie Feinberg, "Classificationist as Author: The Case of the Prelinger Library" [unpublished manuscript]; Megan Shaw Prelinger, "[On the Organization of the Prelinger Library](#)"; Megan Shaw Prelinger, "[To Build a Library](#)" *Bad Subjects* 73 (April 2005); Marie L. Radford, Jessica Lingel & Gary R. Radford, "Alternative Libraries as Heterotopias: Challenging Conventional Constructs" Paper presented at Library Research Seminar V, University of Maryland, College Park, October 6-9, 2010.

WARBURG: [Aby Warburg's Mnemosyne Atlas](#), "Frieze 80 (January-February 2004; Giorgio Agamben, "Aby Warburg and the Nameless Science" In *Potentialities: Collected Essays in Philosophy*, ed. & trans. Daniel Heller-Roazen (Stanford: Stanford University Press, 2000); Dorothee Bauerle-Willert, "On the Warburg Humanities Library," Trans. Mark Walz, In *Building for Books: Traditions and Visions*, Eds. Susanne Bieri & Walther Fuchs (Boston: Birkhäuser, 2001): 253-267; Benjamin H.D. Buchloh, "Gerhard Richter's 'Atlas': The Anomic Archive," *October* 88 (Spring 1999): 117-45; Benjamin H.D. Buchloh, "Gerhard Richter's *Atlas*: The Anomic Archive" in Charles Merewether, ed., *The Archive: Documents in Contemporary Art* (MIT Press 2006): 85-102; *Common Knowledge* 18:1 (Winter 2012): Warburg Special Issue; E. H. Gombrich, "Warburg: A Historical Witness" in Ingrid Schaffner & Matthias Winzen, eds., *Deep Storage: Collecting, Storing, and Archiving in Art* (New York: Prestel, 1998); Ernst Gombrich, "[The Warburg Institute: A Personal Memoir](#)," *The Gombrich Archive*; Adam Gopnick, "[In the Memory Ward](#)," *New Yorker* (March 16, 2015); *Geraldine Juárez, *Intercolonial Technogalactic* (2015) [on the Google Cultural Institute]; Jack Grove, "[New Warburg Institute Director Outlines Plan to Stop 'Slide into Obscurity'](#)," *Times Higher Education* (October 15, 2015); Philippe-Alain Michaud, "Hamburg: The Art History Scene" in *Aby Warburg and the Image in Motion*, trans. Sophie Hawkes (New York: Zone Books, 2007): 229-46; Fritz Saxl, "The History of Warburg's Library" in E. Gombrich, *Aby Warburg: An Intellectual Biography* (London: Warburg Institute, University of London, 1980); Barbara Maria Stafford, "Reconceiving the Warburg Library as a Working Museum of the Mind," *Common Knowledge* 18:1 (Winter 2012): 180-7.

STORAGE + LOGISTICS: Eliyahu Keller, "Doors, Tunnels, Archives, Architecture: Eliyahu Katz in Conversation with Jeffrey Schnapp," *Thresholds* 46 (2018): 336 to end; Shannon Mattern, "[Extract and Preserve](#)," *New Geographies* 9 (Cambridge, MA: Harvard Graduate School of Design, December 2017); Shannon Mattern, "[Bureaucracy's Playthings](#)," *Reanimation Library's Word Processor* (October 28, 2013); Shannon Mattern, "[Closet Archive](#)," *Places Journal* (July 2017); Shannon Mattern, "[Learning from the Library \(Without Cracking a Book\)](#)," Public Lecture, Smith College, April 16, 2015; *Metalab, *Cold Storage* {video} (2015); *Underground Vaults & Storage*; Joshua Rothman, "[The Many Lives of Iron Mountain](#)," *New Yorker* (October 9, 2013); Craig Shank & George Drake, Jr., *Everything Sounds* 25: "[Packard Campus](#)" (May 23, 2013) [28:10].

⁷ *Suzanne Briet, *What is Documentation?* trans. Ronald E. Day, Laurent Martinet & Hermina G. B. Angheliescu (Lanham, MD: Scarecrow Press, 2006); Melanie Feinberg, "Information System Design for Communication: The Use of Genre as a Design Element" [unpublished manuscript; on Prelinger & Warburg libraries]; Nina Katchadourian, "[Sorted Books Project](#)"; Alberto Manguel, "The Library as Order," *The Library at Night* (Toronto Knopf Canada, 2006): 36-63; Shannon

Mattern, “[Cabinet Logic](#),” IKKM Talk, Bauhaus University, Weimar, Germany (January 20, 2016); Jennifer & Kevin McCoy, “[Every Shot, Every Episode](#)”; Henry Petroski, *The Book on the Bookshelf* (New York: Vintage, 1999); [Storage Techniques for Art, Science and History](#); the work of Lynn Spiegel and Nader Vossoughian.

ON MEMORY THEATERS, WUNDERKAMMER, STUDIOLI: Robert Kirkbride, [Architecture and Memory: The Renaissance Studioli of Federico da Montefeltro](#) [interactive]; Shannon Mattern, “[500 Years of Wunderkammern from Cabinets to the Cloud](#),” *Words in Space* (January 31, 213); Museum of Modern Art, “[Wunderkammern: A Century of Curiosities](#),” July 30 – November 10, 2008; see also the work of [Hannelore Baron](#), [Jason Rhodes](#), [Sarah Sze](#); Anke Te Hessen, *The World in a Box: The Story of an Eighteenth Century Picture Encyclopedia*, trans. Ann M. Hentschel (Chicago: Chicago University Press, 2002).

OTLET: W. Boyd Rayward, “The Case of Paul Otlet, Pioneer of Information Science, Internationalist, visionary: Reflections on Biography,” *Journal of Librarianship and Information Science* 23:3 (September 1991): 135-45; Charles van den Heuvel, “Mundaneum” *Volume 15 “Destination Library”* (2008): 48-53; Alex Wright, *Cataloging the World: Paul Otlet and the Birth of the Information Age* (New York: Oxford University Press, 2014); Alex Wright, “The Forgotten Forefather,” *Glut: Mastering Information Through the Ages* (Ithaca, NY: Cornell University Press, 2008): 184-92; Alex Wright, “[Forgotten Forefather: Paul Otlet](#),” *Boxes and Arrows* (November 10, 2003); Alex Wright, “[The Web Time Forgot](#)” *New York Times* (June 17, 2008).

BUSH: Vannevar Bush, “Memex Revisited” (1967) Reprinted in Wendy Hui Kyong Chun & Thomas Keenan, Eds., *New Media Old Media: A History and Theory Reader* (New York: Routledge, 2006): 85-95; J. C. R. Licklider, *Libraries of the Future* (Cambridge, MA: MIT Press, 1965); Alex Wright, “Memex Redux,” *Glut: Mastering Information Through the Ages* (Ithaca, NY: Cornell University Press, 2008): 192-203.

⁸ Melissa Adler, “[Classification Along the Color Line: Excavating Racism in the Stacks](#),” *Journal of Critical Library and Information Studies* 1:1 (2017); Melissa Adler, *Cruising the Library: Perversities in the Organization of Knowledge* (New York: Fordham University Press, 2017); Jefferson Bailey, “[Disrespect des Fonds: Rethinking Arrangement and Description in Born-Digital Archives](#)” *Archive Journal* 3 (Summer 2013); Clare Beghtol, “Classification Theory” *Encyclopedia of Library and Information Sciences*, 3rd Ed. (New York: Taylor & Francis, 2010): 1045-1060; Terry Belanger, *Lunacy and the Arrangement of Books* (New York: Oak Knoll Press, 2003); Ann Blair, “Reading Strategies for Coping with Information Overload ca. 1550-1700” *Journal of the History of Ideas* 64:1 (2003): 11-28 [Conrad Gessner, *Bibliotheca Universalis*]; Geoffrey Bowker & Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, MA: MIT Press, 1999); Roy Boyne, “Classification,” *Theory, Culture & Society* 23:2-3 (2006): 21-30; Peter Burke, *A Social History of Knowledge: From Gutenberg to Diderot* (Malden, MA: Polity, 2000): 9-110; Peter Burke, *A Social History of Knowledge: From the Encyclopedia to Wikipedia*, Vol. 2 (Malden, MA: Polity, 2012): 52-6; 149-50 [on deletion/purging]; *Cataloguing & Classification Quarterly* 53:5/6 (2015): [Special Issue on Indigenous Knowledge and Organization](#); Alissa Cherry and Keshav Mukunda, “A Case Study in Indigenous Classification: Revisiting and Reviving the Brian Deer Scheme,” *Cataloguing & Classification Quarterly* 53:5/6 (2015); *[“Dynamic Order Structures Thanks to RFID Technology,”](#) Sitterwerk Kunstbibliothek; Melanie Feinberg, “Organization as Expression: Classification as Digital Media,” in *Digital Media: Technological and Social Challenges of the Interactive World*, eds., Megan A. Winget and William Aspray (Toronto: Scarecrow Press, 2011): 115-36; Birger Hjørland, “Is Classification Necessary After Google?” *Journal of Documentation* 68:3 (2012): 299 – 317; *Andrew Iliadis, “[Algorithms, Ontology, and Social Progress](#),” *Global Media and Communication* (published online May 22, 2018); Library of Congress, *The Card Catalog: Books, Cards, and Literary Treasures* (New York: Chronicle Books, 2017); Valeria Luiselli, “[Forty Questions](#),” *Harper’s* (August 2017); Shannon Mattern, “[Cloud and Field](#),” *Places Journal* (August 2016); Shannon Mattern and Jonas Voigt, “[Sorting Things Out](#),” School for Poetic Computation, July 2018; Ernest Cushing Richardson, *Classification: Theoretical and Practical*, 3rd ed. (New York: The H.W. Wilson Co., 1901); Jenn Riley, “[Understanding Metadata: What Is Metadata, and What Is It For?](#)” (Baltimore: National Information Standards Organization, 2017); Hamish Robertson and Joanne Travaglia “[Big Data Problems We Face Today Can Be Traced to the Social Ordering Practices of the 19th Century](#),” *LSE Blog* (October 13, 2015); Molly Schwartz, “[Classifying Books, Classifying People](#),” *Library ByteGeist* (May 3, 2018) {podcast}; Mike Steckel, “[Ranganathan for IAs](#),” *boxes and arrows* (October 7, 2002); Elaine Svenonius, “Information Organization” + “Bibliographic Languages” In *The Intellectual Foundation of Information Organization* (Cambridge, MA: 2000): 1-14, 53-66; Barbara Tillet, “What is FRBR?” (Library of Congress Cataloging Distribution Service, 2003); Couze Venn, “The Collection” *Theory, Culture & Society* 23:2-3 (2006): 35-40; David Weinberger, *Everything is Miscellaneous: The Power of the New Digital Disorder* (New York: Holt, 2008); David Weinberger, “[Everything is Miscellaneous](#)” {video} Google Tech Talks (May 10, 2007); Alex Wright, *Glut: Mastering Information Through the Ages* (Ithaca, NY: Cornell University Press, 2008).

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