

# DATA AND DEMOCRACY

Harvard University  
Department of the History of Science  
Tuesday & Thursday 1:30 – 2:45 pm  
Emerson Hall 210

Spring 2019  
Instructor: Alma Steingart  
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Office Hours: Tuesday 3:00-5:00 (SC256)

**Course Description:** Digital technologies shape – in ways both visible and obscure – many aspects of contemporary governance and democracy. As citizens, it is imperative that we understand how legislative and juridical concepts are built into these technologies, as well as how these technologies in turn impact contemporary uses and abuses of justice, privacy, surveillance, and representation. Taking an historical approach, this course tracks the ways in which data-gathering practices and statistical methods have been fundamental to the art of governance. Beginning with the use of punch-cards to manage census data, this course tours the intersections of data and American politics. Topics will include voting machines, hacktivism, the Snowden Affair, redistricting and congressional apportionment, statistical uses of polling data, the relation of national security to information privacy, and algorithmic thinking.

## Assessment:

Attendance and Participation: 20%  
First Paper: 15%  
Midterm exam: 20%  
Second Paper: 20%  
Final exam: 25%

*Participation:* This is a lecture course. You are expected to attend all lectures, read and reflect on the assigned texts, pose relevant questions, and offer informed and thoughtful responses in both lecture and section.

*First paper:* Choose a country that we have not talked about in class and learn about its census. Does the country hold a regular census? How often? Have there been any controversies surrounding the census in the past century? What information does the census track? What sort of classification system is employed in the census (ethnic, religious, etc.)? Locate at least one peer-reviewed article (or a chapter of an academic book) about the country's census, and write a short (3-4 pages) analysis of the census. Use lecture material to advance your analysis.

*Second paper:* Write a short (4-5 pages) white paper/policy paper outlining your suggestions for personal data protection regulation for the United States. How should personal data be collected and used by private companies and the government? Are there any limitations on the type of data a company or an organization can store or sell to another interested body? Do consumers need to be notified about the use of their personal data? If so, how? Are there any uses that should be banned completely? In order to make your recommendations, you must use at least one or two historical examples, using material we discussed in class or information from class readings to advance your case. Think critically about what sort of data world you would like to inhabit ten years from now and advise those in power about how to accomplish it!

The *midterm exam* and *final exam* are 75-minute exams that will take place in class on March 14<sup>th</sup> and April 30<sup>th</sup>. Both exams will consist of two short essay questions. A week before each

exam, I will distribute a list of five possible essay prompts; three of those five questions will constitute the exam, and you may choose to answer two of the three prompts. All of the essay questions will be based on material covered in **readings and lectures**.

*Extension Policy:* All requests for an extension should be emailed directly to steingart@fas.harvard.edu **at least** 48 hours before the paper is due. In other words, if for some reason you do not think you will be able to submit your paper on time, contact me in advance. I will only consider requests within 48 hours of the deadline in case of emergency or documented medical condition. Late papers will be deducted half a letter grade for each day it is overdue.

January 29 (Tu): Introduction: What is Data?

OPTIONAL: Rosenberg, Daniel. 2018. "Data as Word." *Historical Studies in the Natural Sciences* 48 (5): 557 – 567.

January 31 (Th): Numbers and the State: An Avalanche of Printed Numbers

Davies, William. 2017. "How Statistics Lost Their Power – and Why We Should Fear What Comes Next." *The Guardian* (January 19). Online: <https://www.theguardian.com/politics/2017/jan/19/crisis-of-statistics-big-data-democracy>

**UNIT I: COUNTING PEOPLE**

February 5 (Tu): The Census

Anderson, Margo J. 1988. *The Census: A Social History* (New Haven: Yale University Press): 7-39.

Von Oertzen, Christine. 2018. "Datafication and Spatial Visualization in Nineteenth-Century Census Statistics." *Historical Studies in the Natural Sciences* 48 (5): 568 – 580.

February 7 (Th): Classifying People

Bowker, Geoffrey and Susan Leigh Star. 2000. *Sorting Things Out: Classification and its Consequences* (Cambridge: MIT Press): 1 – 32.

EXTRA: Loveman, Mara and Jeronimo Muniz. 2007. "How Puerto Rico Became White: Boundary Dynamics and Intercensus Racial Classification." *American Sociological Review* 72: 915 – 939.

February 12 (Tu): The Census as a Colonial Tool

Anderson, Benedict. 2006 [1983]. *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (New York: Verso): 163 – 170.

EXTRA: Widmer, Alexandra. 2014. "The Imbalanced Sex Ratio and the High Bride Price: Watermarks of Race in Demography, Census, and the Colonial Regulation of Reproduction." *Science, Technology, & Human Values*, 39, (4): 538 – 560.

February 14 (Th): Counting the Dead

Faust, Drew Gilpin. 2006. "Numbers on Top of Numbers." *The Journal of Military History* 70 (4): 995 – 1009.

Erikson, Susan. "Cell Phones ≠ Self and Other Problems with Big Data Detection and Containment during Epidemics." *Medical Anthropology Quarterly* 32 (3): 315 – 339.

February 19 (Tu): Undercounting

**FIRST PAPER DUE**

Bazon, Emily. 2018. "In Donald Trump's Census, Who Counts?" *The New York Times* (November 28). Online: <https://www.nytimes.com/2018/11/28/magazine/donald-trump-census.html>

*State of New York, et al. v. United States Department of Commerce, et al.*, No. 18-cv-02921, slip op. (S.D.N.Y. 2019). The District Judge Jesse M. Furman's opinion is quite long (277 pages!). You do not need to read the entire document. Rather, browse around and read the sections that you find most interesting.

**UNIT II: DATA FOR ECONOMIC PLANNING**

February 21 (Th): Economic Indicators: From Unemployment to the GDP

Desrosières, Alain. 2001. "How Real are Statistics? Four Possible Attitudes." *Social Research* 68 (2): 339 – 355.

Miller, Clark. 2005. "New Civic Epistemologies of Quantification: Making Sense of Indicators of Local and Global Sustainability." 30 (3): 403 -432.

February 26 (Tu): Socialist Visions

Ghosh, Arunabh. 2018. "Lies, Damned Lies, and (Bourgeois) Statistics: Ascertaining Social Facts in Midcentury China and the Soviet Union." *Osiris* 33: 149-168.

February 28 (Th): Calculating Credit

Poon, Martha. 2007. "Scorecard as Devices for Consumer Credit: The Case of Fair, Isaac & Company Incorporated." *Sociological Review* 55: 284 – 306.

March 5 (Tu): Global Health Indicators

Bashford, Alison. 2006. "Global Biopolitics and the History of World Health." *History of the Human Sciences* 19 (1): 67-88

Oni-Orisan, Adeola. 2016. "The Obligation to Count: The Politics of Monitoring Maternal Mortality in Nigeria," in *Metrics: What Counts in Global Health* (Duke University Press): 82 -101.

**UNIT III: DEMOCRACY BY THE NUMBERS**

March 7 (Th): Polling and Election Forecasts

Igo, Sarah. 2007. *The Averaged American: Surveys, Citizens, and the Making of a Mass Public* (Cambridge: Harvard University Press): 23-67, and 68 – 102.

March 12 (Tu): Data and Campaigns

Kriess, Daniel. 2012. "Crowds and Collectivities in Networked Electoral Politics," *Limn* 2. Online: <https://limn.it/crowds-and-collectivities-in-networked-electoral-politics/>

March 14 (Th): Midterm Exam

March 19 and March 21 *No Class – Spring Break*

#### March 26 (Tu): Gerrymandering

Ellenberg, Jordan. 2017. "How Computers Turned Gerrymandering into a Science," *New York Times* (October 8): SR6. Online: <https://www.nytimes.com/2017/10/06/opinion/sunday/computers-gerrymandering-wisconsin.html>

Honner, Patrick. 2017. "The Math Behind Gerrymandering and Wasted Votes," *Quanta Magazine* (October 12). Online: <https://www.quantamagazine.org/the-math-behind-gerrymandering-and-wasted-votes-20171012/>

#### March 30 (Tu): Voting Machines

Coles, Kimberly A. 2004. "Election Day: The Construction of Democracy through Technique," *Cultural Anthropology* 19 (4): 551-580.

Miller, Clark A. 2004. "Interrogating the Civic Epistemology of American Democracy: Stability and Instability in the 2000 US Presidential Election," *Social Studies of Science* 34 (4): 501-530.

### **UNIT IV: DATA AND SURVEILLANCE**

#### April 2 (Th): Privacy in America

Lepore, Jill. 2013. "The Prism: Privacy in an Age of Publicity," in *The New Yorker* (June 24). Online: <https://www.newyorker.com/magazine/2013/06/24/the-prism>

Bouk, Dan. 2017. "The History and Political Economy of Personal Data over the Last Two Centuries in Three Acts." *Osiris* 32: 85-106.

#### April 7 (Tu): Surveillance and the State

Solove, Daniel. 2007. "'I've Got Nothing to Hide' and Other Misunderstandings of Privacy," *San Diego Law Review* 44: 745-772

#### April 9 (Th): Surveillance Capitalism

Shoshana Zuboff. 2015. "Big Other: Surveillance Capitalism and the Prospects of an Information Civilization," *Journal of Information Technology* 30, 75-89.

Valentino-DeVries, Jennifer, Natasha Singer, Michael H. Keller and Aaron Krolik. 2018. "Your Apps Know Where You Were Last Night, and They're Not Keeping It Secret." *The New York Times* (December 10). Online: <https://www.nytimes.com/interactive/2018/12/10/business/location-data-privacy-apps.html>

#### April 14 (Tu): Data Protection

### **PAPER TWO IS DUE**

Balkin, Jack M. and Jonathan Zittrain. 2016. "A Grand Bargain to Make Tech Companies Trustworthy." *The Atlantic* (October 3). Online: <https://www.theatlantic.com/technology/archive/2016/10/information-fiduciary/502346/>

Heller, Nathan. 2018. "We May Own Our Data, But Facebook Has a Duty to Protect it." *The New Yorker* (April 2018). Online: <https://www.newyorker.com/tech/annals-of-technology/we-may-own-our-data-but-facebook-has-a-duty-to-protect-it>

### **UNIT V: DATA AND ALGORITHMS**

April 16 (Th): Machine Learning – A New Paradigm?

Joanna Radin. 2017. “Digital Natives”: How Medical and Indigenous Histories Matter for Big Data,” *Osiris* 32: 43-64.

Jones, Matthew L. 2018. “How We Became Instrumentalists (Again): Data Positivism Since World War II.” *Historical Studies in the Natural Sciences* 48 (5): 673 – 684.

April 21 (Tu): Algorithmic Bias

Bozdag, Engin. 2013. “Bias in Algorithmic Filtering and Personalization.” *Ethics and Information Technology* 15 (3): 209-27.

Pasquale, Frank. 2018. “Odd Numbers.” *Real Life* (August 20). Online:  
<https://reallifemag.com/odd-numbers/>

April 23 (Th): Predictive Algorithms

Lemov, Rebecca. 2018. “An Episode in the History of Pre-Crime.” *Historical Studies in the Natural Sciences* 48 (5): 637 – 647.

April 25 (Tu): Automated Decision Making

Scharfenber, David. 2018. “Computers Can Solve Your Problem. You May Not Like the Answer.” *The Boston Globe* (September 21). Online:  
<http://apps.bostonglobe.com/ideas/graphics/2018/09/equity-machine/>

Eubanks, Virginia. 2018. “We Created Poverty. Algorithms Won’t Make that Go Away.” *The Guardian* (May 13). Online:  
<https://www.theguardian.com/commentisfree/2018/may/13/we-created-poverty-algorithms-wont-make-that-go-away>

April 30 (Th): Final Exam