

Visualizations in the Humanities

From the Cabinet of Curiosities to the Geoparser

Brown University AMST2661, ITAL2661, and MCM 2500F

Fall 2013

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Lab sessions by Jean Bauer

About the course: Museums, maps, network graphs and datasets reflect and shape the work of scholars in the humanities. This course provides an overview of the way that literary and historical scholars have organized, analyzed, and presented their research to each other and the public. The course includes theoretical, historical and practical work. It combines traditional humanities and digital humanities, academic and public humanities. It includes significant lab work, with students undertaking projects in their fields of study.

Seminar meetings on Monday, 3-5:20, in the Digital Scholarship Lab in Rockefeller Library
Lab session to be determined.

Class assignments:

Before-class assignments: Each week, write a short post to [the class blog](#) about a reading or project that you find interesting or useful. Post before noon on Monday, and everyone should read the blog before class. Be prepared to talk about your post in class. We've listed examples of articles and projects to choose from, but you're welcome to find others. Everyone should read readings with a *. OCRA password: visualization

Writing assignment: Write a 5-10 page paper that summarizes the arguments in the reading and discussion for any class of the course. Due at the following class. Choose your week at the beginning of the term.

Final project: Each student should choose a project - a historical or literary or other humanistic question that might be answered or illuminated by using data visualized by some of the techniques discussed in the course. In week 7, submit an outline of this work, and present (10 minutes) a summary to the class. Include information on the questions you're interested in solving, providing historiography or other previous work as appropriate, potential data sources (and their challenges), and a preliminary survey of tools that might be useful. For the final paper, how far you are able to go will depend on the project. It might be enough to present a detailed evaluation of the problems with the data sets available, including any issues of data cleanup; several possible techniques to use technology to address the questions of interest; and further analysis of the questions and answers. For other projects, it might be possible to carry through

the analysis and begin to answer your questions. Class presentations Nov. 25 and Dec. 2. Final paper/project due. Dec. 13.

Data Visualization Lab Sessions

Once a week students will meet for a separate lab on Data Visualization. These labs are designed to introduce you to the principles of data visualization (also known as Computational Information Design) and allow you to play with several simple tools for data visualization.

The lab will use Ben Fry's 2004 dissertation, *Computational Information Design*, as its base text. Starting in the 8th week the lab session will be an open time for working on final projects.

Grades: 40 percent of grade is based on blog, class presentations and discussion, 15 percent on the short paper, 15 percent on your lab work, and 30 percent on the final project.

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Part 1: Foundations

Week 1. Introductions

Monday, September 9, 2013

Introduction to class. Some examples of work. An overview of visualization, digital humanities, public humanities. Hands-on with [Viewshare](#).

Lab - Acquire Data

This first lab session will focus on finding appropriate data sets for use in data visualizations and thinking through the legal implications of visualizing someone else’s data.

Reading:

Ben Fry, [Computational Information Design](#). Chapter 1: “Introduction” and Chapter 2: “Basic Example”

Assignment:

Find some data to visualize and be ready to share it with your fellow students in the lab.

There are plenty of materials already available on the web. If you don't know where to start looking, here is a good list of options from the DevDH.org site hosted by the Maryland Institute for Technology in the Humanities (MITH).

<http://devdh.org/lectures/discoverdh/discoveringtools/>

Data visualization quickly leads to issues of copyright and fair use. Make sure to read the questions and answers under "General Legal Information" on the Creative Commons Website.

http://wiki.creativecommons.org/FAQ#What_is_copyright_and_why_does_it_matter.3F

If you have additional questions, Stanford University Library's Copyright and Fair Use Website is a good place to start

<http://fairuse.stanford.edu/>

Week 2: Visualization

Monday, September 16, 2013

Reading:

*Edward Tufte, *Envisioning Information*, introduction and chapters 1-3 (if additional Tufte is desired, "Graphic Excellence" from *Visual Display of Information*) [reserve]

*[Nathan Yau, *Visualize This: The FlowingData Guide to Design, Visualization, and Statistics*](#), Introduction and Chapter 1.

*Lev Manovich, "What is Visualization," *Visual Studies Journal*, 2011 [Canvas]

*Barbara Stafford, "Presuming Images and Consuming Words: The Visualization of Knowledge from the Enlightenment to Postmodernism," in *Consumption and the World of Goods*, ed. John Brewer and Roy Porter [Canvas]

Maureen Stone, "[Information Visualization: Challenge for the Humanities.](#)" CLIR Report 2009 [Canvas]

Donald Preziosi, "Art History and Museology: Rendering the Visible Legible," in Macdonald, Sharon, ed., *Blackwell Companion to Museum Studies* (Oxford, 2006), pp. 50-63. [Canvas]

[Tooling up for the Digital Humanities: Data Visualization \(Stanford\)](#)

Johanna Drucker, "[Humanities Approaches to Graphical Display.](#)" *Digital Humanities Quarterly*, 2011, Volume 5 Number 1

Rudolf Arnheim, *Visual Thinking*, especially Chapter 16, "Vision in Education" [reserve]

James Elkins, ed., *Visual Literacy* [reserve]

Bruno Latour, [Visualization and Cognition: Thinking with eyes and hands](#) [canvas]

Barbara Stafford, *Artful Science*, introduction through xxvii & chapter 1.

Robin Sloan, *Mr. Penumbra's 24-Hours Bookstore: A Novel*

Lab - Parse | Filter | Mine Data

Readings:

Fry, Chapter 3: "Background"

Assignment:

Download and install OpenRefine (formerly Google Refine) from <http://openrefine.org>

Watch the 3 video tutorials on the homepage. Come to lab with data you are interested in cleaning. This can be the dataset from last week or a new one.

Week 3. Introducing Digital Humanities

Monday, September 23, 2013

What are digital humanities? New tools for old questions; New ways of working? New questions? Revolution or evolution? Digital public humanities.

Reading:

*Ian Foster, "How Computation Changes Research," in *Switching codes: thinking through digital technology in the humanities and the arts*, edited by Thomas Bartscherer and Roderick Coover, pp. 15-37 [Canvas]

*Chapter 1, "Humanities to Digital Humanities," and Chapter 2, "Emerging Methods and Genres," in Burdick, et al., [Digital Humanities](#), pp. 1-60.

*Owens, Trevor. 2012. "[Defining Data for Humanists: Text, Artifact, Information or Evidence?](#)" *Journal of Digital Humanities* March 16.

*Martyn Jessop, "Digital visualization as a scholarly activity," *Literary and Linguistic Computing*, Vol. 23, No. 3, 2008. [canvas]

*Lisa Spiro, "[Getting Started in Digital Humanities.](#)" *Journal of Digital Humanities* Vol. 1, No. 1 Winter 2011

Patrik Svensson, "The Landscape of Digital Humanities," *DHQ: Digital Humanities Quarterly*, Summer 2010 Volume 4 Number 1

Young Researchers in Digital Humanities: A Manifesto <http://dhdhi.hypotheses.org/1855>

[Digital Humanities Manifesto 2.0](#)

Tara Zepel, [Visualization as a Digital Humanities?](#) and [Visualization in the Digital Humanities: Tool or 'Discipline'?](#) on HASTAC blog

Assignment:

(done in groups) Choose one of the "fictional case studies" in *Digital_Humanities* to present to the class. Summarize the issues outlined, find a related real-life case study online, and compare the two. 5 groups, 10 minutes each.

Lab: Represent | Refine Data, Part 1: Text Analysis, Voyant

Readings:

Fry, Chapter 4: "Advanced Example"

Voyant Documentation, <http://docs.voyant-tools.org> -- look over "Getting Started" and a few of the tools"

Assignment:

Bring a text (or series of texts) you want to visualize

Part 2: Types of Visualization

Week 4: Chronologies

Monday, September 30, 2013

Reading:

*Zuern, John. "Timelines Online: Spatial Rhetoric, Information Architecture, and the Representation of History." *TEXT Technology: The Journal of Computer Text Processing*

10, no. 1 (Winter 2001): 1–24 [Canvas]

*[Nathan Yau, *Visualize This: The FlowingData Guide to Design, Visualization and Statistics*, chapter 4](#)

*Lev Manovich and Jeremy Douglass, “Visualizing Temporal Patterns in Visual Media” [canvas]

Daniel Rosenberg and Anthony Grafton, [Geographies of Time](#)

Steven Lubar, “Timelines in Exhibits,” *Curator*, Spring 2013 [Canvas]

Hayden White, *The Content of the Form: Narrative Discourse and Historical Representation*, pp. ??

Pascal Gielen, “Museumchronotopics: on the representation of the past in museums”, *Museum and society*, Nov 2004. 2 (3) 147-160

Examples

[Metropolitan Museum’s Heilman Timeline of Art History](#)

[Gallery of Data Visualization - Timelines](#)

Lab: Represent | Refine Data Part 2: Timelines

Readings:

Fry, Chapter 5: “Process”

Assignment:

Read documentation on Timeline.js <http://timeline.verite.co/>, look a several examples.

Collect materials (text, images, links, dates, etc.) for a short timeline to create in class.

Week 5: Space and Place

Monday, October 7, 2013

Reading:

*Mark Monmonier, ed. *Mapping It Out: Expository Cartography for the Humanities and Social Sciences*, Chapters 1, 6, 7, and 8 [Reserve]

*[Nathan Yau, Visualize This: The FlowingData Guide to Design, Visualization, and Statistics](#), Chapter 8

*David Bodenhamer, "The Potential of the Spatial Humanities," In *The Spatial Humanities*, (Indiana University Press, 2010) [Canvas]

*Ben Schmidt, "[Reading digital sources: a case study in ship's logs.](#)" at Sapping Attention blog

James R. Akerman, Robert W. Karrow Jr, and John McCarter, eds, [Maps: Finding Our Place in the World](#)

*Walter Benjamin, "Paris the capital of the 19th century" in *The Arcades Project*, pp. 3-13 [Canvas]

David J. Bodenhamer, John Corrigan and Trevor M. Harris, eds., *The Spatial Humanities: GIS and the Future of Humanities Scholarship*

Amy Hillier and Anne Kelly Knowles, eds., *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship*

Examples

Ben Johnston, "[Mapping in the Humanities](#)"

Mathew M. Booker, "[Visualizing San Francisco Bay's Forgotten Past](#)," in *Journal of Digital Humanities*, Vol. 1, No. 3 Summer 2012

[Stanford Spatial History Project](#)

Virtual Cities/Virtual Museums (<http://www.360cities.net/>;
<http://www.sfmuseum.org/giftshop/index.html>;
http://www.pcf.city.hiroshima.jp/virtual/index_e.html; <http://moca.virtual.museum/>;
<http://www.lhham.com.sg/>; <http://www.imow.org/home/index>;
<http://www.pau.edu.ng/museum/>; many more to choose from...

Lab: Represent | Refine Part 3: Maps

Readings:

Fry, Chapter 6: "Tool"

Assignment:
TBD by Bruce Boucek, Social Science Data Librarian

[Monday, October 14: fall break - no class]

Week 6: Relationships and Influences, historical and literary

Monday, October 21, 2013

Reading:

*Anthony Grafton, "Sketch Map of a Lost Continent: A Republic of Letters," in *Worlds Made by Words: Scholarship and Community in the Modern West* [canvas]

*[Nathan Yau, *Visualize This: The FlowingData Guide to Design, Visualization, and Statistic* Chapter 6](#)

"Scholarsource: A Digital Infrastructure for the Humanities," in *Switching Codes*, pp. 61-88 [canvas]

Anthony Grafton, *Footnotes: A Curious History* [Reserve]

Scott B. Weingart, [Demystifying Networks, Parts I & II](#), *Journal of Digital Humanities*, Vol. 1, No. 1 Winter 2011

"The Landscape of European Historiography: Institutions, Networks and Communities," *Introduction to Atlas of European Historiography, The Making of a Profession, 1800-2005*, edited by Ilaria Porciani and Lutz Raphael

Examples

[Mapping the Republic of letters](#)

[Using Metadata to Find Paul Revere](#)

[Six Degrees of Francis Bacon: Reassembling the early modern social network](#)

[Linked Jazz](#)

Visualcomplexity.com [social networks](#)

Lab: Represent | Refine Data Part 4, Network Visualizations

Readings:

Fry, Chapter 7: “Additional Examples” and Chapter 8: “Closing”

Assignment:

Download and Install Gephi from <http://gephi.org>

Read through the 3 slide tutorials on the “Learn How to use Gephi” page
<https://gephi.org/users/>

Create (or find) a network Edge Table to visualize in during the lab

Part 3: Visualizing texts, images, and collections

Week 7: Collections

Monday, October 28, 2013

Reading:

*Foucault, [The Order of Things](#), chap. 5, “Classifying”

*Anthony Grafton, “The World in a Room: Renaissance Histories of Art and Nature,” in *Worlds Made by Words: Scholarship and Community in the Modern West*

*Lev Manovitch, “Database as Symbolic Form,” in *Convergence: The International Journal of Research into New Media Technologies*

*[Mia Ridge explores the shape of Cooper-Hewitt collections](#)

Tim Wray, [Collections as Landscapes : Part 1 – Empowering Spatial, Experiential Interaction](#),” and [“Canvas”](#)

Lev Manovitch, [“Software Studies: Data Stream, Database, Timeline”](#) 2013

Patrick Marray-John, [Hacking Cooper Hewitt’s Data Release](#)

Lorraine Daston, [Wonders and the Order of Nature](#)

Margaret Hedstrom, "Archives, Memory, and Interfaces with the Past," *Archival Science* 2: 21-42, 2002

Examples

[Metadata for Architectural Contents in Europe](#)

[Cooper Hewitt Labs](#) blog

[artsy.net](#)

[Openglam.org](#)

[Garibaldi & the Risorgimento project](#)

Wunderkammern (an exhibit at the 13th Venice Biennale; article from Domus)
<http://www.domusweb.it/en/architecture/2012/09/05/the-cabinet-of-curiosities.html>

Garibaldi panorama?

Lab: Interact with Data, The "Problem Data" Session

Assignment:

Bring to class a data set (or portion) of a data set that you want to use in your final project but are having difficulty understanding. Be prepared to discuss where the data came from and what issues you are having. We will workshop potential solutions as a group.

Week 8: Texts and Images

Monday, November 4, 2013

Reading:

*Overview: http://toolingup.stanford.edu/?page_id=981

Jerome McGann, *Radiant Textuality: Literature after the WWW*, part III, "Quantum Poetics 1999-2000," 7-208.

N. Katherine Hayles, *Electronic Literature: New Horizons for the Literary*

Massimo Riva, "Liquid, Cloudy, Foggy: For a Critique of Fluid Textuality," *Humanist*

Studies & the Digital Age, 2.1 (2012), ISSN: 2158-3846 (online)
<http://journals.library.oregonstate.edu/hsda/article/view/3016/2606>

*Ed Folsom, "Database as Genre: The Epic Transformation of Archives," [PMLA October 2007](#) (with replies by McGann, Hayles, McGill, Stallybrass, and Freedman)

*Franco Moretti, *Graphs, Maps, Trees: Abstract Models for Literary History*

[Reading Graphs, Maps, Trees: Responses to Franco Moretti](#). edited by Jonathan Goodwin & John Holbo

Carrie Roy, "[Threads of Thought and Stacks of Data in the Humanities and Sciences](#)"

Lev Manovich, Jeremy Douglass, and Tara Zepel, "How to Compare One Million Images?"

"Quantitative analysis of culture using millions of digitized books," Jean-Baptiste Michel et al., *Science*. 2011 January 14; 331(6014): 176–182. [canvas] - See also <http://www.culturomics.org/>, <http://www.studio360.org/2013/aug/09/big-data-culturomics>, and Dan Cohen, "[Initial Thoughts on the Google Books Ngram Viewer and Datasets.](#)"

[Stanford Literary Lab](#)

Examples

The Perseus Digital Library, www.perseus.tufts.edu/

Women Writers' Project <http://www.wwp.brown.edu/>

The Decameron Web

http://www.brown.edu/Departments/Italian_Studies/dweb/index.php

The Rossetti Archive (completed in 2008)

<http://www.rossettiarchive.org/index.html>

The Digital Scriptorium at Berkeley

<http://bancroft.berkeley.edu/digitalscriptorium/>

The curious case of the Voynich Manuscript

<http://beinecke.library.yale.edu/collections/highlights/voynich-manuscript>

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0066344>

<http://searchvisualizer.wordpress.com/2013/04/14/visualizing-textual-structures-in-the-vonich-manuscript/>

Electronic Literature Collection (volumes 1 & 2)

<http://collection.eliterature.org/>

Lab: Open Lab Session, Project Work

Part 4: 3-D Visualizations

Week 9: 3-D Modeling and Printing

Monday, November 11, 2013

Reading:

*William J. Turkel and Devon Elliott, "[Rapid Prototyping to Support Experimental History](#)," in *Playing with Technology in History* [conference papers](#)

*[Liz Neely](#), "Please Feel the Museum: The Emergence of 3D Printing and Scanning," Museums and the Web 2013"

3-D Printing the 19th Century (NY Times [article](#) on patent drawings)

Heather Ewing, [3-D Scanning in Museums](#)

Jentery Sayers, "[MLab Returns from DH 2013](#)"

Examples

Arizona State Museum [Virtual Vault Project](#)

[Smithsonian 3D scanning team](#)

["Scanning a steam train with fricking laser beams"](#)

[Maker Lab in the Humanities](#) at University of Victoria (also [here](#))

[Metropolitan Museum of Art 3-D Hackathon](#)

[Blog3D](#)

Lab: Open Lab Session, Project Work

Week 10: Immersive 3-D

Monday, November 18, 2013

Readings:

Sheila Bonde and Stephen Houston, eds., *Re-Presenting the Past: Archaeology through Text and Image*

John Bonnett, "[Following in Rabelais' Footsteps: Immersive History and the 3D Virtual Buildings Project](#)," *Journal of the Association of History and Computing*, vol. 6, no. 2, September 2003

Examples:

[Pompeii Forum Project](#), University of Virginia,
[Rome Reborn](#)

Lab: Open Lab Session, Project Work

Part 6: Presentations

Weeks 11 and 12: Student presentations

Monday, November 25, 2013

Monday, December 2, 2013

Final product/paper due December 13