Visualizations in the Humanities

*From the Cabinet of Curiosities to the Geoparser*

Brown University AMST2661, ITAL2661, and MCM 2500F
Fall 2013
Steven Lubar and Massimo Riva
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. Staring 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.

Course outline

Data Visualization Lab Sessions
Part 1: Foundations
Week 1: Introductions
Lab - Acquire Data
Week 2: Visualization
Reading: Lab - Parse|Filter|Mine Data
Week 3: Introducing Digital Humanities
Reading: Assignment:
Lab: Represent|Refine Data, Part 1: Text Analysis, Voyant
Part 2: Types of Visualization
Week 4: Chronologies
Reading:
Examples
Lab: Represent|Refine Data Part 2: Timelines
Week 5: Space and Place
Reading:
Examples
Lab: Represent|Refine Part 3: Maps
[Monday, October 14: fall break - no class]
Week 6: Relationships and Influences, historical and literary
Reading:
Examples
Lab: Represent|Refine Data Part 4, Network Visualizations

Part 3: Visualizing texts, images, and collections

Week 7: Collections
Reading:
Examples
Lab: Interact with Data, The “Problem Data” Session

Week 8: Texts and Images
Reading:
Examples
Lab: Open Lab Session, Project Work

Part 4: 3-D Visualizations

Week 9: 3-D Modeling and Printing
Reading:
Examples
Lab: Open Lab Session, Project Work

Week 10: Immersive 3-D
Readings:
Lab: Open Lab Session, Project Work

Part 6: Presentations
Weeks 11 and 12: Student presentations

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]*


*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]


**Tooling up for the Digital Humanities: Data Visualization (Stanford)**

Johanna Drucker, “*Humanities Approaches to Graphical Display,*” *Digital Humanities Quarterly*, 2011, Volume 5 Number 1

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

Bruno Latour, *Visualization and Cognition: Thinking with eyes and hands* [canvas]


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](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


Reading:


 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:

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. ??


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/](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


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”


**Stanford Spatial History Project**


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:


*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]


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
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”


*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](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](http://toolingup.stanford.edu/?page_id=981)*


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

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

*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?”


*Stanford Literary Lab*

**Examples**

The Perseus Digital Library, [www.perseus.tufts.edu](http://www.perseus.tufts.edu)

Women Writers’ Project [http://www.wwp.brown.edu](http://www.wwp.brown.edu)


The Digital Scriptorium at Berkeley [http://bancroft.berkeley.edu/digitalscriptorium/](http://bancroft.berkeley.edu/digitalscriptorium/)

The curious case of the Voynich Manuscript [http://beinecke.library.yale.edu/collections/highlights/voynich-manuscript](http://beinecke.library.yale.edu/collections/highlights/voynich-manuscript)

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)
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*


**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