Visualizations in the Humanities

From the Cabinet of Curiosities to the Geoparser

AMST2661 Fall 2013
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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 Wednesday, 3-5:20, in the Visualization Lab in Rockefeller Library
Lab session to be determined.

Class assignments: Each week, starting in week 4, we'll divide up readings and example projects for the following week among participants; each student or group of student should come prepared to summarize and lead discussion of an article or a digital humanities project. 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

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.

Grades: 60 percent of grade is based on class presentations and discussion, 20 percent on your lab work, and 20 percent on the final project.

Course outline

Part 1: Foundations

Week 1. Introductions

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

Week 2: Visualization

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.

*Ben Fry, Computational Information Design, all but chapter 4 [Canvas]

*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.

Lab:

Stanford course: "Tooling up" on data visualization

Topic modeling : (Using paper Machines to topic model a JSTOR humanities journal)?

MITH, Topic Modeling in the Humanities

Volume of JDH on topic modeling: *Journal of Digital Humanities, Vol. 2, No. 1 Winter 2012*

Paper Machines
http://www.saritaalami.com/2012/10/01/supercharge-your-zotero-library-using-paper-machines-part-i/

Week 3. Introducing Digital Humanities

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:

Viewshare

*Owens, Trevor, and Jefferson Bailey. 2012. From records to data with Viewshare: An argument, an interface, a design. *Bulletin of the American Society for Information Science and Technology* 38(4) (May): 41–44. [Canvas]

Part 2: Types of Visualization

Week 4: Chronologies

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

Garabaldi panorama?

Tools

Simile

Viewshare

Neatline

Week 5: Space and Place

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

Tools

Tooling up for the DIgital Humanities: Spatial Analysis (Stanford)

Viewshare

Paper Machines (geoparser)
http://www.saritaalami.com/2012/10/01/supercharge-your-zotero-library-using-paper-machines-part-i/

Neatline

Week 6: Relationships and Influences, historical and literary

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, Visualiation, 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]

Massimo Riva, "The Decameron Web: Ten Years Later," Teaching Foreign Languages and Literatures Online, The Modern Language Association, New York: 2009, 343-357

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

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

Tools

Gephi

http://digitalhumanities.org/answers/topic/how-does-one-prepare-and-use-data-for-network-analysis-with-gephi

Part 4: Visualizing texts, images, and collections

Week 7: Collections

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*, Chaps?

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

Tools

Imageplot

Week 8: Texts and Images

Reading:

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

*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/

Tools

TextArc http://www.textarc.org/

http://www.visualcomplexity.com/vc/project.cfm?id=5

The Poem Viewer: http://ovii.oerc.ox.ac.uk/PoemVis/index.html

Part 5: 3-D Visualizations

Week 9: 3-D Modeling and Printing

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

Examples

Arizona State Museum Virtual Vault Project

Smithsonian 3D scanning team

"Scanning a steam train with fricking laser beams"

Lab:

3-D modeling videos from "Archaeology's Dirty Little Secrets," No. 1, No. 2, No. 3.

3-D scanning, etc.: http://www-graphics.stanford.edu/~dk/

3-D printing

Tools

123DCapture

Lab:

3-D printing (where?)

Week 10: Immersive 3-D

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:

Pompei Forum Project, University of Virginia,

Lab:

The CAVE

Weeks 11 and 12

Student presentations

NOTES and Other VIsualizations

We Feel Fine: An Almanac of Human Emotion by Sep Kamvar,Jonathan Harris

Worktop
100 Diagrams that Changed the World

Miscellaneous

Vistors
John Cayley - literature and writing
Evi Lincoln
Andy Van Dam?

Interesting on Curation: http://metalab.harvard.edu/curation/

Italian museums:

Ecomuseums

http://www.ecomuseovaldimerse.org/ (in Italian, but potential collaborative project to implement English version, Di Corato, Siena)

Google Art project? for example, http://www.googleartproject.com/collection/uffizi-gallery/

Kathy Fitzpatrick, Planned Obsolesence
Manuel Lima http://www.mslima.com/myhome.cfm

Zotero Website for course - books, articles, websites

Other References/Further Reading

Advanced visualizations & cognition. Chapter 1 of Information Visualization: Perception for Design By Colin Ware
http://books.google.com/books?id=wdh2gqWfQmgC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Visualization basics, a primer on charts & graphics including issues of visual perceptions
Show Me the Numbers: Designing Tables and Graphs to Enlighten by Stephen Few
http://www.amazon.com/Show-Me-Numbers-Designing-Enlighten/dp/0970601972

ONLINE COURSES

Northwestern University's Introduction to Digital Humanities

Online Courses:

"Tooling up for digital humanities," http://toolingup.stanford.edu/

Information Visualization MOOC (Indiana University) http://ivmooc.cns.iu.edu/

→ I found the Visualization Framework (28:59) and Workflow Design (19:40) segments of week 1 very helpful. Another add would be to have everyone watch the Exemplary Visualizations from weeks 2, 3, 4 and 6 (they're all pretty short, less than 10 min each) in their respective sections (eg, temporal exemplary during your timeline week, etc).