White Paper

Networks in History:
Data-driven tools for analyzing relationships across time
Final Report
2017

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Project Origins

The Networks in History research and design project began in September 2013, growing out of an earlier, large-scale, interdisciplinary, collaborative, and international project: Mapping the Republic of Letters. That Mapping project was initially funded by a Stanford University Presidential grant for innovation in the humanities, and once the partners had some sharable results, they formed "Digging Into the Enlightenment" and were awarded a grant from the NEH as part of the Digging Into Data Challenge (2009), an international grant competition sponsored by four leading research agencies: the Joint Information Systems Committee (JISC) from the United Kingdom, the National Endowment for the Humanities (NEH) from the United States, the National Science Foundation (NSF) from the United States, and the Social Sciences and Humanities Research Council (SSHRC) from Canada.

With Mapping the Republic of Letters, we explored several border-crossing networks: international connections made through correspondence; social networks fostered through affiliation in scientific academies; and the physical networks of travel. Having collected a massive amount of research data, we wanted to visualize it in ways that would help us make sense of our findings, tracing these various networks within a dynamic digital environment, to see how they worked across time and space. In other words: what did these networks actually look like? Were they, for instance, as geographically extensive as was commonly thought? How did these networks evolve and change over years and decades?

While thinking through these research questions and exploring different ways to address our requirements for visualizing our data, we developed a series of visualization prototypes to analyze the geographic breadth, historical shape, and social composition of intellectual networks; tools meant to support an expert's capacity to make sense of complexity, rather than relying on automated reasoning. And in the process we began to engage more deeply with the roles that data visualization tools could play in the future in helping other scholars with their own research goals - goals which might be quite different from the ones we had with Mapping the Republic of Letters.

In 2013, a core team based at Stanford, directed by Dan Edelstein, Nicole Coleman, and Paula Findlen proposed a new project, 'Networks in History: Data-driven tools for analyzing relationships across time,' asking for the resources necessary to develop data visualization tools that could be shared with other scholars. As we put it in the original proposal, our primary goal was to create tools that were "simple to use, respond to the research needs of humanists and built with historical data in mind. These tools will allow users to analyze the geographic breadth, historical shape, and social composition of intellectual networks of any time period."

Project Activities

We are proud to have met the goals of our proposal, primarily through the development, release, and refinement of several iterations of our web-based data visualization platform, named Palladio [http://hdlab.stanford.edu/palladio/]. Yet, while Palladio may be the main end *product* of our work, a great deal of our project's success lies in what our team at Stanford and our colleagues around the world have gleaned through the research and development *process* itself. By experimenting with different aspects of Palladio while engaging our peers and incorporating their feedback through our 'Open Design' process (explained below) we have developed new ways of thinking about how digital tools can shape humanistic inquiry. We continue to share these insights with our peers through public presentations, publication, as well as in less formal discussions.

Palladio

What is Palladio?

Palladio is a web-based platform, designed for easy uploading and investigation of complex data. Palladio makes it possible for any researcher to upload and visualize data within a web browser and without any barriers, since in the Palladio platform there is no need to create an account, nor do we store any data. Palladio offers an intertwined set of visualizations meant to appeal specifically to scholars working in the humanities, who often work with messy and incomplete data. Given that all humanist inquiry in some way relates to questions about time and space, the Palladio platform is chiefly concerned with helping scholars to sort, refine, visualize, and explore their data in those two modes (time and space), either separately or in combination.

Where can I find Palladio?
Palladio has been freely available online for the life of this project and will continue to do so permanently, housed on Stanford servers. Palladio can be found here: http://hdlab.stanford.edu/palladio/.

How does Palladio work?
In several steps, described in summary form below. A far more extensive set of Palladio tutorials is available here:
http://hdlab.stanford.edu/palladio/help/

1. Collecting and Uploading
First, a scholar collects some kind of data set, meaning that they have transformed their research materials into a spreadsheet format. Data could take various forms. Some examples: a collection of letters, each one dated and geo-tagged; biographical data concerning the places and dates of births and deaths of a certain group of people; financial data tracking various transactions across time and space. This data can be categorized in various ways, according to the scholar's goals, so long as it makes sense on a spreadsheet. A data set concerning some kind of armed force might, for example, have a category for rank: General, Sergeant, etc.

2. Refining
Next, the scholar uploads this spreadsheet data to the Palladio web site. Palladio offers the scholar a chance to 'clean' his or her data, spotting any outlying or improperly formatted cells. After this step, the data can be filtered in various ways according to one's research goals. A dance historian might, for instance, have a data set concerning the Ballet Russes, and might wish to see all male dancers over the age of 25 who performed in Paris between 1919 and 1929, and to be shown from which countries all of these dancers hailed.

3. Visualizing and Filtering
The scholar can then visualize this data in various ways: on a dynamic map, within a network graph, in a list view with standard lines and columns, or in a gallery view, linking for instance to images housed somewhere else on line. We have emphasized tools for filtering: a Timeline Filter encourages researchers to explore their data at both micro- and macro-temporal scales. A Facet Filter provides the option to sort and filter data according to terms specified by the researcher, which is of particular use when exploring multidimensional data sets.
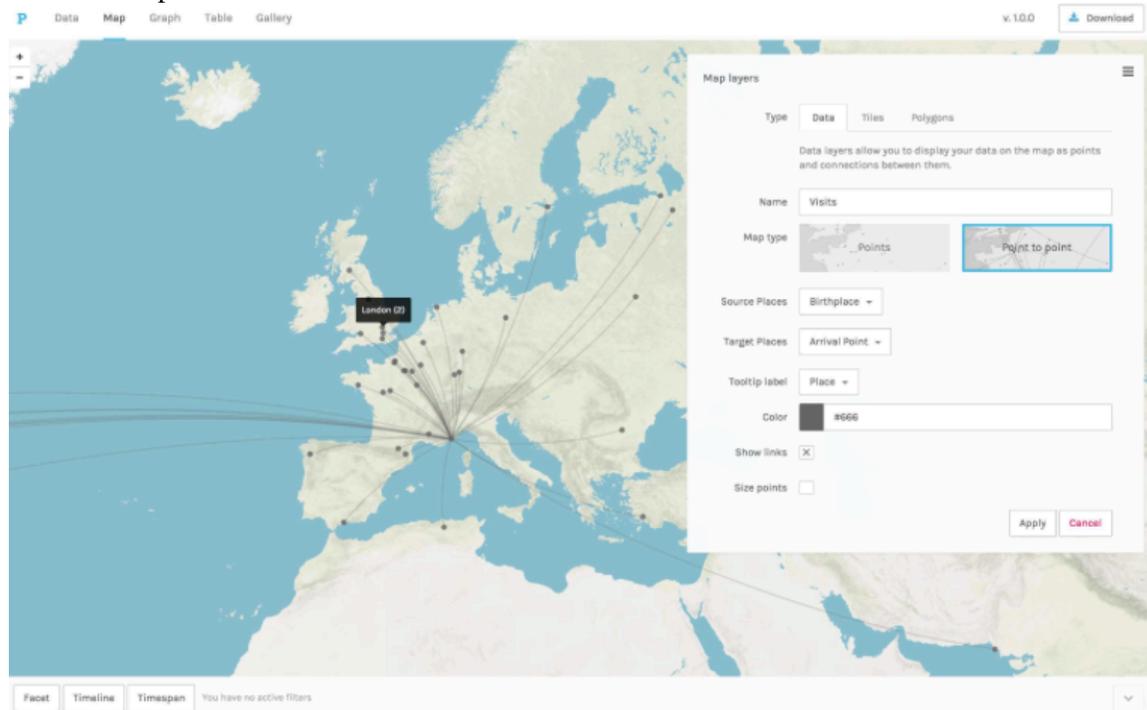
4. Saving and Sharing

Researchers can save and share their refined data (as .json files) with their peers. They can also export any graph visualizations created with Palladio (as .svg files) and can share specific instances of their visualizations (one could, for instance, share a map where Timeline and Facet Filters have already been applied to focus in on a specific component of the data set).
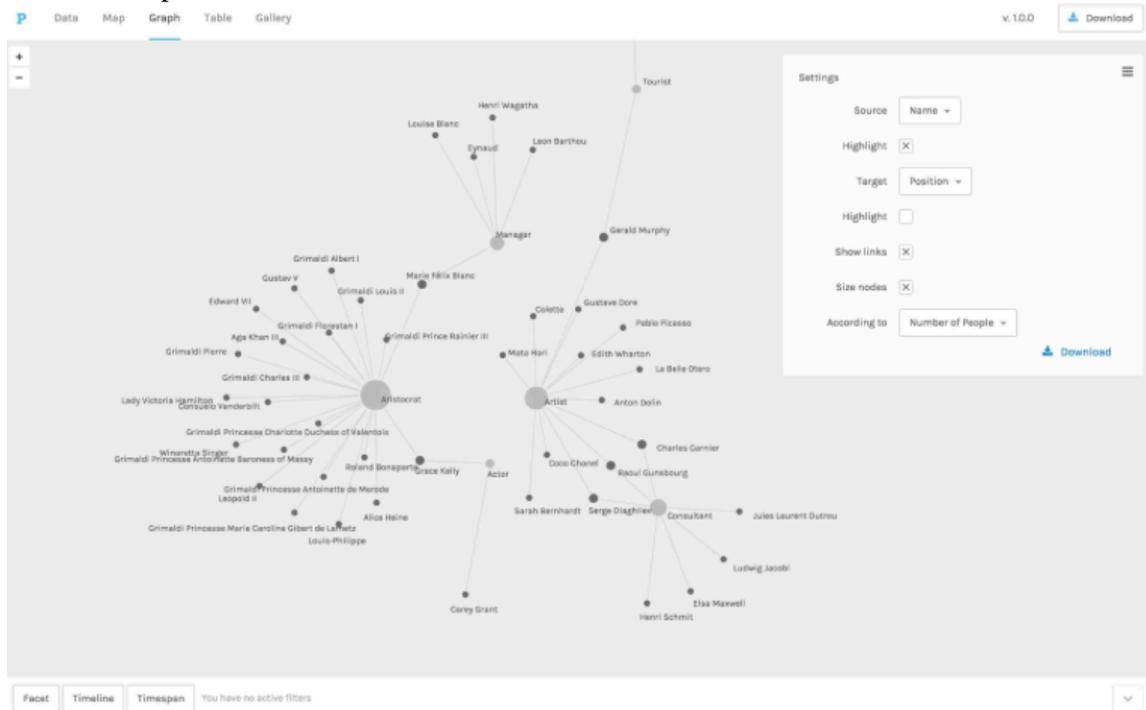
Palladio Tutorials

We recognize that for many scholars, web-based data visualization is a relatively new concept, and we have sought to encourage learning and exploration of such processes. The Palladio web site includes tutorial videos, an FAQ list, user testimonials, and other pedagogical documentation. The site also includes a pre-loaded "dummy" data set, drawn from research into the history of Monaco, created in 2014 by Mark Braude, cultural historian of modern Europe, while he was a postdoctoral research fellow and project coordinator for Palladio. This data is offered as a test case to help familiarize researchers with the platform and its capabilities.

Palladio Map View

Palladio Graph View

Palladio List View

Palladio Gallery View

The Open Design Process

While Palladio may be the main product of our research, the process itself opened up a whole new set of questions and experiences. Through our Open Design strategy we wanted to be as collaborative and transparent as possible about our experiences in creating and improving Palladio, so that other scholars could build on our work and it is in this capacity, as much as in the Palladio tool itself, that we see the project's broader and lasting impact.

Since the inception of the Networks in History project we released several iterations of the Palladio platform, each one incorporating feedback received from scholarly peers. Where 'open source' development makes the source code available to programmers who might want to contribute to the code base, we wanted to engage humanities researchers at the level of tool design, too. To this end, in the spring of 2014, a fairly early stage in the development of Palladio, we held a workshop at Stanford with eight targeted "user-testers," who had experience in both DH and early-modern history. This workshop provided us with a wealth of feedback for refining the data upload and the user experience. We collected further user feedback (and provided user assistance, notably in the form of video tutorials) to integrate in the project. We continued to engage in sustained discussion with a small group of scholars from a variety of disciplines and backgrounds, whom we refer to as Open Design Contributors.

We also worked on a separate (though closely-connected) track outside the existing web-based Palladio platform, specifically focused on the quickly growing sphere of digital

publication. We have been making great strides in building "widgets" that will allow scholars to embed Palladio components into webpages for digital publications. We are meanwhile making it easier than ever for scholar-developers to create their own 'views; that can be integrated into the existing Palladio system. For example, American historian and programmer Jason Heppler has developed a Sequence component for Palladio based on Tom Mullaney's work on Chinese input into a QWERTY keyboard.

Further Public Engagement

Along with the development, refinement, and public dissemination of Palladio described above, we have measured our accomplishments mainly in terms of Networks in History-related Publications, Online Projects, Public Presentations, Conferences, and Media Mentions.

Publication Summary

We published findings related to Palladio and Networks in History research in forums such as *Journal of Modern History*, *Leonardo*, and *Modern Intellectual History* (listed in detail at the bottom of this document). Another article, "From Archives to Databases (and Beyond): Reflections on Historical Research in a Digital Age," is under review at the *American Historical Review*.

Presentation Summary

Our core team and affiliated members presented on our research in various forums, listed in detail at the bottom of this document. Experiences ranged from discussing Palladio and our work in Networks in History with Art Historians at McGill, to Digital Humanities designers and researchers at Oxford, to literary scholars at the University of Ireland, to curators at MoMA, to Network Graph specialists at Berkeley. One highlight was a presentation in December 2014 at a general meeting of the Office of the Historian at the Department of State, discussing ways that Palladio had been used to visualize data pertaining to the Foreign Relations of the United States.

Conferences and Workshops Summary

Palladio featured prominently in several academic conferences and meetings, some at Stanford, but many more hosted elsewhere. We are proud to have seen Palladio being used and discussed in forums ranging from the New York Academy of Medicine, to UCLA's Library, to Cinema Studies at the University of Ghent. A detailed list is available at the bottom of this document.

Some Recent Media Mentions

A major recent highlight was the revelation that journalists used tools developed in collaboration with Stanford's Humanities + Design research lab to discover and visualize

global connections in the Panama Papers. As investigative journalists used data visualization tools to uncover connections between people, accounts, shell companies, and assets in this massive data set – the largest leak of documents ever – we saw a thrilling example of humanities thinking applied to network analysis.

Nicole Coleman and Dan Edelstein also discussed Networks in History and Palladio in Pui Shiau's "Technology provides insight into Voltaire and his social networks" for Stanford's Office of International Affairs, in August 2015.

See: http://library.stanford.edu/blogs/stanford-libraries-blog/2016/04/software-developed-stanford-helps-uncover-connections-panama

See: https://oia.stanford.edu/news/digital-humanities-technology-provides-insight-voltaire-and-his-social-networks

Audiences

Palladio has been enthusiastically embraced by digital humanists, and is being used in classes (at George Mason University, Brown University, Rice University, New York University, and the University of Florida, among many others) and by researchers around the world. The U.S. State department uses Palladio to track historical trips of presidents and secretaries of state. Middlebury College is considering hosting their own instance of Palladio for students and teachers to use under local authentication. Integration of Palladio visualizations into Early Modern Letters Online is part of a third round of funding from the Andrew W. Mellon Foundation for the Cultures of Knowledge Project at Oxford. We also run a DH graduate fellows program, under the auspices of CESTA.

We maintain relationships with a number of scholars, both at Stanford and elsewhere, who participated in the development of Palladio, and who have volunteered to continue collaborating with us future related projects: these include, in the U.S., Jo Guldi (Brown), Matt Jones (Columbia), and Miriam Posner (UCLA); and, overseas, Howard Hotson (Oxford University), Christoph Kudella (University College Cork, Ireland), Irène Passeron (CNRS, Paris), and Thomas Wallnig (University of Vienna, Austria).

Evaluation

We have measured evaluation of our contributions three ways: First, by looking to publications from our peers that describe their engagement with Palladio; Second, though evidence of Palladio being used as a teaching tool; Third, through public-facing projects that have been created through use of Palladio.

Rich feedback concerning Palladio had come from a wide range of sources: from experts in the Digital Humanities field, such as UCLA's Miriam Posner, "Getting started with Palladio,"

to emerging computer scientists, such as the Dickinson College undergraduates Chunlin Zhu and Aditi Joshi, who discuss their experiences with Palladio in Mary Bitts-Jackson's piece, 'Taming the Digital Frontier.' One major highlight was a detailed and peer-reviewed article by Marten Düring, Researcher in the Digital Humanities Lab at Centre virtuel de la connaissance sur l'Europe in Luxembourg, which offered much insight into one researcher's use of Palladio: "From Hermeneutics to Data to Networks: Data Extraction and Network Visualization of Historical Sources," *Programming Historian* (February 2015).

Palladio has featured prominently in the courses taught at institutions such as George Mason University, the University of Florida, New York University, Rice University and many others. A detailed survey of some reactions from peers; teaching related to Palladio, and public-facing Palladio-based projects is available at the bottom of this document.

Continuation of the Project

Further developments associated with the Networks in History proposal include the introduction of a new visualization tool, Breve, catering to researchers who work with very incomplete and messy data, named Breve [http://breve.designhumanities.org] We designed Breve for researchers who have to work with very incomplete and messy data. Historical data is often full of inconsistencies and errors that can be difficult to see when scrolling through a spreadsheet. Breve can be found online at http://breve.designhumanities.org. As with Palladio It has been freely available online for the life of this project, and will continue to do so permanently, housed on Stanford servers.

Since humanities data is significantly shaped and enriched during the research process, we wanted to make the evolution of a constructed data set clearly visible to the author. We were inspired by Victor Powell's CSV fingerprint which he describes as a "birdseye view of the file without too much distracting detail". Breve gives you that meta view of tabular data and also lets you drill down to records and columns, and edit values. Key Breve Features include: Map Errors and gaps / Edit dimensions / Edit records and save / Sort by data type / Map by data type / Assign a source type.

We also look to the future with a collaborative project that builds on much of the research and experiences of the past months and years, which we call Fibra.

Long Term Impact

While developing the platforms and methods for including Palladio visuals into digital publication, we have realized that we need ways to visualize the data tables themselves, as well as the data models. Though no one in our community has yet explicitly called for this as a requirement, our experience with this project and the myriad case studies we have conducted has shown us that making it possible to review and assess the data tables and the author's data model will be essential to proper evaluation of digital projects.

We thus foresee that our work on developing the Palladio platform for digital publication will also break new ground in terms of setting guidelines for the evaluation of digital projects, which could potentially have wide ramifications in the realm of digital publication. We have long been working on a separate (though closely-connected) track outside the existing web-based Palladio platform, specifically focused on the quickly growing sphere of digital publication. We have been making great strides in building "widgets" that will allow scholars to embed Palladio components into webpages for digital publications. We are meanwhile making it easier than ever for scholar-developers to create their own 'views; that can be integrated into the existing Palladio system. We will put this platform, with the widgetized Palladio components to work for a series of online articles for Mapping the Republic of Letters to be submitted to the *American Historical Review.*

GRANT PRODUCTS

Humanities + Design
http://hdlab.stanford.edu

Palladio and Breve
http://palladio.designhumanities.org

Idiographic Tool (Fibra early prototype)
http://idiographic.designhumanities.org
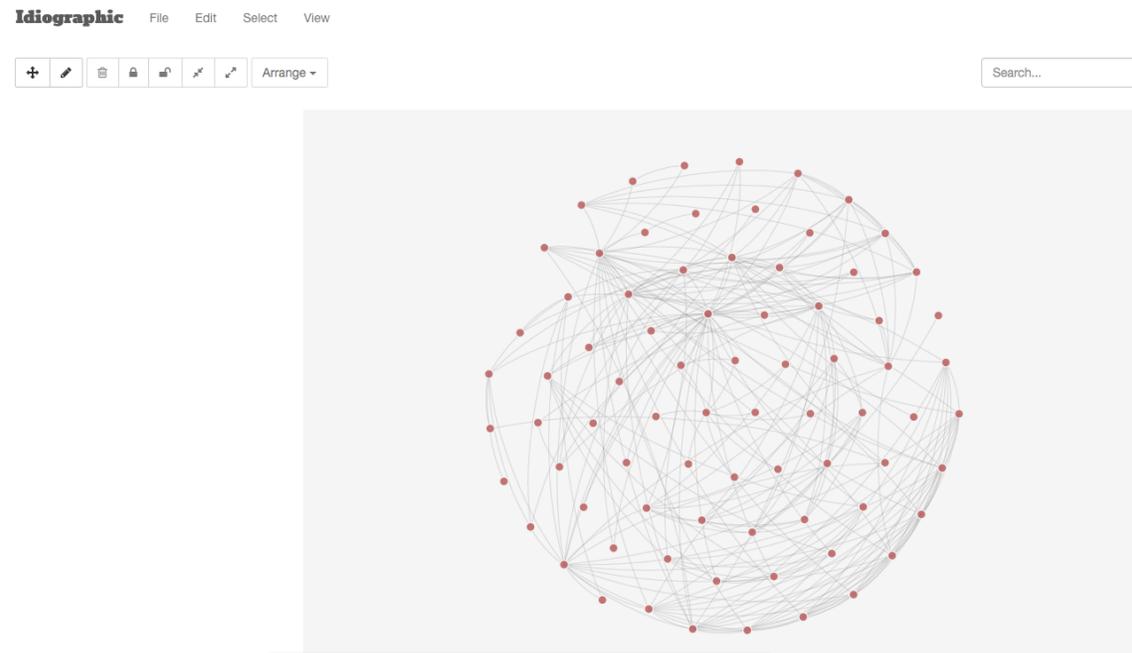
Mapping the Republic of Letters
An ongoing major interactive research project, which now makes extensive use of Palladio. It can be found at: http://republicofletters.stanford.edu
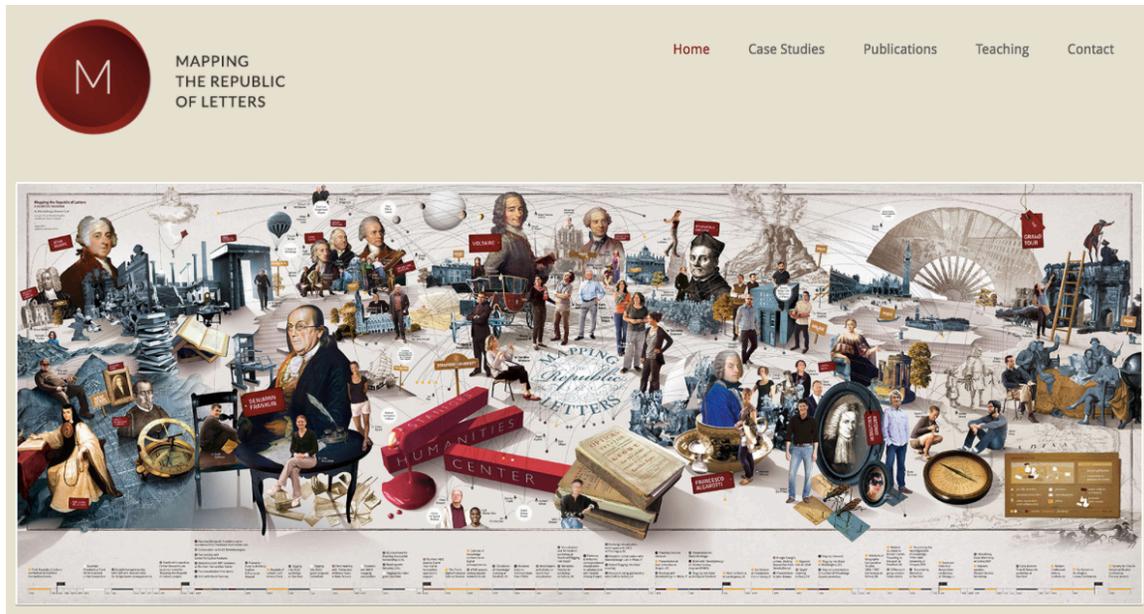
Publications (Expanded)

Dan Edelstein, Maria Comsa, Melanie Conroy, Chloe Edmondson, and Claude Willan, "The French Enlightenment Network," *Journal of Modern History,* September 2016

Dan Edelstein, Nicole Coleman, and Giorgio Caviglia (Postdoctoral Research Fellow at Stanford and Networks in History team member until 2015), "Idiographic Network Visualizations: Bringing the Construction and the Manipulation of Network Graphs Up Front" in *Arts, Humanities, and Complex Networks*

Dan Edelstein, "Intellectual History and Digital Humanities," review essay, *Modern Intellectual History 12* (2015)

Nicole Coleman, Dan Edelstein, and Paula Findlen, "From Archives to Databases (and Beyond): Reflections on Historical Research in a Digital Age," under review at the *American Historical Review.*

Presentations (Expanded)

Dan Edelstein and Paula Findlen presented "Mapping the Republic of Letters," at Art History and Communication/Interacting with Print, McGill University, October 2015

Dan Edelstein presented "Who Was the Enlightenment? Social Networks and Digital Humanities." Keynote lecture, *East Central/American Society for Eighteenth-Century Studies,*

November 2015; Keynote lecture, AALAC Collaborative Workshop, Wellesley, October 2015; Keynote lecture, *International Society of Eighteenth-Century Studies*, Rotterdam, July 2015

Nicole Coleman gave a workshop on Palladio as part of the "COST Digital Humanities Conference: Reassembling the Republic of Letters" at Oxford, March 2015.

Dan Edelstein presented "Early-Modern Social Network Analysis." The Republic of Letters Goes Digital, National University of Ireland, March 2015

Dan Edelstein presented "Where are Voltaire's Letters Concerning the English Nation? Maps, Networks, and Literary History." Department of Romance Languages, University of Pennsylvania; Department of French and Italian, Princeton University; Department of French, Yale University; Department of French and Italian, Brown University, February-March 2015.

Mark Braude presented on collaborative work between the Palladio team and the Office of the Historian, in visualizing data pertaining to the Foreign Relations of the United States, at their general meeting in December 2014.

Dan Edelstein presented "Data Visualization and the Digital Archive." Museum of Modern Art (MoMA), New York City, November 2014

Dan Edelstein presented "Digital Humanities: Potential and Perils in Research and Training." Humanities Center, University of Pittsburgh, November 2014

Dan Edelstein presented "How to Do Things with Data: Schemas, Networks, and the Enlightenment." Modern European History Workshop, Brown University, November 2014

Dan Edelstein presented "Social Network Analysis for Humanistic Research: Beyond Gephi." Center for the Humanities, Temple University, November 2014

Giorgio Caviglia, Nicole Coleman, and Dan Edelstein presented at "Idiographic Network Visualizations: Bringing the Construction and the Manipulation of Network Graphs Up Front" at the NetSci2014 conference, Berkeley, June 2014

Mark Braude presented Palladio to the Empires of Knowledge: Scientific Networks in the Early Modern World Workshop, Stanford, May 2014.

Dan Edelstein presented Palladio and other Networks in History work at the Society of French Historical Studies Annual Conference, Université du Québec à Montréal, April 2014

Giorgio Caviglia and Dan Edelstein presented Palladio at the openLab session at Harvard's Metalab, April 2014.

Dan Edelstein presented "Visualizing Data for Historical Research: An Introduction to Palladio," to the Harvard History Department and the Center for History and Economics, Harvard, April 2014.

Nicole Coleman and Dan Edelstein presented "Humanities 2.0: New Tools for the Digital Age" at the Department of Art History, Berkeley, April 2014.

Mark Braude gave two informal demonstrations of Palladio at Stanford, first to graduate students in Zephyr Frank's course on Spatial History and second to the wider CESTA (Center for Spatial and Textual Analysis) community (2014)

Conferences and Workshops (Expanded)

Renaissance of Letters Workshop
Conference Directors: Paula Findlen and Suzanne Sutherland (Middle Tennessee State)
May 13-14, 2016, Stanford
In this workshop, the goal was to examine (or re-examine) a broad range of letters and letter-writers, male and female, as well as the communities they inhabited. Studies included iconic late medieval and Renaissance figures as well as lesser-known individuals and their correspondence, published and unpublished.

Participants included:
Brian Brege (Stanford), Bill Connell (Seton Hall University), Filippo De Vivo (Birbeck College, University of London), Tamar Herzig (Tel Aviv University), Rosemary Lee (University of Virginia), Jeff Miner (Western Kentucky), Meredith Ray (University of Delaware), Sarah Ross (Boston College), Deanna Shemek (UC Santa Cruz), Roberto Vetrugno (University of Pavia)

Full schedule and further details can be found at:
http://web.stanford.edu/dept/HPST/colloquia

Grand Tour Digital Project Workshop
Conference Director: Giovanna Ceserani
March 4-5, 2016, Stanford

Participants presented new research on the eighteenth-century Grand Tour of Italy while engaging to varying degrees with the interactive database that we have been developing.

Participants:
Malcolm Baker (UC Riverside), John Brewer (Caltech), Melissa Calaresu (Cambridge), Jeffrey Collins (Bard NYC), Paul Davis (Princeton), Simon Macdonald (EUI Florence), Carole Paul (UCSB), Sophus Reinert (Harvard), Catherine Sama (Rhode Island), Rosemary Sweet (Leicester), Giovanna Ceserani, Caroline Winterer, Paula Findlen, Giorgio Caviglia, Thea De Armond, Rachel Midura, Grant Parker, Elaine Treharne, Nicole Coleman (Stanford)

Full schedule and further details can be found at:
http://events.stanford.edu/events/539/53951/

Networks of European Enlightenment Conference
Conference Director: Dan Edelstein
April 28-29, 2016, Stanford
This conference assembled some of the world's leading scholars who are using data-driven scholarship to study the information networks that made the Enlightenment possible, and contributed to create a new sense of European identity.

Participants: Ruth Ahnert (Queen Mary University of London), Sebastian Ahnert (University of Cambridge), Pierre-Yves Beaurepaire (Université Nice Sophia Antipolis), Paola Bertucci (Yale University), Melanie Conroy, (University of Memphis), Nicholas Cronk (University of Oxford), Andrew Kahn (University of Oxford), Thomas Wallnig (University of Vienna), Christopher Warren (Carnegie Mellon), Claude Willan (Princeton University), Charlotta Wolff (University of Helsinki), Giovanna Ceserani, Nicole Coleman, Maria Comsa, Dan Edelstein, Chloe Edmondson, Paula Findlen, Jessica Riskin, Caroline Winterer (Stanford)

Full schedule and further details can be found at:
https://networksofenlightenment.stanford.edu

Palladio Workshop
Frick Digital Art History Lab
April 8, 2016
http://matthewlincoln.net/2016/04/07/exploring-depictions-of-amsterdam-with-palladio.html

Got Visualization? Methods in Mapping Data
UCLA Library
April 29, 2016
"Explore the use of CartoDB and Palladio for generating visually appealing online maps."
http://www.library.ucla.edu/events/got-visualization-methods-mapping-data

Dissertation + Design
February-March 2016, Stanford
Design Academics Jacquie Kasunic and Kate Sweetapple (University of Technology Sydney) spent two weeks on campus, working with graduate students to discuss the role of visual communication in the projects.
http://hdlab.stanford.edu/lab-notebook/2016/02/28/visual-communication-and-humanities-research/

Historical Network Research
Ghent University
March 16-17, 2016
"On the first day, the workshop focused on a general introduction to historical network research, category building and using Palladio."
https://www.digitalcinemastudies.com/workshop-historical-network-research

Whither Digital Humanities
March 10, 2016, Stanford
At their last meeting of the winter quarter, Stanford's CESTA Digital Humanities Fellows had a conversation about the systems of value and evaluations that are being made to assess DH projects. The most salient points of conversation concerned the more fractious nature of judging digital projects, its implications for the traditional single-author monograph, and the effects of such projects on the role of the humanities to two constituencies: the academy and the public.
http://hdlab.stanford.edu/lab-notebook/2016/03/10/whither-digital-humanities/

Maps and Timelines Workshop
Music Library Association Annual Meeting
March 2-5, 2016 Cincinnati, Ohio
"Palladio [is a] great, free mapping tool."
http://francescagiannetti.com/a-workshop-on-maps-and-timelines/

Digital Humanities: Visualizing Data Workshop
The New York Academy of Medicine

February 10, 2016

"We'll also learn how to use Palladio, a kind of Swiss Army-knife for visualizing humanities data."

http://www.nyam.org/events/event/digital-humanities-visualizing-data-workshop/

Getting Started in Digital History Workshop (Featuring Nicole Coleman)
American Historical Association, 130th Annual Meeting
January 7, 2016, Atlanta Georgia
"Attendees can expect to leave the workshop having gotten some experience using Palladio to think about their data, and a deeper understanding of complex, uncertain data visualization in History."
https://www.historians.org/annual-meeting/resources-and-guides/digital-history-at-aha16/getting-started-in-digital-history-workshop

Visualizing Complex Data: Palladio Workshop
Bard College Experimental Humanities
January 29, 2016
"Palladio is the latest tool created by a group at Stanford that allows researchers to visualize complex datasets. What does that mean? Mapping! Change over time! All visualized!
http://eh.bard.edu/portfolio/visualizing-complex-data-palladio-workshop/

Rebuilding the Portfolio: Digital Humanities for Art Historians
July 7–18, 2015
Summer Institute
Roy Rosenzweig Center for History in New Media
George Mason University
http://arthistory2014.doingdh.org/wp-content/uploads/sites/3/2014/01/ReBuildingthePortfolioCurriculum2014.pdf

Beyond the Digitized Slide Library
July 5–15, 2015
Summer Institute
University of California, Los Angeles
http://www.humanities.ucla.edu/getty/index.php/the-digital-art-historians-toolkit/

Thinking about Time with Maps: Timelines/Palladio
February 11, 2015
Fordham Graduate Student Digital Humanities Group
Fordham University

https://fordhamgsdh.wordpress.com/2015/04/17/topics-in-digital-mapping-timelines-and-palladio-meeting-report/

Evaluation Evidence (Expanded)

Blog Posts from Peers
'How to Make Palladio Even Better'
Newspaper Windows Blog
January 27, 2016
"You can make visual mash-ups of both tables, or even add more! It even recognizes types of data and automatically displays them correctly!"
https://newspaperwindows.wordpress.com/2016/01/27/how-to-make-palladio-even-better/

'Taming the Digital Frontier'
Mary Bitts-Jackson, Dickinson College
"Chunlin Zhu '18 (computer science) and Aditi Joshi '19 (computer science, mathematics) took their technical expertise to new avenues when they used Drupal, ArcGIS and Palladio to organize and analyze data on the African American population in midcentury Milwaukee."
https://www.dickinson.edu/news/article/1964/taming_the_digital_frontier

'How to Visualize Exported Data With Palladio in Visus'
Daniel Stumm, Brent Ho, and Hilde De Weerdt
http://dh.chinese-empires.eu/beta/doc/Palladio_linking_guidelines.pdf

'Mapping the Revolution'
Andrew W. Wilson
https://andrewwilson84.wordpress.com/2016/03/07/mapping-the-revolution/

Marten Düring, Researcher in the Digital Humanities Lab at Centre virtuel de la connaissance sur l'Europe in Luxembourg, published a lengthy and peer-reviewed article about Palladio: "From Hermeneutics to Data to Networks: Data Extraction and Network Visualization of Historical Sources," *Programming Historian* (February 2015).
See:
http://programminghistorian.org/lessons/creating-network-diagrams-from-historical-sources

Miriam Posner, Coordinator and Core Faculty, Digital Humanities Program at University of California, Los Angeles, penned a useful primer on using Palladio, "Getting started with Palladio," in November 2014.

See:
http://miriamposner.com/blog/getting-started-with-palladio/

Thomas Faith, Historian at the Office of the Historian, Bureau of Public Affairs, in the U.S. Department of State, authored several posts on using Palladio to visualize data concerning the Foreign Relations of the United States (FRUS) on *HistoryAtState* the official blog of the Office of the Historian.
See:
http://historyatstate.tumblr.com/post/103459136848/the-provenance-visualizing-where-carter
http://historyatstate.tumblr.com/post/103039819173/the-geography-of-frus-visualizing-where-carter
http://historyatstate.tumblr.com/post/118095186541/the-united-states-at-the-world-expos

Christoph Kudella, Digital Arts and Humanities PhD candidate in University College Cork, wrote about using Palladio to teach undergraduate history students, in this case using data associated with four of the five annual 'Historikertage' during the Weimar Republic.
See:
http://hdlab.stanford.edu/lab-notebook/palladio/2014/11/03/Kudella/

Molly Taylor-Poleskey, Historian at Middle Tennessee State University, wrote about working with Palladio to explore issues of magnitude within a large base of manuscript sources detailing the yearly consumption of one of the palaces of Prince-Elector Friedrich Wilhelm of Brandenburg-Prussia.
See:
http://hdlab.stanford.edu/lab-notebook/palladio/2014/11/03/Taylor-Poleskey/

Design students at Pratt responded to work by researchers Sarah Ogilvie (Stanford) and Gaia Scagnetti (Pratt Institute), who engaged in a collaboration to see if communication design could effectively be applied to an active humanities research project to advance the goals of the project.
See:
http://hdlab.stanford.edu/lab-notebook/plus-design/2015/06/05/design-for-endangered-languages/

Teaching (Expanded)
Palladio has featured prominently in the courses listed below. Wherever possible, links to relevant student projects and syllabi have been attached.

Recent Stanford Teaching
Humanities + Design: Building a workflow for digital research and publication (Stanford, Spring 2016)

Instructors: Nicole Coleman, Jason Heppler

How do digital research practices affect the Humanities research process? From reading to writing, from review to publication, Humanities research relies increasingly on digital workflows. Keeping track of new software that promises to make writing easier, only to see it dissolve into oblivion before you've completed the second chapter of your dissertation is maddening. In this course you will learn the foundational tools of digital writing and design your own digital research process. Together we will explore the theoretical and practical challenges of publishing born-digital scholarship in the humanities.

Recent Non-Stanford Teaching
Stephen Robertson, George Mason University
Clio Wired: An Introduction to History & New Media
HIST 696, Fall 2014
http://rrchnm.org/robertson/hist696f14/assignments/student-projects/
http://rrchnm.org/robertson/hist696f14/wp-content/uploads/sites/3/2014/08/HIST-696_August.pdf

Elizabeth Dale, University of Florida
Historical Methods: Introduction to Digital History
AMH 5930/EUH5934/LAH5934, Fall 2014
http://people.clas.ufl.edu/edale/files/Digital-History.Fall2014.pdf

Jason Heppler, Stanford University
Digital History: Sources, Methods, Problems
HISTORY 205F, Fall 2014
http://jasonheppler.org/teaching/hist205f.2014/schedule/

Maeve Kane, University of Albany, State University of New York
Reading and Practicum in Digital History (Graduate Seminar)
AHIS606, Spring 2015
http://ahis606.maevekane.net/syllabus/

Jo Guldi, Brown University
Digital History
HIST 1971D S01 CRN: 26056, Spring 2015

https://canvas.brown.edu/files/46256860/download?download_frd=1&verifier=ia64RO5qo3
XLP7JBGUKbLT1H65CGSySLmXUsWuS1
http://www.brown.edu/academics/history/COURSES/detail?term=201420&crn=26056

Kevin Gunn, The Catholic University of America
Special Topics: Digital Humanities
LSC 874, Spring, 2014
http://staff.cua.edu/gunn/LSC874syllabus.docx

Thomas August and Nicholas Wolf, New York University
Practicum in Digital Humanities
ENG GA 2971, Fall 2014
https://wp.nyu.edu/newyorkscapes/2014/10/30/final-team-documentation-and-reporting/
https://wp.nyu.edu/newyorkscapes/scholarship/eng-ga-2971-practicum-in-digital-
humanities/course-blog/

Caleb McDaniel, Rice University
HIST 318, Spring 2014
Digital History Methods
http://ricedh.github.io/
http://ricedh.github.io/01-palladio.html
Kristen Gallant, Elizabeth Lorang & Anneka Ramirez, University of Missouri
Emerging Technologies in Libraries
ISLT 9410, December 2014
https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/44544/ToolsForTheDigitalH
umanities.pdf?sequence=1

Ashley Sanders, Claremont Colleges Library
Intro to DH Reading Group
Spring 2015
http://www.claremontdh.com/ashley-sanders-dh-reading-group/