

Using Palladio for Mapping

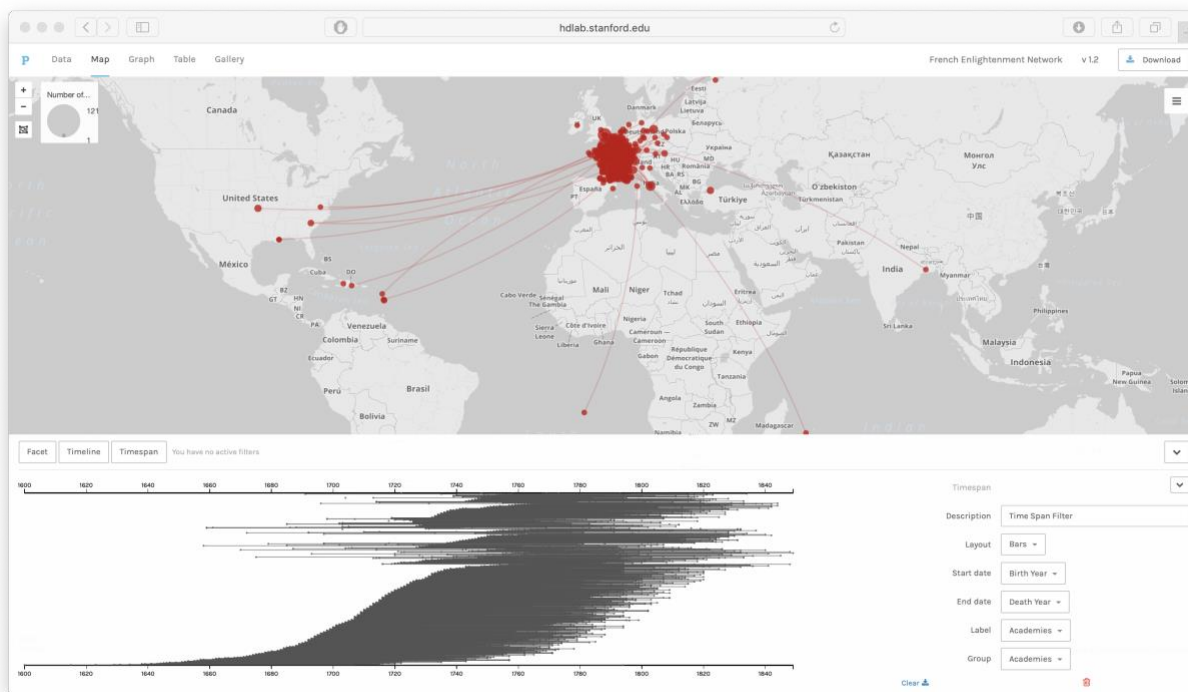
Palladio is a web-based tool for investigating and visualizing multi-dimensional data. In this workshop, we will learn to visualize humanistic research data on a map, and track connections between data points. Palladio is developed by Stanford's Humanities + Design Lab.

Here is the link to the website: <http://hdlab.stanford.edu/palladio>.

Tool-Specific Components

With Palladio, we can work with maps. Pinpointing a location, or showing connections among locales are some of the features when we use Palladio for mapping.

Palladio has visualization and filtering functions, so that you can see both a panoramic overview of your area of study, and key points within the network, while also being able to add layers for other historical events, so that you can have the big picture and the fine details, too. If you are interested in the “longue durée” for your historiography, literature, and social sciences studies, Palladio might be a good place to start. One example is from the white paper by Melanie Conroy, “Visualizing the French Enlightenment Network Using Palladio” (<https://hcommons.org/deposits/item/hc:23361>).



In this visualization, Melanie Conroy presented “Linked Birth and Death Places of Members of the French Enlightenment Network with Timespan.”

Palladio can also build network graphs. The network graph feature has proven useful to explore and visualize correspondence sets, with the aim of mapping and analyzing flows of letters. The study of correspondence has become a very popular trend in Digital Humanities projects that use Palladio.

Visualizing Humanities Data

Scholars oftentimes need to visualize humanities data. By visualizing humanities data, you can find a good way to explore your research data in a new way, engage your students, or promote interest in your specific topic when you give an overview presentation. You can find out more details in “Motivations for Using Spatial and Temporal Approaches in the Humanities” by Francesca Giannetti (<http://francescagiannetti.com/a-workshop-on-maps-and-timelines>).

Let's Get Started

All you need is... a spreadsheet. When visualizing the data, we can choose to represent the data in a variety of forms: a map, graph, list, or gallery. Today we are working with the map visualization.

We can use one of these datasets:

- A numismatic dataset from MANTIS that includes the Roman, Byzantine, and Islamic coins from between 400 and 500 CE. This is an interesting collection because it uses regions and the earliest, or latest possible date for items
<https://raw.githubusercontent.com/leadr-msu/hst251-NumismaticViz/master/MANTIS-RomanByzIslamic400-500-cleaned.csv>
- A dataset on the French “encyclopédistes” shared by Melanie Conroy
<https://ageofrevolutions.com/2017/09/25/visualizing-social-networks-palladio-and-the-encyclopédistes-pt-i>
- A dataset from the Getty Provenance Index Databases
<https://github.com/chnm/doingdh>

Now, go to <http://hdlab.stanford.edu/palladio>.

Click “Start” because we are creating a new project. On the [Start](#) webpage, you can create a new project, load an existing project, or try to create a project with sample data.

I think it makes sense for us to use one of the datasets linked above. I have chosen the dataset on the French “encyclopédistes”:

<https://ageofrevolutions.com/2017/09/25/visualizing-social-networks-palladio-and-the-encyclopédistes-pt-i>

This is the dataset I am inclined to use today. Open your browser, go to the link, and please go to the Google sheet and download the .csv file

Loading Data

You can load data into Palladio in a number of ways, so that you have tabular data:

- drag and drop data contained in .csv, .tab, .tsv files
- copy and paste spreadsheets
- type right into the box
- link to a file in a public Dropbox folder to create a new project

Click on the “Load .csv or spreadsheet” and drag your spreadsheet onto the tab. If you have an Excel spreadsheet, you need to save it as a .csv file before uploading it.

Click on the eye
to hide the category
that is not too relevant
to display on the map

Provide a title to this project

Show details

Untitled

Primary table 146 rows

<input checked="" type="checkbox"/>	Source	Text	
<input checked="" type="checkbox"/>	EgoNetworksCombined	Text	
<input checked="" type="checkbox"/>	EE ID	Text	
<input checked="" type="checkbox"/>	Full Name	Text	
<input checked="" type="checkbox"/>	Particule?	Text	
<input checked="" type="checkbox"/>	Occupation	Text	
<input checked="" type="checkbox"/>	Knowledge Network	Text	
<input checked="" type="checkbox"/>	Social Network	Text	
<input checked="" type="checkbox"/>	Professional Network	Text	
<input checked="" type="checkbox"/>	Encyclopedistes	Text	
<input checked="" type="checkbox"/>	GenderGroup	Text	
<input checked="" type="checkbox"/>	Nationality	Text	
<input checked="" type="checkbox"/>	Birth Year	Date	
<input checked="" type="checkbox"/>	Death Year	Date	
<input checked="" type="checkbox"/>	Birth City	Text	
<input checked="" type="checkbox"/>	Birth Country	Text	
<input checked="" type="checkbox"/>	Death City	Text	
<input checked="" type="checkbox"/>	Death Country	Text	
<input checked="" type="checkbox"/>	Birth Place	Text	
<input checked="" type="checkbox"/>	Birth Lat	Number	
<input checked="" type="checkbox"/>	Birth Long	Number	
<input checked="" type="checkbox"/>	Birth LatLong	Latlong	

Click on the red dot
to open up a tab and fix errors

At this point, we have the data view because you imported your data. Each column in your spreadsheet contains a different type and category of data. For this reason, Palladio has automatically imported your data, one row each, under different categories.

There might be red dots marked on certain fields. This means that Palladio has detected that there might be errors in your data, or that not all of your data seems to be of the same type.

To fix this, click on the red dot: one tab will open with more details on the information format.

Select the right type that described the nature of your data, then adjust all information that was not tagged correctly in the import. For example, a date might be marked as text, so you need to check the Data type as “Date.” Also, make sure the date format is YYYY (2020) or YYYY-MM-DD (2020-04-24). The most important feature to fix first is the geographic descriptors: you should also have your data geocoordinates” set as “Latlong” on the descriptive corner on the right (see screenshots).

P Data Map Graph Table Gallery

Provide a title to this project

Show details

Untitled	
Primary table	146 rows
Source	Text
EgoNetworksCombined	Text
EE ID	Text
Full Name	Text
Particule?	Text
Occupation	Text
Knowledge Network	Text
Social Network	Text
Professional Network	Text
Encyclopedistes	Text
GenderGroup	Text
Nationality	Text
Birth Year	Date
Death Year	Date
Birth City	Text
Birth Country	Text

Now, search for the “Wikipedia Image Link.” Palladio sometimes guesses the data type wrong. For example, “Wikipedia Image Link” is categorized as “text,” but we know that is not correct. Click on the red dot. We need to reset the category of “Wikipedia Image Link as “URL.”

Wikipedia Image Link	Text
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Edit dimension

Title:

Data type:

Unique values:

- Text**
Any text-based data
- Number**
Numeric data such as 1234 or 1.234
- Date**
Dates can be YYYY or YYYY-MM-DD
- Coordinates**
Latitude, Longitude coordinates such as 12.345,67.890
- URL**
The URL of a website or image such as http://www.example.org/file.yyy

34 values displayed. [Download](#)

Extension:

You can provide additional information about this dimension with data from another table.

So, we have edited this as is shown in the above picture. As a result of this edit, we see that the red dot will disappear and the descriptor on the right will be “URL.”

As we reflect on the nature of our categories, we might also find that some of those categories are not relevant to a map visualization. Plus, Palladio works better with fewer categories to process. We can hide some categories that we do not need by clicking on the tiny eye to the right of the category name. I hid information not strictly related to the scholars cataloged in the dataset. You can always go back and reveal these categories, if you decide you want them, later on.

We can find and type in a title for the project. I will call it “Locales.”

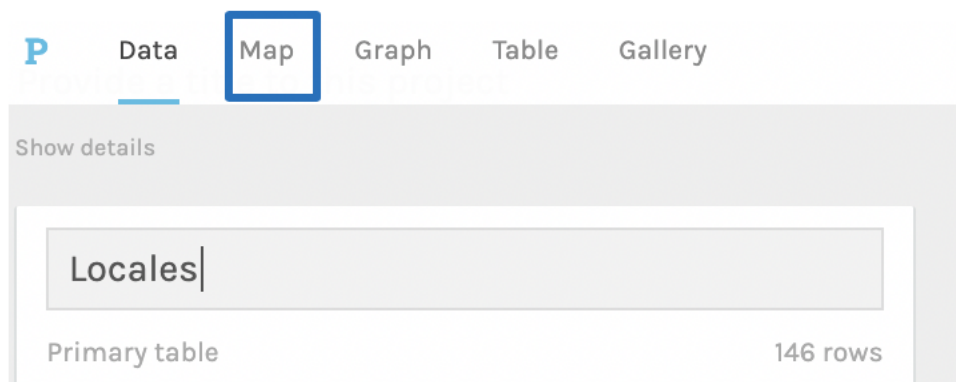
We can also add details: author, date, and description, and even title our tabular data. This precision is important especially if, and when we plan to publish a project.

The Tooltip Label controls the label shown when you hover over a point on the map. You can choose what the Tooltip Label is. Now, click “Add layer.” At this point, all coordinates are on the map. When we hover over a point in the map, it will display the descriptive value entered for that location.

Palladio does not save your data. What we can do, is to export our data model, and reuse it when you go to Palladio next time, so you can upload it again. Click on “Download.” This will download a .json file. So, in the future you can start from where you stopped. There is also the possibility to use other georeferenced maps as base-maps, which we can explore if there is interest in this direction.

Visualizing Data

Let's map our data. On the upper left tab, click on "Map."



Point Visualization

Click on "new layer." In the Map layers pane, we learn that Palladio wants us to map data in layers. We can map more than one kind of item: once we decide the base layer, we can add others. Here, we decide name and contents for our first layer.

Choose the map type as "Points." If there is movement recorded in our data, a point-to-point map might also make sense.

Click on the "Places" box; pick "Birth Lat Long."

You can also click on "Size Point" so that points would be proportionally bigger (or smaller) as more (or fewer) philosophers were born in those cities. You can click and select according to which category that would be visualized.

Point-to-point Visualization

We have a dataset that list "Birth Lat Long" and "Death Lat Long."

In the Map visualization tab, add a "new layer."

Click the map type as "Point to point." Select the Source Places as "Birth LatLong" and the Target Places as "Death LatLong."

Gallery View

Click on the Gallery tab on the upper left corner. You will see boxes for each scholar considered in the "encyclopedist" project. The dataset includes links to Wikipedia images, so this can be a quick way to visualize an overview "family photo" for all scholars considered in the project.

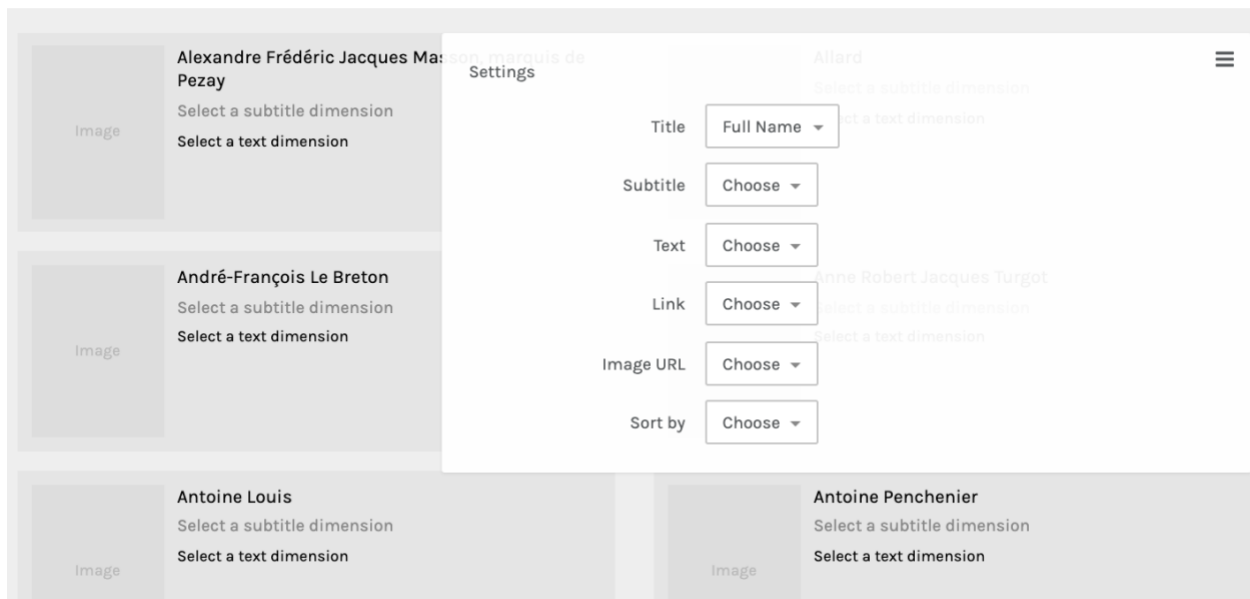
A Settings tab will pop up on the right upper corner:

Title: full name

Subtitle: occupation

Link: VIAF

Image URL: Wikipedia.

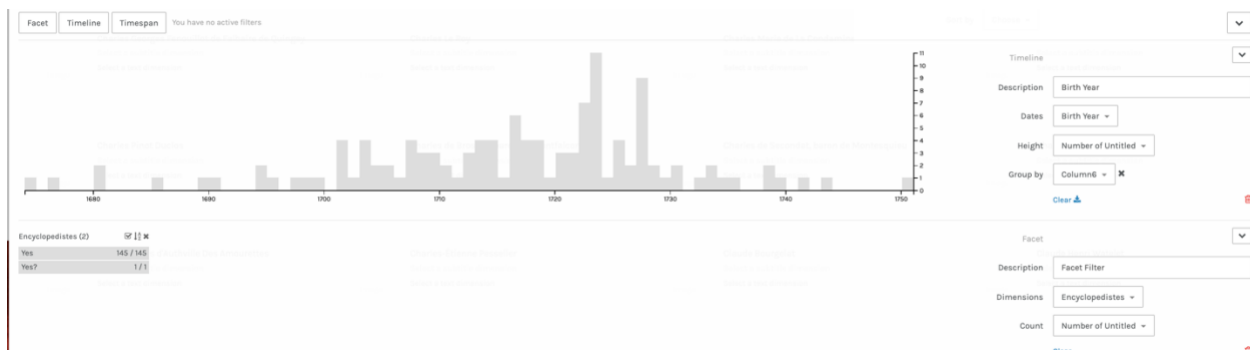


This visualization might be useful to learn more with the dataset, and prompt us to ask more questions that we can then consider for the map visualization as well.

Facet, Filtering and Timespan

At the lower left corner, we find: Facet, Timeline, and Timespan.

We start by selecting “Facet.” What can we learn by filtering birth year, birth country, nationality, or death country?



In this search, I click “Facet,” have “Encyclopedistes” set as the “Dimensions” and click on a “Timespan” filtering by birth year. This might help us understand the data better, and possibly re-evaluate the general feeling that encyclopedists were from the eighteenth century as if that were a one-generation intellectual movement. In fact, we see some scholars born as early as the 1670s, and the youngest generation in the 1750s.

Meanings and Interpretations

The resulting visualizations might point towards seeing connections, and understanding information differently, once we visualize the dataset through Palladio.

While we work with our data and might find some new directions, let's see what questions can find an overall answer from the map visualization:

- When did people called “the encyclopedists” live?
- Where did they live?
- Did they move far from their hometown?

You can also write your own question, and see if that can find answers from the dataset, or the visualization:

- When and where did ...?
- Can we map ... in France?
 - Personally, I wonder how far one, or more scholars went. What would be their means of transportation? How could we integrate the current dataset to be historically accurate?
- What sources, datasets, or visual materials would you need to fully understand the situation in France in the eighteenth century?
- In terms of outcomes and methods, how might we share this research if we wanted to present your argument at a get-together? What about a conference? A blog post?

To sum up

The map view shows coordinates data as points on a map. Lines show relationships between points. Points on the map can show their relative magnitude based on occurrences in the dataset.

You can export nodes and links of map visualizations as .svg files.

The graph view shows the relationships between any two dimensions of data. Nodes connected by lines show this type of information. Nodes show their relative magnitude proportionally within your data. You can export graphs as .svg files.

The Table tab shows how to make customized lists for dimensions of data. You can export a subset of the data. You can also export tables as .csv files.

The gallery view displays data in a grid setting, sorting according to dimensions. You can link to web data from other websites.

1. You build a dataset, or choose a dataset from a museum
2. You input your dataset into Palladio
3. You see which visualizations are useful
4. You test the map feature
5. You can determine which new results Palladio can show about your data

Learn More About Palladio Projects

For tutorials and Frequently Asked Questions, see <https://hdlab.stanford.edu/palladio/help>.

I am including some testimonials. These projects further contextualize scholarly use of Palladio and hint at the kind of data collection and formatting that needs to take place before using the tool.

- Lea VanderVelde and Social Networking in the Frontier's Global Business: The Fur Trade / A Palladio Open Design Case Study

<https://hdlab.stanford.edu/palladio/testimonials/2014-08-14-palladio-lea-vandervelde>

- Palladio Testimonial / Maria Comsa

<https://hdlab.stanford.edu/palladio/testimonials/2014-08-21-Comsa>

- Palladio Testimonial / Hannah Marcus

<https://hdlab.stanford.edu/palladio/testimonials/2014-08-21-Marcus>

- Palladio Testimonial / Christoph Kudella

<https://hdlab.stanford.edu/palladio/testimonials/2014-11-03-Kudella>

Important Considerations

I am quoting these tips from Miriam Posner's blog post (<http://miriamposner.com/blog/getting-started-with-palladio>). In Posner's words, "Think of Palladio as a sort of Swiss Army knife for humanities data. It's one package that includes a number of tools, each of which allows you to get a different angle on the same data."

I am here quoting her directions to determine whether Palladio is the best tool to develop your Digital Humanities project.

When Might Palladio be the Right Tool for You?

- You have structured data. Here, "structured data" means "data in a spreadsheet": categorized, sorted, and stored in an Excel document or some other kind of spreadsheet application.
- You're interested in time, space, and relationships. That's where Palladio excels: showing you how various entities are connected across time and space.
- Your data has many attributes. Palladio's really good at helping you uncover relationships among disparate attributes over time and space for example, it can help you see that a diarist was especially interested in trees as he traveled through North Carolina, and especially interested in bats as he traveled through Arizona. Palladio allows you to drill down through your data using faceted browsing.

When Might Palladio Not be the Right Tool for You?

- You have unstructured data. If you're trying to analyze a long text, like a poem or a novel, Palladio won't help you much. You'll want to look for text analysis tools, like Voyant (<http://voyant-tools.org/>).
- You just want to count things. If you just want to make relatively simple charts and graphs, like a bar or pie chart, Palladio is too much tool for you! Instead, try using Excel's built-in functions, or check out tools like Plot.ly or Tableau.
- You want to present an interactive visualization. One big limitation of Palladio is that you can't embed or share the visualizations you create, except in static form. So while Palladio

can help you explore and understand your data, it's not great for presentation, at least not yet. Instead, try Google Fusion Tables, ManyEyes, or Tableau.

- You want to create complex, fine-tuned maps and networks graphs. While Palladio can produce maps and network graphs, you can't customize them to any great extent, and you can't perform sophisticated network analysis, such as calculating various measures of centrality. Instead, you might consider more sophisticated mapping tools, such as CartoDB or ArcGIS, and more sophisticated network analysis tools, such as Gephi and Cytoscape.

Food for Thought

There are some theoretical problems for scholars who consider topics that Palladio can visualize. Let's see what a few of those can be.

Structured data around correspondence and information about correspondence, as well as correspondents and information about correspondents, work well for Palladio mapping projects. In addition to that, scholars have considered the discussion of locations other than those where letters were sent or received, or collecting information on letter writers and letter recipients, when possible.

Scholars have found Palladio to be useful to test hypotheses quickly.

Possible theoretical problems for Palladio users include:

- working in different registers and scales, for example when we have different measurement systems
- sources with incomplete or missing data
- reporting for timespans and years for which there is no data

The goal is to find ways so that we can work with incomplete data in ways that are not inaccurate or deceptive, or overly simplified. So far, one way to work around similar issues is a methodological shift, thus working with relative magnitude and relative timespans.

Feedback form

Please complete this post-workshop survey. Your responses will help us to evaluate the effectiveness of the formats and themes http://bit.ly/s20_dh_feedback. Thank you!

Contact Information

You can contact me to follow up with questions:

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