**Philosophy Classification System Visuals**

**Objective**: Show the relationship between the Library of Congress classification system and the way philosophy topics are categorized by [www.philpapers.org](http://www.philpapers.org), in a way that is useful for people looking to find information on philosophy.

**Terminology**

* PhilPapers broad categories: the “clusters” on the original infographic, names can be found on PhilPapers website (e.g. “Ancient Greek and Roman Philosophy”)
* PhilPapers specific categories: the individual bubbles on the original infographic, often names of philosophers (e.g. “Plato”)
* LC call numbers: the LC numbers where a specific PhilPaper category can be found (e.g. for Plato, “B 350-398”)
* LC categories: the most specific category that encompasses a given LC call number range; these are found on the LC Classification document (e.g. “B 165-491 Greece”)

**Visualization methods**:

* Alluvial diagram (RAWGraphs)
* Dendrograms
  + Dendrogram (RAWGraphs)
  + Dendrogram (R)
  + Collapsible tree (R)
* Network analysis (Connect the Dots)

**Alluvial diagram** – RAWGraphs (<https://app.rawgraphs.io/>)

* Pros:
  + very clear about how the PhilPapers categories are distributed among LC categories
  + colorful & appealing
  + not overcrowded with information
* Cons: doesn’t show how to find specific topics
* Data: PP broad categories, LC categories
  + *You need to know the PP specific category and LC call numbers to define the LC categories, so these should also be on the spreadsheet somewhere.*
* Data structure: in Excel, one column for each of the variables (highlighted = used)

|  |  |  |  |
| --- | --- | --- | --- |
| **PP Broad** | **PP Specific** | **LC Call Number** | **LC Category** |
| 17th-18th Century Philosophy | 17th/18th c. British Philosophy | B 1131-1402 | B 790-4695 Modern Philosophy |
| 17th-18th Century Philosophy | 17th/18th c. Philosophy (General) | B 801-802 | B 791-804 General Works |
| 17th-18th Century Philosophy | 17th/18th c. French Philosophy | B 1815-2179 | B 1801-2430 France |
| 17th-18th Century Philosophy | 17th/18th c. German Philosophy | B 2535-3177 | B 2521-3396 Germany & Austria |

*Optional: To make sure categories appear in the correct order, type a number before the text in the order you want them to occur, as in “1 Ancient Greek and Roman Philosophy”, “2 Medieval and Renaissance Philosophy”. For the LC categories, if you have more than 10 different ones, use “01”, “02”.*

* Instructions:
  + Paste data into app.rawgraphs.io.
  + Select “Alluvial Diagram”.
  + Under “Map your Dimensions”, drag “PP broad” and “LC category” to the box labeled “Steps”. They should be listed in that order.
  + Under “Sort by”, choose “name”.
  + Adjust numbers for width and height so that all words are visible.
  + Download “image (png)” or copy the code in the box below to pasted into HTML.

**Dendrogram** – RAWGraphs (<https://app.rawgraphs.io/>)

* Pros:
  + shows how PhilPapers categories are split among LC categories, and then how specific topics can be found within those LC categories
  + among dendrograms, looks very neat
* Cons:
  + for long category names, words are cut off at the edge
  + not very customizable (so previous problem can’t be fixed)
* Data: PP broad categories, LC categories, PP specific categories
  + *You need to know the LC call numbers to define the LC categories, so these should also be on the spreadsheet somewhere.*
* Data structure: in Excel, one column for each of the variables (highlighted = used)

|  |  |  |  |
| --- | --- | --- | --- |
| **PP Broad** | **PP Specific** | **LC Call Number** | **LC Category** |
| 17th-18th Century Philosophy | 17th/18th c. British Philosophy | B 1131-1402 | B 790-4695 Modern Philosophy |
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*Optional: To make sure categories appear in the correct order, type a number before the text in the order you want them to occur, as in “1 Ancient Greek and Roman Philosophy”, “2 Medieval and Renaissance Philosophy”. For the LC categories, if you have more than 10 different ones, use “01”, “02”.*

* Instructions:
  + Paste data into app.rawgraphs.io.
  + Select “Cluster Dendrogram”.
  + Under “Map your Dimensions”, drag “PP broad”, “LC category”, and “PP specific” to the box labeled “Hierarchy”. They should be listed in that order.
  + Adjust numbers for width and height so that no words overlap each other.
  + Download “image (png)” or copy the code in the box below to pasted into HTML.

**Dendrogram** – R

* Pros:
  + similar benefits to RAWGraphs version
  + customizable
* Cons:
  + much harder to work with
  + to make all visible, graphic has to be huge
* Data: all the previous data, in a “from-to” list
  + In the diagram to the right, the data would be structured as follows:

A

B

C

D

E

F

G

**from to**

A B

A C

B D

B E

C F

C G

* + How to create from the previously described spreadsheets:
    - Rearrange columns to be in this order: PP broad, LC category, PP specific. You will not need LC call number.
    - Your first two columns (PP broad and LC category) are correct.
    - Copy columns 2 and 3 (LC category and PP specific) and paste them beneath the first two.
    - Delete everything but first two columns.
* Instructions:
  + Load spreadsheet into R Studio:
    - Under “Import Dataset”, choose “From Text (readr)”.
    - Select the CSV file and load.
  + Paste the following code into the top left window, highlight all of it, and click “Run”:

install.packages("ggraph")

library(ggraph)

ggraph(phil\_edge\_short, "dendrogram") +

geom\_edge\_diagonal() +

geom\_node\_point() +

coord\_flip(ylim=c(3,-1.5)) +

geom\_node\_label(aes(label=name, angle=0, hjust=0))

* + Do not trust the plot you see on the bottom right, which will be more cramped than the one you download.
  + Saving image
    - Above the plot, click “Export” and “Save as image…”
    - Click “Directory…” to choose the directory you want to save to, and type in a file name.
    - Change the width and height. For a tree of this size, you will probably want at least 1000 each in order to save in enough detail; the example file is 1400 by 1800. Unfortunately, there is no way to preview this for an image of that size. You will need to save, check the picture in your folder, and repeat as necessary.
    - If the words go off the side no matter how much you adjust the width, go back to the code and change the part that says “coord\_flip(ylim=c(3,-1.5))”. You will want to change the last number and make it more negative. If there is too much space on the right side of the screen, you can make this number more positive.

**Collapsible Tree** – R

* Pros:
  + shows maximum amount of information
  + interactive
  + visually neat
  + easy to follow the path of information without seeing too much at once
* Cons: issue with embedding
* Data: PP broad categories, LC categories, PP specific categories, LC call numbers
* Data structure: in Excel, one column for each of the variables (highlighted = used)

|  |  |  |  |
| --- | --- | --- | --- |
| **PP Broad** | **PP Specific** | **LC Call Number** | **LC Category** |
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* Instructions:
  + Title columns: PPbroad, PPspecific, LCnumber, LCcategory
  + Save Excel spreadsheet as a CSV, using the filename “phil\_collapse.csv”.
  + Load spreadsheet into R Studio:
    - Under “Import Dataset”, choose “From Text (readr)”.
    - Select the CSV file and load.
  + Choose the folder you want to save your file to:
    - Go to the Session tab.
    - Choose “Set Working Directory” > “Choose Directory…”
    - Pick the folder you want to use.
  + To create the tree, paste the following code into the top left window, and click “Run”:

install.packages("collapsibleTree")

library(collapsibleTree)

phil\_coll\_tree <- collapsibleTree(phil\_tree, c("ppbroad","lcbroad","ppnarrow","lcnarrow")); phil\_coll\_tree

* + To save the tree, paste the following code into the top left window, and click “Run”:

library(htmlwidgets)

saveWidget(phil\_coll\_tree, file="phil\_collapse\_tree.html")

**Network Analysis** – Connect the Dots ([www.databasic.io/en/connectthedots](http://www.databasic.io/en/connectthedots))

* Pros:
  + colorful
  + interactive
* Cons:
  + the categories from PhilPapers and LC look exactly the same, so it’s hard to tell how the two systems interact
  + hard to tell anything about the information except how complex it is
* Data: “from-to” list
  + *Note: This is similar to the way you arrange data for the R dendrogram, but the columns should originally be in a different order.*
  + How to create from the previously described spreadsheets:
    - Rearrange columns to be in this order: PP broad, PP specific, LC category,. You will not need LC call number.
    - Your first two columns (PP broad and PP specific) are correct.
    - Copy columns 2 and 3 (PP specific and LC category) and paste them beneath the first two.
    - Delete everything but first two columns.
* Instructions:
  + At [www.databasic.io/en/connectthedots](http://www.databasic.io/en/connectthedots), go to the “paste rows” tab and paste your Excel columns.
    - Make sure that “has header row” is not checked if you do not have titles for your columns.
  + Click “Graph”.