

Two types of genealogical networks: p-graph has marriages as nodes and lines as individuals; Ore-graphs have individuals as nodes.

- P-graphs allow you to compute structural cohesion (bicomponents) directly.
- P-graphs let you visualize marriage structure in Pajek simply and directly.
- Ore-graphs let you do complete marriage census.
- Ore-graphs let you visualize second order marriage structure in Pajek – how different types of marriage overlap, i.e., someone may marry a brother's wife who is also a cousin. Generally, there is a dense and extensive network of such overlaps.
- The two representations are equivalent.
- In both cases the essential analytic and visualization tool is Pajek
- Google: pajek to download and install to a windows system (it is free).

Two ways to create genealogical data files.

- 1. Enter data with Genealogy software such as Brother's Keeper, Family Origins, etc.**
 - Export *.ged file
 - Read with Pajek, you have a choice of p-graph or Ore-graph format.
 - For instructions see Chapter 11, de Nook, Mrvar, Batagelj (2005), *Explanatory Social Network Analysis with Pajek*
- 2. Create an EXCEL file. This has the advantage that you can do a marriage census.**
 - See Hamberger, et al. (2005), and follow the instruction sheet attached.
 - Disadvantage is that you get only an Ore-graph and cannot get a p-graph in Pajek.
- 3. Use the same EXCEL file and export to a text file. Then reformat the header lines and use Ego2Cpl to get a p-graph.**
 - Columns must be spaced evenly
 - The new header file will look like this, with sample data in Courier font:

1 Title

(I5,A14,A1,3i5)

0001 Johann Bach M 0003 0004 0002

0002 Maria Haas F 0017 0018 0002

- The (format) says read 5 cols integer (ego), 14 cols alphanumeric (name), 1 column alpha (sex), and three integer columns 5-columns each (spouse, father, mother).
- The ego2cpl.exe program is downloaded to the same directory as the data, from <http://eclectic.ss.uci.edu/~drwhite/pgraph/ego2cpl.html>
- It runs in windows DOS (somewhere in your program directory)
- It outputs a p-xxx.net file which is in p-graph format for Pajek.
- It outputs an xxx.ged file that can be read by Pajek as an Ore-graph

Creating a basic (1st order) network with GEN2PAJEK

- **Create an EXCEL file** (e.g. "Ragusa.XLS") with 6 columns (Ego's number, name, sex [M/F], Fa's number Mo's number Sp's number), with as many lines per person as the person has spouses. Replace empty cells by a 0 (zero). Quit EXCEL.
- **Open GEN2PAJEK** (<http://eclectic.ss.uci.edu/download/gen2pajek.exe>).
- Define the input file ("Ragusa.XLS") clicking on "input file".
- Name the output file (e.g. "Ragusa rough.NET").
- Click "Create Pajek File".
- When finished, quit GEN2PAJEK.

In this graph the arcs indicate 1=Wi to Hu; 2,3=Mo to Da,So; 4,5=Fa to Da,So.

You can use Ring Cohesion Methods to do a complete marriage Census

- **Open PAJEK 1.02** (<http://vlado.fmf.uni-lj.si/pub/networks/pajek/pajek102.exe>).
- Line Network, click “Open” button on the left: open “Ragusa rough.NET”.
- Menu **Macro / Play**: choose and open “**M1 - Prepare Basic Network (1 Edge Value).MCR**”.
- Save the resulting network (N7, *e.g.* as “Ragusa1.NET”): Line “Network”, click “Save” button on the left.
- Quit PAJEK.

Continue with instructions from Isabelle Daillent at

http://eclectic.ss.uci.edu/~download/I-Daillant_Summarized_Instructions.pdf