Marital Structure

Lineages

Conclusion 00 Appendix

Evolving Family Structures Representation and Visualization

J. R. Hott ¹ W. N. Martin ¹ K. Flake ²

¹Computer Science, University of Virginia

²Religious Studies, University of Virginia

Marital Structure

Lineages

Conclusion 00 Appendix

▲ロト ▲周ト ▲ヨト ▲ヨト ヨー のくで

Computer Science Interest

Time-evolving network

- Visualization
 - Chord diagram
 - [Kassel et al., 1995, Holten, 2006, Kirk, 2012, Bostock, 2012]
 - Flow Diagram [Harris, 1996]
- Temporal metrics

Marital Structure

Lineages

Conclusion 00 Appendix

Data Collaborators

Nauvoo Community Project

- http://nauvoo.byu.edu/
- Jill Crandell
- Initial Nauvoo database
- 54,602 individuals, 17,886 marriages
- Focus on subset of this data



Marital Structure

Lineages 00 Conclusion 00 Appendix

Cast of Characters

Visualization examples centered on the following:

- Zina Diantha Huntington
- Prescendia Lathrop Huntington
- Henry Bailey Jacobs
- Brigham Young
- Joseph Smith
- Heber Chase Kimball
- Norman Buell

Marital Structures

Lineages

Appendix

Historical Research Interest

Questions to consider

- What is a marriage? What was it considered at the time?
- How does timing impact that definition?
- What is a family? What is a household?
- Do families and marriages align? What does it mean if they do not?
- How do these family structures relate to ecclesiastical relationships?

Marital Structures

Lineages

Conclusion 00 Appendix

Marriage Structures

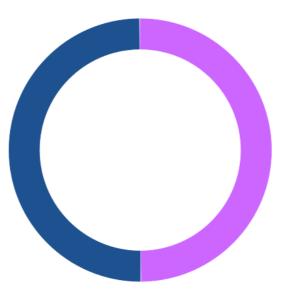


Figure: Chord diagram: Brigham Young • Live demo ford.cs.virginia.edu/nauvoo



Marital Structures

Lineages

Conclusion

Appendix

Marriage Structures

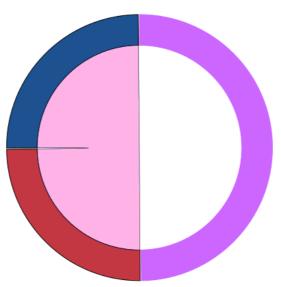


Figure: Chord diagram: Marital Unit for Brigham Young • Live demo

Marital Structures

Lineages

Conclusion

Appendix

Marriage Structures

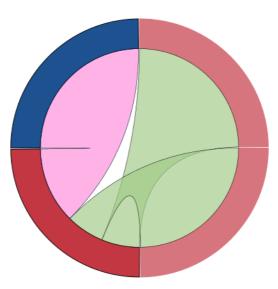


Figure: Chord diagram: Marital Unit for Brigham Young • Live demo

Marital Structures

Lineages 00 Conclusion

Appendix

Marriage Structures

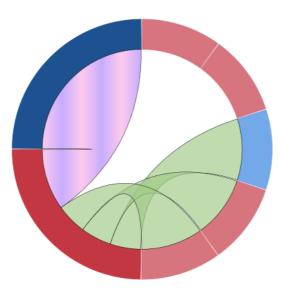


Figure: Chord diagram: Marital Unit for Brigham Young • Live demo

Marital Structures

Lineages 00 Conclusion

Appendix

◆□▶ ◆□▶ ◆□▶ ◆□▶ □ ● のへで

Marriage Structures

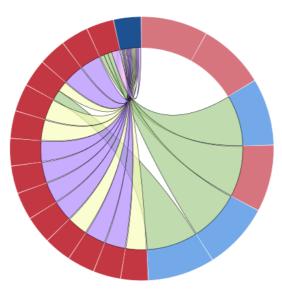


Figure: Chord diagram: Marital Unit for Brigham Young • Live demo • More Complex • Alt Example



Figure: Chord diagram: Marital Unit for Brigham Young

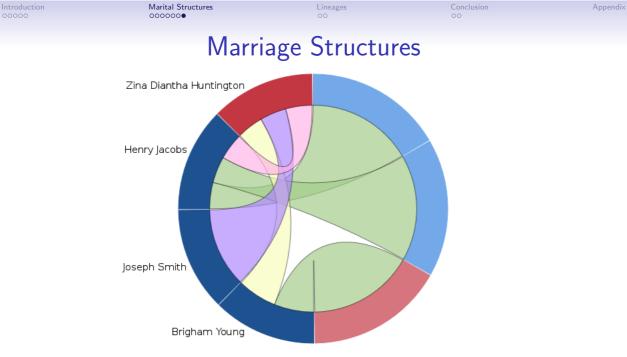


Figure: Zina Diantha Huntington's marriages

Marital Structure

Lineages •0 Conclusion

Appendix

Lineage View

Zina Diantha Huntington

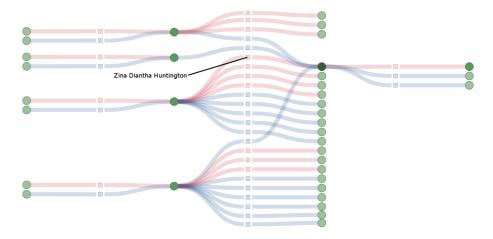


Figure: Flow Diagram from Zina Huntington's point of view • Live demo

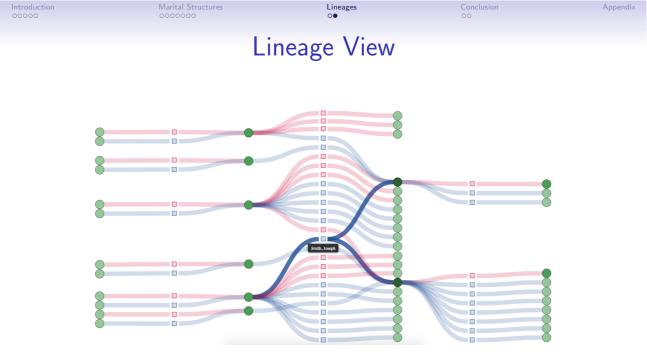


Figure: Flow Diagram from Zina and Prescendia Huntington's point of view • Live demo

tal Structures 0000	Lineages 00	Conclusion ●O	Appendix

Conclusion

Historical Research Questions

- What is a marriage? What was it considered at the time?
- How does timing impact that definition?
- What is a family? What is a household?
- Do families and marriages align? What does it mean if they do not?
- How do these family structures relate to ecclesiastical relationships?

▲□▶ ▲□▶ ▲□▶ ▲□▶ □ のQ@

Computer Science Interest

- Time-evolving network
- Visualization
- Temporal metrics

Marital Structure

Lineages

Conclusion

Appendix

Thank You

- jh2jf@virginia.edu
- www.cs.virginia.edu/~jh2jf
- Samples:

ford.cs.virginia.edu/nauvoo

- Institute for Advanced Technology in the Humanities
 - www.iath.virginia.edu

Bostock, M. (2012). Chord Diagram. http:
//bl.ocks.org/mbostock/4062006. [Online; accessed 8-September-2014]. Harris, R. (1996).
Information Graphics: A Comprehensive Illustrated Reference : Visual Tools for Analyzing, Managing, and Communicating. Management Graphics.
Holten, D. (2006). Hierarchical edge bundles: Visualization of adjacency relations in hierarchical data.
Visualization and Computer Graphics, IEEE Transactions on, 12(5):741–748. Kassel, C., Turaev, V., et al. (1995). Chord diagram invariants of tangles and graphs.
Technical report, Inst. de Recherche Math. Avancée. Kirk, A. (2012). Data Visualization: A Successful Design Process. Community experience distilled. Packt

▲ロト ▲母 ト ▲ ヨ ト ▲ ヨ - 一 の へ ()