**Week 03**

# Visualizing networks

**Thursday, September 9**

INFO 5613: Network Science

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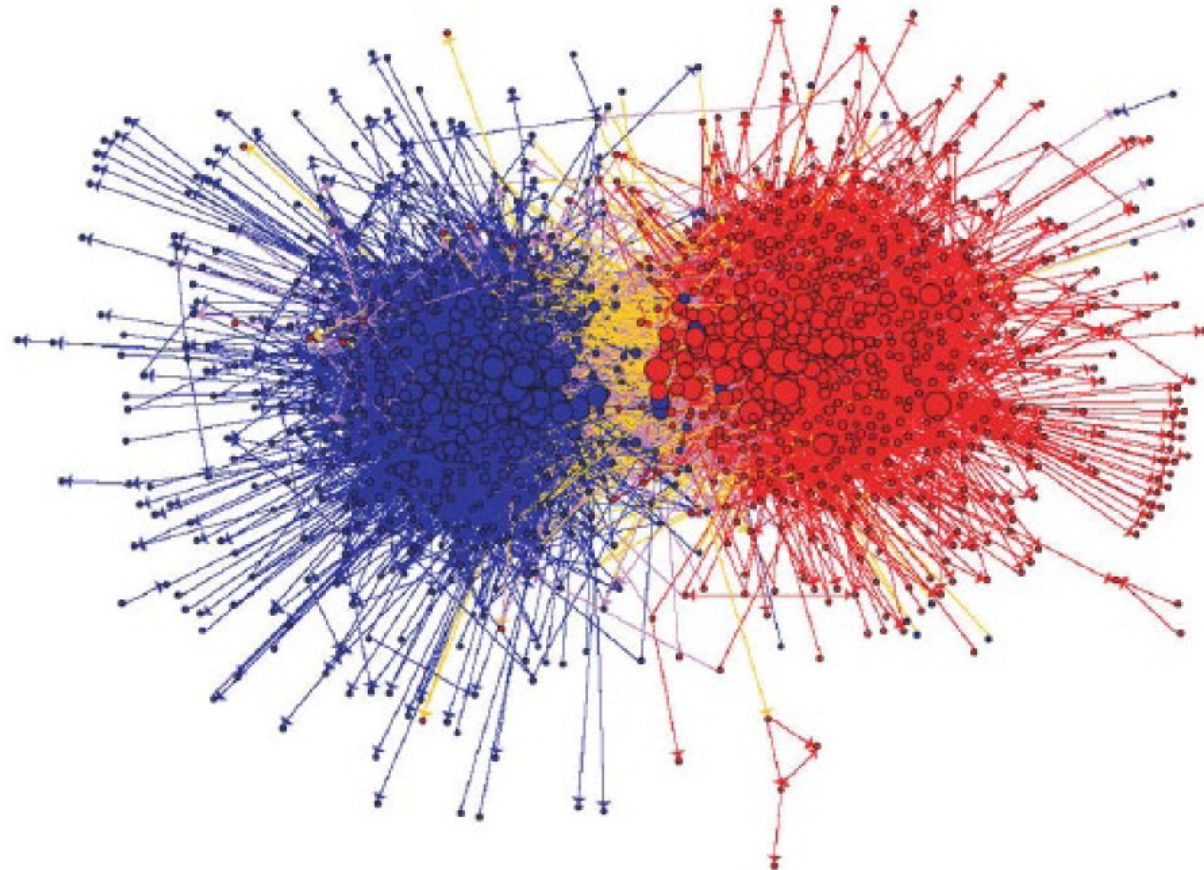
University of Colorado Boulder

# Agenda

- Guest Lecture: Prof. Brooke Foucault Welles on rhetoric of network visualization
- Reading discussion

# Lecture

# Guest Lecture

○ Prof. Brooke Foucault Welles on her 2015 article "Visualizing Computational Social Science"

Adamic, L. A., Glance, N. (2005). "The political blogosphere and the 2004 US election: Divided they blog." In *Proceedings of the 3rd International Workshop on Link Discovery* (pp. 36-43). ACM.

# Alternatives to Adamic & Glance 2005

Foucault Welles, B. & Meirelles, I. (2015). "Visualizing Computational Social Science: The Multiple Lives of a Complex Image." *Science Communication*, 37(1): 34-58.

# Reading discussion

# Kinds of networks (nodes, edges)

- Sopranos (characters, relationships)
- Wikipedia discussions (users, replies)
- HBO productions (actors and series, appearances)
- Telegram references (channels, mentions)
- Shanghai Metro (stations, railways)
- TV networks (networks and producers, ownership)
- Phone traffic (location, call volume)
- International trade (countries, trading)

- Foster care (locations, placements)
- Supply chains (products, dependencies)
- Food pairings (ingredients, shared recipes)
- Fan shipping (articles, relationships)
- Music collaborations (artists, collaborations)
- Corporate ownership (brands and companies)
- Extremists on Twitter (accounts, mentions/replies)
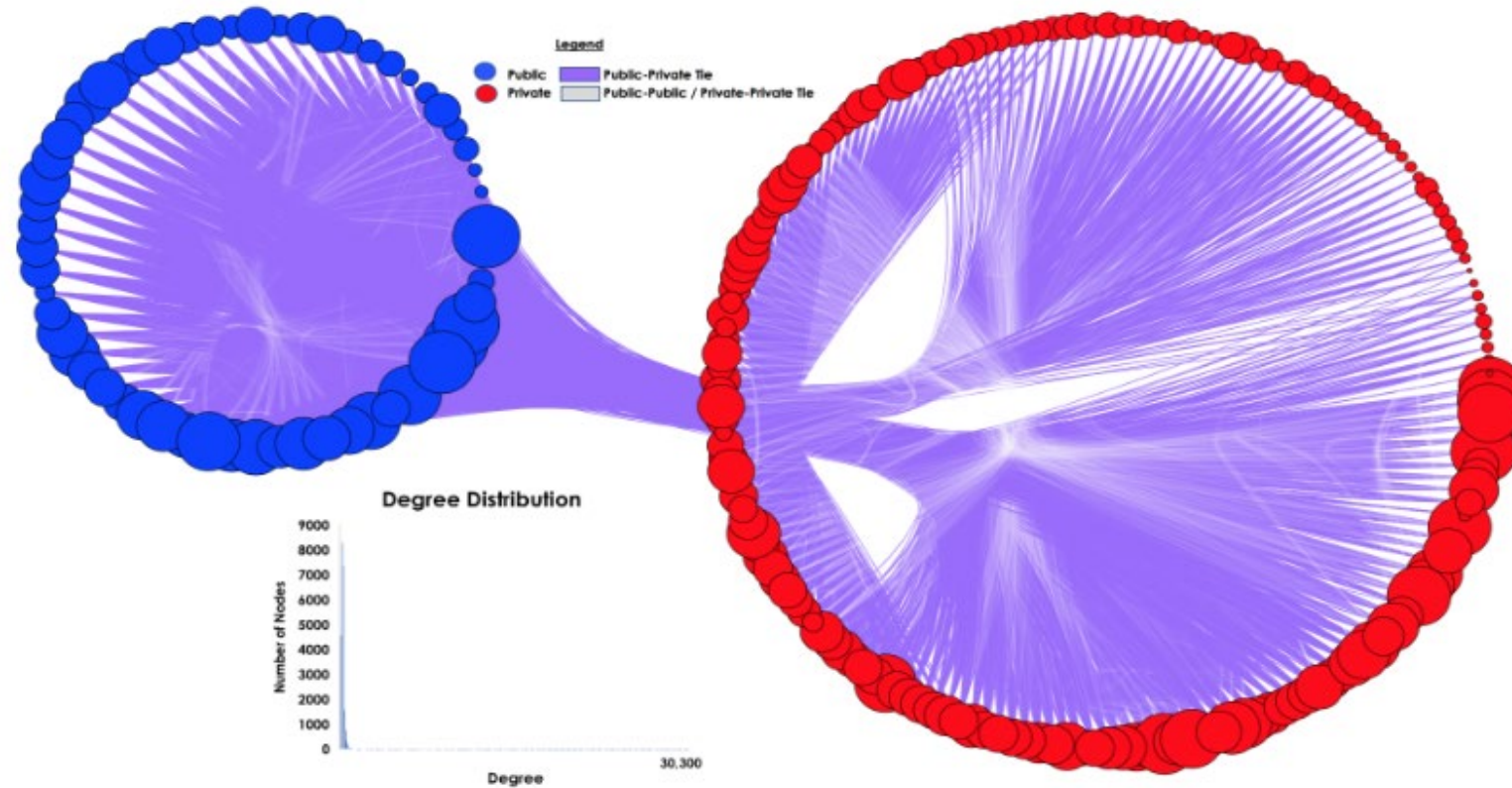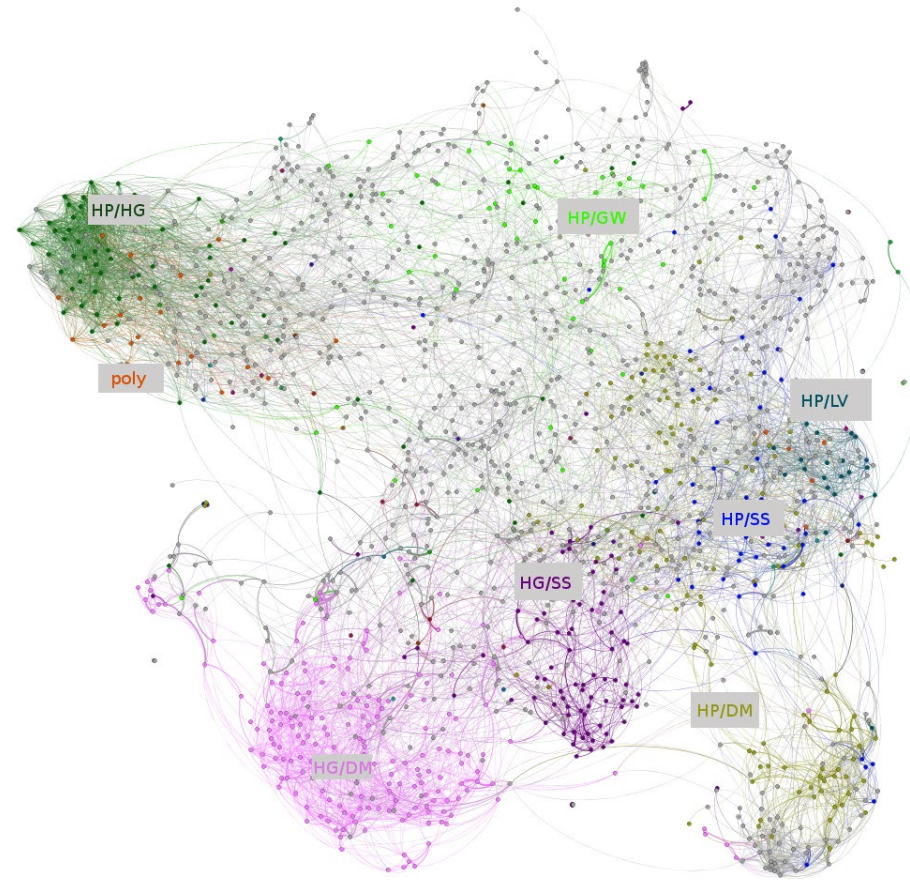
# Surveillance assemblies



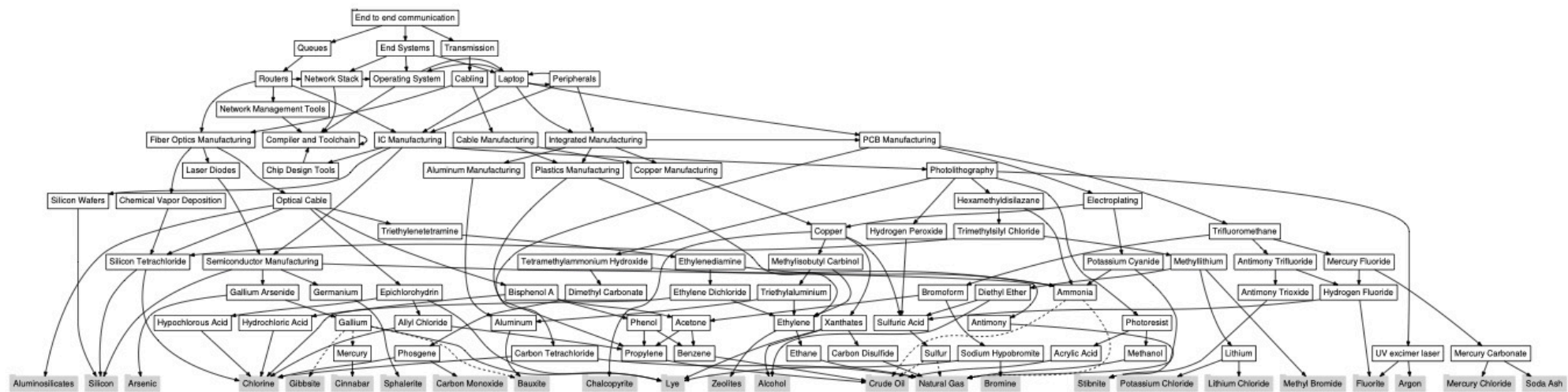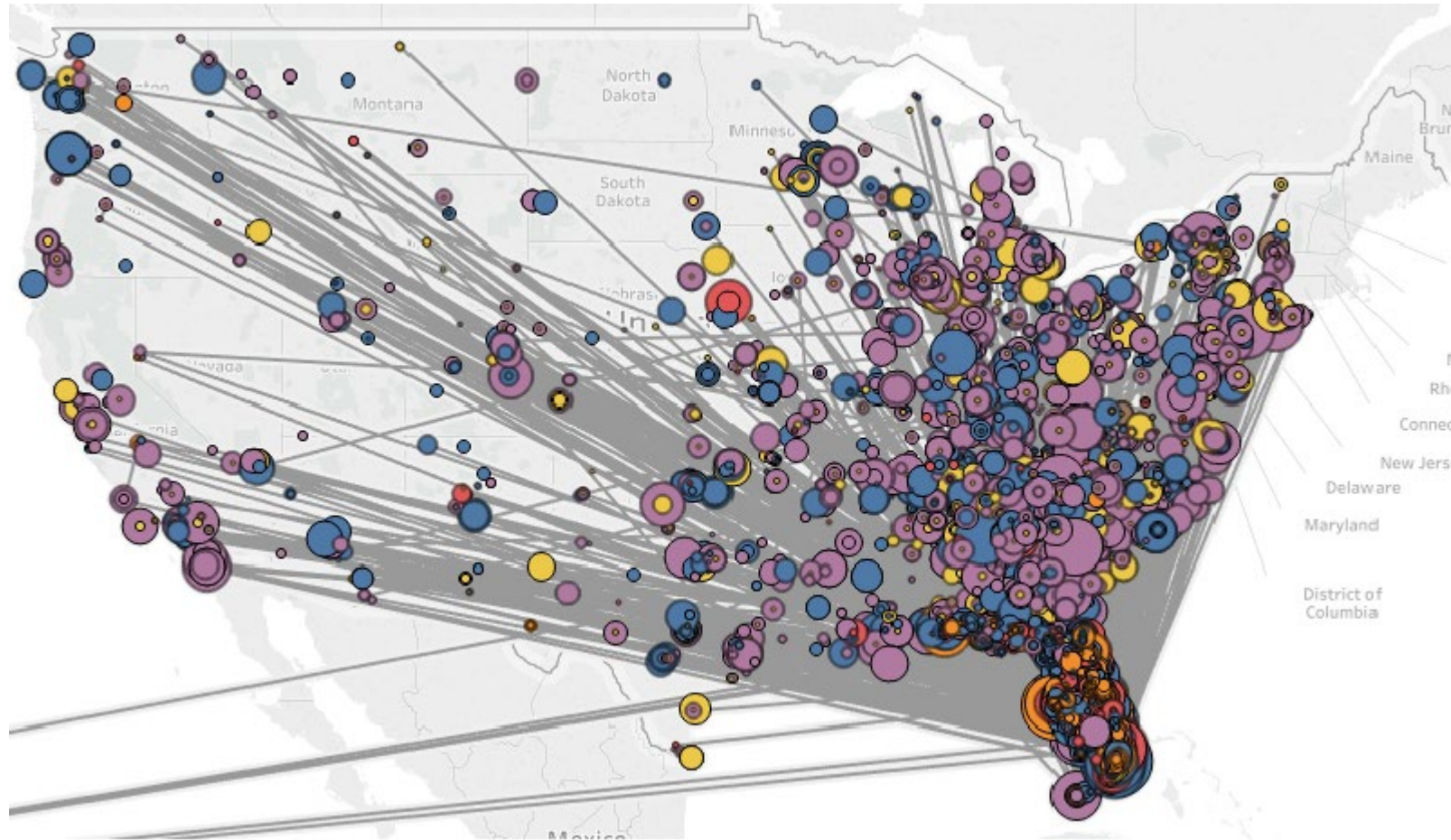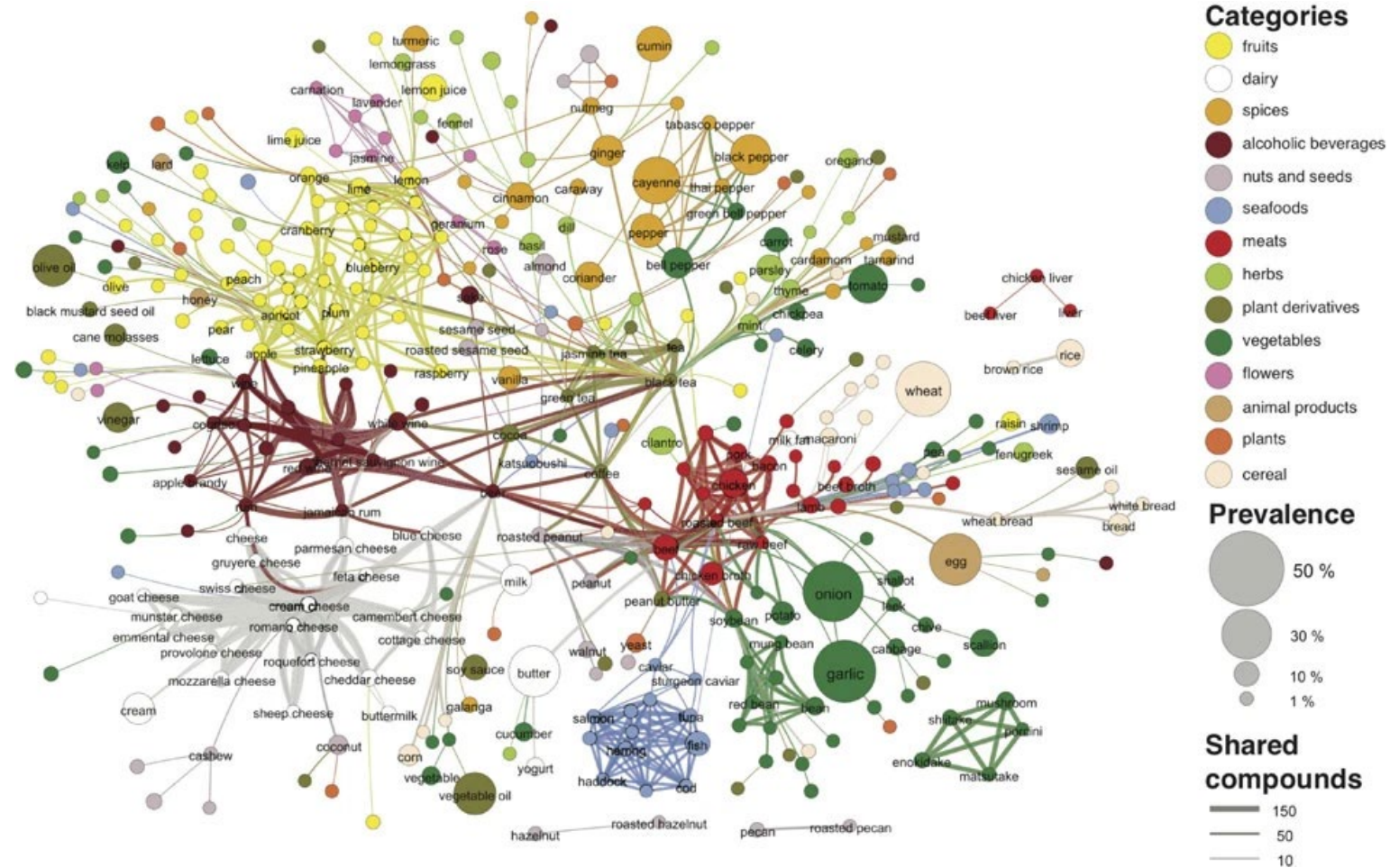Figure 4: Network graph, 2000–2009.[7]

# Fandom shipping

Figure 1: Dependencies of the end-to-end communication use case.

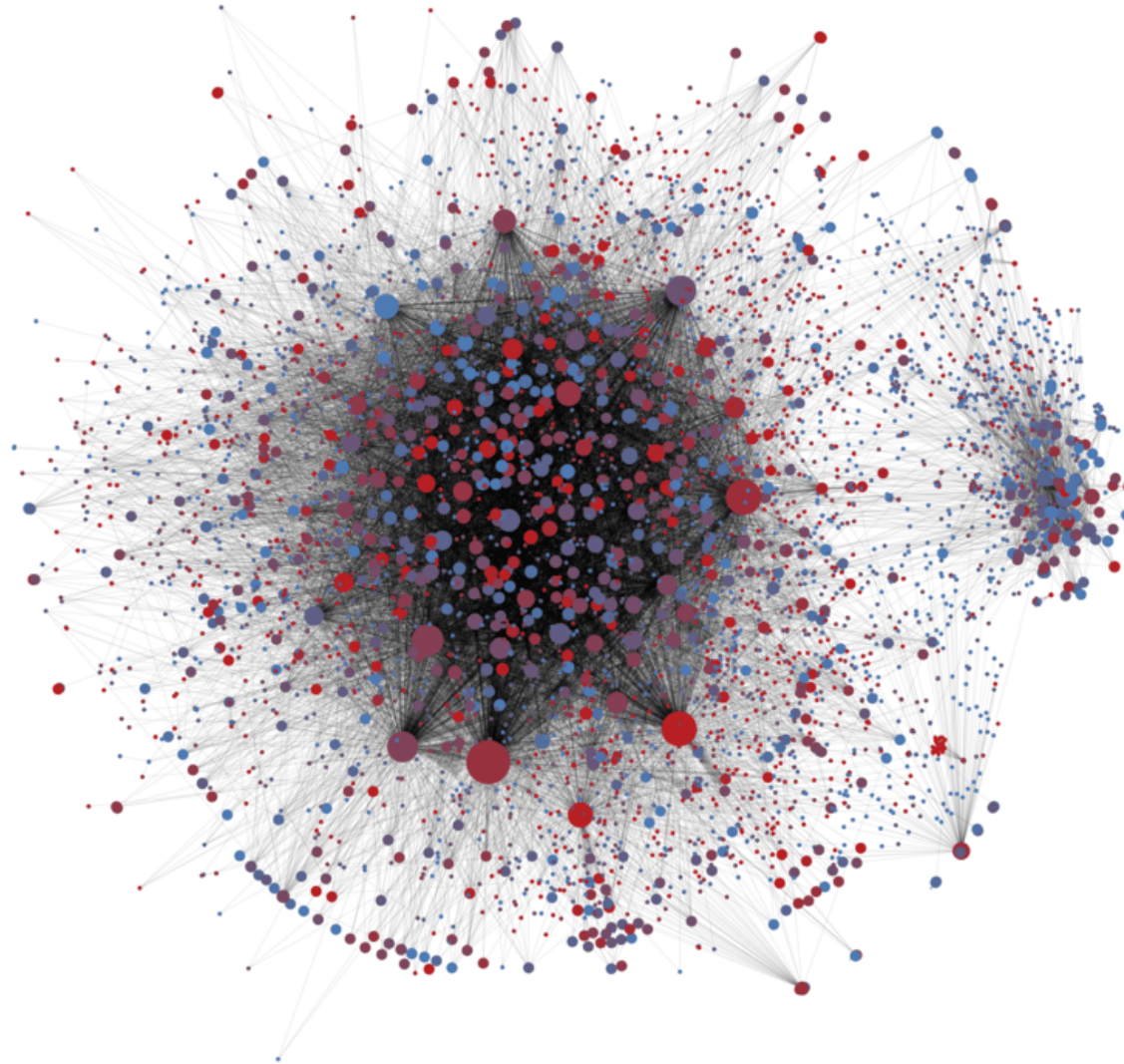# Foster care placements

# Food ingredient pairings



Ahn, YY, Ahnert, SE, Bagrow, JP, Barabasi, AL. (2011). "Flavor network and the principles of food pairing." *Scientific Reports*, 196.

# #SB277 hashtag

https://cnets.indiana.edu/blog/2016/11/28/why-we-study-digital-misinformation/

# Coming attractions

# Module Assignment 1

○ Due Friday, September 17 by midnight on Canvas

○ Find an article around your research interests employing network theories/concepts/methods

○ How did you encounter this paper, it or its authors' influence in your research area, *etc*.

○ Summarize the key relational constructs used by the paper: what are nodes and links?

○ Write a critique using the concepts about data collection, validity, ethics, visual rhetorics

○ Outline how the research could've/should've been done if you were driving it

○ Upload ~1,000-word review to Canvas:
https://canvas.colorado.edu/courses/76045/assignments/1173464

# Peer review writing resources

- **If you only read one**:
  - McDonald, D. & Bjorn, P. (2014). "Checklist for reviewing a paper (Links to an external site.)."

- "Step by step guide to reviewing a manuscript (Links to an external site.)." Wiley.
- "How to conduct a review (Links to an external site.)." Elsevier.
- "How to Write a Peer Review (Links to an external site.)." PLoS.
- Stiller-Reeve, M. (2018). "A Peer Review Process Guide (Links to an external site.)."
- Chamberlin, J. (2008). "A how-to for peer review (Links to an external site.)."
- Trietsch, C. (2019). "A Beginner's Guide to the Peer Review System (Links to an external site.)."

# Next class

- Readings
  - Freeman, L. C. (1978). Centrality in social networks: Conceptual clarification. *Social Networks*, 1(3):215–239
  - Borgatti, S. P., Jones, C., and Everett, M. G. (1998). Network measures of social capital. *Connections*, 21(2):27–36
  - Lin, N. (1999). Building a network theory of social capital. *Connections*, 24(1):28–51