

Social Networks
Sociology 290, Sem 1.
University of California at Berkeley
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This course is intended as an uneven survey of what sociologists would find interesting about social networks. Social networks is an analysis-heavy subfield; this class straddles both substantive and methodological concerns. Those who are interested in a more technical treatment have the option of an add-on session dealing with some advanced methods (see appendix).

Requirements: Regular and cheerful attendance is, as always, expected, as well as keeping up with the readings. Students taking the class for three or more credits are expected to write a paper, and indeed to be able to talk about the relation of your paper to materials when appropriate. You have options, though severely limited, as to the form it takes. (1) [most favored status] An actual research paper; (2) a methodological paper comparing methods of analysis to the same data or something like that; (3) an analytic paper [least favored, but tolerated]. If you do an actual research paper, this may either be a “formal” network analysis, which may be an analysis of original or secondary, or a different type of analysis (e.g. ethnographic).

REQUIRED READINGS

There are 2 (or 4 if you can find the other two at a reasonable price) books that we’ll read so much of that purchase is pretty much required—they’re in the cute floating text box on perhaps this page. The two without exclamation points should be in the University Bookstore. The other two are expensive—see if you can find a used copy; otherwise we’ll have to put it on reserve. All other readings (including all articles) will be passed out, placed on reserve, or available on JSTOR or something like that. For each topic, I give a bunch of readings that are standard in addition to the required (the required has an asterisk by it/them). These are for people who want to explore the topic further or read the original.

Warning: In some sections I may add or substitute readings as we get closer and I get a better sense of where the class is at.

There may also be additional modules for people who are interested in a more mathematical exploration of current techniques. These will be additional meetings at a different class time to be arranged.

The syllabus is organized into major divisions (given as capital Roman numerals), with chunks within (given by capital letters) that usually (but not always) correspond to a week. Within this are topics (Arabic numbers); readings for topics are listed with small letters a, b, c... So to figure out what to read, you 1) find the week; 2) find the topics covered that week; 3) find the readings for the topics; 4) decide what you are going to read.

Note: The main readings are chosen to familiarize you with the topic in question in the most accessible and citable way I am aware (a trade-off between the two); the extended readings are for those who want to read the classic statements of certain problems or methods, or explore a slightly more detailed or sophisticated treatment. They are not intended to represent all the worthy studies in social networks analysis of which I am aware. If wonderful work isn't here (e.g. yours), don't be offended. I don't assign my own materials; however, last time students found my not referencing them somewhat disturbing—perhaps they thought I didn't actually know anything about social network analysis—and suggested that I at least put them in the syllabus next time which I have done.

Books, the first two of which are Required and Available at the Bookstore:

Wasserman and Faust, Social Network Analysis

White, Identity and Control

Bearman, Relations into Rhetorics !!

Mizruchi, The Structure of Corporate Political Action !!

CLASS OUTLINE

I. BEGINNINGS

Week #1: January 22

A. Notation

1) Overview

- a) Barry Wellman, introduction to *Social Structures: A Network Approach*.
- b) Ronald L. Breiger, "The Analysis of Social Networks," in Melissa Hardy and Alan Bryman (eds.), *Handbook of Data Analysis* (London: Sage, forthcoming 2003).
- c) Ronald Burt, *Toward a Structural Theory of Action*, chapters 1 and 9.

2) Representations of networks as graphs, sets and matrices

- a) Wasserman and Faust 1-27, 69-166*
- b) John Scott, *Social Network Analysis*
- c) any introductory text on set theory might help

Week #2: January 29

B. Types of Networks

We discuss

1) Ego-Centered Networks

- a) Scott Feld. 1991. "Why Your Friends Have More Friends Than You Do." *American Journal of Sociology* 96:1464-77.*
- b) Peter Marsden, "Core Discussion Networks," *American Sociological Review* v. 52 1987.

2) One-Mode Networks

- 3) Two-Mode (Affiliation) Networks
 - a) J. Miller McPherson. 1982. "Hypernetwork Sampling: Duality and Differentiation among Voluntary Organizations." *Social Networks* 3:225-249.

and ways in which they can be studied.

→ Wasserman and Faust 28-66*

We also discuss the reading that was technically required for last time, and perhaps something more general on social networks.

Week #3: February 5

C. From Structure to Networks

We can deal with the complexity of networks by grouping the **alters** into structurally equivalent blocks, and considering all ties the same. Hence You are tied to your aunt through a "sister" tie appended to a "mother" or "father" tie. While networks are often touted as an alternative perspective to classic role theory, really the most interesting aspects have been an attempt to re-create role theory.

- 1) The Idea of Social Structure
 - a) see the book of this name by George Park
 - b) and the classic writings of Herbert Spencer
- 2) Kinship Structures
 - a) Claude Levi-Strauss, *The Elementary Structures of Kinship*, pp. 12-83, 119-133, 146- 220, 232-309. (Chs. 2-6, 9, 11-13, 15-17).*
 - b) Harrison White, *An Anatomy of Kinship*
 - c) Peter Bearman. 1997. "Generalized Exchange," *American Journal Of Sociology* 102: 1383-1415.
 - d) Franklin E. Tjon Sie Fat, 1990. *Representing Kinship: Simple Models of Elementary Structures*. Published Dissertation. Leiden: Leiden University.

ADVANCED MODULE 1 ON ALGEBRA WOULD BE NOW

Week #4: February 12

- 3) Structure from Networks
 - a) S. F. Nadel, *Social Structure*, 1-19, 62-73, 79-92, 97-104, 147-152.
 - b) Scott Boorman and Harrison White. 1976. "Social Structure from Multiple Networks II: Role Structures." *American Journal of Sociology* 81:1384-1446.
 - c) R.L. Breiger and P.E. Pattison. 1986. "Cumulated Social Roles: The Duality of Persons and Their Algebras," *Social Networks* 8 : 215-256
 - d) Philippa Pattison. 1994. *Algebraic Models for Social Networks*. Cambridge.
- 4) A New Network Anthropology
 - a) Elizabeth Bott. 1955. "Urban Families: Conjugal Roles and Social Networks." *Human Relations* 8: 345-384.*

- b) Gwendolyn Moore. 1990. "Structural Determinants of Men's and Women's Personal Networks." *American Sociological Review* 55:726-35.*

My own contributions for section I would be

- IB2: (With King-To Yeung and Benjamin Zablocki). "The Urban Communes Data Set: A Gold Mine for Secondary Analysis." *Connections* 24(2001):54-59.
- IC3: *Social Structures*. Presumably Forthcoming, Princeton University Press.

ADVANCED MODULE 2 ON RANDOM GRAPHS WOULD BE NOW

II. NETWORK STRUCTURE

Week #5: February 19

A. Properties of Nodes

- 1) Attractiveness and Expansiveness: popularity and niceness
 - a) Wasserman and Faust, 169-219 (this is also the reading for section 2)*
 - b) Roger Gould, 2002. "The Evolution of Status Hierarchies." *American Journal of Sociology* 107: 1143-1178.*
 - c) James Coleman, *The Adolescent Society*
 - d) John W. Kidd, "An Analysis of Social Rejection in a College Men's Residence Hall." *The Sociometry Reader*, pp. 428-436.
 - e) Paul Holland and Samuel Leinhardt, "An Exponential Family of Probability Distributions for Directed Graphs." *Journal of the American Statistical Association* 76(1981):33-50
 - f) Stanley Wasserman and Dawn Iacobucci. "Statistical Analyses of Discrete Relational Data." *British Journal of Mathematical and Statistical Psychology* 39 (1986):41-64
 - g) other Wasserman, Fienberg, Faust, and Pattison pieces too numerous to include here; the Chapter 15 by Iacobucci in Wasserman and Faust gives this approach to the Holland and Leinhardt model. But it might be easier to first read the Holland and Leinhardt and then see how this makes sense of it.

- 2) Centrality
 - a) Wasserman and Faust same as above*
 - a) Bonacich, P. 1987. "Power and Centrality: A Family of Measures." *American Journal of Sociology* 92:1170-1182.
 - b) Wayne Baker and Robert Faulkner. 1993. "The Social Organization of Conspiracy," *American Sociological Review* 58:837-860.*
 - c) Bell, D. C., J. S. Atkinson, and J. W. Carlson. 1999. "Centrality Measures for Disease Transmission Networks." *Social Networks* 21:1-21.
 - d) Bolland, J. M. 1988. "Sorting Out Centrality: An Analysis of the Performance of Four Centrality Models In Real and Simulated Networks." *Social Networks* 10:233-53.
 - e) Linton Freeman. 1977. "A Set of Measures of Centrality Based on Betweenness." *Sociometry* 40:35-41.
 - f) Linton Freeman. 1978-1979. "Centrality in Social Networks." *Social Networks* 1:215-39.

- g) Friedkin, Noah. E. 1991. "Theoretical Foundations for Centrality Measures." *American Journal of Sociology* 96:1478-504.
- 3) Embeddedness and Social capital
- a) James Coleman. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94:S95-S120.*
- b) Mark Granovetter. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology* 91:481-510.
- 4) Brokerage
- a) Mark S. Granovetter. 1973. "The Strength of Weak Ties," *American Journal of Sociology* 78: 1360-1380*
- b) Ronald Burt, "The Social Origins of Good Ideas,"
(<http://gsbwww.uchicago.edu/fac/ronald.burt/research/SOGL.pdf>)
- 5) Power
- a) Karen S. Cook and Richard M. Emerson. 1978. "Power, Equity and Commitment in Exchange Networks." *American Sociological Review* 43:721-739.*
- b) Bonacich, "Power and Centrality: A Family of Measures," *American Journal of Sociology* 92(1987):1170-1182.
- c) Cook, Emerson, and Yamagishi, "The Distribution of Power in Exchange Networks: Theory and Experimental Results." *American Journal of Sociology* 89(1983):275-305.
- d) Karen Cook and Whitmeyer. 1992. "Two Approaches to Social Structure." *Annual Review of Sociology* 18:109-127.

ADVANCED MODULE 3 ON PROBABILITY MODELS WOULD BE NOW

Week #6: February 26

- B. Properties of Networks (especially important in communication and epidemiological networks)
- 1) Reaching many people or avoiding some (Connectedness and Span)
- a) Wasserman and Faust, review 109-136*
- b) Peter Bearman, Katherine Stovel and James Moody, "Chains of Affection."*
- c) Dexter C. Dunphy. 1963. "The Social Structure of Adolescent Peer Groups." *Sociometry* 26:230-246.
- 2) Balance (especially important in friendship networks)
- a) Fritz Heider. 1946. "Attitudes and Cognitive Organization," *Psychological Review* 52:358-374
- b) Dorwin Cartwright and Frank Harary. 1956. "Structural Balance," *Psychological Review* 63:277-293*
- c) Frank Harary. 1955. "On Local and N-balance of Signed Graphs," *Michigan Mathematical Journal* 5:37-41.
- d) Wasserman and Faust, 220-247* (skim what you understand from Cartwright and Harary).

- 3) Transitivity (important in many networks and organizations)
- a) Paul Holland and Samuel Leinhardt. 1970. "A Method for Detecting Structure in Sociometric Data" *American Journal of Sociology* 76: 492-513.*
 - b) Katherine Faust and John Skvoretz, "Comparing Networks Across Space and Time, Size and Species," *Sociological Methodology* 2002.**
 - c) Wasserman and Faust, 564-575, 581-582 (may skim)*
 - d) Ivan D. Chase. 1980. "Social Processes and Hierarchy Formation in Small Groups: A Comparative Perspective." *American Sociological Review* 45:905-924.*
 - e) James Davis and Samuel Leinhardt. 1972. "The Structure of Positive Interpersonal Relations in Small Groups." In Joseph Berger, Morris Zelditch, Jr., and Bo Anderson (eds.), *Sociological Theories In Progress Volume 2*, Boston: Houghton Mifflin, pp. 218-251,
 - f) Paul Holland and Samuel Leinhardt. 1971. "Transitivity in Structural Models of Small Groups." *Comparative Group Studies* 2: 107-124,
 - g) Paul Holland and Samuel Leinhardt. 1976. "Local Structure in Social Networks," *Sociological Methodology* 1976: 1-45
 - h) Eugene Johnsen. 1985. "Network Macrostructure Models for the Davis-Leinhardt Set of Empirical Sociomatrices." *Social Networks* 7: 203-224.
- 6) Trees (important in organizations)
- b) Morris Friedell. 1967. "Organizations as Semilattices" *American Sociological Review* 32:46-54.*
 - c) Harrison White, "Management Conflict and Sociometric Structure." *American Journal of Sociology* 67 (1961): 185-187.
 - d) Carl H. Landé. 1973. "Networks and Groups in Southeast Asia: Some Observations on the Group Theory of Politics." *American Political Science Review* 67:103-127.
 - e) James C. Scott. 1972. "Patron-Client Politics and Political Change in Southeast Asia." *American Political Science Review* 66: 91-113.*
 - f) Andrew J. Nathan, "A Factionalism Model for CCP Politics," in *Friends, Followers, and Factions: A Reader in Political Clientalism*, edited by Steffen W. Schmidt, James C. Scott, Carl Landé, and Laura Guasti. Berkeley: University of California.
- 7) Structural Equivalence
- a) Wasserman and Faust, 345-361 (look at 361-391), 394-423.*
 - b) Francois Lorrain and Harrison White. 1971. "Structural Equivalence of Individuals in Social Networks." *Journal of Mathematical Sociology* 1:49-80.
 - c) Harrison White, Scott Boorman, and Ronald Breiger, "Social Structure from Multiple Networks I: Blockmodels of Roles and Positions." *American Journal of Sociology* 81 (1976):730-779
 - d) Ronald Breiger, Scott Boorman, and Phipps Arabie, "An algorithm for clustering relational data...", *Journal of Mathematical Psychology* 12(1975):328-383
 - e) Ronald Burt, "Positions in Networks," *Social Forces* 55(1976):93-122.

My own contributions for section II would be

- IIA5: (With Sylvia Fuller). "Women's Status in Eastern NRMs." *Review of Religious Research* 44(2003):354-369.
- IIA5: (With Sylvia Fuller). "Gendered Power Dynamics in Intentional Communities." *Social Psychology Quarterly* 67(2004):369-384.
- IIB3: "Structures of Power in Naturally Occurring Communities." *Social Networks* 20(1998):197-225.

WE COULD DO AN ADVANCED MODULE ON EQUIVALENCE?

III. EFFECTS OF NETWORKS

Week #7: March 4

A. Diffusion

1) Diseases

- a) Samuel Friedman et al. 1997. "Sociometric Risk Networks and Risk for HIV Infection." *American Journal of Public Health* 87: 1289-1296.*
- b) Martina Morris. 1993. "Epidemiology and Social Networks," *Sociological Methods and Research* 22:99-126.*
- c) Rothenberg, Potterat, Woodhouse, Darrow, Muth, and Klovdahl. 1995. "Choosing a Centrality Measure: Epidemiologic Correlates in the Colorado Springs Study of Social Networks." *Social Networks* 17:273-97.
- d) Lisa Sattenspiel, "Models of Infectious Diseases," *Annual Review of Physical Anthropology*, 199 [I'm having trouble finding this...]
- e) James Moody, 2000. "The Importance of Relationship Timing for STD Diffusion: Indirect Connectivity and STD Infection Risk." *Social Forces* 81: 25-56.

2) Ideas and Attitudes

- a) Coleman, James, Elihu Katz, and Herbert Menzel. 1966. *Medical Innovation: A Diffusion Study*. Indianapolis: Bobbs-Merrill, selections*
- b) Coleman, James, Elihu Katz, and Herbert Menzel. 1957. "The Diffusion of an Innovation among Physicians." *Sociometry* 20: 253-270.
- c) James Moody. 2004. "The Structure of A Social Scientific Collaboration Network." *American Sociological Review* 69:213-238.*
- d) Noah Friedkin. 1993. "Structural Bases of Interpersonal Influence in Groups." *American Sociological Review* 58:862-872.
- e) Bonnie Erickson. 1992. "The Relation Basis of Attitudes." Pp. 99-121 in *Social Structures: A Network Approach*, edited by Barry Wellman and S. D. Berkowitz. Cambridge: Cambridge University Press.*
- f) David Strang and John W. Meyer. 1993. "Institutional Conditions for Diffusion." *Theory and Society* 22: 487-511.
- g) David Strang and Michael W. Macy. 2001. "In Search of Excellence: Fads, Success Stories, and Adaptive Emulation." *American Journal of Sociology* 107:147-182.
- h) Festinger, Leon, Stanley Schachter and Kurt Back. 1963 [1950]. *Social Pressures in Informal Groups*. Stanford: Stanford University Press, selections.

- i) Noah Friedkin, *A Structural Theory of Influence*.
- j) Diana Crane, *Invisible Colleges*.
- k) Henry Collins, "Tacit Knowledge in the TEA Set."
- l) Friedkin's many articles with others such as Karen Cook and Eugene Johnsen; these can be found in the bibliography of the book: one classic collaboration is Marsden and Friedkin, "Network Studies of Social Influence," *Sociological Methods and Research*, 22(1993):127-151

Week #8: March 11

B. Mutual Support

- 1) Structure of, Effects of
 - a) Wellman, B. and S. Wortley. 1990. "Different Strokes From Different Folks: Community Ties and Social Support." *American Journal of Sociology* 96:558-88.*
 - b) S. M. Kana'iaupuni et al. 2005. "Counting on Kin: Social Networks, Social Support, and child Health Status." *Social Forces* 83:1137-1164.
 - c) Chalres Kadushin. 1982. Social Density and Mental Health." Ch 7 in *Social Structure and Network Analysis*, Peter Marsden (Ed.).
 - d) Fischer, Claude S. 1982. *To Dwell Among Friends*. Chicago: University of Chicago Press, 125-138.
 - e) Claude S Fischer and C. Ann Stueve, "'Authentic Community': The Role of Place in Modern Life." 1977 in *Networks and Places*, edited by Claude Fischer. New York: The Free Press.
 - f) Antonucci, T. C., Sherman, A.M., & Akiyama, H. 1996. "Social networks, support, and integration." Pp. 505-514 in *Encyclopedia of Gerontology: Age, Aging, and the Aged* edited by J. E. Birren. San Diego, CA, Academic Press.
- 2) Change in and production of
 - a) Suitor, Jill, and Shirley Keeton. 1997. "Once a Friend, Always a Friend? Effects of Homophily on Women's Support Networks Across a Decade." *Social Networks* 19:51-62.
 - b) Fung, Helene H., Carstensen, Laura L. and Lang, Frieder R. 2001. "Age-related Patterns in Social Networks among European Americans and African Americans: Implications for Socioemotional Selectivity Across the Life Span." *International Journal of Aging & Human Development* 52: 185-206.*

C. Economic Relations

- 1) Exchange and competition
 - a) Brian Uzzi. 1999. "Social Relations and Networks in the Making of Financial Capital." *American Sociological Review* 64: 481-505.*
 - b) Paul McLean and John F. Padgett. "Was Florence a Perfectly Competitive Market? Transactional Evidence from the Renaissance." 1997. *Theory and Society* 26:209-244.*
 - c) MacKenzie and Millo, "The Historical Sociology of a Financial Derivatives Exchange." *American Journal of Sociology* 109(1).

- d) Joel Podolny, "Networks as the Pipes and Prisms of the Market." *American Journal of Sociology* 107 (2001):33-60.
 - e) Gulati and Gargiulo. 1999. "Where Do Interorganizational Networks Come From?" *American Journal of Sociology* 104: 1439-1493.
 - f) Joel Podolny, Toby E. Stuart, and Michael T. Hannan. 1996. "Networks, Knowledge, and Niches: Competition in the Worldwide Semiconductor Industry, 1984-1991," *American Journal of Sociology* 102: 659-89.
- 2) Information and Advice
- a) Lazega, E., & van Duijn, M.A.J. (1997). "Position in formal structure, personal characteristics and choices of advisors in a law firm: a logistic regression model for dyadic network data." *Social Networks* 19: 375-397.*
 - b) Lincoln, James R. and Jon Miller. 1979. "Work and Friendship Ties in Organizations." *Administrative Science Quarterly* 24: 181-199*
 - c) Ezra Zuckerman and Stoyan Sgourev, "Peer Capitalism."
- 3) Ownership
- a) Palmer, D., R. Friedland, & J.V. Singh. 1986. The Ties that Bind: Organizational and Class Bases of Stability in a Corporate Interlock Network. *American Sociological Review* 51: 781-196.*
 - b) Mark Mizruchi, *The Structure of Corporate Political Action*, 1-13, 42-52, 85-116, 130-141, 204-234*
 - c) Kono, Clifford, Donald Palmer, Roger Friedland, & Matthew Zafonte. 1988. Lost in Space: The Geography of Interlocking Directorates. *American Journal of Sociology*. 103 (4): 863-911.
 - d) William G. Roy. 1983. "The Unfolding of the Interlocking Directorate Structure of the United States." *American Sociological Review* 48:248-257.
 - e) Mizruchi, M.S. & L.B. Stearns. 1988. A Longitudinal Study of the Formation of Interlocking Directorates. *Administrative Science Quarterly* 33: 194-210.

My own contributions for section III would be

- IIIA1: (With James Wiley and Dennis Osborn). "Social Networks and Unobserved Heterogeneity for Risk of AIDS." *Population Research and Policy Review* 22(2003):65-90.
- IIIA2: "Some Algebraic Structures for Diffusion in Social Networks." *Journal of Mathematical Sociology* 26(2002): 123-146.

ADVANCED MODULE 4 ON NETWORK REGRESSIONS WOULD BE NOW

IV. ACTION WITHIN AND BUILDING NETWORKS

Week #9: March 18

A. Friendship and Acquaintance: Making Random Graphs and Small Worlds (especially importance for acquaintance and communication networks)

- 1) How do people make networks?
 - a) Robert Huckfeldt. 1986. "Social Contexts, Social Networks, and Urban Neighborhoods: Environmental Constraints on Friendship Choice." *American Journal of Sociology* 89: 651-669*
 - b) Feld, Scott L. "The Focused Organization of Social Ties." *American Journal of Sociology* 86(1981):1015-1035
 - c) Festinger, Leon, Stanley Schachter and Kurt Back. 1963 [1950]. *Social Pressures in Informal Groups*. Stanford: Stanford University Press, selections.
 - d) Candice Feiring. 1999. "Other-Sex Friendship Networks and the Development of Romantic Relationships in Adolescence." *Journal of Youth and Adolescence* 28:495-512.

- 2) The Idea of Small Worlds
 - a) Stanley Milgram. 1967. "The Small World Problem." *Psychology Today* 2:60-67.
 - b) Duncan J. Watts. 1999. "Networks, Dynamics, and the Small-World Phenomenon." *American Journal of Sociology* 105: 493-527.*
 - c) Duncan Watts, *Small Worlds*

- 3) The Creation of Small Worlds—Acquaintance and Friendship
 - a) Fischer, Claude S. 1982. *To Dwell Among Friends*. Chicago: University of Chicago Press, 108-122.*
 - b) Hallinan, Maureen T. 1978. "The Process of Friendship Formation." *Social Networks* 1:193-210.

- 4) Problems on Small Worlds
 - a) Watts, *Small Worlds*, last chapters.
 - b) Watts, Duncan J., Peter Sheridan Dodds, and M.E.J. Newman. 2002. "Identity and Search in Social Networks." *Science* 296: 1302-1305.

- 5) Acting in networks.

David R. Gibson, "Taking Turns and Talking Ties: Networks and Conversational Interaction Identifiers" *American Journal of Sociology*, 110 (2005), pages 1561–1597.**

Week #10: April 1

B. Networking

- 1) Strategic Tie Construction (especially important for business networks)
 - a) John Padgett and Christopher Ansel. 1993. "Robust Action and the Rise of the Medici, 1400-1434." *American Journal of Sociology* 98: 1259-1319.**
 - b) Ronald Burt, *Structural Holes*, Intro, Chapter 1.*

- 2) Retention and Destruction of Ties (especially important for friendship networks)

- a) Ronald S. Burt. 2000. "Decay Functions." *Social Networks* 22:1-28.*
- b) Maureen T. Hallinan and Edwin E. Hutchins. 1980. "Structural Effects on Dyadic Change." *Social Forces* 59:225-245.
- c) Muriel Hammer. 1979/1980. "Predictability of Social Connections over Time." *Social Networks* 2: 165-180.
- d) Barry Wellman, Renita Yuk-lin Wong, David Tindall, and Nancy Nazer. 1997. A Decade of Network Change: Turnover, Persistence and Stability in Personal Communities. *Social Networks* 19:27-50.
- e) Burt, Ronald S. 2002. "Bridge Decay." *Social Networks* 24:333-363.

Week #11: April 8

C. Acting Within Networks

1) Activating Ties

- a) Paul McLean, "A Frame Analysis of Favor Seeking in the Renaissance : Agency, Networks, and Political Culture," *American Journal of Sociology* 1998.*
- b) David Gibson, "Taking Turns and Talking Ties: Networks and Conversational Interaction."*

2) Mobilizing Ties (especially important for social movements)

- a) Roger V. Gould. 1996. "Patron-Client Ties, State Centralization, and the Whiskey Rebellion." *American Journal of Sociology* 102:400-429.*
- b) Ann Mische, "Cross-Talk in Movements: Reconceiving the Culture-Network Link" in Mario Diani and Doug McAdam, eds., *Social Movements Analysis: The Network Perspective*. Oxford University Press, 2003.*
- c) Roger V. Gould, *Insurgent Identities*, Chs 1,2,6,7;
- d) Jeff Goodwin, "Libidinal Ties and Solidarity: The Huk Rebellion, 1946 to 1954,"
- e) Andreas Flache and Michael Macy 1996. The Weakness of Strong Ties: Collective action failure in a highly cohesive group. *Journal of Mathematical Sociology* 21:3-28.

My own contributions for section IV would be

- IVA1: "Is Power Sexy?" *American Journal of Sociology* 111(2005):408-446.
- IVB2: (With King-To Yeung). "Persistence of Close Personal Ties over a Twelve Year Period." *Social Networks* 28(2006):331-362.

V. THEORIES OF NETWORKS

Week #12: April 15

A. Networks and Groups

1) The duality of Persons and Groups

- a) Ronald Breiger, "The Duality of Persons and Groups," *Social Forces* 53(1974):181-90*
- b) Ann Mische and Philippa Pattison. 2000a. "Composing a Civic Arena: Publics, Projects, and Social Settings." *Poetics* 27:163-194.*
- c) King-To Yeung, "The Duality of Persons and Relationships."*
- d) Georg Simmel, *Web of Affiliation*, selections

- e) Linton C. Freeman, "Cliques, Galois Lattices, and the Structure of Human Social Groups." 1996. *Social Networks* 18: 173-187.
- 2) Groups and Networks
 - a) Review Bott
 - b) J.A. Barnes, "Classes and Committees in A Norwegian Island Parish" in Samuel Leinhardt, ed., *Social Networks: A Developing Paradigm**
 - c) Jan Fuhse, "Gruppe und Netzwerk. Eine begriffsbeschichtliche Rekonstruktion" *Berliner Journal für Soziologie* 16 (2006), 245-263.

Week #13: April 22

B. Networks and Identities

- 1) Networks and Language
 - a) Harrison White, "Switching Talk."*
 - b) Michael Silverstein, "Shifters, Linguistic Categories, and Cultural Description: (in Basso and Selby, *Meaning in Anthropology*)
 - c) Susan Gal, *Language Shift*.
- 2) Networks, Personality and Control
 - a) Harrison White, *Identity and Control*, selections*
 - b) Harrison White, "Social Networks Can Help Resolve Actor Problems."*
 - c) Ann Mische and Harrison White, "Between Conversation and Situations." *Social Research*.

ADVANCED MODULE 5 ON REPRESENTING NETWORKS AS FIELDS WOULD BE NOW

Week #14: April 29

C. Networks and Culture

- 1) Review Diffusion
- 2) Culture in Networks—Boundaries and Niches
 - a) Noah Mark, "Birds of a Feather Sing Together." *Social Forces* 77(1998): 453-85.**
 - b) Sonnet, John. "Musical boundaries: intersections of form and content." *Poetics* 32 (2004): 247-264.*
 - c) Michelle, Lamont, *Money, Morals and Manners*
 - d) Andrew Abbott. "Things of boundaries." *Social Research*, 62(1995): 847-72.
- 3) Culture as Internalization of Network
 - a) Peter Bearman, *Relations into Rhetorics*, espec. 1-18, 24-25, 42-45, 72-93, 95-111, 131-181*
 - b) Kathleen Carley. 1986. "Knowledge Acquisition as a Social Phenomenon." *Instructional Science* 14:381-438.*
 - c) Also see Jason Kaufman, "Endogenous explanation in the sociology of culture." *Annual Review Of Sociology* 30(2004): 335-357

- 4) Culture as Externalization or Living of Network
 - a) Omar Lizardo. "How cultural tastes shape personal networks." *American Sociological Review* 71 (2006): 778-807.
 - b) "Gibt es eine Phänomenologische Netzwerktheorie?" *Soziale Welt* 59 (2008).

- 5) Culture as Distributed Across Networks
 - a) Hutchins, *Cognition in the Wild*. Selections*
 - b) Emanuel A. Schegloff, "Conversation Analysis and Socially Shared Cognition," both in *Perpectives on Socially Shared Cognition*, edited by Lauren B Resnick, John M. Levine and Stephanie D. Teasley. *
 - c) Hutchins, another article in *Perpectives on Socially Shared Cognition*, edited by Lauren B Resnick, John M. Levine and Stephanie D. Teasley.
 - d) Salmon, "No Distribution without Individuals' Cognition," which appears in his edited volume, *Distributed Cognitions: Psychological And Educational Considerations*.
 - e) James Kitts, Michael Macy and Andreas Flache "Structural Learning: Attraction and Conformity in Task-Oriented Groups," *Computational and Mathematical Organization Theory*, 5:129-145, 1999).

Week #15: May 6

D. Networks and Fields

- 1) Theory
 - a) Paul J. DiMaggio & Walter Powell, "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields." *American Sociological Review* 48 (1983), 147-60.*
 - b) Pierre Bourdieu, *Homo Academicus*
 - c) Pierre Bourdieu, everything else.
 - d) J. J. Gibson, *The Ecological Approach to Visual Perception*.
 - e) Kurt Lewin, *Field Theory in the Social Sciences*.

- 2) Methods
 - a) Breiger, Ronald. A tool kit for practice theory (Analysis of correspondence, techniques). *Poetics* 27 (2000): 91-115 MAR.
 - b) See Advanced Module.

- 3) Findings
 - a) Emily Barman. "An institutional approach to donor control: From dyadic ties to a field-level analysis." *American Journal Of Sociology* 112 (2007): 1416-1457 .*
 - b) Rawlings CM, Bourgeois MD. "The complexity of institutional niches: Credentials and organizational differentiation in a field of US higher education" *Poetics* 32 (2004): 411-437.*

My own contributions for section V would be

- VA1: "Jointness and Duality in Algebraic Approaches to Dichotomous Data." *Sociological Methods and Research* 35(2006):159-192.

- VB2: (With King-To Yeung). “The Looking Glass Self: An Empirical Test and Elaboration.” *Social Forces* 81(2003):843-879.
- VC3: “Power, Authority, and the Constraint of Belief Systems.” *American Journal of Sociology* 107(2002): 861-904.
- VD1: (With Matt George). “Theories of Sexual Stratification: Toward an Analytics of the Sexual Field and a Theory of Sexual Capital.” *Sociological Theory* 24(2006):107-132.
- VD1: “What is Field Theory?” *American Journal of Sociology* 109(2003): 1-49.
- VD3: (With Adam Slez:) “Political Action and Party Formation in the United States Constitutional Convention.” *American Sociological Review* 72(2007):42-67.

* I have consulted syllabi put together by James Montgomery, James Moody, Mark Mizruchi, Peter Bearman, Ronald Breiger, Peter Marsden, Philip Bonacich, and Duncan Watts; the “advanced module” portion is based on a class co-taught at the University of Wisconsin at Madison with James Montgomery. A shout out to all good people in the social networks world...you know who you are....

Keep going for tentative Advanced Modules.....

I. ADVANCED MODULE 1: ALGEBRAS

A. Kinship Algebras

A. How are relations algebras?

B. Is there a logic to them?

- John Paul Boyd (1969) "The Algebra of Group Kinship" *Journal of Mathematical Psychology* 6:139-167.
- Claude Levi-Strauss, *The Elementary Structures of Kinship*, pp. 12-83, 119-133, 146- 220, 232-309. (Chs. 2-6, 9, 11-13, 15-17).*
- Harrison White, *An Anatomy of Kinship*
- Franklin E. Tjon Sie Fat, 1990. *Representing Kinship: Simple Models of Elementary Structures*. Published Dissertation. Leiden: Leiden University.

B. Role Algebras

- R.L. Breiger and P.E. Pattison. 1986. "Cumulated Social Roles: The Duality of Persons and Their Algebras," *Social Networks* 8 : 215-256
- S. F. Nadel, *Social Structure*, 1-19, 62-73, 79-92, 97-104, 147-152.
- Scott Boorman and Harrison White. 1976. "Social Structure from Multiple Networks II: Role Structures." *American Journal of Sociology* 81:1384-1446.
- Philippa Pattison. 1994. *Algebraic Models for Social Networks*. Cambridge.

C. Galois Algebras

- Linton C Freeman and Douglas R White (1993) "Using Galois Lattices to Represent Network Data," *Sociological Methodology* 23:127-146.
- King-To Yeung, "The Duality of Persons and Relationships." *Social Forces* 2005.

My own contributions for AMI would be

- (With James Wiley:) "Algebraic Representations of Beliefs and Attitudes II: Microbelief Models for Dichotomous Belief Data." *Sociological Methodology* 30(2000):123-164.
- (With James Wiley:) "Algebraic Representations of Beliefs and Attitudes: Partial Order Models for Item Responses." *Sociological Methodology* 29(1999):113-146.

II. ADVANCED MODULE 2: RANDOM GRAPHS

A. Random Graphs

- Bernoulli Graphs
- Poisson Graphs

B. Sampling From Random Graphs 1

- M Newman, S Strogatz and D Watts. 2001. "Random Graphs with arbitrary Degree Distributions and their Applications." *Phys. Rev E*: 64.
- Steven H. Strogatz, "Exploring Complex Networks." *Nature* 410 (2001):268-276.

- Frank, “Network Sampling,” Chapter 3 in Carrington, Scott and Wasserman
- Rick Grannis, “Sampling The Structure Of Large-Scale Social Networks.” Unpublished Paper available on the web.
- Newman, “The Structure and Function of Complex Networks.” *SIAM Review* 45:167-256.
- Also one may look at the series of articles by Peter Killworth on using the structure of networks to estimate sizes of subpopulations.

C. Percolation problems

- P.S. Dodds and D.J. Watts, “A generalized model of social and biological contagion,” *Journal of Theoretical Biology* 232 (2005) 587–604.
- Duncan J. Watts, “A simple model of global cascades on random networks.” *Proceedings of the National Academy of Sciences*, vol. 99, no. 9, pp. 5766-5771 (2002)

III. ADVANCED MODULE 3: PROBABILITY MODELS

A. Models for local structure—Triad Analysis

- Wasserman and Faust, 564-575, 581-582 (may skim)
- Paul Holland and Samuel Leinhardt. 1970. "A Method for Detecting Structure in Sociometric Data" *American Journal of Sociology* 76: 492-513.
- Ivan D. Chase. 1980. “Social Processes and Hierarchy Formation in Small Groups: A Comparative Perspective.” *American Sociological Review* 45:905-924.*
- James Davis and Samuel Leinhardt. 1972. “The Structure of Positive Interpersonal Relations in Small Groups.” In Joseph Berger, Morris Zelditch, Jr., and Bo Anderson (eds.), *Sociological Theories In Progress Volume 2*, Boston: Houghton Mifflin, pp. 218-251,
- Paul Holland and Samuel Leinhardt. 1971. “Transitivity in Structural Models of Small Groups.” *Comparative Group Studies* 2: 107-124,
- Paul Holland and Samuel Leinhardt. 1976. "Local Structure in Social Networks," *Sociological Methodology* 1976: 1-45
- Eugene Johnsen. 1985. “Network Macrostructure Models for the Davis-Leinhardt Set of Empirical Sociomatrices.” *Social Networks* 7: 203-224.

B. Individual Level Models— p_1 Models

- Wasserman and Faust, TBA
- Paul Holland and Samuel Leinhardt, "An Exponential Family of Probability Distributions for Directed Graphs." *Journal of the American Statistical Association* 76(1981):33-50
- Stanley Wasserman and Dawn Iacobucci. "Statistical Analyses of Discrete Relational Data." *British Journal of Mathematical and Statistical Psychology* 39 (1986):41-64
- See Chapter 15 by Iacobucci in Wasserman and Faust for extended p_1 models,

- p_2 models: Lazega, Emmanuel, and Marijtje A. J. van Duijn. 1997. "Position in Formal Structure, Personal Characteristics and Choices of Advisors in a Law Firm: A Logistic Regression Model for Dyadic Network Data." *Social Networks* 19:375-397.
- other stochastic models

C. p^* models

- Wasserman and Robins, Chapter 8 in Carrington, Scott and Wasserman.
- Koehly and Pattison, Chapter 9 in Carrington, Scott and Wasserman.
- Robins and Pattison, Chapter 10 in Carrington, Scott and Wasserman.
- Wasserman, Stanley, Carolyn J. Anderson, and Bradley Crouch. 1999. "A p^* Primer: Logit Models for Social Networks." *Social Networks* 21:37-66.
- Wasserman, Stanley, and Philippa Pattison. 1996. "Logit Models and Logistic Regressions for Social Networks: I. An Introduction to Markov Graphs and p^* ." *Psychometrika* 61:401-425.
- Pattison, Philippa, and Stanley Wasserman. 1999. "Logit models and logistic regressions for social networks: II. Multivariate relations." *British Journal of Mathematical and Statistical Psychology* 52: 169-193.
- On MCMC methods see Handcock in the dynamic social book,
- And also Tom A B Snijders. 2002. "Markov Chain Monte Carlo Estimation of Exponential Random Graph Models." *Journal of Social Structure* 3:2.
- SPSS for pseudolikelihood
- DAMN for multimatrix pseudolikelihood

D. Models for Samples

- Koehly, Goodreau and Morris. "Exponential Family Models for Sampled and Census Network Data." *Sociological Methodology* 34(2004): 241-270.

IV. ADVANCED MODULE 4: NETWORK REGRESSIONS

- Krackhardt, David. 1987. "QAP Partialling as a Test of Spuriousness." *Social Networks* 9:171-186.
- Krackhardt, David. 1988. "Predicting with Networks: Nonparametric Multiple Regression Analysis of Dyadic Data." *Social Networks* 10:359-381.
- Baker, Frank B., and Lawrence J. Hubert. 1981. The Analysis of Social Interaction Data: A Nonparametric Technique. *Sociological Methods and Research* 9:339-361.
- Hubert, L. 1985. Combinatorial Data Analysis: Association and Partial Association. *Psychometrika* 50:449-467.
- Hubert, Lawrence, and James Schultz. 1976. Quadratic Assignment as a General Data Analysis Strategy. *British Journal of Mathematical and Statistical Psychology* 29:190-241.
- Krackhardt, David. 1992. A Caveat on the Use of the Quadratic Assignment Procedure. *Journal of Quantitative Anthropology* 3:279-296.

My own contributions for AM4 would be

- “A General Permutation-Based QAP Analysis for Dyadic Data from Multiple Groups.” *Connections* 22(1999): 50-60.

V. ADVANCED MODULE 5: REPRESENTING NETWORKS AS FIELDS

A. Matrix Algebra—Singular Value Decomposition

B. RC Models

- Leo A. Goodman 1979. "Simple Models for the Analysis of Association in Cross-Classifications Having Ordered Categories." *Journal of the American Statistical Association* 74:537-552.
- Goodman, Leo A. 1981. “Association Models and Canonical Correlation in the Analysis of Cross-Classifications Having Ordered Categories.” *Journal of the American Statistical Association* 76: 320-334.
- Goodman, Leo A. 1985. “The Analysis of Cross-Classified Data Having Ordered and/or Unordered Categories: Association Models, Correlation Models, and Asymmetry Models for Contingency Tables With or Without Missing Entries.” *The Annals of Statistics* 13:10-69.

C. Correspondence Analysis

- Greenacre, Michael J. 1988. “Clustering the Rows and Columns of a Contingency Table.” *Journal of Classification* 5:39-51.
- Faust, Chapter 7 in Carrington, Scott and Wasserman
- Wasserman, Stanley, Katherine Faust and Joseph Galaskiewicz. 1989. “Correspondence and Canonical Analysis of Relational Data.” *Journal of Mathematical Sociology* 1:11-64.
- Goodman, Leo A. 1996. “A Single General Method for the Analysis of Cross-Classified Data: Reconciliation and Synthesis of Some Methods of Pearson, Yule, and Fisher, and Also Some Methods of Correspondence Analysis and Association Analysis.” *Journal of the American Statistical Association* 91:408-428.
- Goodman, Leo A. 1997. “Statistical Methods, Graphical Displays, and Tukey’s Ladder of Re-Expression in the Analysis of Non-Independence in Contingency Tables: Correspondence Analysis, Association Analysis, and the Midway View of Nonindependence.” Pp. 101-132 in *The Practice of Data Analysis: Essays in Honor of John W. Tukey*, edited by D. R. Brillinger, L. T. Fernholz and S. Morgenthaler. Princeton: Princeton University Press.
- Noma, Elliot and D. Randall Smith. “Scaling Sociomatrices by Optimizing an Explicit Function: Correspondence Analysis of Binary Single Response Sociomatrices.” *Multivariate Behavioral Research* 20:179-197.
- Roberts, John M. 2000. “Correspondence Analysis of Two-Mode Network Data.” *Social Networks* 22:65-72.

4) Multidimensional Scaling

- Kruskal, J.B. and M. Wish 1978. *Multidimensional Scaling*. Sage, pp. 7-30, 48-60.
- Guttman, Louis A. 1968. "A General Non-metric Technique for Finding the Smallest Coordinate Space for a Configuration of Points." *Psychometrika* 33: 495-506.
- Freeman, Chapter 12 in Carrington, Scott and Wasserman.

My own contributions for AM5 would be

- "What Do Animals Do All Day?: On the Totemic Logic of Class Bodies." *Poetics* 27(2000):195-231.