

Social Networks
Sociology 875
University of Wisconsin, Madison
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Spring 2004

This course is intended as an uneven survey of what sociologists would find interesting about social networks. Social networks is an analysis-heavy subfield, and hence we will be doing some necessary methodological work, but the focus of this class is substantive.

Requirements: Regular and cheerful attendance is, as always, expected, as well as keeping up with the readings. Students will also be responsible for leading discussion one week each (which may involve doing additional readings, though it may not). Students taking the class for three or more credits are expected to write a paper (and to give a ten-minute presentation at the end of the class). 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 are 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 placed on reserve in the social sciences library, or is 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.

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.

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 !!

The last two weeks are left somewhat unscheduled. In the first two weeks, we will determine if there are any topics that are not covered in the syllabus but of interest to class members. If so, I will assemble a set of readings that reflects important and recent contributions to this topic. Assuming that there are no class cancellations, this will serve as our first flex-time section. The second period will be used for presentations of projects on the part of those doing papers.

CLASS OUTLINE

I. BEGINNINGS

Week #1: January 23

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 30

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
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 6

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*, Chs. 2-6, 9, 11-13, 15-1.*
 - b) Harrison White, *An Anatomy of Kinship*
 - c) Peter Bearman. 1997. “Generalized Exchange,” *American Journal Of Sociology* 102: 1383-1415.

Week #4: February 13

- 3) Structure from Networks
 - a) S. F. Nadel, *Social Structure*, selections TBA*
 - 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, “Urban Families: Conjugal Roles and Social Networks.” *Human Relations* 1955. Vol 8*
 - b) J.A. Barnes, "Classes and Committees in A Norwegian Island Parish" in Samuel Leinhardt, ed., *Social Networks: A Developing Paradigm**
 - c) Gwendolyn Moore. 1990. "Structural Determinants of Men's and Women's Personal Networks." *American Sociological Review* 55:726-35.*

II. NETWORK STRUCTURE

Week #5: February 20

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) John W. Kidd, "An Analysis of Social Rejection in a College Men's Residence Hall." *The Sociometry Reader*, pp. 428-436.
 - d) Paul Holland and Samuel Leinhardt, "An Exponential Family of Probability Distributions for Directed Graphs." *Journal of the American Statistical Association* 76(1981):33-50
 - e) Stanley Wasserman and Dawn Iacobucci. "Statistical Analyses of Discrete Relational Data." *British Journal of Mathematical and Statistical Psychology* 39 (1986):41-64
 - f) 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) Wayne Baker and Robert Faulkner. 1993. "The Social Organization of Conspiracy," *American Sociological Review* 58:837-860.*
 - b) Bell, D. C., J. S. Atkinson, and J. W. Carlson. 1999. "Centrality Measures for Disease Transmission Networks." *Social Networks* 21:1-21.
 - c) 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.
 - d) Linton Freeman. 1977. "A Set of Measures of Centrality Based on Betweenness." *Sociometry* 40:35-41.
 - e) Linton Freeman. 1978-1979. "Centrality in Social Networks." *Social Networks* 1:215-39.
 - f) 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/SOGI.pdf>)
- 5) Power
- Karen S. Cook and Richard M. Emerson. 1978. "Power, Equity and Commitment in Exchange Networks." *American Sociological Review* 43:721-739.*
 - Bonacich, "Power and Centrality: A Family of Measures," *American Journal of Sociology* 92(1987):1170-1182.
 - Cook, Emerson, and Yamagishi, "The Distribution of Power in Exchange Networks: Theory and Experimental Results." *American Journal of Sociology* 89(1983):275-305.
 - Karen Cook and Whitmeyer. 1992. "Two Approaches to Social Structure." *Annual Review of Sociology* 18:109-127.

Week #6: February 27

B. Properties of Networks (especially important in communication and epidemiological networks)

- Reaching many people or avoiding some (Connectedness and Span)
 - Wasserman and Faust, review 109-136*
 - Peter Bearman, Katherine Stovel and James Moody, "Chains of Affection."*
- Balance (especially important in friendship networks)
 - Fritz Heider. 1946. "Attitudes and Cognitive Organization," *Psychological Review* 52:358-374
 - Dorwin Cartwright and Frank Harary. 1956. "Structural Balance," *Psychological Review* 63:277-293*
 - Frank Harary. 1955. "On Local and N-balance of Signed Graphs," *Michigan Mathematical Journal* 5:37-41.
 - Wasserman and Faust, 220-247* (skim what you understand from Cartwright and Harary).
- Transitivity (important in many networks and organizations)
 - Paul Holland and Samuel Leinhardt. 1970. "A Method for Detecting Structure in Sociometric Data" *American Journal of Sociology* 70: 492-513.*
 - Wasserman and Faust, 564-575, 581-582 (may skim)*
 - 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

- g) Eugene Johnsen. 1985. "Network Macrostructure Models for the Davis-Leinhardt Set of Empirical Sociomatrices." *Social Networks* 7: 203-224.
- 6) Trees (important in organizations)
- a) Morris Friedell. 1967. "Organizations as Semilattices" *American Sociological Review* 32:46-54.*
 - b) Harrison White, "Management Conflict and Sociometric Structure." *American Journal of Sociology* 67 (1961): 185-187.
 - c) 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.
 - d) James C. Scott. 1972. "Patron-Client Politics and Political Change in Southeast Asia." *American Political Science Review* 66: 91-113.*
 - e) 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.

III. EFFECTS OF NETWORKS

Week #7: March 5

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...]
- 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) Kathleen Carley. 1986b. "Knowledge Acquisition as a Social Phenomenon." *Instructional Science* 14:381-438.*
- d) 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.*
- e) David Strang and John W. Meyer. 1993. "Institutional Conditions for Diffusion." *Theory and Society* 22: 487-511.
- f) David Strang and Michael W. Macy. 2001. "In Search of Excellence: Fads, Success Stories, and Adaptive Emulation." *American Journal of Sociology* 107:147-182.
- g) Festinger, Leon, Stanley Schachter and Kurt Back. 1963 [1950]. *Social Pressures in Informal Groups*. Stanford: Stanford University Press, selections.
- h) Noah Friedkin, *A Structural Theory of Influence*.
- i) Diana Crane, *Invisible Colleges*.
- j) Henry Collins, "Tacit Knowledge in the TEA Set."
- k) 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 12

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) Chalres Kadushin. 1982. "Social Density and Mental Health." Ch 7 in *Social Structure and Network Analysis*, Peter Marsden (Ed.).*
 - c) Fischer, Claude S. 1982. *To Dwell Among Friends*. Chicago: University of Chicago Press, 125-138.
 - d) 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.
 - e) 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) Sutor, 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) Joel Podolny, "Networks as the Pipes and Prisms of the Market." *American Journal of Sociology* 107 (2001):33-60.
 - d) Gulati and Gargiulo. 1999. "Where Do Interorganizational Networks Come From?" *American Journal of Sociology* 104: 1439-1493.
 - e) 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*, selections*
 - 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.

IV. ACTION WITHIN AND BUILDING NETWORKS

Week #9: March 26

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.

- 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* 13: 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.

Week #10: April 2

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 9

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.

V. THEORIES OF NETWORKS

Week #12: April 16

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) From Network to Culture
 - a) Peter Bearman, *Relations into Rhetorics*, selections*
 - b) Kathleen Carley. 1986. "Knowledge Acquisition as a Social Phenomenon." *Instructional Science* 14:381-438.*

Week #13: April 23**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*.

Week #14: April 30

Flex Time 1: Probably used to pursue topics of student interest suggested in weeks 1-2.

Week #15: May 5.

Flex Time 2: Probably used for student presentations.

* I have consulted syllabi put together by James Montgomery, James Moody, Mark Mizruchi, Peter Bearman, Ronald Breiger, Peter Marsden, Philip Bonacich, and Duncan Watts.