

SOCIAL NETWORK ANALYSIS
Sociology 920:511:01 (491:06)
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Rutgers University
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Location and time: Thursdays, 9:50-12:30, LSH A256
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Over the last few decades there has been an enormous increase in the attention paid to social networks as key determinants of many elements of social life, including motivations, social mobility, group organization and mobilization, resource distributions, decision-making, patterns of innovation, and the organization of belief systems. The basic idea of network analysis is that we must study the social order *relationally*. Some of the emphasis on networks has been cosmetic and/or metaphorical, but a lot of it is substantive and empirical. In my view, both metaphorical and substantive applications of the term *network* can be instructive. Network analysis is increasingly a mainstream idea, even though the tools it uses are distinctly different from mainstream sociology. But in its most radical formulations, the study of social networks vies to become a kind of fundamental theory of social organization. In this respect it dovetails with the development over the last decade of a theory of networks as the constitutive material of the physical, biological, technological, and economic worlds.

Together we will have four main goals pertaining to social network analysis in this course. First, we will consider (in a non-technical way) the emerging science of networks writ large (Barabasi, Watts, Strogatz, Newman). Second, we will consider theoretical justifications for the study of networks and key concepts used in the field, using classical sociological formulations of these concepts (e.g., Nadel, Simmel, Bott) and more recent statements (e.g., Wellman, Breiger, Emirbayer, Watts, White). This will involve thinking about processes and mechanisms of network formation, organization, and development that may be unique to the social world. This will also involve examining the differences between interactionist and structuralist approaches to networks. The former looks at concrete relations as determinants of outcomes, focusing on topics like *dyads*, *balance*, *influence*, *cohesion*, *centrality*, *cliques* and *small worlds*. The latter regards patterns of structural positions as key and uses concepts like *structural equivalence*, *roles*, *blockmodelling*, *brokerage*, *structural holes*, and *clustering* to discern how networks matter.

Thirdly, together we will explore methods and computer applications, including specifically UCINET and Pajek, for the quantitative analysis of social networks. Both programs are installed on department cluster computers. Further, Pajek is available for free download -- for example, at <http://vlado.fmf.uni-lj.si/pub/networks/book/> -- while UCINET may be available for free for a trial period. For this element of the course, I can provide you with data, but if you have some of your own, that would be great! My goal is to spend some lab time together to get accustomed to working with networks tools, and Neha Gondal, the department website manager, intends to offer tutorials on these software packages this semester. You will have a couple of short assignments to complete here, to get your hands a little dirty!

Fourth, we will sample from the immense volume of empirical work that adopts a networks perspective in one form or another, including work on small groups, political elites, social movements, disease diffusion, immigration, formal organizations, markets, industries, cultural repertoires, and large-scale historical transformation.

We will follow a discussion format as much as possible, but often I will spend a part of the class lecturing on some of the key ideas and arguments. At the end of the semester, you will submit a 15 page term paper. This will be: 1) your own original research, taking the form of an empirical paper using network data (most preferred, but also most difficult); OR 2) a coherent secondary analysis of a dataset you studied in connection with the course; OR 3) a paper applying network concepts in an exploratory but meaty way to a substantive topic of your choosing; OR 4) a detailed critical review of a body of literature in the field.

Requirements

To summarize, your grade will be based on the following factors:

- 1) participation in class (20%)
- 2) two short assignments (30% in total)
- 3) term paper (50%)

Required Texts

There are four required books for this course, available through the Livingston campus bookstore. They are:

- 1) Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications* (Cambridge, 1994)
- 2) Albert-László Barabási, *Linked: The New Science of Networks* (Perseus, 2002)
- 3) Robert Faulkner, *Music on Demand: Composers and Careers in the Hollywood Film Industry* (Transaction, 1983)
- 4) Paul D. McLean, *The Art of the Network: Strategic Interaction and Patronage in Renaissance Florence* (Duke, 2007)

In addition, there will be a large number of readings accessible through the course's **sakai** workspace. Noteworthy among these is a selection of chapters from the book, *Exploratory Social Network Analysis with Pajek* (Cambridge, 2005), by Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, that can help you with the hands-on practice of doing network analysis.

Schedule of Classes

Week 1 (9/4) Introduction to the Course

No assigned reading, but you could get started on the Barabási reading; overview of the syllabus, opportunity for questions, maybe a couple of in-class exercises

Week 2 (9/11) Networks Everywhere: A Brief Overview of the General Science of Networks

Read: Albert-László Barabási, *Linked: The New Science of Networks*, entire (this is quite an accessible read; do as much as you can)

Other related materials, the first several being quite technical:

Mark Newman, Steve Strogatz and Duncan Watts, "Random Graphs with Arbitrary Degree Distributions and the Applications," *Physical Review E*:64

Steven H. Strogatz, "Exploring Complex Networks," *Nature* 410 (2001): 268-276

Mark Newman, "The Structure and Function of Complex Networks," *SIAM Review* 45:167-256

Duncan J. Watts, *Small Worlds: The Dynamics of Networks Between Order and Randomness* (Princeton, 1999)

Duncan J. Watts, Peter Sheridan Dodds, and Mark Newman, "Identity and Search in Social Networks," *Science* 296:1302-1305

Stanley Milgram, "The Small World Problem," *Psychology Today* 2:60-67

Duncan J. Watts, *Six Degrees: The Science of a Connected Age* (Norton, 2003)

Duncan J. Watts, Networks, Dynamics, and the Small-World Phenomenon," *American Journal of Sociology* 105:493-527

Matthew J. Salganik, Peter Sheridan Dodds, and Duncan J. Watts, "Experimental Study of Inequality and Unpredictability in an Artificial Cultural Market," *Science* 311 (2006): 854-856 (on musical tastes)

Week 3 (9/18) Network Analysis as a Foundational Sociological Paradigm

Read: 1) Barry Wellman, "Structural Analysis: From Method and Metaphor to Theory and Substance," in Barry Wellman and S. D. Berkowitz (eds.), *Social Structures: A Network Approach* (Cambridge, 1988), pp. 19-61 [**sakai**]

2) Mustafa Emirbayer, "Manifesto for a Relational Sociology," *American Journal of Sociology* 103,2:281-317 [sakai]

3) Wasserman and Faust, pp. 3-22

4) Paul D. McLean, *Strategic Interaction and Patronage in Renaissance Florence*, chapter 1

Other useful and/or foundational materials:

John Scott, *Social Network Analysis: A Handbook* (2nd edition), chapters 1 and 2

R. A. Hinde, "Interactions, Relationships, and Social Structure," *Man* 11,1:1-17

Ronald S. Burt, *Toward a Structural Theory of Action* (Academic Press, 1982), chapters 1 and 9

Barry Wellman, "Network Analysis: Some Basic Principles," *Sociological Theory* 1:155-200

A.R. Radcliffe-Brown, "On Social Structure," *Journal of the Royal Anthropological Institute of Great Britain and Ireland* 70:188-204

Georg Simmel, "The Problem of Sociology," in Don Levine (ed.), *Georg Simmel on Individuality and Social Forms* (Chicago, 1971), pp. 23-35

Georg Simmel, "The Triad," in Kurt Wolff (ed.), *The Sociology of Georg Simmel* (Free Press, 1950), pp. 145-169

Ronald L. Breiger, "The Analysis of Social Networks," in Melissa Hardy and Alan Bryman (eds.), *Handbook of Data Analysis* (Sage, 2003), pp. 505-26.

Harrison C. White, *Identity and Control* (Princeton, 1992; new edition, 2008)

Peter Monge and Noshir Contractor, *Theories of Communication in Networks* (Oxford, 2003)

Jeremy Boissevain, *Friends of Friends: Networks, Manipulators, and Coalitions*, especially chapter 1

Claude Levi-Strauss, "Social Structure," in his *Structural Anthropology*, chapter 15

Week 4 (9/25)

Types of Networks and Ways of Representing Them

[Note: there are several big chunks of reading today! This will stretch out into next week's session.]

Read: 1) Wasserman and Faust, pp. 28-59(or 66), 69-166

(**Note:** you may skip the sections marked with circles and railroad crossing signs)

A. Ego-Centered Networks

Scott Feld, "Why Your Friends Have More Friends Than You Do," *American Journal of Sociology* 96:1464-77

Peter Marsden, "Core Discussion Networks for Americans," *American Sociological Review* 52:122-131.

Nitin Nohria, "Structural Alignments, Individual Strategies, and Managerial Action: Elements Towards a Network Theory of Getting Things Done," in Nitin Nohria and Robert G. Eccles (eds.), *Networks and Organizations: Structure, Form, and Action* (Harvard, 1992)

Barry Wellman, "An Ego-centric Network Tale." *Social Networks* 15 (Dec, 1993): 423-36

Christoph Müller, Barry Wellman and Alexandra Marin. ["How to Use SPSS to Study Ego-Centered Networks."](#) *Bulletin de Methode Sociologique* 69 (Oct., 1999): 83-100

B. One-Mode Networks, Single and Multiple Types of Ties

Read: 2) David Krackhardt, "Informal Networks: The Company Behind the Chart," *Harvard Business Review* (July 1993):105-111. [sakai]

David Krackhardt, "The Strength of Strong Ties: The Importance of Philos in Organizations," in Nitin Nohria and Robert G. Eccles (eds.), *Networks and Organizations: Structure, Form, and Action* (Harvard, 1992)

F. J. Roethlisberger and William J. Dickson, "The Internal Organization of the Group in the Bank Wiring Observation Room," in their *Management and the Worker* (Harvard, 1939), pp. 493-510

Emmanuel Lazega and P. E. Pattison, "Social Capital, Multiplex Generalized Exchange and Cooperation in Organizations: A Case Study," *Social Networks* 21 (1999):67-90

John F. Padgett and Christopher K. Ansell, "Robust Action and the Rise of the Medici, 1400-1434," *American Journal of Sociology* 98:1259-1319 (assigned below)

C. Nodes can be Collective Actors

W. W. Powell, "Neither Market nor Hierarchy: Network Forms of Organization," *Research in Organizational Behavior* 12:295-336.

Joel Podolny and Karen Page, "Network Forms of Organization," *Annual Review of Sociology* 24 (1998):57-76

T. Rowley, D. Behrens, and D. Krackhardt, "Redundant Governance Structures: An Analysis of Structural and Relational Embeddedness in the Steel and Semiconductor Industries," *Strategic Management Journal* 21:369-86

D. Directed versus Undirected Ties

See Wasserman and Faust pages as noted above, especially pp. 121ff.

E. Two- (or more) Mode (Affiliation) Networks

Read: 3) Wasserman and Faust, 291-344

4) Ronald L. Breiger, "The Duality of Persons and Groups," *Social Forces* 53:181-90 [sakai]

J. Miller McPherson, "Hypernetwork Sampling: Duality and Differentiation Among Voluntary Organizations," *Social Networks* 3:225-49

Stephen P. Borgatti and Martin Everett, "Network Analysis of 2-Mode Data," *Social Networks* 19:243-69

Bernice Pescosolido and Beth Rubin, "The Web of Group Affiliations Revisited: Social Life, Postmodernism, and Sociology," *American Sociological Review* 65:52-76

James G. Ennis, "The Social Organization of Sociological Knowledge: Modeling the Intersection of Specialties," *American Sociological Review* 57:259-65

Katherine Faust, "Centrality in Affiliation Networks," *Social Networks* 19:157-91

G. Barnett, "Correspondence Analysis: A Method for the Description of Communication Networks," in W. D. Richards and G. Barnett (eds.), *Progress in Communication Science* (Ablex, 1993), pp. 136-63.

John M. Roberts, "Correspondence Analysis of Two-Mode Network Data," *Social Networks* 22:65-72

Georg Simmel, "The Problem of Sociology," in Don Levine, ed., *Georg Simmel on Individuality and Social Forms*, pp. 23-35

Georg Simmel, "The Web of Group Affiliations," in his *Conflict and the Web of Group Affiliations* (Free Press, 1955)

Ronald L. Breiger, "Social Control and Social Networks: A Model from Georg Simmel," in Donald Black (ed.), *Toward a General Theory of Social Control* (Academic Press, 1984)
 J. Miller McPherson, "Voluntary Affiliation: A Structural Approach," in Peter Blau and Robert Merton (eds.), *Continuities in Structural Inquiry*, pp. 325-51
 Peter Blau and Joseph Schwartz, *Crosscutting Social Circles* (Transaction, 1997)
 Thomas J. Fararo and Patrick Doreian, "Tripartite Structural Analysis: Generalizing the Breiger-Wilson Formalism," *Social Networks* 6, 2 (June 1984): 141-75
 Ann Mische and Philippa Pattison, "Composing a Civic Arena: Publics, Projects, and Social Settings," *Poetics* 27, 2-3 (March 2000): 163-94
 Neha Gondal, "Knowledge Production in Globalization and Feminization Studies in Asia," Rutgers University, Dept of Sociology, unpublished ms.

Week 5 (10/2) Interactionism and its Key Concepts

FIRST ASSIGNMENT DISTRIBUTED

A. Why Do Networks Form, and What Holds Them Together? Attraction and Homophily

Read: 1) Wasserman and Faust, pp. 169-219

More on the notions of attraction and homophily:

James Coleman, *The Adolescent Society* (Free Press, 1961[71]), especially chapter 7
 J. Miller McPherson, Lynn Smith-Lovin, and James Cook, "Birds of a Feather: Homophily in Social Networks," *Annual Review of Sociology* 27:415-44
 John W. Kidd, "An Analysis of Social Rejection in a College Men's Residence Hall." In J. L. Moreno (ed.), *The Sociometry Reader* (Free Press, 1960), pp. 428-36.
 Stanley Wasserman and Dawn Iacobucci, "Statistical Analyses of Discrete Relational Data," *British Journal of Mathematical and Statistical Psychology* 39:41-64
 Paul Holland and Samuel Leinhardt, "An Exponential Family of Probability Distributions for Directed Graphs," *Journal of the American Statistical Association* 76:33-50
 Jere Cohen, "Sources of Peer Group Homogeneity," *Sociology of Education* 50:227-41
 Denise Kandel, "Homophily, Selection, and Socialization in Adolescent Friendships," *American Journal of Sociology* 84:427-36
 Leon Festinger, Stanley Schachter and Kurt Back, *Social Pressures in Informal Groups: A Study of Human Factors in Housing* (Stanford, 1950)
 Theodore M. Newcomb, *The Acquaintance Process* (Holt Rinehart Winston, 1961)

B. From Micromechanisms to Group Cohesion: Balance Theory and Clique Formation

Read: 2) Wasserman and Faust, pp. 220-90 and 556-602

Read: 3) Charles Kadushin, "Friendship Among the French Financial Elite," *American Sociological Review* 60:202-21 [sakai]

Other materials on the notion of balance:

Howard Taylor, *Balance in Small Groups* (Von Nostrand Reinhold, 1970), chapter 2
 Fritz Heider, "Attitudes and Cognitive Orientation," *Psychological Review* 52:358-74 (also reprinted in Samuel Leinhardt (ed.), *Social Networks: A Developing Paradigm* [Academic Press, 1977])

Dorwin Cartwright and Frank Harary, "Structural Balance," *Psychological Review* 63:277-93 (also reprinted in Samuel Leinhardt (ed.), *Social Networks: A Developing Paradigm*)
 James A. Davis, "Clustering and Structural Balance in Groups," in Samuel Leinhardt (ed.), *Social Networks: A Developing Paradigm* (Academic Press, 1977), pp. 27-34
 Frank Harary, "On Local and N-balance of Signed Graphs," *Michigan Mathematical Journal* 5:37-41
 Paul Holland and Samuel Leinhardt, "Transitivity in Structural Models of Small Groups," in Samuel Leinhardt (ed.), *Social Networks: A Developing Paradigm*, pp. 49-66
 Maureen Hallinan, *The Structure of Positive Sentiment* (Elsevier, 1974)
 Ithiel de Sola and Manfred K. Pool, "Contacts and Influence," *Social Networks* 1:5-51
 Patrick Doreian et al., "A Brief History of Balance Through Time," *Journal of Mathematical Sociology* 21: 113-31
 Patrick Doreian and David Krackhardt, "Pre-transitive Balance Mechanisms for Signed Networks," *Journal of Mathematical Sociology* 25:43-67

On the notion of cliques, a good deal of it empirical:

John Scott, *Social Network Analysis: A Handbook* (2nd edition), chapter 6
 Kenneth Frank and Jeff Yasumoto, "Social Capital Within and Between Groups," *American Journal of Sociology* 104:642-86
 Noah Friedkin, "The Structure of Social Space," pp. 125-62 in his *A Structural Theory of Social Influence* (Cambridge, 1998)
 Philip Lankford, "Comparative Analysis of Clique Identification Methods," *Sociometry* 37:287-305
 F. J. Roethlisberger and William J. Dickson, *Management and the Worker*, part IV ("Social Organization of Employees," pp. 379-548)
 John Cottrell, *Social Networks and Social Influences in Adolescence* (Routledge, 1996)
 Karl P. Reitz, "Social Groups in a Monastery," *Social Networks* 10:343-57
 D. Eder and Maureen T. Hallinan, "Sex Differences in Children's Friendships," *American Sociological Review* 43:237-50
 Wayne Baker, "The Social Structure of a National Securities Market," *American Journal of Sociology* 89:775-811
 Michael Gerlach, *Alliance Capitalism: The Social Organization of Japanese Business* (California, 1992)
 James Lincoln, Michael Gerlach, and Christiana Ahmadjian, "Keiretsu Networks and Corporate Performance in Japan," *American Sociological Review* 61:67-88
 Maureen Hallinan, "Patterns of Cliquing Among Youth," in H. C. Foot, A. J. Chapman, and J. R. Smith (eds.), *Friendship and Social Relations in Children* (Wiley, 1980), chapter 12

Technical extensions and relaxations of the notion of clique:

James Moody and Douglas R. White, "Structural Cohesion and Embeddedness: A Hierarchical Concept of Social Groups," *American Sociological Review* 68:103-27
 Douglas R. White and Frank Harary, "The Cohesiveness of Blocks in Social Networks: Node Connectivity and Conditional Density," *Sociological Methodology* 31:305-59
 Kenneth A. Frank, "Identifying Cohesive Subgroups," *Social Networks* 17:27-56
 Kenneth A. Frank, "Mapping Interactions Within and Between Cohesive Subgroups," *Social Networks* 18:93-119

Supplemental stuff on the early history of sociometry:

John Scott, *Social Network Analysis*, chs. 2-4 (esp. chapter 2)
 J. L. Moreno, *Who Shall Survive? Foundations of Sociometry, Group Psychotherapy and Sociodrama* (Beacon, 1953 [1934])
 J. L. Moreno, Helen Jennings and Richard Stockton, "Sociometry in the Classroom," *Sociometry* 6:425-8
 J. L. Moreno and H. H. Jennings, "Statistics of Social Configurations," *Sociometry* 1, ¾ (1938): 342-74
 H. Otto Dahlke, "Determinants of Sociometric Relations Among Children in the Elementary School," *Sociometry* 16:327-38

Week 6 (10/9) Network Positions and their Consequences

FIRST ASSIGNMENT DUE, 10/10

A. The Notion(s) of Centrality

Read: 1) Wayne Baker and Robert Faulkner, "The Social Organization of Conspiracy: Illegal Networks in the Heavy Electrical Equipment Industry," *American Sociological Review* 58:837-60 [sakai]

Other empirical examples of how centrality matters:

Roger Gould, "Power and Social Structure in Community Elites," *Social Forces* 68:531-52
 Edward O. Laumann, Peter Marsden, and Joseph Galaskiewicz, "Community-Elite Influence Structures: Extension of a Network Approach," *American Journal of Sociology* 83:594-631
 Edward O. Laumann, Joseph Galaskiewicz and Peter Marsden, "Community Structure as Interorganizational Linkages," *Annual Review of Sociology* 4:455-84
 Paulette Lloyd and Elizabeth Cohen, "Peer Status in the Middle School: A Natural Treatment for Unequal Participation," *Social Psychology of Education* 3:193-216

More supplemental stuff on the measures:

Linton Freeman, "Centrality in Social Networks," *Social Networks* 1:215-39
 Noah Friedkin, "Theoretical Foundations for Centrality Measures," *American Journal of Sociology* 96:1478-1504
 D. C. Bell, J. S. Atkinson, and J. W. Carlson, "Centrality Measures for Disease Transmission Networks," *Social Networks* 21:1-21
 J. M. Bolland, "Sorting Out Centrality: An Analysis of the Performance of Four Centrality Models in Real and Simulated Networks," *Social Networks* 10:233-53
 Linton Freeman, "A Set of Measures of Centrality Based on Betweenness," *Sociometry* 40:35-41
 Karen Stephenson and Marvin Zelen, "Rethinking Centrality: Methods and Examples," *Social Networks* 11:1-37
 John Scott, "Centrality and Centralization," in his *Social Network Analysis: A Handbook* (2nd edition), ch. 5
 Phil Bonacich, "Power and Centrality: A Family of Measures," *American Journal of Sociology* 92:1170-82

B. Brokerage

Roberto Fernandez and Roger Gould, "A Dilemma of State Power: Brokerage and Influence in the National Health Policy Domain," *American Journal of Sociology* 99:1455-91
 Roger Gould and Roberto Fernandez, "Structures of Mediation: A Formal Approach to Brokerage in Transaction Networks," *Sociological Methodology* 19:89-126.
 Ronald S. Burt, *Structural Holes* (Chicago, 1992), especially Introduction and chapter 1
 Henning Hillman, "Mediation in Multiple Networks: Elite Mobilization before the English Civil War," *American Sociological Review* 73,3 (June 2008): 426-54

C. Reach and the Idea of the Strength of Weak Ties

Read: 2) Peter S. Bearman, Katherine Stovel, and James Moody, "Chains of Affection: The Structure of Adolescent Romantic and Sexual Networks," *American Journal of Sociology* 110:44-91 [sakai]

Other materials on the strength of weak ties:

- Mark S. Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78:1360-80
- Mark S. Granovetter, "The Strength of Weak Ties: A Network Theory Revisited," *Sociological Theory* 1:201-33
- Mark Granovetter, *Getting a Job: A Study of Contacts and Careers* (Chicago, 1974; 2nd edition 1995)
- M. T. Hansen, "The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organization Subunits," *Administrative Science Quarterly* 44:82-111
- M. T. Hansen, "Knowledge Networks: Explaining Effective Knowledge Sharing in Multiunit Companies," *Organization Science* 13:232-48
- A. K. Gupta, and V. Govindarajan, "Knowledge Flows Within Multinational Corporations," *Strategic Management Journal* 21:473-96
- A. Hargadon and R. Sutton, "Technology Brokering and Innovation in a Product Development Firm," *Administrative Science Quarterly* 42:716-49.
- Dexter C. Dunphy, "The Social Structure of Adolescent Peer Groups," *Sociometry* 26:230-46
- Noah Friedkin, "A Test of Structural Features of Granovetter's Strength of Weak Ties Theory," *Social Networks* 2:411-22
- Nan Lin, Walter Ensel and John Vaughn, "Social Resources and Strength of Ties: Structural Factors in Occupational Status Attainment," *American Sociological Review* 46:393-405
- Gabriel Weimann, "On the Importance of Marginality," *American Sociological Review* 47:764-73
- Peter Marsden and K. E. Campbell, "Measuring Tie Strength," *Social Forces* 63:482-501
- Stephen Hansell, "Cooperative Groups, Weak Ties, and the Integration of Peer Friendships," *Social Psychology Quarterly* 47:316-28
- Peggy Giordano, "Wider Circle of Friends in Adolescence," *American Journal of Sociology* 101:661-97
- Everett Rogers, "Network Analysis and the Diffusion of Innovations," in Paul Holland and Samuel Leinhardt (eds.), *Perspectives on Social Network Research* (Academic Press, 1979)
- Ronald S. Burt, "Structural Holes and Good Ideas," *American Journal of Sociology* 110:349-99

D. Network Position as 'Social Capital'

- James Coleman, "Social Capital in the Creation of Human Capital," *American Journal of Sociology* 94:S95-S120.
- James Coleman, *Foundations of Social Theory* (Harvard, 1990), pp. 300-21
- Mark Granovetter, "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology* 91:481-510.

E. Power and Resource Dependency Theory

- Richard Emerson, "Power-Dependence Relations," *American Sociological Review* 27:31-41.
- Karen S. Cook and Richard M. Emerson, "Power, Equity and Commitment in Exchange Networks," *American Sociological Review* 43:721-39
- Karen S. Cook, "Network Structures from an Exchange Perspective," in Peter Marsden and Nan Lin (eds.), *Social Structure and Network Analysis* (Sage, 1982), pp. 177-200
- Karen S. Cook, Richard Emerson, M. R. Gillmore, and T. Yamagishi, "The Distribution of Power in Exchange Networks: Theory and Experimental Results," *American Journal of Sociology* 89:275-305
- Karen Cook and Joseph Whitmeyer, "Two Approaches to Social Structure," *Annual Review of Sociology* 18:109-27
- T. Yamagishi, M. R. Gillmore, and Karen Cook, "Network Connections and the Distribution of Power in Exchange Networks," *American Journal of Sociology* 93:833-51
- Jeffrey Pfeffer and Gerald Salancik, *The External Control of Organizations* (Harper & Row, 1978)
- Linda Molm, "The Dynamics of Power in Social Exchange," *American Sociological Review* 55:427-47
- Peter Marsden, "Restricted Access in Networks and Models of Power," *American Journal of Sociology* 88:686-717
- Barry Markovsky, David Willer and T. Patton, "Power Relations in Exchange Networks," *American Sociological Review* 53:220-36

Week 7 (10/16) Hierarchy out of Interactions (one form of *emergent structure*)

SECOND ASSIGNMENT DISTRIBUTED

A. Transitivity

Read: 1) Frans DeWaal, *Chimpanzee Politics*, selections [**sakai**]

2) Val Burris, "The Academic Caste System: Prestige Hierarchies in PhD Exchange Networks," *American Sociological Review* 69:239-64 [**sakai**]

Other work on hierarchies and hierarchy formation:

Ivan Chase, "Social Process and Hierarchy Formation in Small Groups: A Comparative Perspective," *American Sociological Review* 45:905-24

Ivan Chase, "Models of Hierarchy Formation in Animal Societies," *Behavioral Sciences* 19:374-82

Cecilia Ridgeway and David Diekema, "Dominance and Collective Hierarchy Formation in Male and Female Task Groups," *American Sociological Review* 54:79-93

Eugene Rosa and Allan Mazur, "Incipient Status in Groups," *Social Forces* 58:18-37

Allan Mazur et al, "Physiological Aspects of Communication Via Mutual Gaze," *American Journal of Sociology* 86:50-74

Steve Ellyson and John Dovidio (eds.), *Power, Dominance, and Nonverbal Behavior* (Springer, 1985)

F. F. Strayer, "Child Ethology and the Study of Preschool Social Relations," in H. C. Foot, A. J. Chapman, and J. R. Smith (eds.), *Friendship and Social Relations in Children* (Wiley, 1980), chapter 9.

Donald Omark, F. F. Strayer, and Daniel Freedman, *Dominance Relations: An Ethological View of Human Conflict in Social Interaction*, esp. chapters 7-12, 21-3, 26 (Garland, 1980)

Peter Blau, *Exchange and Power in Social Life* (Transaction, 1983 [1964])

Roger Gould, "The Origins of Status Hierarchies: A Formal Theory and Empirical Test," *American Journal of Sociology* 107:1143-78

Material more explicitly on the idea of Transitivity:

Maureen T. Hallinan and W. N. Kubitschek, "The Effects of Individual and Structural Characteristics on Intransitivity in Social Networks," *Social Psychology Quarterly* 51:81-92

Paul Holland and Samuel Leinhardt, "A Method for Detecting Structure in Sociometric Data," *American Journal of Sociology* 76:492-513

James Davis and Samuel Leinhardt, "The Structure of Positive Interpersonal Relations in Small Groups," in Joseph Berger, Morris Zelditch, and Bo Anderson (eds.), *Sociological Theories in Progress*, volume 2 (Houghton Mifflin, 1972), pp. 218-51

Paul Holland and Samuel Leinhardt, "Transitivity in Structural Models of Small Groups," *Comparative Group Studies* 2:107-24

Paul Holland and Sam Leinhardt, "Local Structure in Social Networks," *Sociological Methodology* 7:1-45

Eugene Johnsen, "Network Macrostructure Models for the Davis-Leinhardt Set of Empirical Sociomatrices," *Social Networks* 7:203-24

R. L. Breiger and P. E. Pattison, "Cumulated Social Roles: The Duality of Persons and Their Algebras," *Social Networks* 8: 215-256.

B. Further Extensions to Trees, or Chains:

Read: 3) Carl H. Landé, "Networks and Groups in Southeast Asia: Some Observations on the Group Theory of Politics," *American Political Science Review* 67:103-27 [sakai]

Other materials on formal and informal organizational structure as trees:

Morris Friedell, "Organizations as Semilattices," *American Sociological Review* 32:46-54

Harrison C. White, "Management Conflict and Sociometric Structure," *American Journal of Sociology* 67:185-7.

James C. Scott, "Patron-Client Politics and Political Change in Southeast Asia," *American Political Science Review* 66:91-113.

Steffen W. Schmidt, James C. Scott, Carl Landé, and Laura Guasti (eds.), *Friends, Followers, and Factions: A Reader in Political Clientelism* (California, 1977)

John Levi Martin, "The Short Cut to Structure with Patronage Periods," unpublished ms.

Paul D. McLean, *The Art of the Network: Strategic Interaction and Patronage in Renaissance Florence*, chapter 6

Week 8 (10/23)

Structuralist Approaches to Networks

SECOND ASSIGNMENT DUE, 10/24

Read: 1) Wasserman and Faust, pp. 345-424 and 461-502

2) S. F. Nadel, *The Theory of Social Structure*, pp. 1-9, 62-73, 79-92, 97-104, 147-52 [sakai]

Other materials:

John Scott, *Social Network Analysis: A Handbook*, chapters 7 and 8

Stephen Borgatti and Martin Everett, "Notions of Position in Social Network Analysis," *Sociological Methodology* 22:1-35

Harrison C. White, Scott Boorman, and Ronald Breiger, "Social Structure from Multiple Networks. I: Blockmodels of Roles and Positions," *American Journal of Sociology* 81:730-80

Scott Boorman and Harrison C. White, "Social Structure from Multiple Networks. II: Role Structures," *American Journal of Sociology* 81:1384-1446

Ronald L. Breiger and Philippa Pattison, "Cumulated Social Roles: The Duality of Persons and Their Algebras," *Social Networks* 8:215-56

Ronald L. Breiger, "Career Attributes and Network Structure: A Blockmodel Study of Biomedical Research Specialty," *American Sociological Review* 41:117-135

Philippa Pattison, *Algebraic Models for Social Networks* (Cambridge, 1994)

François Lorrain and Harrison C. White, "Structural Equivalence of Individuals in Social Networks," *Journal of Mathematical Sociology* 1:49-80

Ronald L. Breiger, Scott Boorman, and Phipps Arabie, "An Algorithm for Clustering Relational Data with Applications to Social Network Analysis and Comparison with Multidimensional Scaling," *Mathematical Psychology* 12:328-83

Katherine Faust, "Comparison of Methods for Positional Analysis: Structural and General Equivalences," *Social Networks* 10:313-41

Ronald S. Burt, "Models of Network Structure," *Annual Review of Sociology* 6:79-141

Ronald S. Burt, "Social Contagion and Innovation: Cohesion versus Structural Equivalence," *American Journal of Sociology* 92:1287-335

Wasserman and Faust, pp. 675-724
 William Panning, "Fitting Blockmodels to Data," *Social Networks* 4:81-101
 William Panning, "Blockmodels from Relations to Configurations," *American Journal of Political Science* 26:585-608
 Ronald S. Burt, "Positions in Networks," *Social Forces* 55:93-122
 G. A. Cohen, *Karl Marx's Theory of History* (Princeton, 2001 [1978])

Vacancy Chains as another model of interdependence:

John F. Padgett, "Mobility as Control: Congressmen through Committees," in Ronald L. Breiger (ed.), *Social Mobility and Social Structure* (Cambridge, 1990), pp. 27-58
 Harrison C. White, *Chains of Opportunity* (Harvard, 1970), especially chapter 1
 Shelby Stewman and S. L. Konda, "Careers and Organizational Labor-Markets," *American Journal of Sociology* 88:637-85
 Ivan D. Chase, "Vacancy Chains," *Annual Review of Sociology* 17:133-54
 Andrew Abbott, "Vacancy Models for Historical Data," in Ronald L. Breiger (ed.), *Social Mobility and Social Structure*, pp. 80-102 (Cambridge, 1990)
 Andrew Abbott and Alexandra Hrycak, "Measuring Resemblance in Sequence Data: An Optimal Matching Analysis of Musicians' Careers," *American Journal of Sociology* 96:144-85
 D. Randall Smith and Andrew Abbott, "A Labor Market Perspective on the Mobility of College Football Coaches," *Social Forces* 61:1147-67
 Peter Marsden and Karen Campbell, "Recruitment and Selection Processes: The Organizational Side of Job Searches," in Ronald L. Breiger (ed.), *Social Mobility and Social Structure* (Cambridge, 1990), pp. 59-79
 Katherine Stovel, Michael Savage, and Peter Bearman, "Ascription into Achievement: Models of Career Systems at Lloyds Bank, 1890-1970," *American Journal of Sociology* 102:358-99
 Katherine Stovel and Mike Savage, "Mergers and Mobility: Organizational Growth and the Origins of Career Migration at Lloyds Bank," *American Journal of Sociology* 111:1080-1121
 King-to Yeung, "Repressing Rebels, Managing Bureaucrats: State Organizational Adaptation During the Taiping Rebellion, 1851-64," unpublished ms., Rutgers University

Week 9 (10/30)

Network Role Structures: Kinship and Hollywood

Read: 1) Peter Bearman, "Generalized Exchange," *American Journal of Sociology* 102:1383-1415 [**sakai**]

2) Robert Faulkner, *Music on Demand: Composers and Careers in the Hollywood Film Industry* (read as much as you can of this great book, but especially, the Foreword, Preface, and chs. 3, 5, 8, and 9)

Other anthropological and historical materials on kinship:

Claude Lévi-Strauss, *The Elementary Structures of Kinship*, pp. 12-83, 119-33, 146-220, 232-309 (chs. 2-6, 9, 11-13, 15-17)
 Harrison C. White, *An Anatomy of Kinship* (Prentice-Hall, 1963)
 Franklin E. Tjon Sie Fat, *Representing Kinship: Simple Models of Elementary Structures*. Leiden University dissertation
 Robin Fox, *Kinship and Marriage*, chapters 1, 3, 4, 6-8
 Meyer Fortes, *The Dynamics of Clanship Among the Tallensi* (Oxford, 1945)
 Rodney Needham, *Structure and Sentiment: A Test Case in Social Anthropology* (Chicago, 1962)
 Paula Rubel and A. Rosman, *Your Own Pigs You May Not Eat* (Chicago, 1978)
 Peter Ekeh, *Social Exchange Theory: The Two Traditions*, chapter 3 (Heinemann, 1974)
 Andrew Strathern, *The Rope of Moka: Big Men and Ceremonial Exchange in New Guinea*

Douglas R. White and Paul Jorion, "Representing and Computing Kinship: A New Approach," *Current Anthropology* 33:454-63
 David Herlihy, "Family Solidarity in Medieval Italian History," in David Herlihy et al. (eds.), *Economy, Society and Government in Medieval Italy* (Kent State, 1969)
 Diane Owen Hughes, "From Brideprice to Dowry in Mediterranean Europe," *Journal of Family History* 3:262-96
 John F. Padgett, "Marriage and Elite Structure in Renaissance Florence, 1282-1500," unpublished SSHA conference paper, 1994

Classic small group studies:

Elizabeth Bott, "Urban Families: Conjugal Roles and Social Networks," *Human Relations* 8:345-84
 Elizabeth Bott, *Family and Social Network* (Tavistock, 1957)
 J. A. Barnes, "Classes and Committees in a Norwegian Island Parish," in Samuel Leinhardt (ed.), *Social Networks: A Developing Paradigm*, pp. 233-52 (Academic, 1977)
 Ronald L. Breiger and G. E. James, "Personae and Social Roles: The Network Structure of Personality Types in Small Groups," *Social Psychology Quarterly* 42:262-70
 Gwendolyn Moore, "Structural Determinants of Men's and Women's Personal Networks," *American Sociological Review* 55:726-35

International Trade:

David A. Smith and Douglas R. White, "Structure and Dynamics of the Global Economy: Network Analysis of International Trade, 1965-1980," *Social Forces* 70:857-93
 David Snyder and Edward Kick, "Structural Position in the World System and Economic Growth, 1955-1970," *American Journal of Sociology* 84:1096-1126
 Ronald L. Breiger, "Structures of Economic Interdependence Among Nations," in Peter Blau and Robert Merton (eds.), *Continuities in Structural Inquiry*, chapter 12
 Roger J. Nemeth and David A. Smith, "International Trade and World-System Structure: A Multiple Network Analysis," *Review (Fernand Braudel Center)* 8:517-60

Week 10 (11/6) Primary Effects of Networks

A. Solidarity and Mutual Support:

Read: 1) Barry Wellman and S. Wortley, "Different Strokes from Different Folks: Community Ties and Social Support," *American Journal of Sociology* 96:558-88 **[sakai]**

Other materials:

S. M. Kana'iaupuni et al., "Counting on Kin: Social Networks, Social Support, and Child Health Status," *Social Forces* 83:1137-64
 Charles Kadushin, "Social Density and Mental Health," in Peter Marsden and Nan Lin (eds.), *Social Structure and Network Analysis* (Sage, 1982), chapter 7
 Maureen T. Hallinan, "The Process of Friendship Formation," *Social Networks* 1:193-210
 Robert Huckfeldt, "Social Contexts, Social Networks, and Urban Neighborhoods: Environmental Constraints on Friendship Choice," *American Journal of Sociology* 89:651-669
 Candice Feiring, "Other-Sex Friendship Networks and the Development of Romantic Relationships in Adolescence," *Journal of Youth and Adolescence* 28:495-512
 Claude S. Fischer, *To Dwell Among Friends* (Chicago, 1982), esp. chapters 1, 12-16
 Barry Wellman, Peter J. Carrington, and Alan Hall, "Networks as Personal Communities," in Barry Wellman and S. D. Berkowitz (eds.), *Social Structures: A Network Approach* (Cambridge, 1988), ch. 8

- T. C. Antonucci, A. M. Sherman, and H. Akiyama, "Social Networks, Support, and Integration," in J. E. Birren (ed.), *Encyclopedia of Gerontology Age, Aging, and the Aged* (Academic, 1996), pp. 505-14
- Edward O. Laumann, *Bonds of Pluralism: The Form and Substance of Urban Social Networks* (Wiley, 1973)
- Jill Sutor and Shirley Keeton, "Once a Friend, Always a Friend? Effects of Homophily on Women's Support Networks across a Decade," *Social Networks* 19:51-62
- Helene H. Fung, Laura L. Carstensen, and Frieder R. Lang, "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
- Edwina Uehara, "Dual Exchange Theory, Social Networks and Informal Social Support," *American Journal of Sociology* 96:521-57
- Carol B. Stack, *All Our Kin: Strategies for Survival in a Black Community*, chs. 3-6 (Harper & Row, 1974)
- Theodore Caplow, "Christmas Gifts and Kin Networks," *American Sociological Review* 47:383-92
- F. Agneessens, Hans Waage, and John Lievens, "Diversity in Social Support by Role Relations: A Typology," *Social Networks* 28,4 (October 2006): 427-41

B. Information and Advice

- Emmanuel Lazega and M. A. J. van Duijn, "Position in Formal Structure, Personal Characteristics, and Choices of Advisors in a Law Firm: A Logistic Regression Model for Dyadic Network Data," *Social Networks* 19:375-97
- James R. Lincoln and Jon Miller, "Work and Friendship Ties in Organizations," *Administrative Science Quarterly* 24:181-99
- Emmanuel Lazega and P. E. Pattison, "Social Capital, Multiplex Generalized Exchange and Cooperation in Organizations: A Case Study," *Social Networks* 21 (1999):67-90

C. Diffusion ...

1) of disease:

- Samuel Friedman et al., "Sociometric Risk Networks and Risk for HIV Infection," *American Journal of Public Health* 87,8:1289-96
- Martina Morris, "Epidemiology and Social Networks," *Sociological Methods and Research* 22:99-126. [see other Morris work as well]
- James Moody, "The Importance of Relationship Timing for STD Diffusion: Indirect Connectivity and STD Infection Risk," *Social Forces* 81:25-56
- Rothenberg et al., "Choosing a Centrality Measure: Epidemiological Correlates in the Colorado Springs Study of Social Networks," *Social Networks* 17:273-97

2) of ideas and attitudes:

- Read: 2) James Moody, "The Structure of a Scientific Collaboration Network," *American Sociological Review* 69:213-38 **[sakai]**
- 3) Bonnie Erickson, "The Relational Basis of Attitudes," in Barry Wellman and S. D. Berkowitz (eds.), *Social Structures: A Network Approach* pp. 99-121 (Cambridge, 1988) **[sakai]**
- 4) Paul McLean, *The Art of the Network*, chapters 2 and 8

Other work on diffusion:

- James Coleman, Elihu Katz, and Herbert Menzel, *Medical Innovation: A Diffusion Study* James Coleman, Elihu Katz and H. Menzel, "The Diffusion of an Innovation Among Physicians," *Sociometry* 20:253-70
- Ronald S. Burt, "Cohesion Versus Structural Equivalence as a Basis for Network Subgroups," in Ronald Burt and M. Minor (eds.), *Applied Network Analysis: A Methodological Introduction*, pp. 262-82
- Noah Friedkin, "Structural Bases of Interpersonal Influence in Groups," *American Sociological Review* 58:862-72
- David Strang and John W. Meyer, "Institutional Conditions for Diffusion," *Theory and Society* 22:487-511
- David Strang and Michael W. Macy, "In Search of Excellence: Fads, Success Stories, and Adaptive Emulation," *American Journal of Sociology* 107:147-82
- Leon Festinger, Stanley Schacter, and Kurt Black, *Social Pressures in Informal Groups* (Stanford, 1950)
- Diana Crane, *Invisible Colleges: Diffusion of Knowledge in Scientific Communities* (Chicago, 1988 [1972])
- Peter V. Marsden and Noah Friedkin, "Network Studies of Social Influence," *Sociological Methods and Research* 22:127-51
- Gary Alan Fine, "Folklore Diffusion through Interactive Social Networks: Conduits in a Preadolescent Community," in his *Manufacturing Tales: Sex and Money in Contemporary Legends* (Tennessee, 1992)
- Thomas W. Valente, *Network Models of the Diffusion of Innovations* (Hampton, 1995)
- Thomas W. Valente and Rebecca L. Davis, "Accelerating the Diffusion of Innovations Using Opinion Leaders," *Annals of the American Academy of the Political and Social Sciences* 566:55-67
- Myong-Hun Chang and Joseph E. Harrington, Jr., "Discovery and Diffusion of Knowledge in an Endogenous Social Network," *American Journal of Sociology* 110:937-76

Week 11 (11/13)**Economic Relations****A. Transactions and Markets**

Read: 1) Brian Uzzi, "The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect," *American Sociological Review* 61:674-98 [**sakai**]

2) John F. Padgett and Paul D. McLean, "Elite Transformation and Economic Credit in Renaissance Florence," unpubl. ms. [**sakai**]

- John F. Padgett and Paul D. McLean, "Organizational Invention and Elite Transformation: The Birth of Partnership Systems in Renaissance Florence," *American Journal of Sociology* 111:1463-1568
- Paul D. McLean and John F. Padgett, "Was Florence a Perfectly Competitive Market? Transactional Evidence from the Renaissance," *Theory and Society* 26:209-44
- Brian Uzzi and Ryon Lancaster, "Embeddedness and Price Formation in the Corporate Law Market," *American Sociological Review* 69:319-44
- Brian Uzzi, "Social Relations and Networks in the Making of Financial Capital," *American Sociological Review* 64:481-505
- Donald Mackenzie and Yuval Millo, "Constructing a Market, Performing Theory: The Historical Sociology of a Financial Derivatives Exchange," *American Journal of Sociology* 109:107-45
- Joel Podolny, "Networks as the Pipes and Prisms of the Market," *American Journal of Sociology* 107:33-60
- Ranjay Gulati and Martin Gargiulo, "Where Do Interorganizational Networks Come From?" *American Journal of Sociology* 104:1439-93
- Joel Podolny, Toby E. Stuart, and Michael T. Hannan, "Networks, Knowledge, and Niches: Competition in the Worldwide Semiconductor Industry, 1984-1991," *American Journal of Sociology* 102:659-89
- Frank Romo and Michael Schwartz, "The Structural Embeddedness of Business Decisions: The Migration of Manufacturing Plants in New York State, 1960-1985," *American Sociological Review* 60:874-907

- Stuart Macaulay, "Non-Contractual Relations in Business: A Preliminary Study," *American Sociological Review* 28:55-67
- Bruce G. Carruthers, *City of Capital* (Princeton, 1996)
- Ezra W. Zuckerman and Stoyan V. Sgourev, "Peer Capitalism: Parallel Relationships in the U.S. Economy," *American Journal of Sociology* 111:1327-66
- Mark S. Mizruchi and Linda Brewster Stearns, "Getting Deals Done: The Use of Social Networks in Bank Decision-Making," *American Sociological Review* 66:647-71
- Mark S. Mizruchi, Linda Brewster Stearns, and Christopher Marquis, "The Conditional Nature of Embeddedness: A Study of Borrowing by Large U.S. Firms, 1973-1994," *ASR* 71:310-32
- Roberto M. Fernandez and Isabel Fernandez-Mateo, "Networks, Race, and Hiring," *ASR* 71:42-71
- Emilio J. Castilla, "Social Networks and Employee Performance in a Call Center," *American Journal of Sociology* 110:1243-83
- Roberto M. Fernandez, Emilio J. Castilla, and Shyon Baumann, "Social Capital at Work: Networks and Employment at a Phone Center," *American Journal of Sociology* 105:1288-1356

B. Ownership

- Read: 3) Yusheng Peng, "Kinship Networks and Entrepreneurs in China's Transitional Economy," *American Journal of Sociology* 109:1045-74 [sakai]

- Mark S. Mizruchi and Linda B. Stearns, "A Longitudinal Study of the Formation of Interlocking Directorates," *Administrative Science Quarterly* 33:194-210
- Donald Palmer, Roger Friedland, and J. V. Singh, "The Ties that Bind: Organizational and Class Bases of Stability in a Corporate Interlock Network," *American Sociological Review* 51:781-96
- Mark S. Mizruchi, *The Structure of Corporate Political Action* (Harvard, 1992)
- Clifford Kono, Donald Palmer, Roger Friedland, and Matthew Zafonte, "Lost in Space: The Geography of Interlocking Directorates," *American Journal of Sociology* 103:863-911
- William G. Roy, "The Unfolding of the Interlocking Directorate Structure of the United States," *American Sociological Review* 48:248-57
- Val Burris, "Interlocking Directorates and Political Cohesion among Corporate Elites," *American Journal of Sociology* 111:249-83

C. Networking and Strategy

- Robert Faulkner, *Music on Demand: Composers and Careers in the Hollywood Film Industry*
- Ronald S. Burt, *Structural Holes* (Chicago, 1992), especially Introduction and chapter 1
- Ronald S. Burt, "Bandwidth and Echo: Trust, Information, and Gossip in Social Networks," in *Networks and Markets*, edited by James Rauch and Alessandra Casella, pp. 30-74 (Russell Sage, 2001)
- Wayne Baker and Robert Faulkner, "Role as Resource in the Hollywood Film Industry," *American Journal of Sociology* 97:279-309
- Vanina Leschziner, "Recognition by Omission: Authorship and Differentiation in the Culinary Field," University of Toronto, unpublished ASA conference paper

Week 12 (11/20) History and Politics through a Social Network Lens

- Read: 1) John F. Padgett and Christopher K. Ansell, "Robust Action and the Rise of the Medici, 1400-1434," *American Journal of Sociology* 98:1259-1319 [sakai]

2) Roger V. Gould, "Patron-Client Ties, State Centralization, and the Whiskey Rebellion," *American Journal of Sociology* 102:400-429 [sakai]

3) Paul D. McLean, *The Art of the Network*, chapter 7

Politics in various places:

- Peter Bearman, James Moody, and Robert Faris, "Blocking the Future," *Social Science History* 23:501-33
- Peter Bearman, James Moody, and Robert Faris, "Networks and History," *Complexity* 8,1:61-71
- Peter S. Bearman, *Relations into Rhetorics*, especially pp. 1-18, 24-5, 42-5, 72-93, 95-111, 131-181
- Roger V. Gould, *Insurgent Identities* (Chicago, 1995), especially chapters 1, 2, 6, 7
- Christopher K. Ansell, "Symbolic Networks: The Realignment of the French Working Class, 1887-1894," *American Journal of Sociology* 103:359-90
- Richard Lachmann, *Capitalists In Spite of Themselves* (Oxford, 2000)
- Daniel P. Carpenter, *The Forging of Bureaucratic Autonomy: Reputations, Networks, and Policy Innovation in Executive Agencies, 1862-1928* (Princeton, 2001)
- Paul D. McLean, "A Frame Analysis of Favor Seeking in the Renaissance: Agency, Networks, and Political Culture," *American Journal of Sociology* 104:51-91
- Paul D. McLean, "Widening Access while Tightening Control: Office-holding, Marriages, and Elite Consolidation in Early Modern Poland," *Theory and Society* 33:167-212
- Paul D. McLean, "Patronage, Citizenship, and the Stalled Emergence of the Modern State in Renaissance Florence," *Comparative Studies in Society and History* 47:638-64
- Fredrik Barth, *Political Leadership Among the Swat Pathans* (Athlone, 1965), especially chapters 7 and 9
- Carl Landé, *Leaders, Factions, and Parties: The Structure of Philippine Politics* (Yale, 1965)
- S. Schmidt, James Scott, Carl Landé, and Laura Guasti (eds.), *Friends, Followers, and Factions* (California, 1977)
- Lily Ross Taylor, *Party Politics in the Age of Caesar* (California 1968 [1949])
- Joyce Pettigrew, *Robber Noblemen: A Study of the Political System of the Sikh Jats* (Routledge & Kegan Paul, 1975)
- Dale Kent, *The Rise of the Medici: Faction in Florence, 1426-34* (Oxford, 1978)
- Judith Chubb, *Patronage, Power, and Poverty in Southern Italy* (Cambridge, 1982)
- Martin Shefter, "The Emergence of the Political Machine: An Alternate View," in Willis D. Hawley et al. (eds.), *Theoretical Perspectives on Urban Politics* (Prentice-Hall, 1976)
- Edward O. Laumann and David Knoke, *The Organizational State* (Wisconsin, 1987)
- Gerhard Lehmann and Philippe Schmitter (eds.), *Patterns of Corporatist Policy-Making* (Sage, 1982)
- Martin Shefter, "Trade Unions and Political Machines: The Organization and Disorganization of the American Working Class in the Late Nineteenth Century," in Ira Katznelson and Aristide Zolberg (eds.), *Working Class Formation* (Princeton, 1986), chapter 6
- Henning Hillman, "Localism and the Limits of Political Brokerage: Evidence from Revolutionary Vermont," unpublished ms.
- Adam Slez and John Levi Martin, "Political Action and Party Formation in the United States Constitutional Convention," *American Sociological Review* 72,1 (February 2007): 42-67

Specifically on Social Movements:

- Jeff Goodwin, "The Libidinal Construction of a High-Risk Social Movement: Affectual Ties and Solidarity in the Huk Rebellion, 1946 to 1954," *American Sociological Review* 62:53-69
- Roger Petersen, *Resistance and Rebellion: Lessons from Eastern Europe* (Cambridge, 2001)
- J. Craig Jenkins, "Resource Mobilization Theory and the Study of Social Movements," *Annual Review of Sociology* 9:527-53
- David Snow, Louis Zurcher, and Sheldon Eklund-Olson, "Social Networks and Social Movements: A Microstructural Approach to Differential Recruitment," *American Sociological Review* 45:787-801

Roberto Fernandez and Doug McAdam, "Social Networks and Social Movements: Multiorganizational Fields and Recruitment to Mississippi Freedom Summer," *Sociological Forum* 92:64-90.

Andreas Flache and Michael Macy, "The Weakness of Strong Ties: Collective Action Failure in a Highly Cohesive Group," *Journal of Mathematical Sociology* 21:3-28

Marc Dixon and Vincent J. Roscigno, "Status, Networks, and Social Movement Participation: The Case of Striking Workers," *American Journal of Sociology* 108:1292-1327

Florence Passy, "Social Networks Matter. But How?" in Mario Diani and Doug McAdam (eds.), *Social Movement Analysis: The Network Perspective* (Oxford, 2003), pp. 21-48

Maryjane Osa, "Networks in Opposition: Linking Organizations through Activists in the Polish People's Republic," in Mario Diani and Doug McAdam (eds.), *Social Movement Analysis: The Network Perspective* (Oxford, 2003), pp. 77-104

Roger V. Gould, "Why Do Networks Matter? Rationalist and Structuralist Interpretations," in Diani and McAdam (eds.), *Social Movement Analysis: The Network Perspective* (Oxford, 2003), pp. 233-57

Pamela E. Oliver and Daniel J. Myers, "Networks, Diffusion, and Cycles of Collective Action," in Mario Diani and Doug McAdam (eds.), *Social Movement Analysis: The Network Perspective* (Oxford, 2003), pp. 173-203

Migration:

Vilna F. Bashi, *Survival of the Knitted* (California, 2007)

Douglas S. Massey and J. Edward Taylor, *International Migration* (special issue), March 2004

Alberto Palloni et al., "Social Capital and International Migration: A Test Using Information on Family Networks," *American Journal of Sociology* 106:1262-98

B. Davis, G. Steckloy, and P. Winters, "Domestic and International Migration from Rural Mexico: Disaggregating the Effects of Network Structure and Composition," *Population Studies* 56:291-309

Thomas Bauer and Klaus F. Zimmermann, "Network Migration of Ethnic Germans," *International Migration Review* 31:143-9

S. J. Gold, "Gender, Class, and Network: Social Structure and Migration Patterns Among Transnational Israelis," *Global Networks: A Journal of Transnational Affairs* 1:57-78

N. M. Shah and I. Menon, "Chain Migration through the Social Network: Experience of Labour Migrants in Kuwait," *International Migration* 37:361-82

Week 13 (Tuesday 11/25) Networks and Culture

A. Discourse and Interaction

Read: 1) Ann Mische, "Cross-Talk in Movements: Reconceiving the Culture-Network Link," in Mario Diani and Doug McAdam (eds.), *Social Movement Analysis: The Network Perspective* (Oxford, 2003), pp. 258-80 [sakai]

2) Paul D. McLean, *The Art of the Network*, chapters 4 and 5

Ann Mische, *Partisan Publics: Communication and Contention Across Brazilian Youth Activist Networks*

David Gibson, "Taking Turns and Talking Ties: Networks and Conversational Interaction," *American Journal of Sociology* 110:1561-97

Mustafa Emirbayer and Jeff Goodwin, "Network Analysis, Culture, and the Problem of Agency," *American Journal of Sociology* 99:1411-54

Harrison C. White, *Identity and Control* (Princeton, 1992; new edition, 2008)

Ann Mische and Harrison C. White, "Between Conversation and Situation: Public Switching Dynamics Across Network Domains," *Social Research* 65:695-724

Eric Leifer, "Interaction Preludes to Role-Setting: Exploratory Local Action," *American Sociological Review* 53:865-78

Eric Leifer, and Valli Rajah, "Getting Observations: Strategic Ambiguities in Social Interaction," *Soziale Systeme* 6:251-67

Ronald S. Burt, "Bandwidth and Echo: Trust, Information, and Gossip in Social Networks," in James Rauch and Alessandra Casella (eds.), *Networks and Markets* (Russell Sage, 2001), pp. 30-74

B. Mapping Cognition with Network Tools:

Read: 3) John Mohr, "Soldiers, Mothers, Tramps, and Others: Discourse Roles in the 1907 New York City Charity Directory," *Poetics* 22:327-57 [sakai]

Peter S. Bearman and Katherine Stovel, "Becoming a Nazi: A Model for Narrative Networks," *Poetics* 27:69-90

Kathleen Carley, "Extracting Culture Through Textual Analysis," *Poetics* 22:291-312

Katherine Giuffre, "Sandpiles of Opportunity: Success in the Art World," *Social Forces* 77:815-32

Kathleen Carley, "Knowledge Acquisition as a Social Phenomenon," *Instructional Science* 14:381-438

Ann Mische and Philippa Pattison, "Composing a Civic Arena: Publics, Projects, and Social Settings," *Poetics* 27:163-94

Linton C. Freeman, "Cliques, Galois Lattices, and the Structure of Human Social Groups," *Social Networks* 18:173-87

Karin Knorr-Cetina, *Epistemic Cultures: How the Sciences Make Knowledge* (Harvard, 1999)

King-to Yeung, "What Does Love Mean? Exploring Network Culture in Two Network Settings," *Social Forces* 84:391-420

Some work on neural networks and information processing:

Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (Avon, 1995)

David Rumelhart et al., *Parallel Distributed Processing: Explorations in the Microstructure of Cognition* (MIT, 1986)

William Bechtel and Adele Abrahamsen, *Connectionism and the Mind: An Introduction to Parallel Processing in Networks* (Blackwell, 1991)

Edwin Hutchins, *Cognition in the Wild* (MIT, 1995)

Week 14 (12/4)

The Latest Developments in Social Networks

A. The Santa Fe Approach

Read: 1) John F. Padgett, "Organizational Genesis in Florentine History: Four Multiple-Network Processes," unpublished ms., selections [sakai]

John F. Padgett, "The Emergence of Simple Ecologies of Skill: A Hypercycle Approach to Economic Organization," in W. Brian Arthur et al. (eds.), *The Economy as an Evolving Complex System II* (Addison-Wesley, 1997)

John F. Padgett, "Organizational Genesis, Identity, and Control: The Transformation of Banking in Renaissance Florence," in James Rauch and Alessandra Casella (eds.), *Networks and Markets* (Russell Sage, 2001), pp. 211-57

Walter Fontana and Leo Buss, "The Arrival of the Fittest: Toward a Theory of Biological Organization," *Bulletin of Mathematical Biology* 56:1-64

Walter Fontana and Leo Buss, "The Barriers of Objects: From Dynamical Systems to Bounded Organizations, in John Casti et al. (eds.), *Boundaries and Barriers*
 Leo Buss, *The Evolution of Individuality* (Princeton, 1987)
 Manfred Eigen and Peter Schuster, *The Hypercycle: A Principle of Natural Self-Organization*
 Stuart Kauffman, *The Origins of Order: Self-Organization and Selection in Evolution* (Oxford, 1993)

B. Algorithms and Conceptual Issues

Read: 2) Garry Robins, Pip Pattison, Yuval Kalish, and Dean Lusher, "An Introduction to Exponential Random Graph (p*) Models for Social Networks," *Social Networks* 29, 2 (May 2007): 173-91
[sakai]

Garry Robins, J. Woolcock, and Philippa Pattison, "Small and Other Worlds: Global Network Structures from Local Processes," *American Journal of Sociology* 110:894-936
 Garry Robins, Tom Snijders, Peng Wang, Mark Handcock, and Philippa Pattison, "Recent Developments in Exponential Random Graph (p*) Models for Social Networks," *Social Networks* 29, 2: 192-215
 James Moody, Daniel A. McFarland, and Skye Bender-deMoll, "Dynamic Network Visualization: Methods for Meaning with Longitudinal Network Movies," *American Journal of Sociology* 110:1206-65
 Ronald S. Burt, "Decay Functions," *Social Networks* 22:1-28
 Maureen T. Hallinan and Edwin E. Hutchins, "Structural Effects on Dyadic Change," *Social Forces* 59:225-45
 Muriel Hammer, "Predictability of Social Connections over Time," *Social Networks* 2:165-80
 Barry Wellman, Renita Yuk-Lin Wong, David Tindall, and Nancy Nazer, "A Decade of Network Change: Turnover, Persistence, and Stability in Personal Communities," *Social Networks* 19:27-50
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C. Substantive Applications

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Appendix: Further Reading on Methodological Issues

Entering Data:

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- Peter D. Killworth and H. Russell Bernard, "Informant Accuracy in Social Network Data," *Human Organization* 35:269-86
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- Edward O. Laumann, Peter Marsden, and David Prensky, "The Boundary Specification Problem in Network Analysis," in Ronald S. Burt and M. Minor (eds.), *Applied Network Analysis* (Sage, 1983), pp. 18-34
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- Patrick Doreian, "Estimating Linear Models with Spatially Distributed Data," *Sociological Methodology* 12:359-88
- David Krackhardt, "QAP Partialling as a Test of Spuriousness," *Social Networks* 9:171-86
- David Krackhardt, "Predictions with Networks: Nonparametric Multiple Regression Analysis of Dyadic Data," *Social Networks* 10:359-81
- Stanley Wasserman and Garry Robins, "An Introduction to Random Graphs, Dependence Graphs, and p^* ," in Peter Carrington et al. (eds.), *Models and Methods in Social Network Analysis* (Cambridge, 2005), pp. 148-61
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- Ashish Sanil, David Banks, and Kathleen Carley, "Models for Evolving Fixed Node Networks: Model Fitting and Model Testing," *Social Networks* 17:65-81
- David Banks and Kathleen M. Carley, "Models of Social Network Evolution," *Journal of Mathematical Sociology* 21:173-96
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Peter J. Carrington, G. H. Heil and S. D. Berkowitz, "A Goodness-of-Fit Measure for Blockmodels," *Social Networks* 2:219-34

Eliot Noma and D. Randall Smith, "Benchmark for the Blocking of Sociometric Data," *Psychological Bulletin* 97:583-91

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Paul Green, *Multidimensional Scaling: Concepts and Applications*

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Exponential Random Graph Models:

UNDER CONSTRUCTION

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