Over the last few decades, and over the last fifteen years especially, there has been an enormous increase in the attention paid to social networks as key determinants of many elements of social life, including motivations, identities, tastes, social mobility, group organization and mobilization, resource distributions and power relations, decision-making, patterns of innovation, diffusion of disease and attitudes, and the organization of belief systems. Conversely, sociologists have also been increasingly interested in the factors—structural, cultural, motivational, emotional—that drive the formation and evolution of networks.

While social networks was once a highly specialized area of inquiry, nowadays networks are frequently invoked in mainstream sociological research—even though the specific tools of network analysis remain distinctly different from those most commonly used in such ‘mainstream’ research, whether it be quantitatively or qualitatively oriented. Certainly there are ways to incorporate network elements (as variables, as metaphor, as narrative design) into many research projects. But in its more radical formulations, the study of networks vies to become a kind of fundamental theory of social organization, not just an add-on. 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.

The fundamental idea of social network analysis specifically is that we must study the social order relationally: entities (people, organizations, actions, events, texts) are interdependent and mutually constitutive, and structure emerges as patterns in these interdependencies. Social network analysis (SNA) is not the only approach available for studying the social relationally (think of Bourdieu, or Latour, or symbolic interaction, for example), but it is among the most important and versatile, and it offers a rich assortment of tools for exploring the relational quality of social life systematically. Some of you may dabble in networks; I hope all of you will become educated consumers. Hopefully, some of you will become producers of exciting new networks research, and become committed to networks as an orienting sociological perspective.
We will have three main goals pertaining to social network analysis in this course:

- We will consider theoretical justifications for the study of networks and key concepts used in the field, using classical sociological formulations of these concepts and more recent statements.

- We will begin to learn certain methods and computer applications, including working with two programs in particular:
  
  1. PAJEK, for the graph visualization and quantitative analysis of social networks. Pajek is available for free download (see http://vlado.fmf.uni-lj.si/pub/networks/pajek/) (or you may look for http://vlado.fmf.uni-lj.si/pub/networks/book/ for a version of the program that is more compatible with the de Nooy et al. book mentioned below).
  2. UCINET, for the representation, manipulation, and analysis of network data in matrix format. UCINET is freely available for a trial period, or for $40 for a student license; plus it is loaded on some machines in the Sociology computer lab. https://sites.google.com/site/ucinetsoftware/home

I will assign a few exercises to get you working with data in these two programs. I can provide access to some data, but if you have data of your own, you can try to use that, too. It’s also becoming easier to find network datasets online. Increasingly researchers are using R to do network analysis, and the amount of software is growing constantly, more so than I can keep up with.

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

Concerning class format: I will spend part of many class sessions lecturing on some of the key ideas and arguments. Nevertheless, I want there to be ample opportunity for questions and discussion, especially as we get into the empirical readings.

**Requirements**

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

- participation and engagement in class (approximately 20%)
- short assignments (approximately 20% in total, graded on a check-minus/check/check-plus scale)
- term paper (approximately 60%)
The term paper is obviously the main requirement for this seminar, and it should take the form of an empirical research paper. It may be based on a brand new idea you develop in this class, or something you are looking to expand upon from a previous class, conceivably for thesis or dissertation purposes. **By empirical, I mean you need to use and analyze network data.** These need not be data you collect yourself (although that would be great); there are plenty of network datasets available online for free with just a little digging around. If you are intent on collecting your own data, you should make sure you have any required IRB approval first. Alternatively, you could collect data from publicly available information (voting records, trade networks, citations, company and boards of directors are a few good examples). **Please discuss your goals and options with me early in the semester.**

**Required Readings**

The **required** readings for each class session are printed in **bold** below. Most readings are on sakai or can be easily found online. The one book you really must purchase is:

- **Stanley Wasserman and Katherine Faust, Social Network Analysis: Methods and Applications** (Cambridge, 1994)

It covers all the basic terminology and many of the core concepts, and it has served generations of networks scholars as a kind of Bible/gazetteer.

In addition, **I will supply you with a free copy of my recent book** that we will read in chunks during the semester:

- **Paul McLean, Culture in Networks** (Polity, 2017)

Also on the sakai workspace you will find a selection of chapters from the book, *Exploratory Social Network Analysis with Pajek* (Cambridge, 2005), by Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj. However, you might find it useful to own a copy of this book, which was expanded and re-issued in 2011. This book may help you with the hands-on work of actually doing network analysis within the Pajek program, especially focusing on its graph-related aspects. More recently still, the book *Analyzing Social Networks*, by Stephen P. Borgatti, Martin G. Everett, and Jeffrey C. Johnson (Sage, 2013) takes you through the steps of network analysis from research design and data collection to data manipulation and analysis, largely using UCINET. This might also be a useful book for you to purchase, and/or I will place excerpts from it up on sakai.

I list in the syllabus many readings which are not at all required. The volume of work on networks is overwhelming. It includes myriad articles and books on methods, measures, techniques, etc., and a huge and growing volume of empirical applications. I find it intimidating to ponder the volume and diversity of this research. Don’t make the mistake of assuming I have read all this stuff! I simply list some subset of materials that may provide you with some leads into a broader literature concerned with particular topics.
Schedule of Classes

Week 1 (9/11)  Introduction: Networks as Fundamental ‘Relational’ Paradigm


Some other theoretical literature and overviews, NOT to be read for class:


Week 2 (9/18)  Types of Networks and Ways of Representing Them

Read: 1) Wasserman and Faust, chapters 1-4
(Note: This LONG reading provides the basic vocabulary of network analysis. Certain concepts not discussed here have become objects of attention in recent years; we’ll cover those another time. Skip the sections marked with circles and railroad crossing signs)

2) McLean, *Culture in Networks*, chapter 2
A brief assortment of other useful texts covering basic (and some not so basic) network analytic concepts:

Nicholas A. Christakis and James H. Fowler, *Connected: How Your Friends’ Friends’ Friends Affect Everything you Feel, Think, and Do* (Little, Brown and Company, 2009)
David Knoke and Song Yang, *Social Network Analysis* (Sage, 2007)

Some classic one-mode network studies, describing single and/or multiple types of ties:

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*
S.F. Sampson, *A Novitiate in a Period of Change. An Experimental and Case Study of Social Relationships* (PhD thesis Cornell University, 1968) (data used all over the place)
Elizabeth Bott, “Urban Families: Conjugal Roles and Social Networks,” *Human Relations* 8: 345-84
Elizabeth Bott, *Family and Social Network* (Tavistock, 1957)

Some concerns about network data collection and measurement:

Jeff Smith and James Moody, “Structural Effects of Network Sampling Coverage I: Nodes Missing at Random,” *Social Networks* 35: 652-68
Ove Frank, “Network Sampling and Model Fitting,” in Peter Carrington et al. (eds.), *Models and Methods in Social Network Analysis* (Cambridge, 2005), chapter 3
Ronald L. Breiger, “Introduction to Special issue: Ethical Dilemmas in Social Network Research, *Social Networks* 27, 2: 89-93
Week 3 (9/25)  Local Mechanisms of Network Formation

Read:  1) Charles Kadushin, *Understanding Social Networks*, chapters 2 and 5


Some other materials on fundamental aspects of tie formation and/or sites of tie-formation:

Wasserman and Faust, chapters 13 and 14
James Coleman, *The Adolescent Society* (Free Press, 1961[71]), especially chapter 7
Jere Cohen, “Sources of Peer Group Homogeneity,” *Sociology of Education* 50:227-41
Week 4 (10/2)  Power in Networks: Centrality, Hierarchy, and (to a lesser extent) Balance

Read: 1) Wasserman and Faust, chapters 5 and 6

2) Gabriel Rossman, Nicole Esparza and Phillip Bonacich, “I’d Like to Thank the Academy, Team Spillovers, and Network Centrality,” *American Sociological Review*, 75(1) 31–51

3) Ying Shi and James Moody, “Most Likely to Succeed: Long-Run Returns to Adolescent Popularity,” *Social Currents* 4: 13-33


Some other empirical examples of how centrality matters, and articles on the various measures:


Roger Gould, “Power and Social Structure in Community Elites,” *Social Forces* 68:531-52


Steve Borgatti and Martin Everett, “Models of Core-Periphery Structure,” *Social Networks* 21:375-395


Linton Freeman, “A Set of Measures of Centrality Based on Betweenness,” *Sociometry* 40:35-41


Steven P. Borgatti, “Centrality and Network Flow,” *Social Networks* 27: 55-71


Network Position as ‘Social Capital’:


James Coleman, *Foundations of Social Theory* (Harvard, 1990), pp. 300-21


Classic (and recent) sociological work on exchange, power and Resource Dependency theory:

Marcel Van Assen and Arnout van de Rijt, “Dynamic Exchange Networks,” *Social Networks* 29, 2: 266-78

Other materials on the idea of balance:


Other work on hierarchies and hierarchy formation:

Frans de Waal, *Chimpanzee Politics: Power and Sex Among Apes* (Harper & Row, 1982)
Eugene Rosa and Allan Mazur, “Incipient Status in Groups,” *Social Forces* 58:18-37
Steve Ellyson and John Dovidio (eds.), *Power, Dominance, and Nonverbal Behavior* (Springer, 1985)
Classic material specifically on the idea of transitivity:


**Week 5 (10/9) Subgroups and Cohesion**

1) *Wasserman and Faust*, chapter 7


On the notion of cliques, near-cliques, and isolates, a good deal of it empirical:

John Cottrell, *Social Networks and Social Influences in Adolescence* (Routledge, 1996)
Kenneth A. Frank, “Identifying Cohesive Subgroups,” *Social Networks* 17:27-56
James Moody, “Peer Influence Groups: Identifying Dense Clusters in Large Networks,” *Social Networks* 23:261-283
Week 6 (10/16)  Large-Scale Network Topologies: Small-Worlds, Reachability, Brokerage

Read: 1) Mark S. Granovetter, “The Strength of Weak Ties,” *American Journal of Sociology* 78: 1360–1380


Other materials on reach, the strength of weak ties, and understanding macrostructure:

M. T. Hansen, “The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organization Subunits,” *Administrative Science Quarterly* 44:82-111
Peter Marsden and K. E. Campbell, “Measuring Tie Strength,” *Social Forces* 63:482-501
Paul McLean, *The Art of the Network: Strategic Interaction and Patronage in Renaissance Florence*, ch. 6

Week 7 (10/23)  Classic Structuralist Approaches: Positions, Blocks, Roles

Read: 1) Wasserman and Faust, chapters 9, 10, 12 (skip 11)


Some other material on structural equivalence and blockmodels:

P. McLean, *Culture in Networks*, pp. 89-95


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


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


Vacancy Chains as a dynamic conception 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


Ivan D. Chase, “Vacancy Chains,” *Annual Review of Sociology* 17:133-54


D. Randall Smith and Andrew Abbott, “A Labor Market Perspective on the Mobility of College Football Coaches,” *Social Forces* 61:1147-67


King-to Yeung, “Repressing Rebels, Managing Bureaucrats: State Organizational Adaptation During the Taiping Rebellion, 1851-64,” unpublished ms., Rutgers University

Anthropological and historical materials on kinship:

Claude Lévi-Strauss, *The Elementary Structures of Kinship*


Robin Fox, *Kinship and Marriage*, chapters 1, 3, 4, 6-8

Paula Rubel and A. Rosman, *Your Own Pigs You May Not Eat* (Chicago, 1978)

Andrew Strathern, *The Rope of Moka: Big Men and Ceremonial Exchange in New Guinea*


David Herlihy, “Family Solidarity in Medieval Italian History,” in David Herlihy et al. (eds.), *Economy, Society and Government in Medieval Italy* (Kent State, 1969)

John F. Padgett, “Open Elite? Social Mobility, Marriage and Family in Renaissance Florence, 1282-1494,” *Renaissance Quarterly* 63, 2: 357-411

Week 8 (10/30)  Exponential Random Graph Models


2) Gary Robins, Pip Pattison, Yuval Kalish, and Dean Lusher, “An Introduction to Exponential Random Graph (p*) Models for Social Networks,” *Social Networks* 29:173-191


5) N. Harrigan, “PNet for Dummies,”
http://www.mysmu.edu/faculty/nharrigan/PNetForDummies.pdf

Some technical aspects of ERGMs:

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
S. M. Goodreau, “Advances in Exponential Random Graph (p*) Models Applied to a Large Social Network,” *Social Networks* 29: 231-48

A few noteworthy ERGM applications:


Week 9 (11/6)  
Duality: Varieties of Two-Mode (and N-Mode) Networks


3) McLean, *Culture in Networks*, chapter 7


Some other technical work on affiliation networks:

Wasserman and Faust, chapter 8
Katherine Faust, “Centrality in Affiliation Networks,” *Social Networks* 19:157-91
John M. Roberts, “Correspondence Analysis of Two-Mode Network Data,” *Social Networks* 22:65-72
Peter Blau and Joseph Schwartz, *Crosscutting Social Circles* (Transaction, 1997)

A few empirical applications of affiliation network ideas:

Neha Gondal, “The Local and Global Structure of Knowledge Production in an Emergent Research Field: An Exponential Random Graph Analysis,” *Social Networks* 33: 20-30

**Week 10 (11/13)**  Personal Networks (Ego-Networks) and Social Support


Some other materials related to ego-networks, core discussion groups, and/or social support:


Claude S. Fischer, *To Dwell Among Friends* (Chicago, 1982)

Barry Wellman and S. Wortley, “Different Strokes from Different Folks: Community Ties and Social Support,” *American Journal of Sociology* 96:558-88


Claire Bidart and Daniel Lavenu, “Evolutions of Personal Networks and Life Events,” *Social Networks* 27: 359-76


Danching Ruan, “The Content of the General Social Survey Discussion Networks: An Exploration of General Social Survey Discussion Name Generator in a Chinese Context,” *Social Networks*, 20: 247-64


B. Wellman, R. Wong, D. Tindall, and N. Nazer, “A Decade of Network Change: Turn-over, Mobility and Stability,” *Social Networks* 19: 27–51


M. Grossetti, “Are French Networks Different?” *Social Networks* 29: 391–404

A. Degenne and M. O. Lebeaux, “The Dynamics of Personal Networks at the Time of Entry into Adult Life,” *Social Networks* 27: 337–58


Week 11 (11/20) Networks and Culture

Read: 1) McLean, *Culture in Networks*, chs. 3, 6


Some networks literature incorporating discourse, interaction, meaning, and/or tastes:


Stephen Vaisey and Omar Lizardo, “Can Cultural Worldviews Influence Network Composition?” *Social Forces* 88: 1595-1618


Jennifer Schultz and Ronald L. Breiger, “The Strength of Weak Culture,” *Poetics* 38: 610-24


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

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

Robert Faulkner, *Music on Demand: Composers and Careers in the Hollywood Film Industry* (especially the Foreword, Preface, and chs. 3, 5, 8, and 9)


Vanina Leschziner, *At the Chef's Table: Culinary Creativity in Elite Restaurants* (Stanford, 2014)


Nick Crossley, “Networks and Complexity: Directions for Interactionist Research?” *Symbolic Interaction* 33: 341-63

Charles Kirschbaum, “Categories and Networks in Jazz Evolution: The Overlap Between Bandleaders’ Jazz Sidemen from 1930 to 1969,” *Poetics* 52: 154-78
Cognition, meaning, and text mapping:


Week 12 (11/27) Diffusion Processes

Read: 1) McLean, Culture in Networks, chapter 4

2) Damon Centola and Michael Macy, “Complex Contagions and the Weakness of Long Ties,” American Journal of Sociology 113: 702-34


Lots of work on diffusion:

Everett M. Rogers, *Diffusion of Innovations*, 5th edition
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)
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
Craig Rawlings and Daniel A. McFarland, “The Ties that Influence: How Social Networks Channel Faculty Grant Productivity.” *Social Science Research*

Epidemiology specifically:

Martina Morris, “Epidemiology and Social Networks,” *Sociological Methods and Research* 22:99-126 [see other Morris work as well]
Week 13 (12/4) Networks in Economic and Political Life


2) Christopher A. Bail, “The Fringe Effect: Civil Society Organizations and the Evolution of Media Discourse about Islam since the September 11\textsuperscript{th} Attacks,” *American Sociological Review* 77: 855-79 [or something else TBD]

Various network approaches to transactions and markets:


Joel Podolny, “Networks as the Pipes and Prisms of the Market,” *American Journal of Sociology* 107:33-60


Emilio J. Castilla, “Social Networks and Employee Performance in a Call Center,” *American Journal of Sociology* 110:1243-83
Mark S. Mizruchi, *The Structure of Corporate Political Action* (Harvard, 1992)

Brokerage, strategy, innovation, reputations:

Ronald S. Burt, *Structural Holes* (Chicago, 1992), especially Introduction and chapter 1
Robert Faulkner, *Music on Demand: Composers and Careers in the Hollywood Film Industry*

Politics in various places:

Peter S. Bearman, *Relations into Rhetorics* (Rutgers, 1993)
Peter Bearman, James Moody, and Robert Faris, “Networks and History,” *Complexity* 8,1:61-71
Roger V. Gould, *Insurgent Identities* (Chicago, 1995), especially chapters 1, 2, 6, 7

James D. Montgomery, “The Structure of Norms and Relations in Patronage Systems,” *Social Networks* 29: 565-84


Fredrik Barth, *Political Leadership Among the Swat Pathans* (Athlone, 1965), especially chapters 7 and 9

S. Schmidt, James Scott, Carl Landé, and Laura Guasti (eds.), *Friends, Followers, and Factions*

Lily Ross Taylor, *Party Politics in the Age of Caesar* (California 1968 [1949])


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)


Ryan Hagen, Kinga Makovi, and Peter Bearman, “The Influence of Political Dynamics on Southern Lynch Mob Formation and Lethality, *Social Forces* 92: 757-87

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

Some of the vast networks-related social movements literature:


Kevin Lewis, Kurt Gray, and Jens Meierhenrich, “The Structure of Online Activism,” *Sociological Science* (February 18, 2014) [doi 10.15195/v1.a1]
Network-based migration:


Politics and Terrorism:

Scott Gartner, “Ties to the Dead: Connections to Iraq War and 9/11 Casualties and Disapproval of the President,” *American Sociological Review* 73, 4: 690-95

Week 14  (12/11)    New Directions: Emergence and Computational Social Science


Some other materials on emergence:

Santa Fe Institute work on complexity:

Walter Fontana and Leo Buss, “The Barriers of Objects: From Dynamical Systems to Bounded Organizations,” in John Casti et al. (eds.), Boundaries and Barriers

Computational social science:

Work by Evans, Martin and Lee, Mohr?

Some work on network dynamics:

V. Eguíluz et al., “Cooperation and the Emergence of Role Differentiation in the Dynamics of Social Networks,” American Journal of Sociology 110:977-1008
Scott Moss and Bruce Edmonds, “Sociology and Simulation: Statistical and Qualitative Cross-Validation,” American Journal of Sociology 110:1095-1131
David Stark and Balázs Vedres, “Social Times of Network Spaces: Network Sequences and Foreign Investment in Hungary,” American Journal of Sociology 111:1367-1411

Dynamic network visualization:

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