Closure, Trust, and Reputation: 
The Third Rule of Social Capital 
and Strategic Partners

Appendices:
I. Measuring Network Closure/Embedding (page 42, from 2007 "Closure & Stability")
IV. Snippets on Business Culture (pages 49-52, 1998 Financial Times, other)
V. Why Don’t People Discount Gossip? (page 53, from 2005 Brokerage and Closure)
VI. Detail on Reputation & Echo vs Bandwidth (pages 54-55, 2008 "Gossip and reputation" in Management et Réseaux Sociaux)
VII. Groupthink and Unlearning (pages 56-57)
VIII. Sources of Variance in 360 Evaluations (pages 58-59)
IX. Mobbing (page 60, 1999 The Mobbing Encyclopedia)
X. Exception that Proves the Rule on Secondhand Brokerage (page 61, from 2010 Neighbor Networks)
XI. Other Partner Networks and Integration Failures (pages 62-64)
XII. Gossip-Enforced Walls Reinforce Outsider Feelings of Inferiority (page 65, based on 1965 The Established and the Outsiders)

For text on this session, see Chapters 3 and 4 in Brokerage and Closure, and Chapter 7 in Neighbor Networks.
Social Network at the Top of the Company

Lines indicate frequent and substantive work discussion; heavy lines especially close relationships.

Back Office

Front Office

JIM is a WARLORD in US BUSINESS, Illustrating Rule 1 of Network Advantage:

Close the network around your contacts to promote trust and efficiency.

("The Bull," 1917 Berlin political cartoon of Bavarian bourgeois)
RULE 3: For bottom-line growth, closed networks facilitate and maintain trust and reputation within the network, promoting reliable, efficient operations within the network (Sherif, 1935; Festinger et al., 1950; Asch, 1951; Katz and Lazarsfeld, 1955; Granovetter, 1985, 1992; Burt, 1987; Coleman, 1988; Greif, 1989; Ellickson, 1991; Bernstein, 1992, 2001; Barker, 1993; Putnam, 1993; Uzzi, 1997; Burt, 2005:Chps. 3-4).
Trust Builds within Relationships Slowly

TRUST — committing to an exchange before you know how the other will behave.

REPUTATION — extent to which you are known as trustworthy.

I. Good Behavior as the Source of Trust
third parties irrelevant to trust & distrust too slow (graph to right), too dangerous (Burt, 1999, "Private games are too dangerous")

II. Network Closure and Structural Embedding as the Source, Bandwidth Story
third parties enhance information and enforcement, and so facilitate trust (next page)

from Figure 3.2 in Brokerage and Closure
More connections allow more rapid communication, so poor behavior can be more readily detected and punished. Bureaucratic authority was the traditional engine for coordination in organizations (budget, head count). The new engine is reputation (e.g., eBay). In flattened-down organizations, leader roles are often ambiguous, so people need help knowing who to trust, and the boss needs help supervising her direct reports. Multi-point evaluation systems, often discussed as 360° evaluation systems, gather evaluative data from the people who work with an employee. These are "reputational" systems in that evaluations are the same data that define an employee's reputation in the company. In essence, reputation is the governance mechanism in social networks.

Figure 3.1 in *Brokerage and Closure* (for discussion, see pages 105-111). See Appendix II on network embedding in the theory of the firm.
Closure creates "bandwidth:" more channels of communication allow more accurate and rapid communication, so poor behavior is more readily detected and managed.

1985: Granovetter (1985 AJS) on the risk of trust reduced by third-party enforcement (discussed as structural embeddedness, 1992:44): "My mortification at cheating a friend of long standing may be substantial even when undiscovered. It may increase when the friend becomes aware of it. But it may become even more unbearable when our mutual friends uncover the deceit and tell one another." (also Tullock, 1985 QJE, pp. 1076, 1080-1081)

1988: Coleman (1988:S107-108 AJS, 1990 book) on the risk of trust reduced by third-party enforcement (discussed as network closure) with respect to rotating-credit associations: "The consequence of closure is, as in the case of the wholesale diamond market or in other similar communities, a set of effective sanctions that can monitor and guide behavior. Reputation cannot arise in an open structure, and collective sanctions that would ensure trustworthiness cannot be applied." E.g., Putnam's (1993 book) explanation of higher institutional performance in regional Italy attributed to the trust, norms, and dense networks that facilitate coordinated action.

1989: Maghribi traders in North Africa during the 1000s, respond to strong incentives for opportunism in their trade between cities by maintaining a dense network of communication links which encouraged them to protect their positive reputations and facilitated their coordination in ostracizing merchants with negative reputations (Greif, 1989 JEH; and for other applications, such as guilds, see Greif, 2006, Institutions and the Path to the Modern Economy).
Closure-Trust Associations, Management

Dots are average Y scores within intervals of X. Graph A describes 46,231 observed colleague relations with analysts and bankers over a four-year period (adapted from Burt, 2010: 174-175). Vertical axis is the proportion of relations cited next year as good or outstanding. Horizontal axis is number of mutual contacts this year. Logit z-score test statistics are estimated with controls for differences in network size and adjusted for autocorrelation between relationships (Stata "cluster" option). Graph B describes for the bankers subsample correlations between positive (above average) and negative (below average) reputations this year and next year (adapted from Burt, 2010:166; routine t-tests reported across 1,179 banker-year observations).
Closure Slows Decay, which allows new connections (with friends of friends) to mature.

In this management, closure has its effect in the first two years of a relationship.

These are decay functions for colleague relations with investment bankers and analysts during the 1990s. Logit z-scores in parentheses below (based on 46,231 relations).

from Figure 4.8 in Brokerage and Closure. For general discussion of structural embedding primarily facilitating the formation of relations rather than their long-term survival, see Dahlander & McFarland (2013 ASQ), "Ties that last: tie formation and persistence in research collaborations over time."
Similar Patterns in American and Chinese Business
(closure facilitates relations maturing into self-sustaining guanxi)

NOTE — Dots are average Y scores at each level of X. Graph A describes 46,231 observed colleague relations with analysts and bankers over a four-year period (adapted from Burt, 2010:174-175). Vertical axis is proportion of relations cited next year as good or outstanding. Horizontal axis is number of mutual contacts this year. Graph B describes 4,464 relationships cited by the 700 Chinese entrepreneurs. Vertical axis is mean respondent trust in the contact, measured on a five-point scale. Horizontal axis is the number of other people in a respondent’s network connected with the contact being evaluated for trust. Test statistics are estimated in both graphs with controls for differences in network size and adjusted for autocorrelation between relationships. Figure is adapted from Burt and Burzynska (2017: 234).

Figure 4 in Burt and Burzynska, "Chinese entrepreneurs, social networks, and guanxi," (2017 Management and Organization Review). Detailed discussion of guanxi ties is given in Burt and Opper, "What is guanxi?" (2019).
**The Learning Curve: Build for Network Closure to Cut Costs, Delivering on a Known Value Stream**

**LEARNING CURVE** (also known as experience curve) — increased efficiency associated with cumulative volume produced by group (e.g., timing & locating supplies, scheduling, tacit knowledge between colleagues, etc.). **THE MECHANISM** — With its dense social ties providing wide bandwidth for information flow, closure enhances communication and enforcement within a group, (1) which creates reputation, facilitating trust within a group division-of-labor, (2) which enhances performance as people become self-aligning between tasks, pushing one another to extraordinary efforts down the learning curve. The result is lower costs, and so higher productivity. Reputation is the engine. Closure delivers value through peer pressure on reputation within a group (else exogenous shocks disrupt the alignment of even personally dedicated individuals).

"Costs characteristically decline 20 to 30 percent in real terms each time accumulated experience doubles. This means that when inflation is factored out, costs should always decline."

Network brokers are valuable as a source of innovation and growth, but given the lack of closure around them, are they more likely to behave badly with colleagues?

HINT: Are they less managed by the network governance provided by closure?
Network Brokers Are More Involved in Bad Behavior

These are 1,135 annual observations of 398 bankers over three years. Each year, a banker is at risk of being accused of bad behavior by colleagues in the annual review, and of having to report difficult colleagues for their bad behavior.

Received 5 accusations in the second year, and a total of 8 across years. Colleague comments about him:
- Moody, unprofessional, poor manager
- Single-mindedness about his job
- Short & ill-tempered, standoffish, rude
- Untrustworthy & difficult to work with
- While extremely competent & motivated, he can be overbearing and at times insulting

Made 13 accusations in the first year. Received 2 accusations that year, and a total of 5 across years. Colleague comments about her:
- Untrustworthy, lacking in team work/integrity
- Extremely intimidating; impatient, belittling & argumentative individual
- Moody, doesn’t share information
- She wants to control everything & her thinking is narrow-minded
- Not user friendly

Figure 2 in Burt and Wang, 2019, "Network brokers and bad behavior."
Demography of Bad Behavior: More Citations Generate More Cites for Bad Behavior

<table>
<thead>
<tr>
<th>Citations Received</th>
<th>Citations Sent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>-.75</td>
<td>-.31</td>
</tr>
<tr>
<td>(-6.59)</td>
<td>(-1.61)</td>
</tr>
<tr>
<td>Log Network Constraint</td>
<td></td>
</tr>
<tr>
<td>- .043</td>
<td>.006</td>
</tr>
<tr>
<td>(7.07)</td>
<td>(0.81)</td>
</tr>
<tr>
<td>InDegree (all evaluations)</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>[.006]</td>
</tr>
<tr>
<td>(7.07)</td>
<td>(0.81)</td>
</tr>
<tr>
<td>OutDegree (all evaluations)</td>
<td></td>
</tr>
<tr>
<td>—</td>
<td>[.004]</td>
</tr>
<tr>
<td>(-1.47)</td>
<td>(2.97)</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
</tr>
<tr>
<td>.88</td>
<td>-1.33</td>
</tr>
<tr>
<td>N</td>
<td></td>
</tr>
<tr>
<td>1,135</td>
<td>1,135</td>
</tr>
<tr>
<td>Clusters</td>
<td></td>
</tr>
<tr>
<td>398</td>
<td>398</td>
</tr>
<tr>
<td>Chi-Square</td>
<td></td>
</tr>
<tr>
<td>43.38</td>
<td>112.40</td>
</tr>
<tr>
<td>d.f.</td>
<td></td>
</tr>
</tbody>
</table>

NOTE – Poisson regression models predicting number of bad-behavior citations received or sent in the annual peer evaluations (0, 1, 2, 3 or more, as in Table 2). Brackets contain standard errors. Parentheses contain z-score test statistics. Coefficients are estimated across the three annual panels (standard errors are adjusted up for correlation between relations cited by same person using the “cluster” option in Stata). InDegree is the total number of positive and negative citations a banker receives in a year from within and beyond the study population (0 minimum, 78 maximum, 20.11 average). OutDegree is the total number of positive and negative citations a banker makes in a year within and beyond the study population (0 minimum, 213 maximum, 21.78 average).

Table 3 in Burt and Wang, 2019, "Network brokers and bad behavior."
Retribution for Bad-Behavior Is Via Decreased Status, Which Lowers Returns to Brokerage

These are 1,135 annual observations of 398 bankers. Solid dots are “bad-behavior” bankers, who are bankers for whom more than 10% of citing colleagues this year say the banker “needs improvement” on teamwork or integrity. Page 36 in last week's "Practice" handout shows returns to brokerage contingent on banker status.

Figure 4 in Burt and Wang, 2019, "Network brokers and bad behavior."
Bottom-Line Performance Advantage of Closed Networks: Reputation Mechanism Generates Trust and Efficiency

By creating a wide bandwidth for information flow, closure enhances communication and personal visibility within a group,

(1) which creates reputation costs for individuals who express opinion or behavior inconsistent with group standards,

(2) which makes in-group bad behavior less likely, so trust is less risky,

(3) which enhances productivity as people become self-aligning in extraordinary efforts to preserve their reputation (lowering costs for labor, monitoring, quality, and speed).

Reputation is the mechanism by which closure has its effect. Closure delivers value by creating a reputation cost for deviation from cooperative, extraordinary effort. In other words, closure grows the bottom line. As illustrated by the examples on the previous page, you often see closure in the teamwork associated with successful efficiency programs such as TQM, SixSigma, and Lean Manufacturing.

See Appendix IV for industry differences in performance association with closure (strong culture).
In contrast to closure providing full information ("bandwidth"), closure in social networks often creates selective reinforcement ("echo").

Third parties do not enhance information and protection so much as they create an echo that makes people feel more certain in their opinion of you.

**Bias in selecting third parties (balance mechanism)** — Faced with a decision about whether to trust you, the other person (ego) turns to trusted contacts before less close contacts for information on you. Trusted contacts are likely to have views similar to ego’s, so they are likely to report accounts of you consistent with ego’s own view. A preference for trusted third parties means that ego draws a sample of information on you consistent with his or her predisposition toward you.

**Bias in what third parties say (etiquette mechanism)** — It is polite in conversation to go along with the flow of sentiment being shared. We tend to share in conversations those of our facts consistent with the perceived predispositions of the people with whom we speak, and facts shared with other people are facts more likely to be remembered. The biased sample of facts shared in conversations becomes the population of information on, and so the reality of, the people discussed.

For example (Higgans, 1992), an undergraduate subject is given a written description of a hypothetical person (Donald). The subject is asked to describe Donald to a second student who walks into the lab. The second person is a confederate who primes the conversation by leaking his predisposition toward Donald (“kinda likes” or “kinda dislikes” Donald). Subjects distort their descriptions of Donald toward the expressed predisposition. Positive predisposition elicits positive words about Donald’s ambiguous characteristics and neglect of negative concrete characteristics. Negative predisposition elicits negative words about Donald’s ambiguous characteristics and neglect of positive concrete characteristics.

In sum, echo has the other person (ego) in vicarious play with you in gossip relayed by third parties. The sample of your behavior to which ego is exposed is biased by etiquette to be consistent with ego’s predisposition toward you. The result is that ego becomes ignorantly certain about you, and so more likely to trust or distrust you (as opposed to remaining undecided between the two extremes). Favorable opinion is amplified into trust. Doubt is amplified into distrust. The trust expected in strong relations is more likely and intense in relations embedded in strong third-party ties. The distrust expected in weak and negative relations is more likely and intense in relations embedded in strong third-party ties.
Illustrative Evidence: Positive Relations More Likely in Closed Networks — but Negative Are More Likely Also.

Echo can be seen in the fact that closure amplifies trust and distrust such that relations are balanced in their intensity (certainty about the colleague), not in their direction (positive or negative about the colleague).

All Bankers Who Could Have Been Cited for Substantial Business Contact
(118,680 relationships)

From Figure 3.4 and 4.3 in Brokerage and Closure. See Appendix I on measuring network closure/embedding.
The Result Is Ignorant Certainty. Expect extreme opinions amplified by gossip in closed networks (regardless of the bandwidth focus on positive versus negative indirect connections through mutual contacts). Note that Internet algorithms exacerbate ignorant certainty by feeding people consistent content.

For discussion, read the footnotes on pages 98-99 and 106 of *Brokerage and Closure*. For selected illustration from a team of employees driven into ignorant certainty, see Levy, "The Nut Island Effect" (2001, HBR). Several examples are briefly described in Chapter 4 of *Brokerage and Closure*. On breaking out of ignorant uncertainty, see Appendix VII.
Echo Amplifies Opinions to Extremes in Closed Networks: Character Assassination

These are explanations from managers in electronic equipment and financial services; from Table 1 in Burt “Entrepreneurs, Distrust, and Third Parties” (1999, *Shared Cognition in Organizations*). Numbers in parentheses to the left are the hostility scores on next page.

Some Managers Blame the Situation (n = 88)

- ( 0) conflict of goals; what was good for him was bad for my group
- ( 0) different management style and motivation
- ( 0) I do not know; most likely a misunderstanding of my work rather than him personally
- (25) influential; has different view of importance and implementation of my current function
- ( 0) language barrier was very difficult
- (38) little or no interest in my functional area yet is my boss’ boss
- ( 0) managed a parallel sales organization with a different philosophy
- (13) personally we got along wonderfully, but people in her organization have a difficult style
- ( 0) representative of an organization that has goals and objectives in opposition to to mine
- ( 0) she is under a lot of pressure and it spills over to the people around her

Some Managers Blame the Other Person’s Competence (n = 200)

- ( 63) almost always makes unreasonable schedule and cost demands
- ( 13) does not understand his functional area
- ( 25) her planning requests do not take into account time difference between NY and Europe
- (100) incompetent; can not make a decision and stick with it
- ( 75) inexperienced; too emotional and immature to manage his organization
- ( 50) micromanagement; poor understanding of our client group’s needs
- ( 25) mixed messages; no road map of clear direction
- ( 0) not able to effectively affect change in organizational direction
- ( 88) promoted too high, too fast; beyond her level of experience
- ( 75) wastes people’s time requiring work be done over 20-30 times, eventually doing it herself

Some Managers Blame the Other Person’s Character (n = 228)

- (100) dishonest; self-serving; no integrity
- (100) divide and conquer person; takes credit for my work; disempowers
- (100) egotistical; self-oriented; liar; worst manager I have ever met
- (100) jerk; power-hungry; political; etc....
- (100) lone ranger type; my way is the only way
- ( 88) loses her temper and has a very unprofessional attitude with myself and external clients
- (100) manipulative - insensitive to people - dishonest
- (100) most territorial, uncooperative person I know
- (100) my boss and a charlatan
- (100) nasty, ill-tempered bitch
- (100) not trustworthy; a back-stabber
- ( 88) person can not accept females
- (100) secretive; insecure
- ( 88) shared private information with manager & peers
- (100) unethical; uncooperative; unpleasant
Anger and Character Assassination in Closed Networks

Blame the Situation
(e.g., "language barrier," "parallel organization," conflict of goals; n = 63)
- 21% for weak third-party ties
- 79% for strong third-party ties

Blame Colleague’s Competence
(e.g., "promoted too high, too fast;" n = 103)
- 47% for weak third-party ties
- 53% for strong third-party ties

Blame Colleague’s Character
(e.g., "unethical charlatan," "back-stabber," "nasty, ill-tempered;" n = 90)
- 4% for weak third-party ties
- 96% for strong third-party ties

Third-Party Ties Surrounding Explained Relationship
(93.33 chi-square, 2 d.f., P < .001)

Anger in the Explanation
(box shows 25%, mean, 75%; 11.56 t-test for association with strong third-party ties, P < .001)

From Figure 4.4 in Brokerage and Closure.
More Specifically, Who Is Prone to Blaming Broker Character?

(For calculations: solid line is strong tie \( z_{ij} = 1.0 \), dashed line is weak tie \( z_{ij} = .5 \))

A weak bridge, adjacent to a closed network, is prone to difficulty blamed on the other’s character.

CA Index of EGO Prone to Blame ALTER Character

\[
\text{CA Index of EGO Prone to Blame ALTER Character} = \frac{\sum_j \text{(colleague j centrality)}(1 - z_{ja})}{(N-1)}, \quad j \neq a
\]

and \( N \) is people in EGO's network, including EGO

<table>
<thead>
<tr>
<th>CA Index</th>
<th>Row</th>
<th>Prone to Blame Broker Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>.875</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>.375</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>.500</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5 in Burt and Luo, "Angry entrepreneurs" (2020, Social Networks at Work)
CA Index Predicts Difficulty and Blame

(Plotted data are averages within .1 intervals of CA index.)

Figure 5 in Burt and Luo, "Angry entrepreneurs" (2020, Social Networks at Work)
Despite a High Average Rate of Network Decay

(which implies volatile reputations because so much of evaluation variance is in the pair of people connected rather than either individual, see Appendix VIII),

Reputations Persist from One Year to the Next

Figure 6.3 in Neighbor Networks
Closure Is Essential to Reputation
(James Coleman, 1988:S107, "Reputation cannot arise in an open structure.")

Positive and Negative Reputations Quickly Stabilize.

What Implications for Building Reputation?

Closure, Trust, and Reputation (page 24)

Closure Is Essential to Reputation
(James Coleman, 1988:S107, "Reputation cannot arise in an open structure.")

Positive and Negative Reputations Quickly Stabilize.

What Implications for Building Reputation?

From Figure 4.6 in Brokerage and Closure, Figure 6.4 in Neighbor Networks.
See Appendix I on measuring network closure/embedding.
## Implications for Managing Reputation

<table>
<thead>
<tr>
<th>Questions:</th>
<th>When Closure Creates Bandwidth (e.g., Amazon, eBay)</th>
<th>When Closure Creates Echo (most social networks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What makes your reputation persist?</td>
<td>Your consistent behavior, on which others are informed. The bandwidth provided by a closed network enhances information distribution and consistency.</td>
<td></td>
</tr>
<tr>
<td>2. Therefore, who owns your reputation?</td>
<td>You do. It is defined directly and indirectly by your behavior.</td>
<td></td>
</tr>
<tr>
<td>3. So, what are the implications for effectively building reputation?</td>
<td>Behave well and get the word out.</td>
<td></td>
</tr>
<tr>
<td>4. How many reputations do you have? (Does the relevant network distribute or filter information?)</td>
<td>One reputation, defined by your behavior. Variation can exist from imperfect information distribution or conflicting interests, but variation is resolved by finding the true, authentic you.</td>
<td></td>
</tr>
</tbody>
</table>

From Burt (2019, *Structural Holes in Virtual Worlds*).
Essential Closure Is Around Contacts, Maintaining the Reputations of Brokers and People in Closed Networks

Vertical axis is same as on page 24. Horizontal axis is average number of third party connections in the networks around banker's contacts (rounded to nearest whole number). Brokers are bankers with below-median network constraint this year. Regression lines go through averages plotted in the graph. Test statistics are adjusted down for correlation between repeated observations of the same bankers using the "cluster" option in Stata. Note that CA index on page 21 does not include closure around the person whose reputation is being evaluated.

From Burt (2019, Structural Holes in Virtual Worlds).
Drawing together characteristics of closed networks in the discussions we've had, it is a short step to infer that the comfort and safety of working within a closed network, protected by the reputation mechanism, combined with the character assassination facilitated by sympathetic colleagues within the closed network, combine to create a social barrier between "us" inside the network versus "them" outside the network.

A Behavioral Measure of Cooperation

"Like you, the other player is CEO of a Chinese firm, and a citizen of China."

<table>
<thead>
<tr>
<th>Move by Other Player</th>
<th>Cooperate</th>
<th>Defect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperate</td>
<td>250, 250</td>
<td>50, 400</td>
</tr>
<tr>
<td>Defect</td>
<td>400, 50</td>
<td>100, 100</td>
</tr>
</tbody>
</table>

Network Closure and Cooperation with Strangers

The more closed the inside, the more suspicious the outside, especially for people who have been successful with a closed network.

From Figure 4 and Table 1 in Opper, Burt, and Holm (2018), "Social network and cooperation with strangers."
Especially When Those People Are Concerned or Afraid

so they find security by enforcing the social boundary around people "like us" with witch hunts and mobbing. We define who we are in part by who we are not. The esprit of high-performance teams such as the Data General and Macintosh teams seen in class often comes at the price of designating a common enemy and castigating certain kinds of people as outsiders. More severe oppression of outsiders occurs when insiders are more insecure. Status insecurity, which can result from economic, political, social, even personal factors, is a traditional wellspring for witch hunts, known in contemporary organizations as "mobbing."

From Durkheim's (1893:102) classic study of identity and the division of labor: "Of course, we always love the company of those who feel and think as we do, but it is with passion . . . that we seek it immediately after discussions where our common beliefs have been greatly combated. Crime brings together upright consciences and concentrates them. We have only to notice what happens, particularly in a small town, when some moral scandal has just been committed. They stop each other on the street, they visit each other, they seek to come together to talk of the event and to wax indignant in common." Hoffer (1951: 91) strips away the academic tone: "Mass movements can rise and spread without belief in a God, but never without belief in a devil. Usually the strength of a mass movement is proportionate to the vividness and tangibility of its devil."

Clockwise:
1692 map of Salem town and farms.
Examining accused witch for stigmata.
George Jacobs trial.

See Erikson (1966), The Wayward Puritans, Boyer and Nissenbaum (1974), Salem Possessed, on social networks in the Salem witch hunt. See Brokerage and Closure on motivations in gossip (pp. 172-178), and Chapter 7 of Neighbor Networks on distrust of people who deemed not to be "mishpokhe."
In day-to-day business, insider-outsider distinctions occur in casual conversation as gossip-enforced stereotypes about "those people," which undermines the cooperation and coordination needed to harvest the value of brokerage across groups.

A pathology of closed networks is that insiders can find community with one another by jointly denouncing outsiders — kinds of people not "as good as" insiders (see Appendix IX on mobbing). Derogatory stories about outsiders, shared in gossip among insiders, strengthen insider relationships — to the detriment of people deemed outsiders. An organization or market has a diversity problem when proposals are discounted not because of proposal content, but because of the kind of person or group making the proposal. The youth of the young man in the video proposing FedEx to his older colleagues was an example in the previous session.

How can you identify the problem when you're not getting through to a target audience? Is it me, or is it them discounting people like me? Here are the three indicator metrics, in order of increasing sophistication, used to answer the question:

**Quotas** (Representative numbers at each grade? journalists)

**Returns to Human Capital** (Equal pay for equal work? lawyers)

**Returns to Social Capital** (Equal opportunity for equal work? executives)
Diversity Problem Here is in the Returns to Social Capital, not Returns to Human Capital

Recall that trust & reputation are critical to successful network brokers. Every would-be broker is suspect from time to time, so occasional brokerage moves are bound to fail. But a category of people systematically denied returns to brokerage indicates a gossip-enforced barrier to coordination, as illustrated by the women and junior men here.

"That's an excellent suggestion, Miss Triggs. Perhaps one of the men here would like to suggest it." (Punch, 8 January, 1988)
Common Network Forms

What Is the Active Ingredient in Closure that is the Advantage for Outsiders?

Broker
C = 23.6
(.07 density, .05 hierarchy)

Bowtie
C = 46.3
(.40 density, .00 hierarchy)

Partner
C = 51.7
(.40 density, .21 hierarchy)

Clique
C = 54.0
(.80 density, .00 hierarchy)

from Burt, "Sometimes they don't want to hear it from a person like you," (2012, L’Impresa)
Strategic Partner Introduces You to His or Her Contacts, which Can Connect You across Structural Holes.

So You End Up with a Network that is Hierarchical in the sense that One Contact Poses More Constraint than the Others. Your partner is the source of constraint, and the Resulting Hierarchical Structure around you Can Be Discussed as a “Partner” Network.

When a strategic partner sponsors your access to structural holes, it creates hierarchy in your network.

from Burt, "Gender of social capital" (1998, *Rationality and Society*) and Figure 7.5 in *Neighbor Networks*. 
Discovering Hierarchy

Jane and Karen are in the graphs on page 30, subject to similar levels of network constraint. Only their contacts are included in these sociograms.

![Graph of Jane's network](image1)

![Graph of Karen's network](image2)

**Jane, promoted to senior manager 9 years early**

- Constraint: 13.0
- Person: 1. Prior boss of her boss
- Person: 3.7: Jane’s boss
- Constraint: 3.3
- Person: 3. colleague
- Constraint: 3.0
- Person: 4. contact
- Constraint: 2.4
- Person: 5. contact
- Constraint: 1.1
- Person: 6. contact
- Constraint: 1.1
- Person: 7. contact
- Constraint: 2.0
- Person: 8. contact
- Constraint: 1.8
- Person: 9. contact

Network constraint = 31.3
Network size = 9 contacts
Network density = 27.8
(Density z-score = -1.03)
Network hierarchy = 15.9
(Hierarchy z-score = 2.06)

**Karen, promoted to senior manager 7 years late**

- Constraint: 4.5
- Person: 1. colleague
- Constraint: 3.7
- Person: 2. colleague
- Constraint: 4.2
- Person: 3. colleague
- Constraint: 3.6
- Person: 4. colleague
- Constraint: 5.5
- Person: 5. Karen’s boss
- Constraint: 4.5
- Person: 6. colleague
- Constraint: 3.8
- Person: 7. colleague
- Constraint: 3.8
- Person: 8. colleague
- Constraint: 2.8
- Person: 9. colleague

Network constraint = 34.0
Network size = 9 contacts
Network density = 36.9
(Density z-score = -0.09)
Network hierarchy = 0.7
(Hierarchy z-score = -1.10)

from Burt, "Gender of social capital" (1998, Rationality and Society) and Figure 7.3 in Neighbor Networks. See Appendix XI for other examples of partner networks.
**Network Metrics Reminder**

**Network Constraint** decreases with number of contacts (size), increases with strength of connections between contacts (density), and increases with sharing the network (hierarchy).

This is a page in Appendix IV to the first handout, "Brokerage." Appendix IV explains size, density, hierarchy, and constraint measures of access to structural holes. Graph above plots density and hierarchy for 1,989 networks observed in six management populations (aggregated in Figure 2.4 in *Neighbor Networks* to illustrate returns to brokerage). Dot-circles are executives (MD or more in finance, VP or more otherwise). Hollow circles are lower ranks. Executives have significantly larger, less dense, and less hierarchical networks.

To keep the diagrams simple, relations with ego are not presented.

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<thead>
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<th>Clique Networks</th>
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<td></td>
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<td>0.5</td>
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| **Larger**     |                 |                  |                 |
| **Networks**   |                 |                  |                 |
| contacts       | 5               | 5                | 5               |
| density x 100  | 0               | 40               | 100             |
| hierarchy x 100| 0               | 25               | 0               |
| constraint x 100| 20              | 59               | 65              |
| from:          |                 |                  |                 |
| A              | 4               | 36               | 13              |
| B              | 4               | 6                | 13              |
| C              | 4               | 6                | 13              |
| D              | 4               | 6                | 13              |
| E              | 4               | 6                | 13              |
| nonredundant contacts betweenness (holes) | 5.0 | 3.4 | 1.0 |
|               | 10.0            | 3.0              | 0.0             |

| **Still Larger** |                   |                  |                 |
| **Networks**     |                   |                  |                 |
| contacts         | 10               | 10               | 10              |
| density x 100    | 0                | 20               | 100             |
| hierarchy x 100  | 0                | 50               | 0               |
| constraint x 100 | 10               | 41               | 36              |
| nonredundant contacts betweenness (holes) | 10.0 | 8.2 | 1.0 |
|               | 45.0             | 18.0             | 0.0             |
Three Broad Categories of Networks Can Be Distinguished

Broker (lower left)
Clique (lower right)
Partner (top half)

This is Figure 4.8 in Burt (1992), Structural Holes.

Figure 4.8  Constraint, hierarchy, and kinds of manager networks. (The bold horizontal line marks the mean of hierarchy and the bold vertical line marks the mean of aggregate constraint.)
Partnering Is the Active Ingredient that Links Network Constraint with Success for Outsiders

Kinds of Networks Are Similarly Likely across Kinds of Managers
\( \chi^2 = 0.15, 2 \text{ d.f., } P = .93 \)

(In other words, pick a network for what it can do, not for the kind of people who picked it in the past.)

Kinds of Networks Have Different Consequences for Kinds of Managers
\( F = 3.77, 5-278 \text{ d.f., } P < .01 \)

from Burt, "Gender of social capital" (1998, Rationality and Society) and Figure 7.4 in Neighbor Networks.
In Sum, There Are Three Network Forms of Social Capital

See Appendix X on seeming contradiction between strategic partners and secondhand brokerage.

An asterisk here indicates a page in the initial handout, "Brokerage."

from Burt, "Gender of social capital" (1998, Rationality & Society)
The Situation Can Be Difficult To See

Kinds of Networks Have Different Consequences for Kinds of Managers
\( F = 3.77, 5\text{-}278 \text{ d.f., } P < .01 \)

Regardless, Managers Believe That They Have an Effective Network
\( \chi^2 = 6.97, 5 \text{ d.f., } P = .22 \)
(and no association between early promotion and manager's belief that his or her network is effective; 1.63 t-test, P = .20)

from Burt, "Gender of social capital" (1998, *Rationality & Society*).
1. Who should one pick to be a strategic partner?

   a. People who need a strategic partner are better served by someone like themselves (e.g., women sponsor women, Asians sponsor Asians, etc.).

   b. People who need a strategic partner would be well served to develop their boss as a strategic partner.

   c. Explain the difference between the following two statements (consider page 32):
      - People with a partner network, have borrowed someone’s network.
      - People who have borrowed someone’s network, have partner networks.

2. In the short-run, what does one have to pay?

3. What is the long-term cost?
RULE 3 of Social Capital: Reputations Emerge from Gossip in Closed Networks, which Generates a Sense of Community and Efficiency as a By-Product.

Network closure enhances communication and individual visibility within a group, (a) which creates reputation costs for individuals who express opinion or behavior inconsistent with group standards, (b) which makes it less risky to trust within the group (page 7), (c) which enhances productivity as people become self-aligning in extraordinary efforts (page 10). Higher productivity comes from lower costs for labor, management, and time.

CAUTION: The Reputation Mechanism by which Closure Delivers Value Can Have a Side Effect of Groupthink, a Passive "waiting for orders," and so Value Destruction.

When information moves unaffected through a network closure creates wide bandwidth, facilitating trust and efficiency. However, social networks involve an etiquette filter. The more polite the people, the more etiquette affects what is shared, and closure produces echo, not bandwidth. Shared information is selected for empathy between gossipers, not accuracy about the person or object discussed. The result is ignorant certainty (page 18) and you no longer own your reputation — it is owned by the people who gossip about you (page 25). The ignorant certainty fostered by closed-network echo can become rigid stereotypes about people and practices outside the group (with predictable problems for the realized value of diversity, pages 30 ff. and page 64).

Insiders, Outsiders, and Gossip-Enforced Barriers to Coordination

People in a group can find community with one another by jointly denouncing outsiders — kinds of people not "as good as" insiders. Derogatory stories about outsiders, shared in gossip between insiders, strengthen insider relations. When people or groups deemed outsiders try to be network brokers, they are seen as rising above their station. Empirically, outsiders can be identified by their negligible or negative returns to brokerage (pages 30, 64). The more closed the network, the more likely there is a distinction made between insiders and outsiders. Examples discussed in class involved outsiders defined by age, gender, nationality, and legacy organization (also eye color, geographic location, and just being difficult).

Work-Around: Borrow the Network of an Insider Broker

Affiliation with a broker creates a partner network, giving you access to structural holes in the partner's network (pages 31-33, and 62-63). The insider's reputation makes the outsider "not like" other outsiders. It is important that the insider is a network broker, not someone in a closed network. Advantage continues to be a matter of access to structural holes, but now brokers face a make or buy decision: make (your own network) to forage where you are an accepted insider, buy (more specifically, borrow) a partner's network to forage in someone else's domain.

IMPLICATION: Optimum Networks

No network is optimum for all tasks. Pick a network for what it can do (page 37), not for the kind of people who have picked it. Build a broker network for creating value when you are an insider, a closed (clique) network for aligning people to deliver value, a partner network for creating value when you need support from sources leery of people like you.
Appendix
Materials
Appendix I. Measuring Network Closure/Embedding

Let a 2-step connection refer to a connection between two people through a mutual contact. For example, the “1” under “D” for Jim in the first row of the table refers to person 4 in the sociogram. Person 4 is the only contact linked directly to Jim and person 1. The “3” underneath the “1” in the table refers to three mutual contacts between Jim and person 2. The mutual contacts are persons 4, 6, and 7. Two-step connections are this chapter’s measure of direct structural embedding. Indirect structural embedding is measured in this chapter with 3-step connections. For example, the “1” under “I” for Jim in the second row of the table refers to persons 5 and 3 in the sociogram. Jim’s connections to 2 through persons 4, 6, and 7 are 2-step connections. Jim’s fourth contact, person 5, is not connected to person 2, but is connected to 3 who is connected to 2, so Jim has a 3-step connection to person 2 via person 5. In graph theoretic terms, I am looking for geodesics linking two people through one intermediary (direct structural embedding) or two intermediaries (indirect structural embedding). Since I want to know how indirect embedding adds to direct embedding, I only count distant connections in the absence of closer connections. For example, Jim is connected to person 6 who is connected to 3 who is connected to 2, which is an 3-step connection between Jim and person 2. However, Jim reaches 2 through 6 directly, so the table reports one 3-step connection (the 5-3-2 connection).

This is Figure 2 in Burt, “Closure and stability” in The Missing Links: Formation and Decay of Economic Networks, edited by J. Rauch (2007 Russell Sage Foundation). For elaboration and illustration of indirect connections, see Chapter 7 in the on-line network textbook, Introduction to Social Network Methods, by Robert A. Hanneman and Mark Riddle (http://faculty.ucr.edu/~hanneman/nettext).
Appendix II:
Closure/Embedding and the Theory of the Firm

The Source is John Commons’ Five-Player Unit for Transactional Analysis

(1) MAY — range of behaviors allowed in relationship
(2) MUST — minimum obligations of relationship
(3) CAN — minimum rights in relationship
(4) CANNOT — behaviors prohibited in relationship

Graphic is from Figure 7.1 in Structural Holes (Burt, 1992), see John R. Commons (1924), Legal Foundations of Capitalism, chapter on transactions, which set a stage for Coase’s (1937) nobel-winning "The Nature of the Firm" in Economica, and subsequent work on "competitive strategy."
Appendix III: Closure and Learning Curves

by Michael Rothschild

Bruce Henderson certainly didn’t look like a revolutionary. No tattered army fatigues. No fiery rhetoric. He favored starched white shirts and pinstripe suits. He spoke softly, in the measured, almost halting, manner of a southern gentleman. But Bruce Henderson had the “right stuff” of a revolutionary — profoundly new ideas that change the way society works. The originator of modern corporate strategy and founder of The Boston Consulting Group (BCG), Bruce Henderson died this summer in his hometown of Nashville, Tennessee. He was 77.

Trained as an engineer, Bruce Henderson became fascinated with economic ideas for terribly practical business reasons. Back in the days before he established the discipline of corporate strategy, making the big decisions about a company’s long-term future was pretty much a “seat of the pants” affair. The CEO, with perhaps a few senior executives and board members, would sit around and talk until they came up with a plan that seemed sensible. “Bet-your-company” decisions like launching a new product line, acquiring a subsidiary, or shutting down a factory, were made on little more than intuition.

A rigorous analytical approach to making key decisions was impossible, because there were no guiding strategic principles, no theories that could be turned into quantifiable models. Standard economic models existed, of course, but every sophisticated businessman knew that the economists’ mythical kingdom of “perfect competition” bore no relationship to reality. To turn corporate strategy into a credible discipline — and consulting assignments that major clients would pay major money for — Henderson had to find a hard link between business and underlying economic forces.

Henderson’s search began with highly detailed analyses of production costs. Early in his career, while a purchasing manager for a Westinghouse division, he wondered why suppliers who produced their goods in virtually identical factories often put in bids at dramatically different prices. Economic theory said it wouldn’t happen. Producers using similar capital equipment were supposed to have similar unit costs and offer roughly the same prices. But economic theory was wrong. In case after case, actual unit costs varied dramatically among suppliers. Henderson didn’t know why, but he had zeroed in on the crucial question.

Then, in 1966, shortly after he founded BCG, a study for Texas Instruments’ semiconductor division revealed the answer. When TI’s unit cost data for a particular part was plotted against the company’s accumulated production experience, the cost of the part declined quite predictably. For example, if the 1000th unit off the line had cost $100 to make, the 2000th unit would cost 80% as much, or $80. By the time the 4000th unit was produced, it would cost just $64 ($80 x 80%). Every time cumulative experience doubled, unit costs dropped about 20%. Though it’s “old hat” among today’s high-tech managers, the notion of predictably declining costs was a radical concept when Bruce Henderson began teaching companies about the “experience curve” a quarter century ago.

(over)
During the 1970s, Henderson’s concept became the foundation of modern corporate strategy. For the first time, it was possible to explain why building a factory just like your competitor’s didn’t mean you could match his costs. If he had a head start in experience, you could wind up chasing him down the experience curve. If you both sold at the market price, he’d make money on every unit, while you’d be lucky to break-even.

Once the experience curve was understood, the importance of being the first one to enter a new market became clear. Properly executed, the preemptive strike could mean long-term market leadership and long-term profits. Similarly, the experience curve explained why defending market share mattered. Raising prices to boost short-term profits sold off market share, slowed experience growth, and often handed over low cost leadership to an aggressive competitor. It’s a scenario that’s been played out hundreds of times as “experience conscious” Japanese competitors overtook their “profit conscious” American rivals.

Simply put, Bruce Henderson’s experience curve explained how an industry’s past shapes its future. Where conventional economics banished history by blithely assuming that “technology holds constant,” Henderson used the experience curve to show how the new insights generated by practical experience translated into higher productivity and lower costs. Where conventional economics taught the “law of diminishing returns,” Bruce Henderson taught the “law of increasing returns.” Where mainstream economics taught that marginal unit costs must rise at some point, Henderson showed that marginal unit costs can continually fall.

When the cost/performance potential of a particular technology is nearly exhausted, an industry will shift to a substitute technology and begin a new “experience curve.” For example, even as the airlines have shifted from one aircraft technology to the next, their cost/seat-mile keeps falling, opening up air travel to the entire population. By substituting new knowledge for labor and materials, experience-driven innovation keeps pushing costs down. As Henderson put it, when a firm is properly managed, its “product costs will go down forever.”

Though he concentrated on the practical problems of clients, Henderson knew full well that the experience curve had undermined the intellectual foundation of mainstream economics. In 1973, he wrote: The experience curve is a contradiction of some of the most basic assumptions of classical economic theory. All economics assumes that there is a finite minimum cost which is a function of scale. This is usually stated in terms of all cost/volume curves being either L shaped or U shaped. It is not true except for a moment in time. . . Our entire concept of competition, anti-trust, and non-monopolistic free enterprise is based on a fallacy.

I’m often asked whether the work of the great Austrian economist F.A. Hayek inspired me to write Bionomics. Despite my unending admiration for Hayek, the short answer is no, I’d never read him. Bruce Henderson inspired me to rethink the received economic wisdom. Without his “experience curve,” there is no final and fully satisfying explanation for falling costs, rising incomes, and the phenomenon of economic growth. More than anyone else, he made it both possible and necessary for economic thinkers to break free of the static, zero-sum mentality that has gripped the “dismal science” for 200 years. Bruce Henderson gave us the key to “positive-sum” economics. Thanks for the revolution, Bruce.
Recent recoveries from the Titanic suggest that poor steels in association with low temperatures might have contributed to that disaster too, although this vessel was of all-welded construction which eliminated crack-arresting plate boundaries which are present in riveted joints in a brittle fashion with none of the ductile tearing which is evident elsewhere. The author also was ignorant of Fracture Mechanics at the time and so was Thompson’s. The stern of SS Schenectady suffered catastrophic fracture, though not necessarily so dramatically as the Schenectady. The stern of SS John P. Gaines was fragmented, though not necessarily so dramatically as the Schenectady. The crew were rescued, and the stern towed back to port. The Stern of the SS John P. Gaines in the Aleutian Islands was fragmented.

Days from Start to Delivery

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Month that Work on Ship Began (Keel Laid)

- Texas (Todd Houston)
- Georgia (Southeastern)
- Florida (St. Johns River)

Sequence of Ship in Shipyard Production

- California (Permanente Metals #2, 4-day Robert E. Peary)
- Maine (New England)
- Maryland (Bethlehem Fairfield)
- Oregon (10-day Joseph N. Teal)
- Other (Florida, Georgia, Texas)

from Figure 3.7 in *Brokerage and Closure*
Some Example Learning Curves

SOURCE: Graphs to the left are from Stern and Stalk (1998: pp. 14, 19), Perspectives on Strategy. The one below is from Thurstone (1919, p. 45) "The learning curve equation," Psychological Monographs. The association below can be described as $Y = aX^b$, where $Y$ is words typed in four minutes, $X$ is cumulative words typed (at 250/page), and the estimated slope $b$ is .42 (cf. slope estimates of .11 to .29 for ship production in Rapping, 1965, p. 65, "Learning and World War II production functions" Review of Economics and Statistics).

Research on semiconductor learning curves shows 20% decrease in cost with cumulative volume doubling, learning three times faster from one’s own experience than from experience in another organization, and spillovers between organizations as likely within as between countries (Irwin and Klenow, "Learning-by-doing spillovers in the semiconductor industry," 1994, Journal of Political Economy).
Learning curves from Argote’s 1999 book, *Organizational Learning*. 

Units of cumulative output are omitted to protect confidentiality. Pizza delivery is from page 9 in book. Squawks per aircraft is from page 8 (originally in 1993 *British Journal of Social Psychology*, “Group and organizational learning curves”). Hours per vehicle is from page 21 (originally in 1990 *Science*, “Learning curves in manufacturing.”).
When is Corporate Culture a Competitive Asset?

Corporate culture is a profound concept that has been examined in various contexts. The concept of corporate culture has been studied extensively in the context of business organizations. The study of corporate culture has been influenced by various theories and perspectives, including sociology, psychology, and economics. Corporate culture is a set of shared values, beliefs, and behaviors that characterize a particular organization. It is a reflection of the organization's history, mission, and values, and it influences the way employees interact, work, and make decisions. Corporate culture is a powerful force that shapes the organization's performance, reputation, and sustainability.

The role of corporate culture in determining an organization's success has been a subject of much debate. While some argue that corporate culture is a critical factor in determining an organization's performance, others argue that it is less important. The evidence suggests that corporate culture can have a significant impact on an organization's performance. For example, a strong corporate culture can lead to higher employee satisfaction, lower turnover, and better performance. On the other hand, a weak corporate culture can lead to low morale, high turnover, and poor performance.

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The study of corporate culture has been influenced by various theories and perspectives, including sociology, psychology, and economics. Corporate culture is a profound concept that has been examined in various contexts. It is a set of shared values, beliefs, and behaviors that character...
The contingent value of culture can be a valuable, nor always irrelevant. Value is contingent on market. A strong corporate culture can be a powerful competitive asset in a commodity market. In a complex, dynamic market, on the other hand, culture is irrelevant to performance in such markets. The point here is that a strong corporate culture is not associated with economic performance. These are the 36 sample firms in Graph 2 taken from the four industries enclosed by a dotted line in the lower-left of Graph 3. These are complex, dynamic markets such as the communications and pharmaceutical industries, in which profits are easily substituted for one another, suppliers and customers are strong, and margins are low.

Final illustration: consider two consultants who are advising client firms to concentrate on institutionalizing a strong corporate culture. The consultants are no different from the other consultants who have approached the same clients, clients will hear earnest, contradictory results, and conclude that the jury is still out on corporate culture. Nevertheless, all are wrong; simplistic in their ignorance of the contingent value of a strong corporate culture. The contingent function of performance and strong culture should be understood as a function of the market environment.

At the other extreme, to the right in Graph 3, there is a counterintuitive result. Apparel producers face an effectively high level of market competition ... to support her conclusion) advise client firms to concentrate on institutionalizing a strong corporate culture. The contingent function of performance and strong culture should be understood as a function of the market environment.

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Distinctions Between Inside and Outside the Firm

(colleague relations pre-dating entry into the firm)

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<th>Mean Years Known</th>
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<tr>
<td>Over 20</td>
<td>129</td>
<td>6%</td>
<td>14.9</td>
</tr>
<tr>
<td>Total</td>
<td>1695</td>
<td>55%</td>
<td>13.0</td>
</tr>
</tbody>
</table>

from Burt, Hogarth, and Michaud "The social capital of French and American managers" (2000, Organization Science)
Same Network Mechanism, with Different Mixtures, Can Define Different Business Environments

NOTE: Grey area is current contacts (contacts cited this year by analyst or banker, contacts cited as current or met daily by Chinese entrepreneur). Red area is proportional to number of guanxi ties (known for more than two years for analyst or banker, most valued help in significant event for Chinese entrepreneur). Overlap indicates guanxi ties in current network.

QUESTIONS: Guanxi ties are more prevalent in China and critical to network advantage in China (there is no evidence of network advantage associated with success absent guanxi ties not cited as current contacts).

- Is the China difference a substantive difference between China and the West, or a methodological artifact?
- How prevalent are guanxi ties in the West (now we know what to look for), how often are they active as current contacts, and to what extent does success in the West depend on them?

from Burt and Batjargal, "Comparative network analysis" (2019, Management and Organization Review)
Appendix V: Why Don't People Discount Gossip?
In other words, why does casual conversation have such a powerful impact?

Cognition (mental defect) — We have a preference for information consistent with our predispositions; i.e., people are likely to believe stories about you that are consistent with their preconceptions of you (e.g., Klayman, 1995, on confirmation bias).

Sociability (naiveté) — Gossip is the verbal analogue to grooming among primates. Its purpose is to create and maintain relations, so information obtained is a by-product that feels unintentional, and so unbiased (Gambetta, 1994; Dunbar, 1996).

Identity (psychological need) — People define who they are in part with negative stereotypes of people on the social boundary of their group. Insiders believe stories about you that are consistent with stories they know about people like you (e.g., Durkheim, 1893; Elias and Scotson, 1965; Erikson, 1966).

Social Construction/Contagion (no absolute truth against which one can discount gossip) — When confronted with an ambiguous decision, we tend to imitate the opinions and behaviors of peers. People in groups who don't know you and have to deal with you will discuss you among themselves, create an image of you, then deal with the image as if it were you (e.g., Festinger, Schachter & Back, 1950; Pfeffer, Salancik & Leblebici, 1976; Zucker, 1977; Burt, 1987; Rogers, 1995).

for the citations and discussion, see Section 4.1.2 in Brokerage and Closure
APPENDIX VI: Detail, Reputation & Echo vs Bandwidth

Reputation Stability Predicted by Positive Closure versus Negative Closure

A. Positive Indirect Connections

B. Negative Indirect Connections

Colleague  Employee

Mutual Contact

Emile

-

-

Catherine

- - -

Mutual Contact

Marc

+ +

Mutual Contact

Philippe

Mutual Contact

Catherine

If bandwidth story true, then:
Stability of positive reputation increases with positive indirect, decreases with negative indirect (relations as info pipes)
Stability of negative reputation increases with negative indirect, decreases with positive indirect (relations as info pipes)

If echo story true, then
Stability of positive reputation increases with positive or negative indirect (etiquette filter on info transmitted)
Stability of negative reputation increases with positive or negative indirect (etiquette filter on info transmitted)

Figure 3 in Burt, "Gossip and reputation" in Management et Réseaux Sociaux, edited by edited by Marc Lecoultre and Pascal Lievre (2008 Hermes-Lavoisier, English language version on my website).
Stability of Positive and Negative Reputations Increase with Either Positive or Negative Closure.

Relations Are Balanced in Amplitude, not Direction; Reputations Are Defined by Network Echo, not Bandwidth.

<table>
<thead>
<tr>
<th>Predict Positive Reputations (N = 899)</th>
<th>Predict Negative Reputations (N = 797)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>R²</td>
<td>.59</td>
</tr>
</tbody>
</table>

Average Number of Mutual Contacts Linking Employee this Year with Colleagues

<table>
<thead>
<tr>
<th>Number of Positive</th>
<th>Number of Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>(N = 899)</td>
<td>(N = 797)</td>
</tr>
<tr>
<td>(.77**</td>
<td>(.70**)</td>
</tr>
<tr>
<td>(28.1)</td>
<td>(23.7)</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>.66**</td>
<td>.71**</td>
</tr>
<tr>
<td>(11.7)</td>
<td>(23.7)</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>.67**</td>
<td>.70**</td>
</tr>
<tr>
<td>(21.2)</td>
<td>(23.3)</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>.21**</td>
<td>.52**</td>
</tr>
<tr>
<td>(3.6)</td>
<td>(8.7)</td>
</tr>
</tbody>
</table>

NOTE — These are regression models predicting reputation stability from this year to next using network variables measured this year. Stability is measured for an employee by the sub-correlation between reputation in adjacent years (vertical axis on page 24 of this handout). Average number of mutual contacts (horizontal axis on page 24) are here log scores to capture the nonlinear association. T-tests in parentheses are adjusted for autocorrelation between repeated observations (using "cluster" option in STATA), but they are only a heuristic since routine statistical inference is not applicable for sub-sample correlations as a criterion variable (footnote 1 in the source paper cited below).

* P < .05  ** P < .001

Table 1 in Burt, "Gossip and reputation" in Management et Réseaux Sociaux, edited by edited by Marc Lecoutre and Pascal Lievre (2008 Hermes-Lavoisier, English language version on my website).
Appendix VII: Groupthink and Unlearning

Irving Janis coined the term "groupthink" in 1971 when he used research on conformity within cohesive groups to explain prominent policy failures (1971 "Groupthink" Psychology Today Magazine, 1972 book Victims of Groupthink, Houghton Mifflin, expanded edition in 1982). The research from which he drew showed that pressure on individuals to conform to group opinion increased with network closure (strong ties inside, weak ties outside, as we discussed with respect to high-performance teams). Also see Levy, "The Nut Island Effect: When Good Teams Go Wrong." (2001, HBR).

Six behavioral symptoms that the members of a team suffer from groupthink:

- Few Options — Team deliberations are limited to one or two courses of action without surveying alternatives.
- No Iteration — Team doesn't re-examine assumptions in light of things learned during debate (e.g., Given the costs we've discovered, should we be outsourcing this rather than producing it ourselves? Given the benefits, should we be outsourcing this at all?).
- No Re-Framing — Costs/benefits aren't discussed from alternative frames of reference (e.g., What would us taking this course of action signal to colleagues, or to people outside our business? Who beyond us would incur costs/benefits from us taking this course of action?)
- No Due Diligence — Team makes no effort to get data with which costs/benefits could be better estimated.
- Confirmation Bias — Team discusses in detail facts/opinions that support the felt consensus, but ignores facts/opinions that would raise doubts.
- No Fall Back — The consensus policy seems so obviously correct that the team does not discuss how the consensus course of action could be affected by bureaucratic inertia, inadequate employees, political opposition, or foreseeable accidents. No contingency plan increases risk of failure.

Three measures to counter groupthink (in essence introduce brokerage, and see over on "unlearning"):

- Encourage Critical Debate — State it as policy. Demonstrate it by accepting criticism of your own argument. Facilitate it by asking team members to be brokers between alternative arguments rather than advocates of one argument.
- Encourage Critical Debate — Assign a key task to more than one individual or group to increase the odds of alternatives, and so debate, in team discussion of the task.
- Encourage Critical Debate — For discussion of an important issue, assign the role of devil's advocate to an able person on the team (or invite an outside expert in to play the role).
- IDEO caution against Devil's Advocate — Can kill off promising new ideas. Assign IDEO roles to individuals to ensure that an idea is viewed from diverse perspectives (The Ten Faces of Innovation, 2005, Tom Kelley & Jonathan Littman).
The Wisdom of the Naskapi Indians (Weick, The Social Psychology of Organizing, 1979:262-263): The Naskapi Indians of Labrador survive primarily by hunting. Each morning the adult males gather to ask: “Where should we hunt today?” An unusual procedure is used to answer the question: The men take the shoulder bone of a caribou, hold it over a fire until the bone cracks, then hunt in whichever direction the crack points. The procedure works. The Naskapi almost always find game, which is rare among hunting bands.

Why do you think they are successful?


1. It isn’t good enough.
2. It’s only an experiment.
3. Surprises should be question marks.
4. All dissents and warnings have some validity.
5. Collaborators who disagree are both right.
6. What does a stranger think strange?
7. All causal arrows have two heads.
8. The converse of every proposition is equally valid.

Appendix VIII: Sources of Variance in 360 Evaluations

Most of the variance in evaluations is about the way two people work together, not their averages as individuals.

The below pie charts describe the variance explained in regression models predicting ego's evaluation of alter from ego's average rating of colleagues [rater variance] and alter's average rating from colleagues [reputation variance].

**Banker Relationships**  
(N = 12,640)

- **25.1% Rater Variance**  
  (qualities of the person making the evaluation)
- **61.5% Dyad Variance**  
  (qualities specific to the subject-respondent dyad)
- **13.4% Reputation Variance**  
  (qualities of the person evaluated)

**Staff Officer Relationships**  
(N = 2,304)

- **18.4% Rater Variance**  
  (qualities of the person making the evaluation)
- **52.2% Dyad Variance**  
  (qualities specific to the subject-respondent dyad)
- **29.4% Reputation Variance**  
  (qualities of the person evaluated)
and Good versus Bad is the Primary Dimension to Evaluations

I focus on good versus bad as a reputational quality that assuages audience concerns about a would-be broker. The focus is in contrast to studying reputation in terms of specific behaviors for which a person is known. Statistically significant correlations are likely to occur with details of reputation for specific behaviors, but it will be difficult to generalize the correlations into construct-validity hypotheses about reputation because of the diversity that studying details allows and wide confidence intervals around current measures of reputation. My focus on good-bad is based on the knowledge that good versus bad is the primary dimension to human evaluation in general. There are other dimensions, but good-bad is the primary one. In the interest of replicable results, I focus on the primary dimension for the time being.

Initial evidence for the primacy of good-bad was given in Osgood, Tannenbaum, and Suci (1957, *The Measurement of Meaning*) based on factor analyses of semantic-differential data from diverse populations. They find three recurring dimensions to evaluations of words and phrases: a good-bad contrast (termed the primary "evaluation," 69% of common variance), a strong-weak contrast (termed "potency," 15% of common variance), and an active-passive contrast (termed "activity," 13% of common variance). Note here that dimensional analyses of network data show managers distinguishing relations primarily on a good-bad dimension of closeness and secondarily on a personal-impersonal dimension (e.g., Burt, 2010:287). Osgood et al. (1957:38) emphasize that the good-bad contrast, "plays a dominant role in meaningful judgments, here accounting for almost 70 per cent of the common (extracted) variance, and this impression will be confirmed in subsequent studies to be reported."
Appendix IX: Mobbing
(from a 1999 page in The Mobbing Encyclopedia, © Heinz Leymann; http://www.leymann.se/English/00005E.htm)

What is meant by "mobbing" or "bullying"? These words refer to a situation in which one or more people at the workplace show hostile behavior toward (1) most often, only one employee (2) very often and (3) over a very long period of time (months or years), thereby victimizing him or her.

What is the difference between a conflict and mobbing/bullying? One difference is that a conflict occurs between equally strong people. In a mobbing/bullying situation, the hostility is directed by one or more strong people towards a weaker individual who has become the underdog. This person is further weakened because of the immense pressure caused by the frequency and the duration of the attacks.

What happens when a person is mobbed/bullied? The attacks aim at destroying or sabotaging the mobbed person’s reputation, disturbing or destroying communication to or from the mobbed person; or, manipulating his or her work performance or work assignments.

Do the mobber’s or victim’s personality traits play a part? No personality traits shared by victims have thus far been detected in research. The causes of mobbing are to be found in the social structures dominant in the workplace organization.

Why, then, does it happen? In analyses of mobbing/bullying cases, research thus far has always detected serious organizational problems. Organizational disorder and poor management automatically cause conflicts. Some of these conflicts exaggerate opposing views, and end up by designating a scapegoat.

Why don’t people leave the workplace and take other employments? People do move to other workplaces. In quite a few cases, the individual chooses unemployment rather than remain in a mobbing/bullying situation, and thereby ruins his or her own social and financial situation.

What is the cost to the victim? In the end, the cost to the victim may be enormous: his career may be destroyed as well as his social and financial situation, along with his health.

What is the cost to the employer? The employer pays, at least for a certain period of time, full salary to a victim who no longer is able to perform very well. Mobbing also destroys the psychosocial work environment and its psychological climate, infecting the morale of other personnel badly as well.

Does society also pay? Society takes over the costs by paying insurance and health care, etc.
Appendix X:
Exception that Proves the Rule on Secondhand Brokerage

The below graphs show no returns to insider affiliation with network brokers. This session has been about outsiders benefiting from affiliation with a network broker as a strategic partner. Does the evidence on strategic partners contradict the evidence of no returns to insider affiliation with network brokers?

\[ P = b \ln(\text{IC}) + R \]

Strong Association with Log Constraint
\( (r = -.26, t = -7.66) \)

\[ P = b_1 \ln(C) + b_2 \ln(\text{IC}) + b_3 X + R \]

No Association with Log Constraint
\( (r = -.03, t = -1.26) \)

Each dot is a population average on the Y axis and X axis for a 5-point interval on the X axis (for the analysts, bankers, HR officers, product-launch employees, and supply-chain managers). Test statistics are estimated across individual observations (with correction for repeated annual observations of the analysts and bankers).
Appendix XI: Other Partner Networks, and Integration Failures

And two others who need a partner: Met with student last week from AXP. He asked to move into an M&A role, and US HQ’d company said ok. He is the only Asian in the M&A unit. However, he has received a "no" decision on every acquisition he has suggested, and he has learned that he is not included in any discussions with the M&A team in Chicago. Another AXP student works in M&A for a San Diego gene sequencing company. He just spent 8 months in San Diego trying to meld with the team. He's having a heck of a time getting any time with the US folks, and when he approaches companies for potential acquisition, they always ask to speak to the US-based person. He's changed his business card to say San Diego!

network constraint = 37.0, network size = 9 contacts, network density = 33.3, network hierarchy = 20.0

network constraint = 38.4, network size = 9 contacts, network density = 38.9, network hierarchy = 20.0

from Figure 7.5 in Neighbor Networks.
A Local Chicago Partner Network

This is the "focal" manager's network. She received her company's top performance evaluation last year. The supervisory manager is a "partner" in the network. Corporate divisions are distinguished by color. Note how the supervisory and focal managers have connections to the same people in other divisions.
Same Tests Reveal Integration Failures in M&A and Leader Development

Former Dean Witter executive on integration after merger with Morgan Stanley: "They treated us like we were the Clampetts. We would have meetings with them, and they would ask to present first and then just leave. They wouldn't stay for us." It is a story that drips with irony: Here is a union engineered by some of the world's foremost experts in the art of mergers and acquisitions. They made huge personal fortunes putting companies together, collecting their fees, then walking away. But this time they had to live with the combination they created. (Fortune, 2005 May 2, Bethany McLean & Andy Serwer [see McLean's Smartest Guys in the Room])
The study site is two suburbs in 1960s England. The two suburbs were similar in socioeconomic status (working class & housing), but different in history and self-esteem. (1) The Village was settled a generation before the Estate, so social ties within the Village were more dense and developed. (2) People in the Village felt that they were a better class of people than the Estate residents. Surprisingly, people in the Estate also see themselves as socially inferior.

The explanation lay in the community social network (Elias and Scotson, 1965:94): "In the closely-knit neighborhood of the Village gossip flowed freely and richly through the gossip channels provided by the differentiated network of families and associations. In the loosely-knit and less organized neighborhood of the Estate the flow of gossip was on the whole more sluggish." Stories about people in the Estate — about their domestic abuse, excessive drink, lost jobs, unruly and wayward children — were a staple in Village gossip, reinforcing Village social cohesion with vivid illustration of Village superiority over people in the Estate. Estate residents seemed unable to escape the stigmatizing effect of Village gossip (Elias and Scotson, 1965:101): "A good deal of what Villagers habitually said about Estate families was vastly exaggerated or untrue. The majority of Estate people did not have “low morals”; they did not constantly fight with each other, were not habitual “boozers” or unable to control their children. Why were they powerless to correct these misrepresentations?" Elias and Scotson attribute Estate acceptance of their second-class citizenship to four factors: (a) Estate residents had continuing contact with Village residents, (b) were undeniably residents of the Estate by dint of where they lived, (c) shared the values of the Village in terms of which it would be shameful to behave in the manner described in the gossip about certain Estate people, and (d) were, because of their exclusion from the Village gossip network, more familiar with people in the Estate who fit the gossip stereotypes than they were familiar with Villagers who fit the stereotypes. As Elias and Scotson (1965:101-102) explain: "The majority of the Estate people could not retaliate because, to some extent, their own conscience was on the side of the detractors. They themselves agreed with the Village people that it was bad not to be able to control one’s children or to get drunk and noisy and violent. Even if none of these reproaches could be applied to themselves personally, they knew only too well that it did apply to some of their neighbors.” Elias and Scotson's four factors should be familiar to anyone proud of their heritage who has spent time living as an outsider among insiders.

For more detail, see pages 213-218 in Neighbor Networks.