



# Social Networks

POLI 100F

# Course Plan

- ▶ 8/1 – Course introduction, student polls
- ▶ 8/3 – Network analysis: basics
- ▶ 8/8 – Network analysis: static networks
- ▶ 8/10 – Network analysis: dynamic networks
- ▶ 8/15 – Social norms: evolution
- ▶ 8/17 – Social norms: diffusion
- ▶ 8/22 – Social norms: planned change
- ▶ **8/24 – Political networks**
- ▶ 8/29 – Political networks
- ▶ 8/31 – Network theory, review

# Evaluation

- ▶ Here's how your **final grade** will be calculated:
- ▶ Problem Set #1 - 30% [due August 12 @ 11:59pm] ☒
- ▶ Problem Set #2 - 30% [due August 19 @ 11:59pm] ☒
- ▶ **Research proposal - 40% [due September 2 @ 11:59pm; no final exam]**
- ▶ **Attendance** at lecture is not required, but it is recommended because you'll have the opportunity to ask questions. All lectures will be **recorded** and posted on the corresponding Canvas page.

# Office hours

- ▶ I'll be holding **office hours** on Wednesdays from 9-11am. You can sign up at the course Canvas page ("Start Here").
  - ▶ If that time's inconvenient or if all the slots are full, we can set something up by appointment. Message me on Canvas or email me at [mdraper@ucsd.edu](mailto:mdraper@ucsd.edu).

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “Painful and dangerous footbinding afflicted most Chinese women for a thousand years, and reform-minded Chinese women at one time “agreed that footbinding was of no use, but could only be given up by degrees”
- ▶ “Yet footbinding ended, for the most part, in a single generation...the end of footbinding was a **convention shift**...[it] spread by imitation until people were ashamed not to practice it”

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “The practice effloresced along three dimensions over several centuries.
- ▶ “First, it spread from the imperial palace, to court circles, to the larger upper classes, and then to the middle and lower classes; eventually the higher the social status, the smaller the foot.”
- ▶ “Second, it became more exaggerated over time; a practice supposedly originating among dancers eventually made dance a forgotten art.”
- ▶ “Third, it radiated from the imperial capitals to the rest of the empire.”
  - ▶ “exceptions only among the lowest classes, wherever woman's work was needed in the field or workshop”
- ▶ “The Manchu conquerors opposed footbinding, but their efforts to abolish it...failed entirely, despite intimidating penalties.”

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “The first anti-footbinding societies propagandized the disadvantages of footbinding in Chinese cultural terms, promoted pledge associations, and subtly conveyed international disapproval of the custom.”
- ▶ “Footbinding started to end...among the upper strata of the larger cities. Although there was local variability in onset of cessation, available evidence is that whenever binding did end, it ended rapidly.”
- ▶ “The Chinese offered various explanations for footbinding. It was said to distinguish the Chinese from the invading Mongols and other barbarians and to enhance the difference between men and women. It was believed to promote good health and fertility (Blake 1994:686).”

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “[FGM] is not only nearly universal and persistent where practiced, but is expanding its territory. It is spreading from Arabized northern Sudan further into indigenously populated areas of southern and western Sudan; as Arabized traders enter or as indigenes urbanize, the less advantaged adopt infibulation to make their daughters more marriageable to the high-status outsiders.”
  - ▶ “...beginning among educated urban dwellers and spreading to the uneducated in the villages.”
- ▶ “The most common explanation given by participants is that infibulation is required for marriage and honor.”



# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “How can the same mechanism explain both stability and change?”
- ▶ “If people are stuck at [an] inferior equilibrium...they may lack a concerted way to move to [a] superior equilibrium.”
- ▶ “Convention is self-enforcing: Any one person driving to the right to demonstrate its advantages would end up dead.”

	C1	C2
R1	2	0
R2	0	-1

(A) Single Equilibrium

	C1	C2
R1	2	0
R2	0	2

(B) Coordination:  
Indifferent Equilibria

	C1	C2
R1	2	0
R2	0	1

(C) Coordination:  
Ranked Equilibria

	C1	C2
R1	2	0
R2	0	2

(D) Coordination:  
Conflicting Equilibria

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- “Figure 1D...represents a coordination problem, but now with a bargaining aspect. Here, Column-Chooser does best at R1C1, while Row-Chooser does best at R2C2, and each likes either of these coordination equilibria better than miscoordination at R1C2 or R2C1.”

	C1	C2
R1	2	0
R2	0	-1

(A) Single Equilibrium

	C1	C2
R1	2	0
R2	0	2

(B) Coordination:  
Indifferent Equilibria

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(D) Coordination:  
Conflicting Equilibria

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “Singling out a coordination equilibrium is a matter of **concordant mutual expectations**. If there are two of us and we can talk, then we can each promise to choose either right or left, and the promise is self-enforcing. If there are hundreds of us, however, express agreement is difficult.”
- ▶ “there is no logical solution to the tacit coordination problem; rather, solutions are suggested by their **psychological salience**. The salient choice is not uniquely good, just noticeably unique.”

	C1	C2
R1	2	0
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(D) Coordination:  
Conflicting Equilibria

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “The women who practice infibulation are caught in a belief trap. The Bambara of Mali believe that the clitoris will kill a man if it comes in contact with the penis during inter- course. In Nigeria, some groups believe that a baby will die if its head touches the clitoris during delivery (Lightfoot-Klein 1989:38-9).”
- ▶ “I call these **self-enforcing beliefs**: a belief that cannot be revised because the believed costs of testing the belief are too high...the cost of testing pertinent beliefs is prohibitive to any one individual.” [compare Sperber]

	C1	C2
R1	2	0
R2	0	-1

(A) Single Equilibrium

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# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

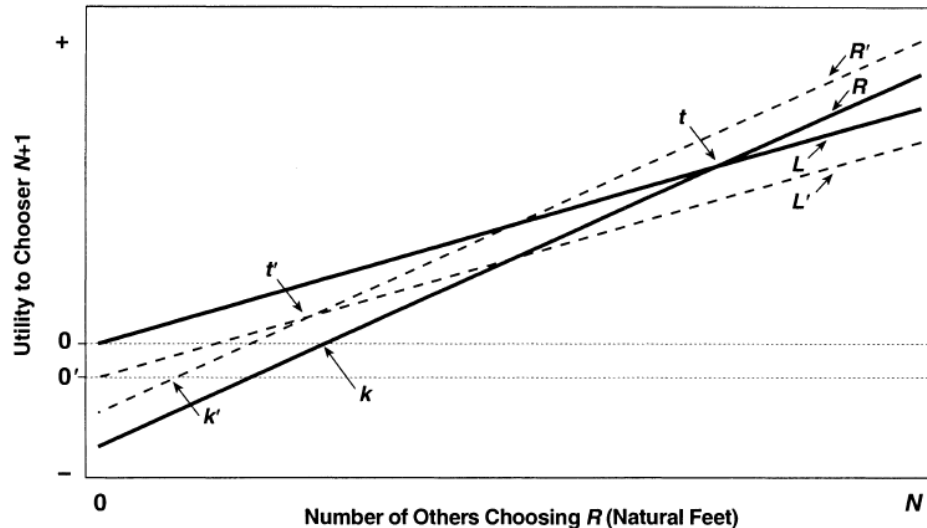


Figure 2. Schelling Coordination Diagram for Chinese Footbinding

Note:  $L$  = utility of choice resulting in an inferior equilibrium (footbinding);  $R$  = utility of choice resulting in a superior equilibrium (natural feet);  $L'$  = utility of footbinding after hearing of its disadvantages;  $R'$  = utility of natural feet after hearing of its advantages;  $k$  = minimum number of people required to be better off together choosing natural feet;  $k'$  = new smaller  $k$  resulting from a successful propaganda campaign;  $t$  = Point at which marriage market tips to either footbinding or to natural feet;  $t'$  = new tipping point resulting from a successful propaganda campaign;  $0$  = arbitrary zero value of inferior equilibrium (footbinding);  $0'$  = arbitrary zero value of footbinding after hearing of its disadvantage.

- ▶ “The work of the antfootbinding reformers had three aspects (Drucker 1981; Levy 1966: 74-88). First, they carried out a modern education campaign, which explained that the rest of the world did not bind women's feet...”
- ▶ “Second, their education campaign explained the advantages of natural feet and the disadvantages of bound feet.”
- ▶ “Third, they formed natural-foot societies, whose members pledged not to bind their daughters' feet nor to let their sons marry women with bound feet. These three tactics are appropriate for escaping an inferior convention.”

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

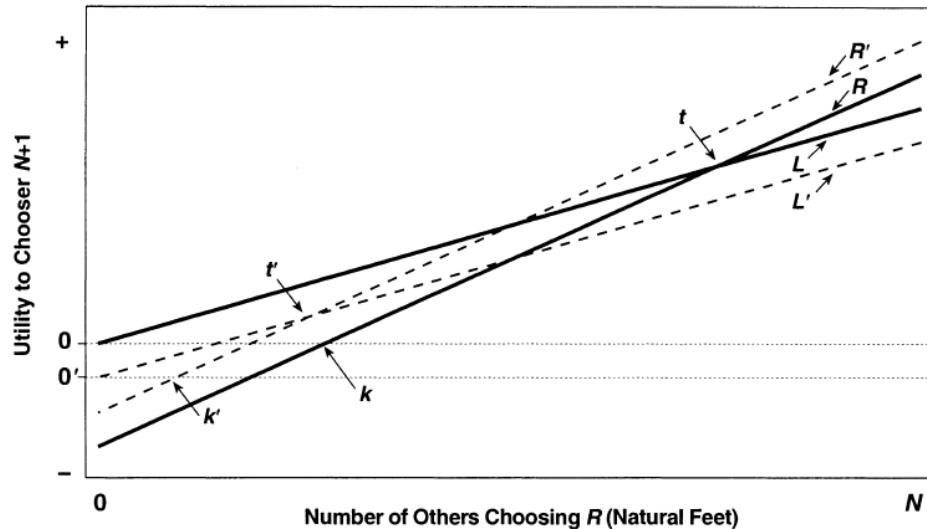


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- ▶ “if  $k$  or more of us can organize into an antfootbinding association, pledging not to footbind daughters nor let sons marry footbound women, we are better off; beyond this threshold, the advantages of natural feet outweigh the disadvantages of a smaller mate-selection pool.”
- ▶ “The initial  $k$  formations were enforced by public pledge within church fellowships, and the proven technique then was borrowed and spread by nonchurch reformers. Reneging on a public pledge is damaging to family honor, and any temptation to renege disappears upon reaching  $k$ : Getting to  $k$  is getting over the hump.”

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

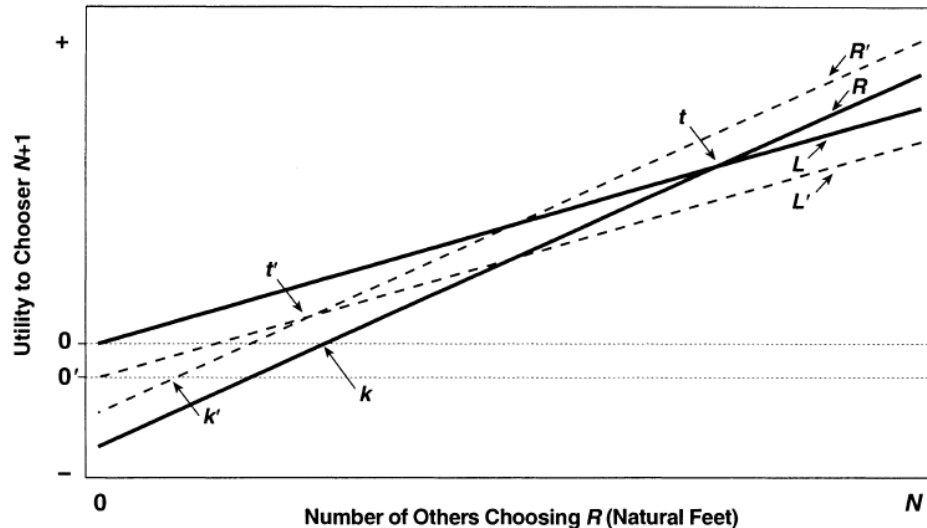


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- “First,  $k$  organizes; second,  $k$  propagandizes; third, if the propaganda is successful the tipping point  $t'$  becomes less than the  $k$  already organized; thus, fourth, the entire marriage market tips to the superior equilibrium.”

# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “An analogy may ease comprehension of the model. For originating circumstances, imagine a seated audience where the tallest people have grabbed the front row. The view of the tallest...in the front row is obscured by being too close to the elevated stage, so they stand (footbind). Thus the second, third, and all the rest of the rows must stand to regain their views of the stage.”
- ▶ “The front row is better off, but everyone else is worse off because their view is no better than before, but now they incur the cost of standing...[I]magine that over time the tallest drift away from the audience and that the ease of sitting (natural feet) is forgotten. Standing is now entrenched as the convention.”



# Gerry Mackie - Ending Footbinding and Infibulation: A Convention Account

- ▶ “Visitors tell people that elsewhere audiences sit. People begin to think that sitting might be better, but only if enough other people sit; any one person sitting alone gets no view of the stage (reproductive death). If a column ( $k$ ) can be organized to sit, its members suffer a poor view of the stage but are compensated by the ease of sitting. The members of  $k$  then have two incentives, to recruit the contiguous columns and to inform everyone that sitting is better and that standing is worse than people thought.”

# Gerry Mackie - Social Norms Change, Believing Makes It So

- ▶ Types of fact: **brute** (does not depend on us) and **institutional** (depends on us).
- ▶ **Reference group**: the group of people who create an institutional fact.
  - ▶ Social norms originate in capacities of joint attention (Tomasello) in a local setting.
- ▶ “A social norm is a rule constructed from an individual's beliefs and evaluations: her beliefs about what others do (**descriptive norm**), her beliefs about what others dis/approve of (**injunctive norm**), and her evaluation about whether what certain others do and dis/approve of is enough reason for her to comply (**reference group**).”
- ▶ “Social norms can be quite stable and even operate behind people's backs for generations, because they are **locked in by such interdependence**.”

# Gerry Mackie - Social Norms Change, Believing Makes It So

- ▶ Because interdependent action requires coordination of beliefs, social norms often (usually) seem objective – even though we create them.
  - ▶ A suitable social norm can become harmful when circumstances change.
  - ▶ “An important way to change a social norm is for those in favor of change to **join together in a new reference group**.” Example: Tostan community empowerment program (CEP).

# Gerry Mackie - Social Norms Change, Believing Makes It So

- ▶ Three kinds of belief: beliefs can be about:
  - ▶ The **nonsocial environment**, such as that a tree exists, or how to grow the best millet, or what causes disease;
  - ▶ The **social environment**, such as what one believes about the minds of others, including social norms; and
  - ▶ The **self**, such as what one believes about one's own mind, one's own beliefs, desires, intentions, and one's conception of oneself.
- ▶ Beliefs are formed in one of three ways:
  - ▶ Personal experience, reflection, testimony (social proof)

# Gerry Mackie - Social Norms Change, Believing Makes It So

- ▶ “A **harmful social practice** can be caused, in whole or in part, by harmful false beliefs about the nonsocial world.”
- ▶ **Social proof:** observing similarly-situated peers adopting a new approach to the norm.
  - ▶ “The observed actions of a local minority were more credible to the larger community than the messages of an external change agent.”

# Gerry Mackie - Social Norms Change, Believing Makes It So

- ▶ **Coordinated Abandonment or Adoption:** “enough people must believe that enough people are changing” and “seeing is believing.”
  - ▶ “What works is **redundantly** to make visible repeatedly, at many levels and in many ways, that enough people see that enough people are changing.” [What’s the role of common knowledge?]
- ▶ “A harmful social practice is held in place by a web of beliefs, evaluations, and actions within the individual and within her group. These cultural models organize one’s knowledge about objects and events, other people, and oneself.”

# Gerry Mackie - Social Norms Change, Believing Makes It So

- ▶ “[R]esearchers were surprised to discover that changes in individuals’ and communities’ **conceptions of themselves** were also essential to beneficial change.”
  - ▶ Adopting new roles: “It’s easier to act your way into a new way of thinking, than to think your way into a new way of acting.”
- ▶ “Policy should rely first on moral regulation, next on social regulation, and only as a last resort on legal regulation. In response to a particular harm, legitimate and effective regulation requires that the applicable moral, social, and legal norms be in harmony rather than discord.”
  - ▶ Example: *Cultura Ciudadana* (Citizenship Culture) in Bogotá.

# Gerry Mackie - Social Norms Change, Believing Makes It So

- ▶ “the experience of “**seeing is believing**” was essential to the change process...The visibility of beneficial changes had several effects.
- ▶ “First, they continually **challenged**, with the power of direct observation, prior cultural models inconsistent with changed practices.”
- ▶ “Second, many people saw that many people were seeing these changes; there was growing **joint awareness** of the changes.”



# Gerry Mackie - Social Norms Change



# The Norm of Legal Obedience

- ▶ Nagin and Pogarsky (2001, 869)
  - ▶ “A belief that illicit conduct is wrong [moral], and the fear of peer disapproval, embarrassment, or social stigma [social] discourage offending behavior.”
  - ▶ Further, several studies investigating the relative strength of both sanction forms find
    - ▶ the “conforming influence of extralegal sanctions to be far greater than that from legal sanctions.”

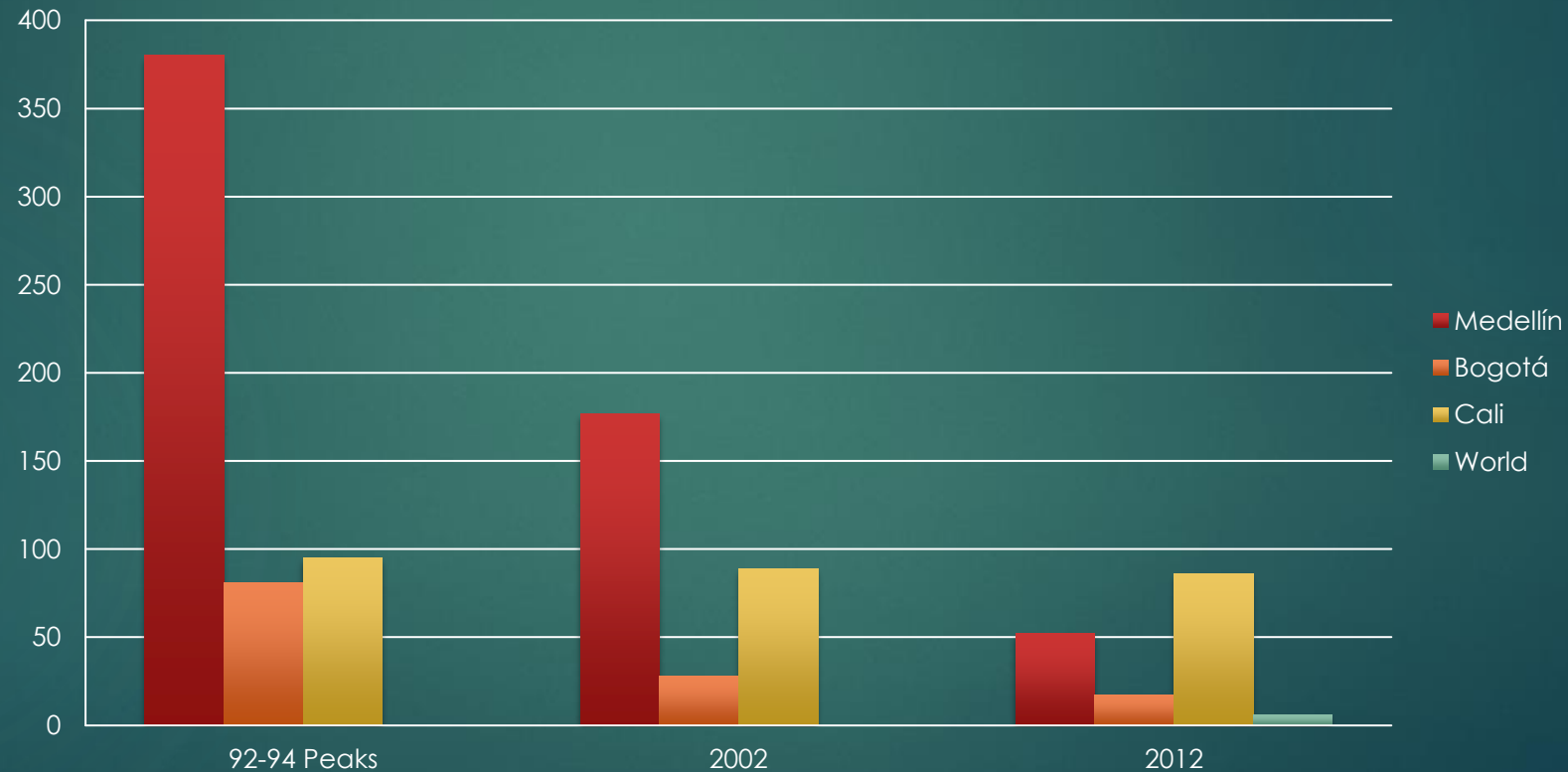


# Yvonne Riaño - Urban Fear and Violence in Bogotá

- ▶ “In 1995, Bogotá represented an extreme case of violence and insecurity in terms of numbers of homicides (3,657 per year), street robberies (13,027 per year), house robberies (1,301), bank assaults (382), and traffic accidents.”
- ▶ “Pérgolis summarized the then prevalent imaginary among the city's residents with the following words: “Bogotá of fear. Unliveable Bogotá. City of street robberies, beggars, armed pedestrians, never-ending traffic jams, uncollected rubbish. Bogotá of panic, intolerance, and hate” (30).”
- ▶ “A decade later, dramatic changes had taken place...Residents are proud to live in Bogotá; they are willing to contribute to the city's finances; they are more inclined to respect traffic signals; their participation in development plans is steadily increasing. What is behind such a transformation?”

# Why Social Transformation in Bogotá & Medellín, but not in Cali?

Homicides per 100,000  
Three Largest Cities in Colombia



# Yvonne Riaño - Urban Fear and Violence in Bogotá

- ▶ [A new approach] was conceived and implemented in the early 1990s by Antanas Mockus, when he was newly elected as mayor of Bogotá. The idea was to mobilize urban residents to adopt a set of shared habits, actions, and regulations that generate a sense of belonging and facilitate urban coexistence."
- ▶ Mockus "shaped the approach of **cultura ciudadana** ["culture of citizenship"], founded on the idea that urban violence is best combated by inducing citizens to be respectful of each other and thereby make peaceful interaction possible."
- ▶ "...the interventions of Bogotá's mayors during the period of study have been comprehensive—including reform of the police, the *establishment* of legal, educational, and cultural systems—and have been implemented within the framework of multi-sectoral partnerships."



# Mayor Antanas Mockus, Bogotá

## Core Moral Motivations

Slide by GM

Life is Sacred

Talk not Violence



# Yvonne Riaño - Urban Fear and Violence in Bogotá

- ▶ “Mockus argued that violence is rooted in a lack of shared values, in a lack of communication, and in mutual fear. The result is an absence of respect for other people’s lives and disregard for the law. Acquisition of the values and attitudes of citizenship is central to his arguments. He argues that an ‘individual is not born as a citizen but becomes one.’”
- ▶ “Overall, the culture of citizenship consists of a set of shared habits, actions, and regulations that generate a sense of belonging, facilitate urban coexistence, and lead to the respect and recognition of civic rights and duties...Losing the fear of each other and being less prone to violence takes place via intensified communication.”

# Yvonne Riaño - Urban Fear and Violence in Bogotá

- ▶ “...being able to mobilize a culture of citizenship first requires an understanding of the mechanisms that regulate people's actions and behavior in the public sphere. What are these mechanisms? Mockus's answer is that three different types of systems regulate the behavior of individuals: (a) self-regulation, (b) mutual regulation, and (c) legal regulation, as seen in table 1.”
- ▶ “According to Mockus, the challenge of urban coexistence is the harmonization of these three types of regulation. Urban violence arises when the connection between these three regulatory systems is absent.”

Types of regulation	Negative mechanisms	Positive mechanisms
Self-regulation	Fear of guilt	Satisfaction of obeying one's conscience
Mutual regulation	Fear of social rejection/shame	Social recognition
Legal regulation	Fear of legal punishment	Satisfaction of obeying the law

Table 1: The behavior of individuals in the public sphere: three types of regulatory systems.



# Yvonne Riaño - Urban Fear and Violence in Bogotá

- ▶ “Rather than hiring more traffic officers, the Mockus administration hired ‘traffic mimes’ (mostly young actors and students of the dramatic arts), whose task was not to mete out fines to traffic offenders but to motivate citizens to behave in a more civic way”
- ▶ “...more than 400 traffic mimes stood at major street intersections and admonished, with extravagant gestures, any bus or car drivers who ran red lights, who failed to stop at pedestrian crossings, or parked on sidewalks.”
- ▶ “With time, many Bogotanos became terrified of being caught by a traffic mime because they did not want to experience social shame.’



Fig. 1: Traffic mimes were used by the Mockus administration to motivate traffic offenders to behave in a more civic way. Photograph © Danita Echeverry.

## Example: traffic behavior (Social)



Social regulation cards: 350 000 distributed,  
**very high visibility, citizens willing to try them out.**

- **Fostered new normative expectations**  
consistent with legal norm compliance.

# Example: traffic behavior (Moral)



**Black stars** marked the spot of a death resulting from traffic accident. Later specified age and sex of deceased.

- Re-appropriation of a **common cultural symbol**: simultaneously fostered moral and social regulation – provided opportunities for discussing and coordinating beliefs



# Example: traffic behavior (Legal)



- Corrupt traffic police fired and replaced: signal of **strong institutional commitment**.
- Mimes: initially 40, then 400!
- Dramatic success in terms of **visibilization**, but replication *questionable*.
- **Further strengthened anticipations of disapproval**

# Yvonne Riaño - Urban Fear and Violence in Bogotá

- ▶ “before the beginning of the *cultura ciudadana* campaign, the homicide rate was 80 per 100,000 inhabitants (i.e., about 3,500 people killed each year). Less than a decade later, the rate had dropped to 22 per 100,000 inhabitants.”
- ▶ “...a 20% reduction in the number of deaths caused by traffic accidents (from 25 to 20 per 100,000 inhabitants) was also achieved.”
- ▶ “[B]efore the campaign only 26% of drivers and pedestrians respected conventional traffic signs...this percentage rose to 75%”
- ▶ “96% considered that these programs should continue.”



Fig. 3: *Ciclovías* allow runners, skaters, and bicyclists to take over car lanes on Sundays. Photograph © Mike Ceaser.



# Yvonne Riaño - Urban Fear and Violence in Bogotá

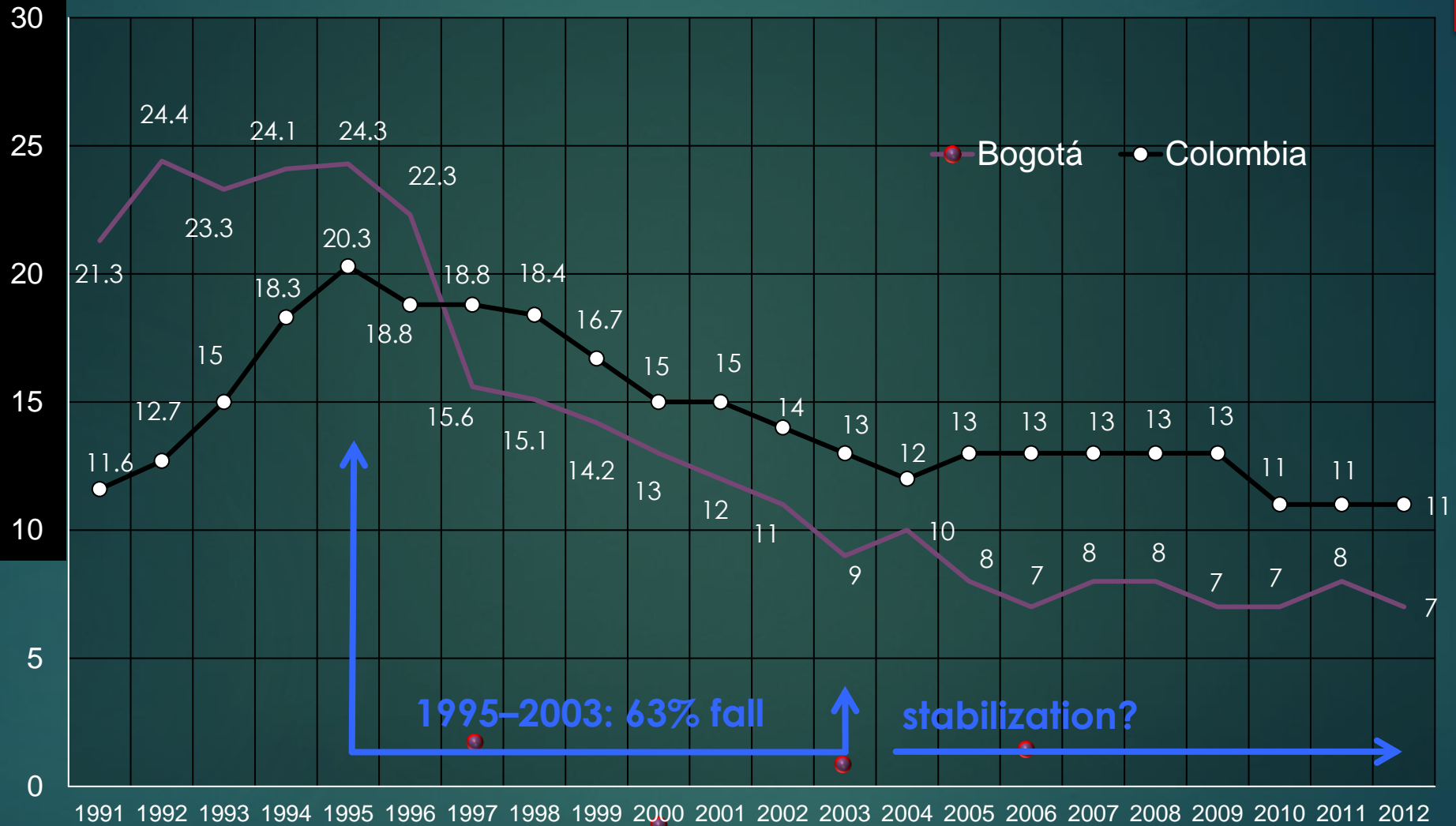
- ▶ ““The most surprising part of our experience, and what has intrigued many social scientists who have studied Bogotá’s experience, is that we have been able to plan and modify, from City Government, social norms at a large scale” (Mockus 2004).”



Fig. 3: *Ciclovías* allow runners, skaters, and bicyclists to take over car lanes on Sundays. Photograph © Mike Ceaser.



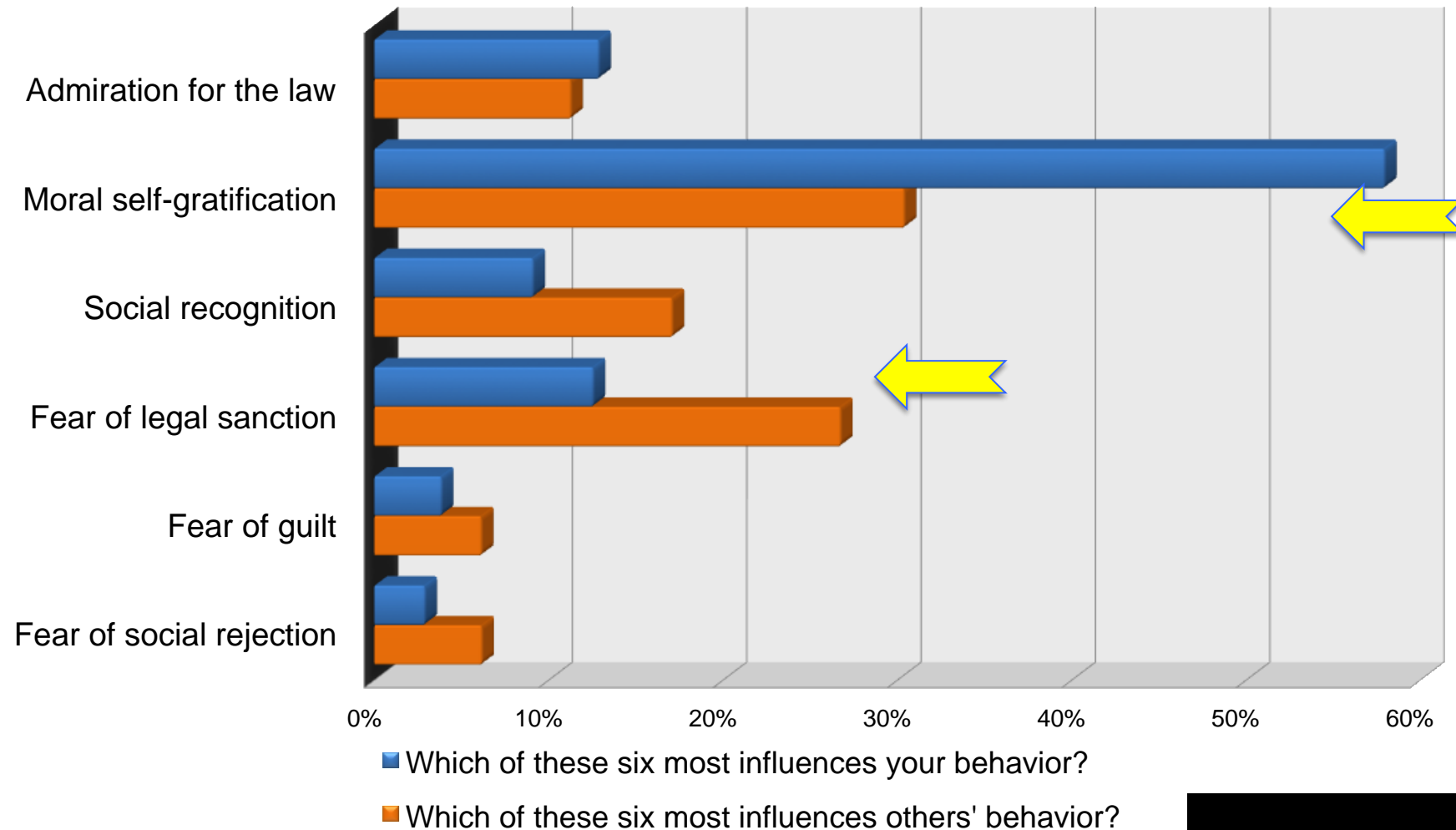
# Traffic-related deaths in Bogotá and Colombia 1991 - 2012 (rate per 100 000 inhabitants)





# An asymmetry in attribution of motives

**Regulatory systems: Legal, Moral, Social**  
**Average across surveys in 35 Colombian cities (2008 - 2011)**



# Bo Rothstein – Anti-corruption, the indirect 'big bang' approach

- ▶ Argument: corruption isn't a principal-agent problem, it's a collective action problem ("social trap").
- ▶ Consider the role of:
  - ▶ Non-incremental change
  - ▶ Informal institutions
- ▶ "The disadvantage with the incentive-based principal-agent approach is that it **just forces the problem to what has been called 'a second-level' collective action problem.**"

# Bo Rothstein – Anti-corruption, the indirect 'big bang' approach

- ▶ All the agents may well understand that they would stand to gain from erasing corruption, but because they cannot trust that most other agents will refrain from corrupt practices, they have no reason to refrain.
- ▶ The only reason they would do so is if institutions could be established that would make them trust that most other agents would refrain from taking part in corrupt behavior.”
- ▶ “From this institutional perspective, the problem with corruption is that it is **a self-reinforcing phenomenon.**”

# Bo Rothstein – Anti-corruption, the indirect 'big bang' approach

- ▶ Evidence: “ordinary people in severely corrupt systems usually **do not internalize** corrupt practices as morally legitimate acts. Instead, they usually condemn corruption as morally wrong and **put the blame on ‘the system’** for forcing them to take part in corruption, thus understanding that they are in a ‘social trap’.”
- ▶ How do different societies end up in different equilibria?
  - ▶ Can this be changed?
- ▶ **Interactive rationality**: the strategic situation is incomplete without specifying the social context.

# Case Study: Diplomatic Parking Tickets

Raymond Fisman

*Columbia University and National Bureau of Economic Research*

Edward Miguel

*University of California, Berkeley and National Bureau of Economic Research*

We study cultural norms and legal enforcement in controlling corruption by analyzing the parking behavior of United Nations officials in Manhattan. Until 2002, diplomatic immunity protected UN diplomats from parking enforcement actions, so diplomats' actions were constrained by cultural norms alone. We find a strong effect of corruption norms: diplomats from high-corruption countries (on the basis of existing survey-based indices) accumulated significantly more unpaid parking violations. In 2002, enforcement authorities acquired the right to confiscate diplomatic license plates of violators. Unpaid violations dropped sharply in response. Cultural norms and (particularly in this context) legal enforcement are both important determinants of corruption.

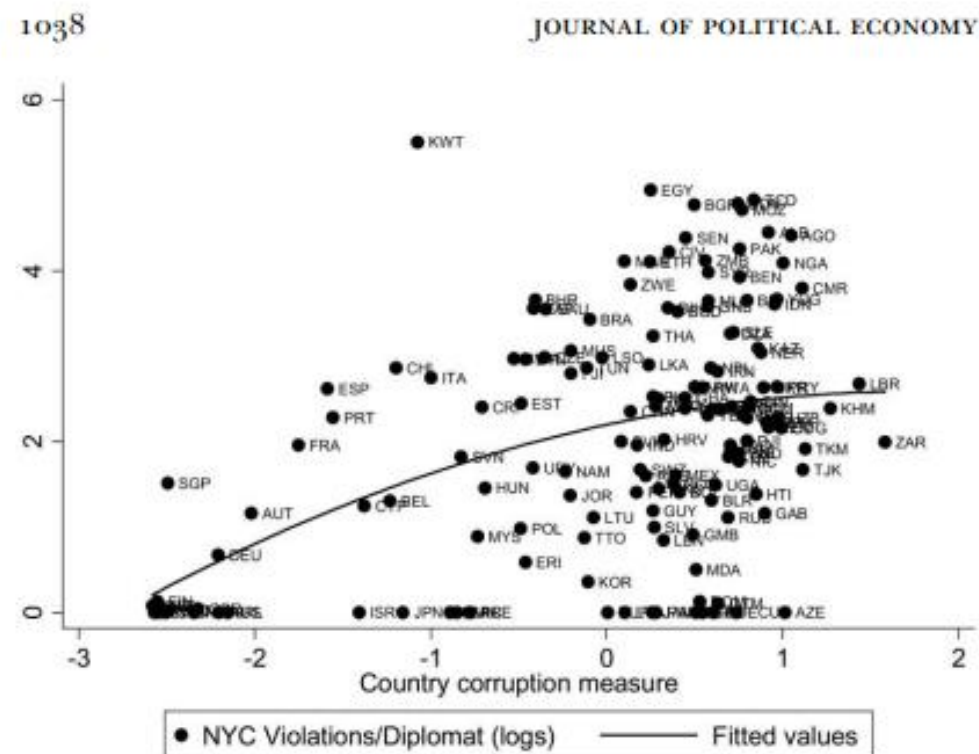


FIG. 2.—Country corruption and unpaid New York City parking violations per diplomat (in logs), pre-enforcement (November 1997 to November 2002). Country abbreviations are presented in table 1. The line is the quadratic regression fit. The y-axis is  $\log(1 + \text{Annual NYC Parking Violations/Diplomat})$ .

# Bo Rothstein – Anti-corruption, the indirect 'big bang' approach

- ▶ We carry our reference group with us, even to new places.
  - ▶ Example: diplomats' parking tickets at the UN.
- ▶ “..corruption and similar practices are rooted in deeply held beliefs about the proper order of exchange in a society – personal-particularistic versus impersonal universalistic.”
- ▶ “The implication is that to effectively curb corruption and establish ‘good governance’, **the whole political culture has to move** from the ‘limited access’ or ‘particularistic’ equilibrium to the very different equilibrium characterized by ‘impersonal’ and/or ‘universal’ forms of exchange.”
  - ▶ “for everything to stay the same, everything must change.”

# Bo Rothstein – Anti-corruption, the indirect 'big bang' approach

- ▶ “The implication so far of this analysis is quite negative. First, corruption is driven by the workings of a large set of historically rooted formal and informal institutions in a society.”
- ▶ “Secondly, neither the formal nor the informal institutions are easily changed since they constitute ‘self-reinforcing’ equilibria. If an agent tries to reform a single or a small set of the institutions in a corrupt-particularistic-limited access political culture, it will in all likelihood backfire since the new institutions will be overtaken by the corrupt networks and dominated by such practices that, in its turn, will increase cynicism among the population and serve to delegitimize future efforts to increase the quality of government institutions.”



# Yang et al. – Political Networks

- ▶ Political science applications of social network analysis:
  - ▶ American politics
    - ▶ Political behaviors and attitudes
    - ▶ Networks between politicians
    - ▶ Campaign networks
    - ▶ Policy networks
  - ▶ International relations
    - ▶ Power and hierarchy
    - ▶ Diffusion of practices (like democracy)
    - ▶ Trade and alliance networks
    - ▶ Inter-city networks



# Yang et al. – Political Networks

- ▶ “Our political behavior, much like other social behavior, is influenced by those around us: Friends, family members, classmates, or co-workers often have a direct influence on our political view and behavior. Political scientists have long subsumed this influence under the term **social environment**. They’ve noted that parents’ social economic status, measured by education, occupation, and income, affects their children’s political participation and views, as does their civic engagement, political knowledge, and political participation.”
- ▶ “Network analysts tend to see this as a **contagion** effect more than as influence by a vaguely defined environment: David Nickerson (2008) found, for example, that college students living with someone who frequently discusses politics become more likely to do so as well. Casey Klofstad (2011) found that college students who have more political discussions with their roommates are more likely to vote or participate in civic associations.”

# Yang et al. – Political Networks

- ▶ “Being socially connected, in and of itself, is important for individuals to develop prosocial behaviors, which in turn leads to a greater level of civic and political engagement.”
- ▶ “Social integration in a friendship network also encourages **social capital development** and **fosters norms** of political participation. Social networks formed during adolescence affect civic and political engagement in adult life, embodied as trust in governments, volunteerism, voting, and partisanship (Settle, Bond, & Levitt, 2011).”
- ▶ “It is often thought that homogeneous social networks have a stronger effect as the individual will not experience cross-cutting (i.e., contradictory) pressures. But even **politically heterogeneous social networks**, in which members of the networks hold different political views, tend to increase political interests and activity among its members...researchers consistently have reported that political disagreement within a community network sparks greater political engagement (Anderson & Paskeviciute, 2005; Campbell, 2006; Oliver, 2003).”

# Yang et al. – Political Networks

- ▶ **Voting:** “Perhaps the most studied political behavior is voting. Other than the question of partisanship (i.e., who an individual votes for), political scientists are also interested in why voters vote in the first place. A large-scale study (Bond et al., 2012) revealed that **voting is contagious**, and that all voters can thus potentially start a “voting” cascade in their social networks: Their act of voting might be enough to convince their hesitant friends to vote, whose trip to the ballot box then causes their friends to join, and so on.”

# Yang et al. – Political Networks

- ▶ “The finding of the **indirect effects of voting** confirms existing studies (Nickerson, 2008), which claimed that each act of voting on average generates three votes as the behavior spreads through the network. It is not clear whether this is a case of online political mobilization, though: The study speculates it works mainly through strong ties, which exist offline but have an online representation.”

# Yang et al. – Political Networks

- ▶ “But traditional, offline mobilization through door-to-door campaigns seems to have indirect effects as well. In Denver and Minneapolis, Nickerson (2008) sent assistants to two-person households, encouraging some of them (in the treatment group) to vote and others (in the control group) to recycle. Individuals in the treatment group who opened the door were 10% more likely to vote. But the **other people living in the same household** were also 6% more likely to vote. Thus, 60% of the effect on the persons who answered the door is passed to their flatmates who had never directly interacted with the canvasser.”

# Yang et al. – Political Networks

- ▶ “Exactly what type of network configuration is conducive to such contagious or cascading effects for voter turnout? Nicholas Christakis and James Fowler (2009) investigated network data from studies conducted in Indianapolis and St. Louis and found that **the cascading effect is the strongest when the network transitivity is at 0.5**, when half of an individual’s friends know each other. The cascading effects are weak when the network transitivity is at 0 and none of the ego’s alters know each other or at 1 and the individual is surrounded by a network of contacts who all know each other as well. When the network transitivity is at 0, the network is disjointed and no communication or cascading can materialize. But when transitivity reaches 1, the network becomes too tightly knit to connect with the outside world.

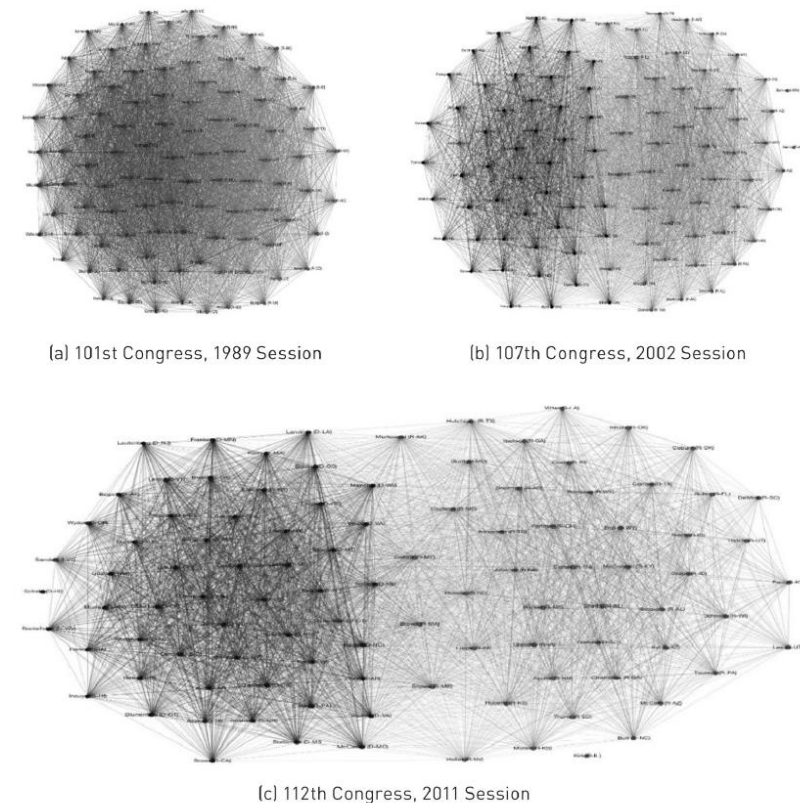
# Yang et al. – Political Networks

- ▶ **Protest:** “Although little consensus has emerged beyond the conclusion that protests are “contagious” and social networks important, some researchers have revealed interesting preliminary findings: Sandra González-Bailón, Javier Borge-Holthoefer, and Yamir Moreno (2013), for instance, found that “**hidden influentials**” exist.”
- ▶ “These Twitter users look like ordinary users (i.e., have few followers but follow a lot of others), but they are **often mentioned** by others and, thus, could be driving forces of the movement.”
- ▶ “David Siegel (2009) showed theoretically that certain network-level characteristics make it **easier for the opposition to coordinate** and that having a denser network can—counterintuitively—sometimes decrease political participation. The network structure also influences how government repression influences the movements: whether it falls apart or reacts with a backlash (Siegel, 2011).”

# Yang et al. – Political Networks

- ▶ **Legislative cosponsorship:** “Social network analysis of co-sponsorship networks divulges more than just the dynamics of pairs or positional characteristics of individual legislators: We can also examine how the external environment shapes or is shaped by the structure of the whole network.”
- ▶ “Justin Kirkland and Justin Gross (2014) explored changes in the co-sponsorship network over time and found that they are correlated with congressional approval rates. When the rating declines, legislators become willing to work across the aisle; the co-sponsorship networks become less clustered, more spread out; and there is less homophily along partisan lines.”

Figure 8.3 Social Network of Co-voting Between Congresspersons Across Four Decades



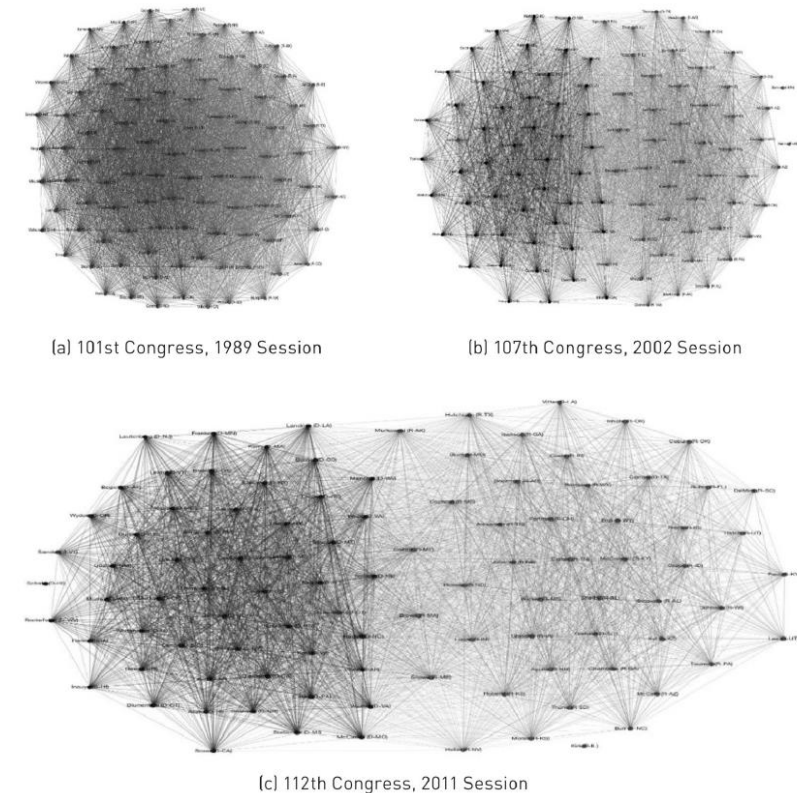
Note: Dark grey = Democrats; light grey = Republicans. © The Economist Newspaper Limited, London (12/7/2013).



# Yang et al. – Political Networks

- ▶ “The increased partisan bickering after Barack Obama’s election produced a negative public view of Washington, which results in a low approval rating for Congress. Thus, we should expect less partisanship and more working across the aisles between politicians under Obama’s administration. On the contrary, a recent article in The Economist (Lucioni, 2013) reported increasing partisanship in co-voting between congresspersons over the decades (Figure 8.3).”

Figure 8.3 Social Network of Co-voting Between Congresspersons Across Four Decades

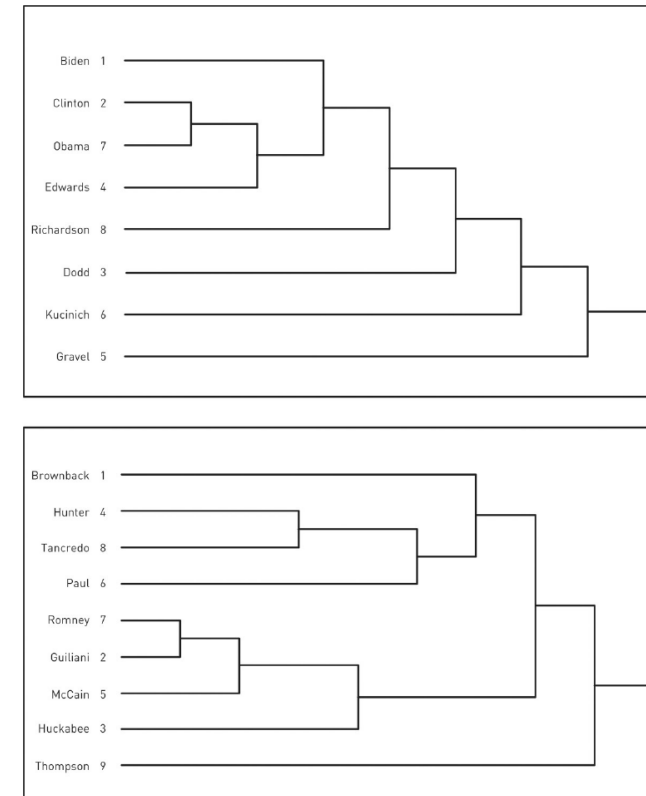


Note: Dark grey = Democrats; light grey = Republicans. © The Economist Newspaper Limited, London (12/7/2013).

# Yang et al. – Political Networks

- ▶ **Campaign contributions:**
- ▶ In a **dendrogram**...candidates who received funding from the same, or similar, subsets of donors will quickly merge, whereas candidates with fewer shared donors join later, as the merging criteria are weakened. Individuals at the center of a cluster have the biggest chance of ending up victorious: As other candidates give up the race, they are most likely to “inherit” the supporters of those drop-outs.

Figure 8.4 Dendrogram of Democratic Party (above) and Republican Party (below) Presidential Candidates in Their Shared Donor Network 2007

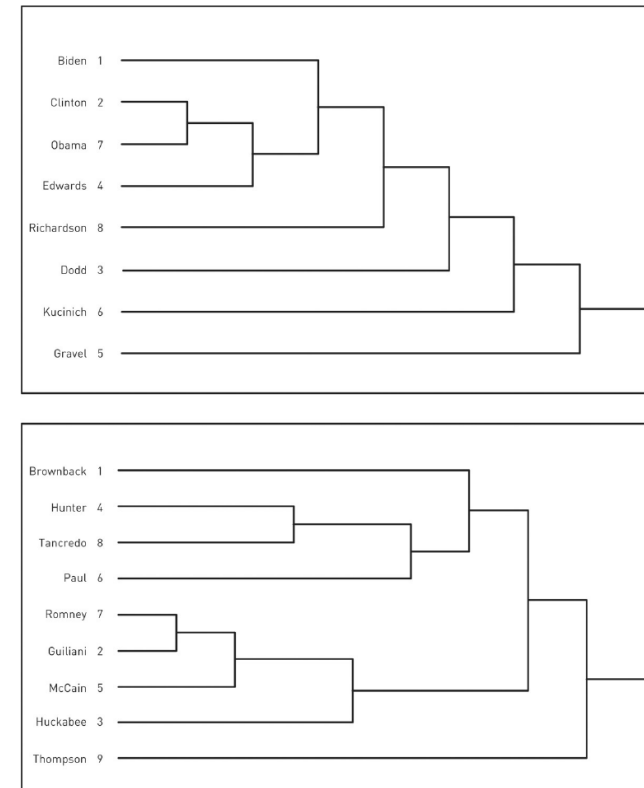


Note: Adapted from p. 79 of Dowdle, A., Limbocker, S., Yang, S., Stewart, P. A., & Sebold, K. (2013). The invisible hands of political parties in presidential elections: Party activists and political aggregation from 2004

# Yang et al. – Political Networks

- ▶ “Figure 8.4 shows that the dendrogram of the preprimary shared donation networks for the Democratic Party and the Republican Party in 2007 have marked differences: In the Democrat's dendrogram, the top contenders Obama and Clinton share the most donors and, thus, merge first. The remaining candidates join this “core” one after the other.”
- ▶ “In contrast, the Republican Party witnesses two competing cores, with Duncan Hunter, Tom Tancredo, and Ron Paul remaining in a separate cluster from that with the most promising candidates (Mitt Romney, Rudy Giuliani, and John McCain) until the second-to-last step.”

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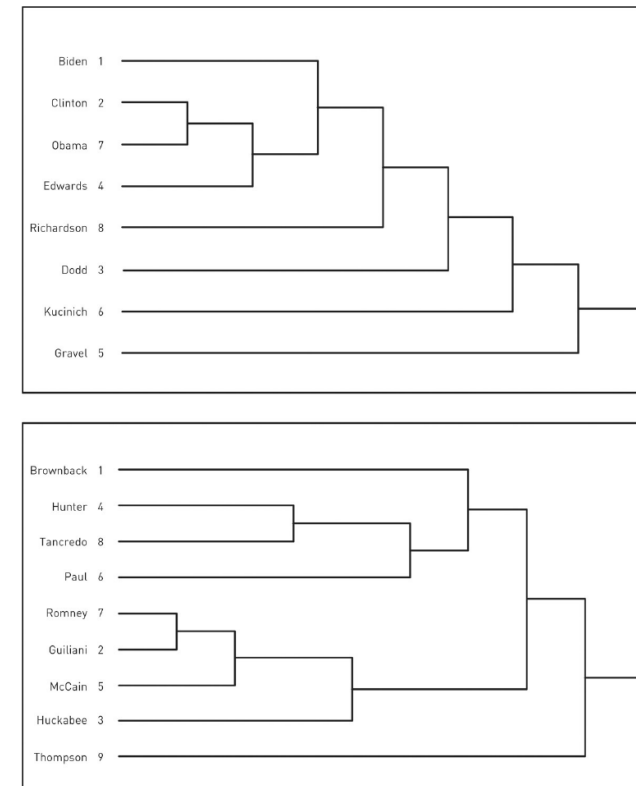


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# Yang et al. – Political Networks

- ▶ “The Republican camp, therefore, had a potentially troublesome cleavage between the two groups of candidates, whose respective supporters might not be easily convinced to join the other camp.”
- ▶ It is, thus, easy to imagine that donors to some of the more peripheral Democratic candidates would have little difficulty supporting the party nominee during the general election. In contrast, the Republican structure suggests a much more divisive financial campaign. It is plausible that those donating to the losing “cluster” around Tancredo, Hunter, and Paul would not be willing to switch their allegiance to the party nominee, John McCain.

Figure 8.4 Dendrogram of Democratic Party (above) and Republican Party (below) Presidential Candidates in Their Shared Donor Network 2007

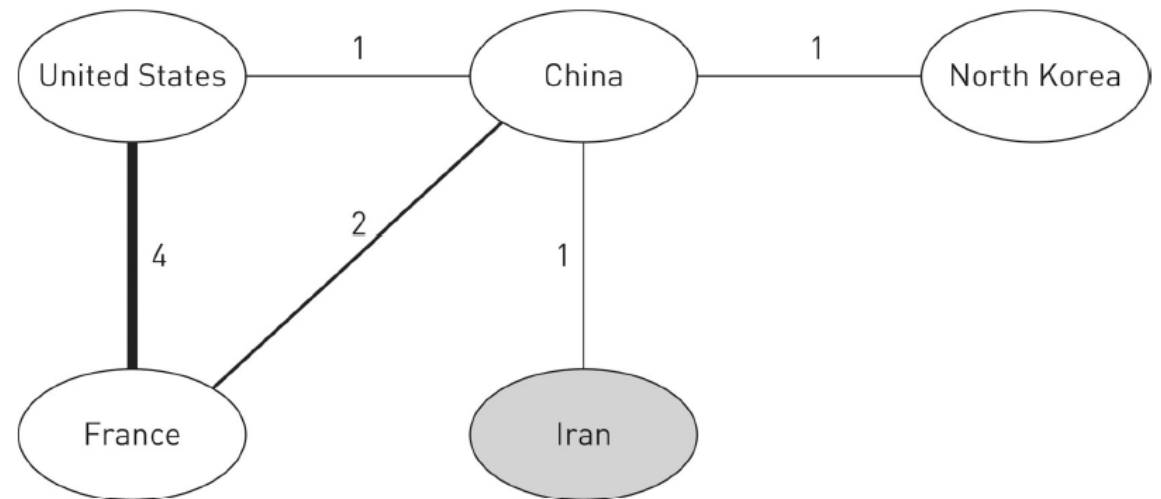


Note: Adapted from p. 79 of Dowdle, A., Limbocker, S., Yang, S., Stewart, P. A., & Sebold, K. (2013). The invisible hands of political parties in presidential elections: Party activists and political aggregation from 2004

# Yang et al. – Political Networks

- ▶ International Relations - Power and Hierarchy:
- ▶ “**Networks as a governance structure** represent a different kind of practice and reflect a different underlying logic than that of the market or the formal hierarchy (Podolny & Page, 1998; Powell, 1990).”
- ▶ “Actors in a given network pursue repeated, enduring exchange relations with one another, unlike the one-off meetings under the market logic.”

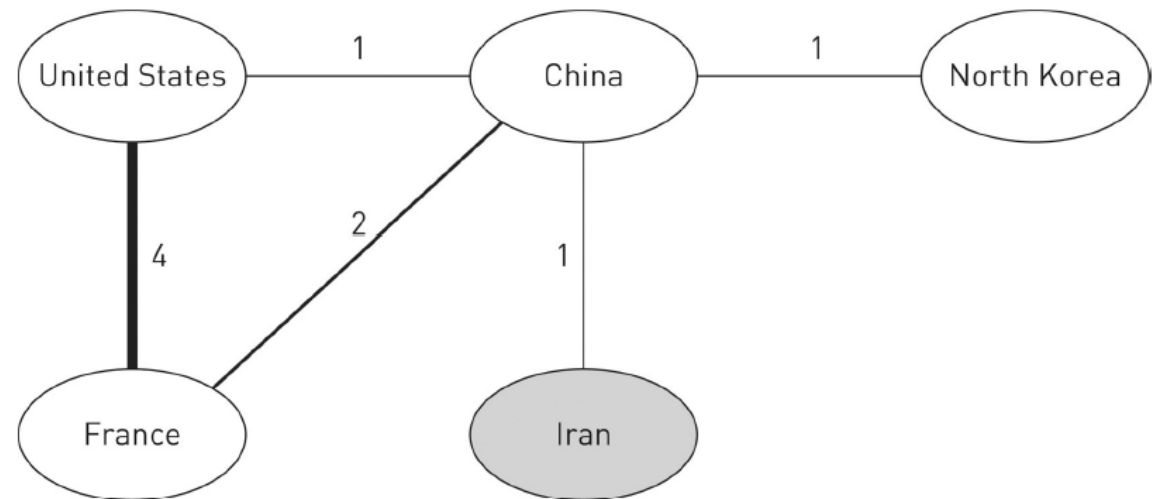
Figure 8.8 Network of Five Nations in Co-Affiliation in IGOs



# Yang et al. – Political Networks

- ▶ International Relations - Power and Hierarchy:
- ▶ “They also lack a legitimate organizational authority of the formal hierarchy to arbitrate and resolve disputes that may arise.”
- ▶ “Concerns for reputation and the fear of being excluded from the network of beneficial transactions in the future induce network members to follow the norms adopted in the network (Granovetter, 1985).”

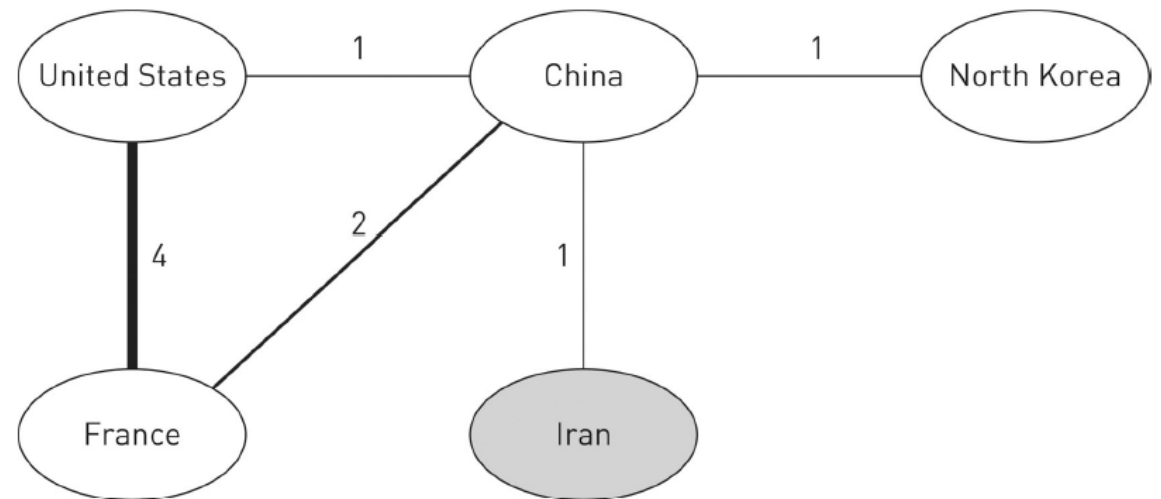
Figure 8.8 Network of Five Nations in Co-Affiliation in IGOs



# Yang et al. – Political Networks

- ▶ International Relations - Diffusion
- ▶ “Magnus Thor Torfason and Paul Ingram (2010) showed that the interstate network through joint memberships in IGOs is a fundamental power grid behind the **diffusion of democracy.**”

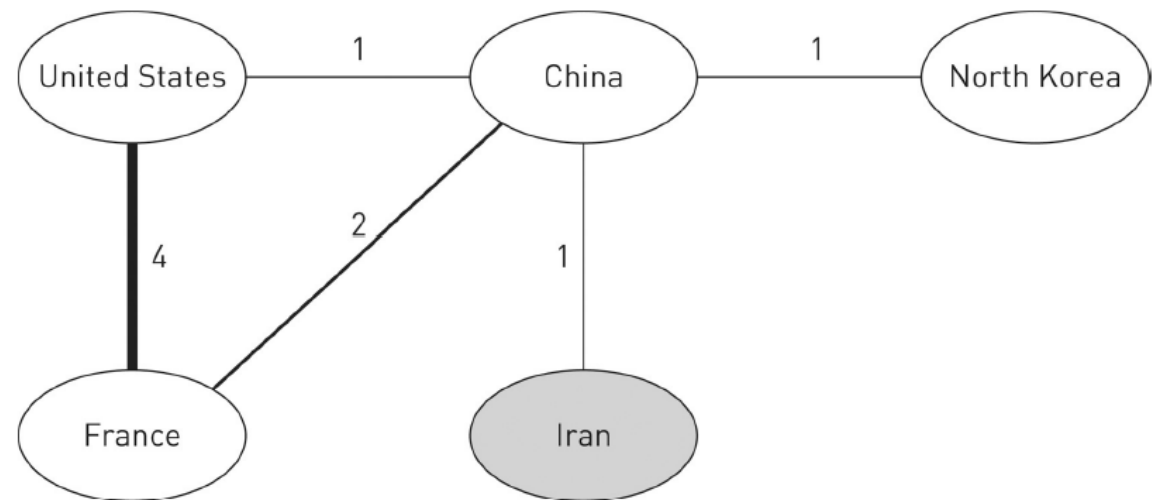
Figure 8.8 Network of Five Nations in Co-Affiliation in IGOs



# Yang et al. – Political Networks

- ▶ International Relations - Diffusion
- ▶ “States that come in contact with more democratic states in this IGO network are more likely to democratize themselves. The authors argued that this is mainly the result of what they call **normative isomorphism**—the message that democracy is the only legitimate form of government spreads through interactions within those IGOs until the participating authoritarian countries accept this view.”

Figure 8.8 Network of Five Nations in Co-Affiliation in IGOs





# Yang et al. – Political Networks

- ▶ International Relations - Diffusion
- ▶ “But the authors also found some evidence for a potentially more **coercive isomorphism**, as interaction with powerful or richer democracies in the IGO network makes democratization even more likely. In other words, the democratizing countries might be bowing to the economic or military might of the countries they encounter.”

Figure 8.8 Network of Five Nations in Co-Affiliation in IGOs

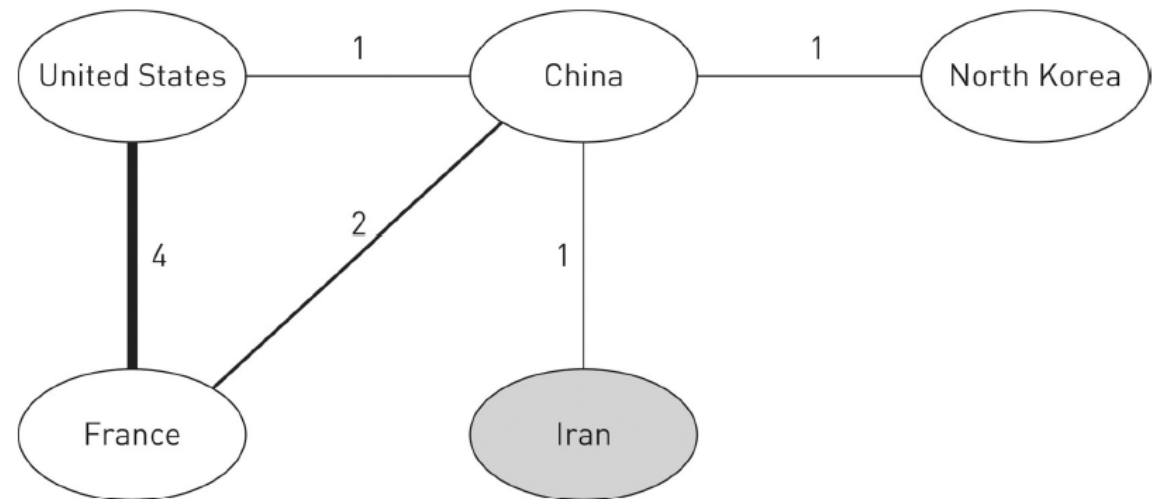
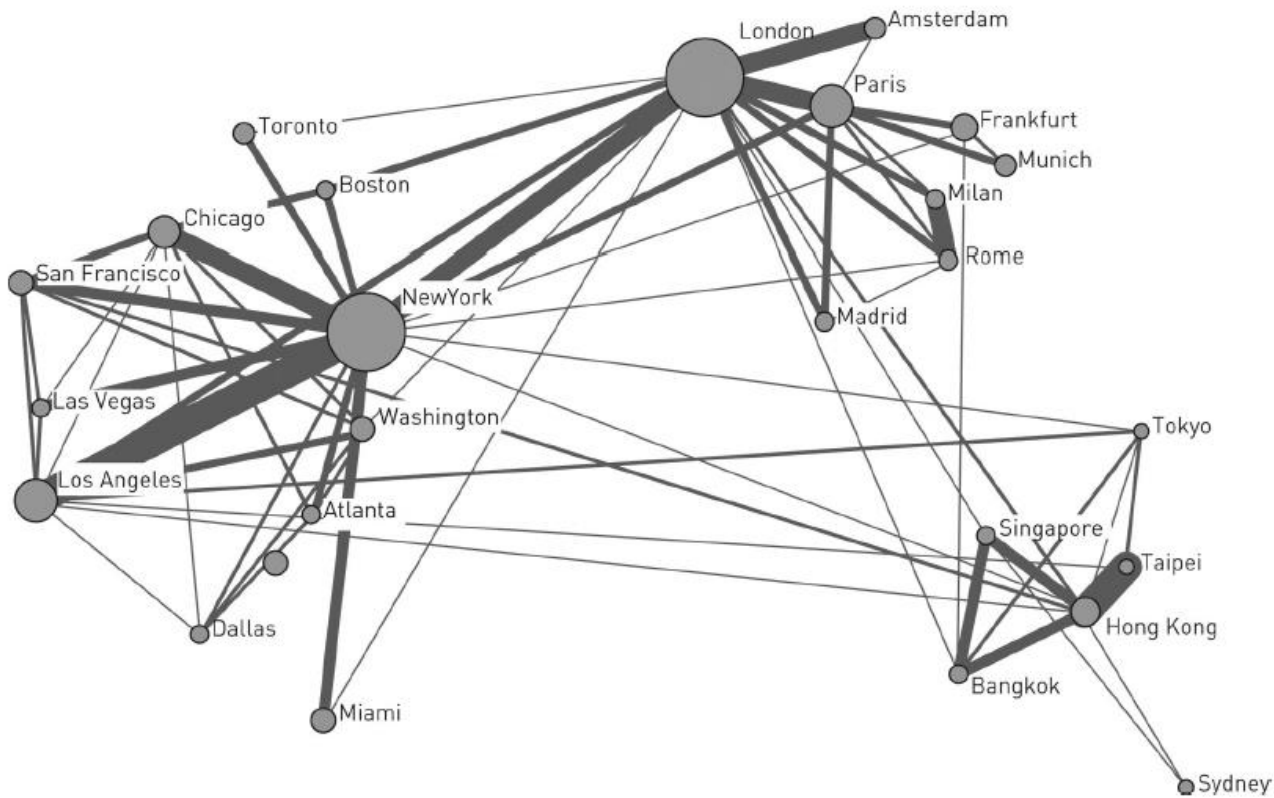


Figure 8.11 Inter-City Passenger Flow



# Yang et al. – Political Networks

# Adamic and Glance - The Political Blogosphere and the 2004 Election

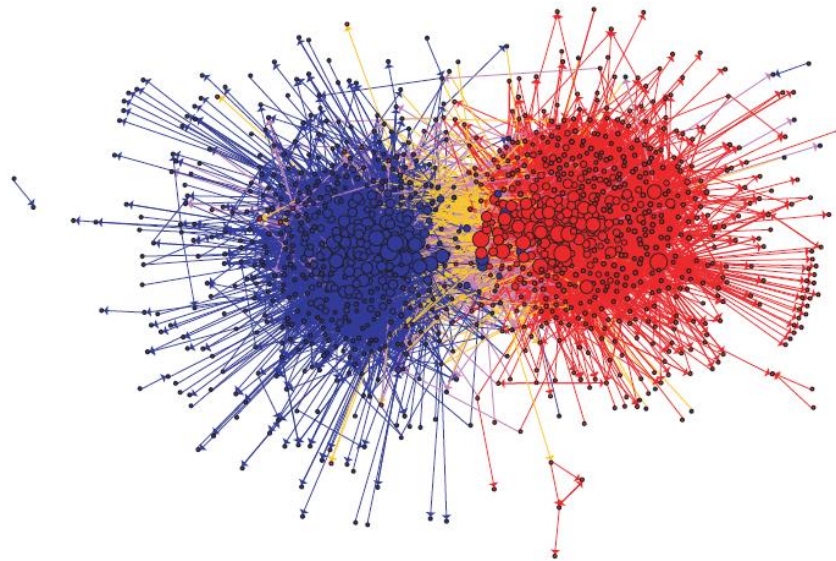


Figure 1: Community structure of political blogs (expanded set), shown using utilizing the GUESS visualization and analysis tool[2]. The colors reflect political orientation, red for conservative, and blue for liberal. Orange links go from liberal to conservative, and purple ones from conservative to liberal. The size of each blog reflects the number of other blogs that link to it.

- ▶ “[W]e analyze the posts of 40 “A-list” blogs over the period of two months preceding the U.S. Presidential Election of 2004, to study how often they referred to one another and to quantify the overlap in the topics they discussed.”
- ▶ “Weblogs may be read by only a minority of Americans, but their influence extends beyond their readership through their interaction with national mainstream media.”

# Adamic and Glance - The Political Blogosphere and the 2004 Election

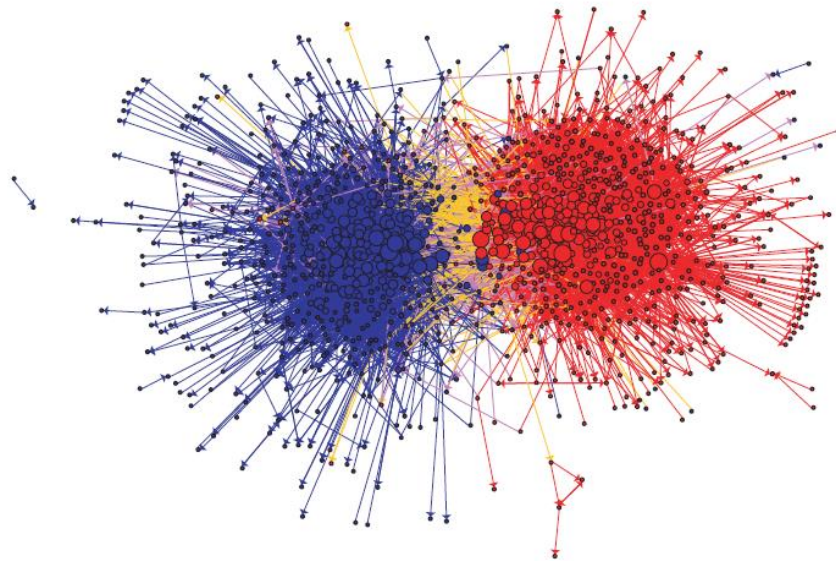


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- ▶ “the most popular political blogs also get a **disproportionate** number of links from other blogs...with a few blogs of either persuasion having over a hundred incoming links, while hundreds of blogs have just one or two.”
  - ▶ Preferential attachment?
- ▶ “From both samples we find that liberal and conservative blogs did indeed have **different lists** of favorite news sources...people, and topics to discuss, although they occasionally overlapped in their discussion of news articles and events.”



# Adamic and Glance - The Political Blogosphere and the 2004 Election

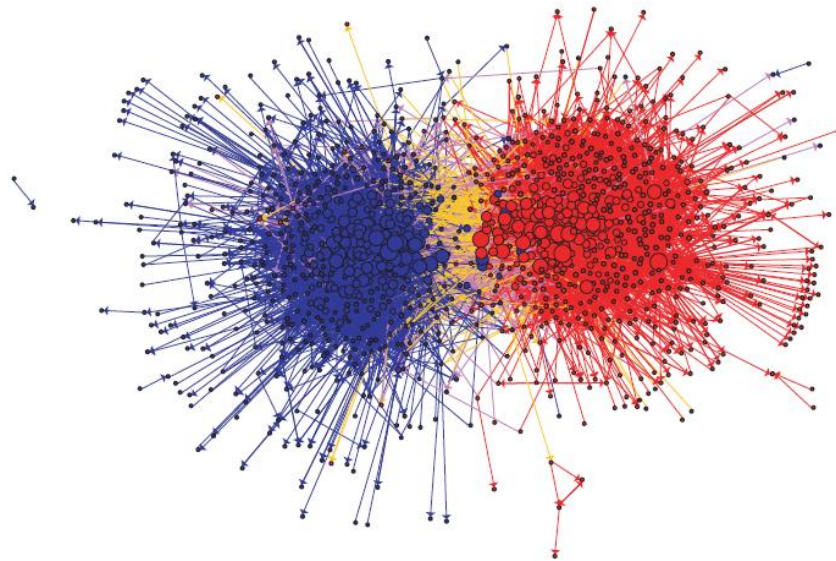


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- ▶ “The division between liberals and conservatives was further reflected in the **linking pattern** between the blogs, with a great majority of the links remaining **internal** to either liberal or conservative communities. Even more interestingly, we found differences in the behavior of the two communities, with conservative blogs linking to a greater number of blogs and with greater frequency.”

# Adamic and Glance - The Political Blogosphere and the 2004 Election

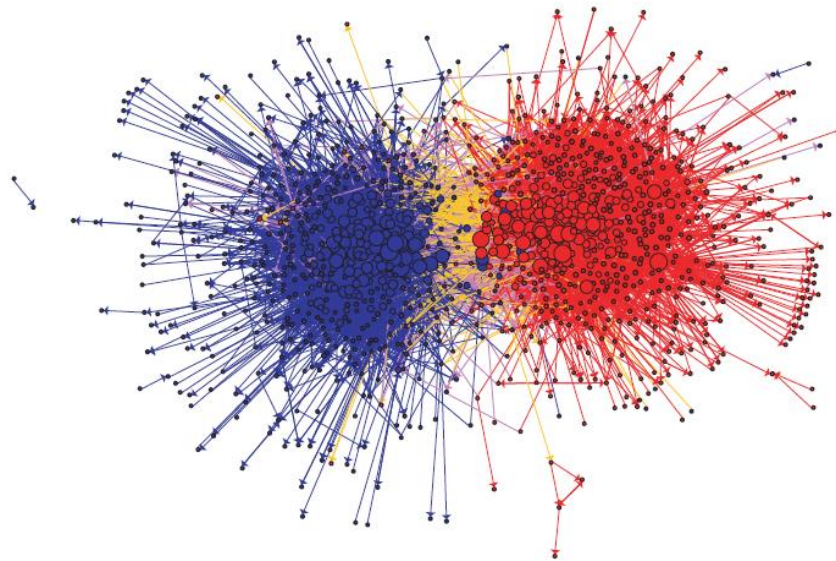
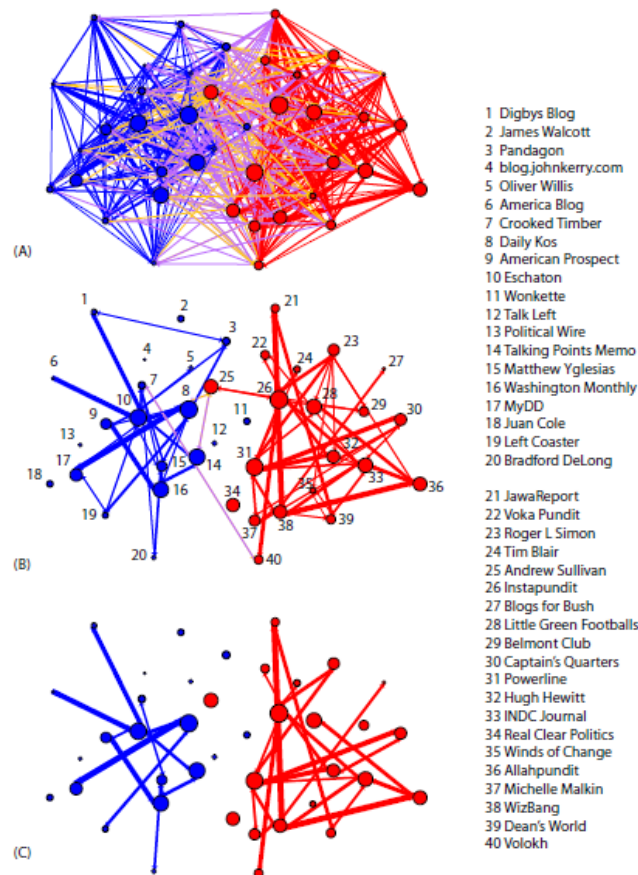


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- ▶ “Cross citing accounted for only 15% of the links, with liberals citing conservatives 247 times, and conservatives citing liberals 312 times. The interesting result is that even though the conservatives had 16% fewer posts, they posted 40% more links to one another, linking at a rate of 0.20 links per post, compared to just 0.12 for liberal blogs.”
- ▶ “We further found that the citations were concentrated among a smaller subset of the top 20 liberal blogs, but were relatively more distributed among the conservative blogs.”



# Adamic and Glance - The Political Blogosphere and the 2004 Election



- ▶ “Through these visualizations, we see that right-leaning blogs have a denser structure of strong connections than the left, although liberal blogs do have a few exceptionally strong reciprocated connections.”
- ▶ “we see both communities acting as mild **echo chambers** by frequently discussing separate sets of web pages and news items.”

**Figure 3: Aggregate blog citation behavior prior to the 2004 election. Color corresponds to political orientation, size reflects the number of citations received from the top 40 blogs, and line thickness reflects the number of citations between two blogs. (A) All directed edges are shown. (B) Edges having fewer than 5 citations in either or both directions are removed. (C) Edges having fewer than 25 combined citations are removed.**

# Adamic and Glance - The Political Blogosphere and the 2004 Election

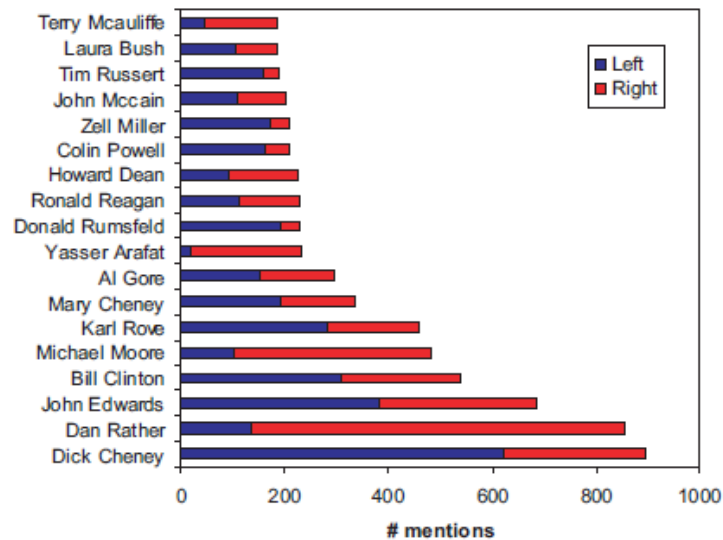


Figure 6: Mentions of political figures in liberal vs. conservative weblogs (excludes George W. Bush and John Kerry)

- ▶ “[T]he right leaning bloggers account for 59% of mentions of John Kerry, while the left account for 53% of mentions of George Bush.”
- ▶ “The chart shows that some political figures are the focus of attention of primarily one side of the political spectrum. For example, the following figures are cited by name predominantly by the right: Dan Rather, Michael Moore, Yasser Arafat and Terry McAuliffe.”

# Adamic and Glance - The Political Blogosphere and the 2004 Election

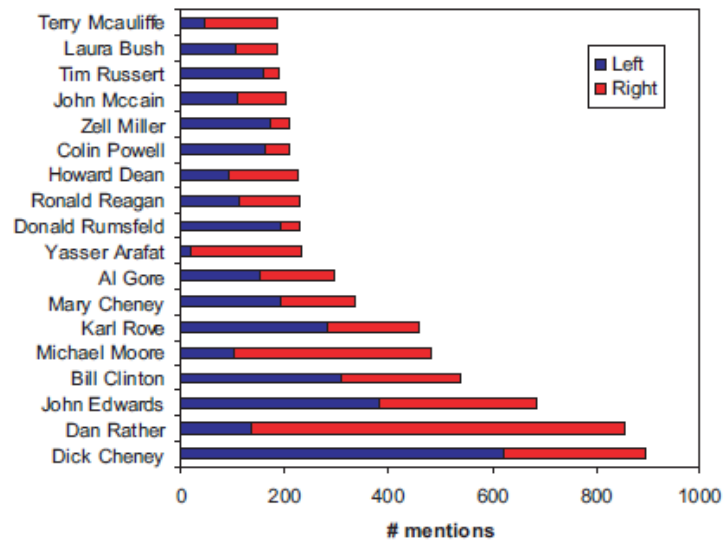


Figure 6: Mentions of political figures in liberal vs. conservative weblogs (excludes George W. Bush and John Kerry)

- ▶ “On the other hand, the left leaning bloggers account for most mentions of: Donald Rumsfeld, Colin Powell, Zell Miller and Tim Russert. Notice the overall pattern: Democrats are the ones more often cited by right-leaning bloggers, while Republicans are more often mentioned by left-leaning bloggers.”

# Bond et al. - A 61-million- person experiment in social influence and political mobilization

- ▶ In this Facebook experiment, “the messages directly influenced political self-expression, information seeking and real-world voting behavior of millions of people. Furthermore, the messages not only influenced the users who received them but also the users’ friends, and friends of friends.”

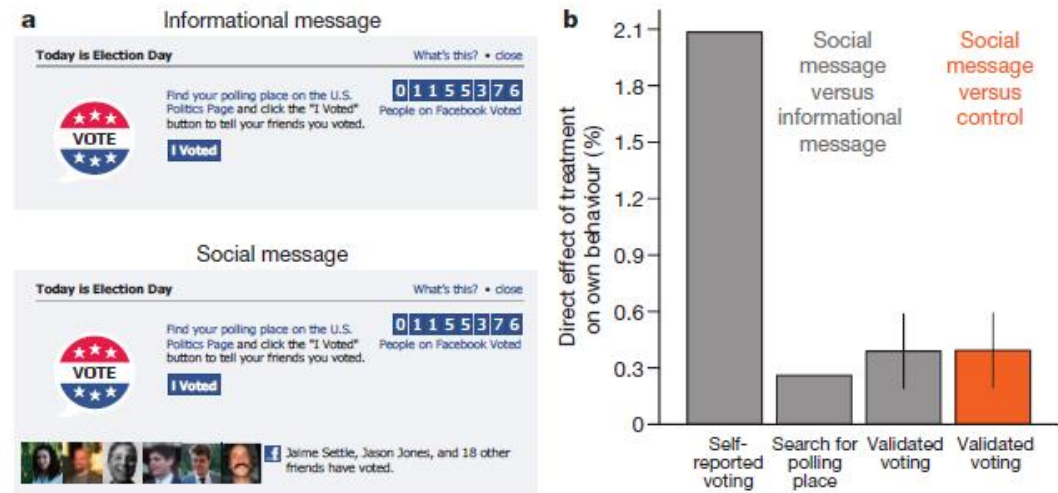


Figure 1 | The experiment and direct effects. a, b, Examples of the informational message and social message Facebook treatments (a) and their direct effect on voting behaviour (b). Vertical lines indicate s.e.m. (they are too small to be seen for the first two bars).

# Bond et al. - A 61-million- person experiment in social influence and political mobilization

- ▶ “The effect of social transmission on real-world voting was greater than the direct effect of the messages themselves, and nearly all the transmission occurred between ‘close friends’ who were more likely to have a face-to-face relationship. These results suggest that strong ties are instrumental for spreading both online and real-world behavior in human social networks.”

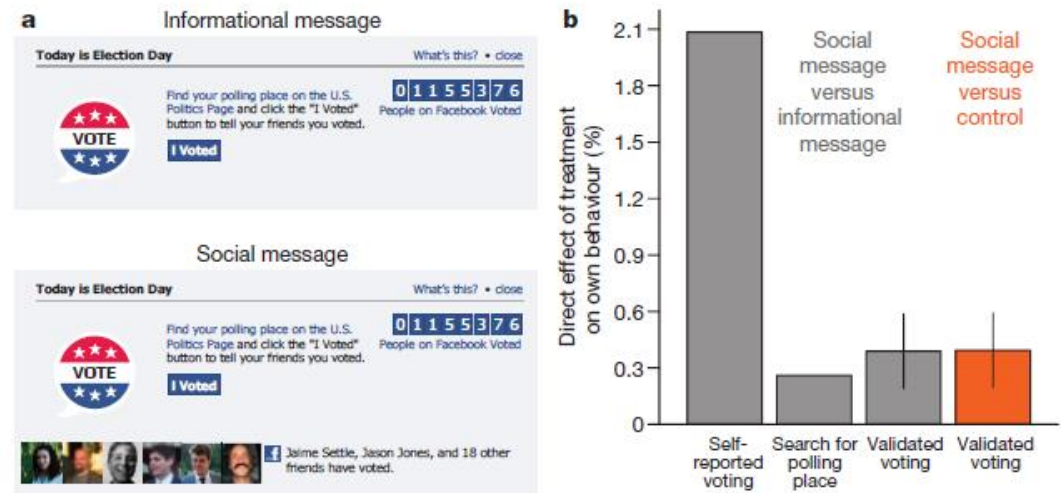
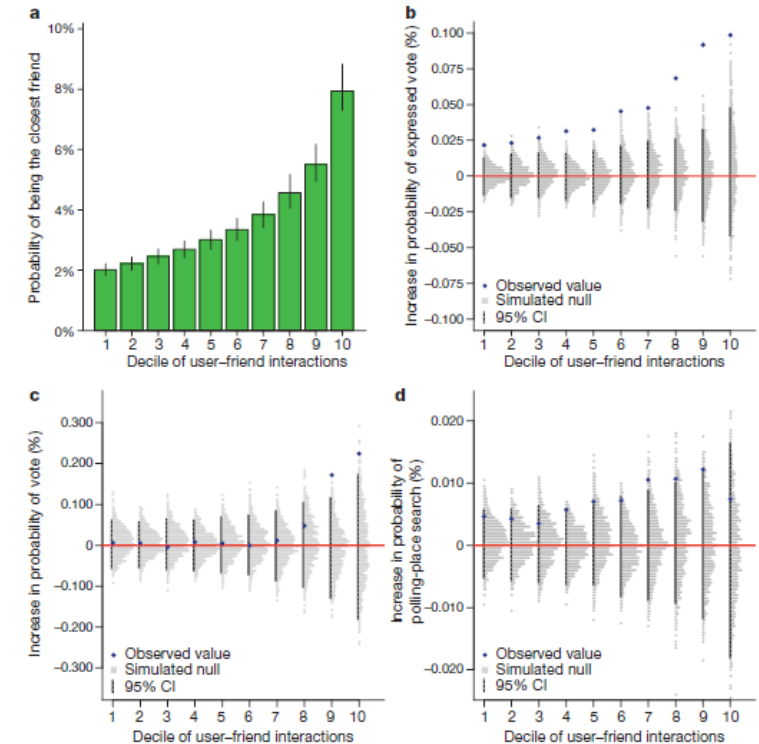


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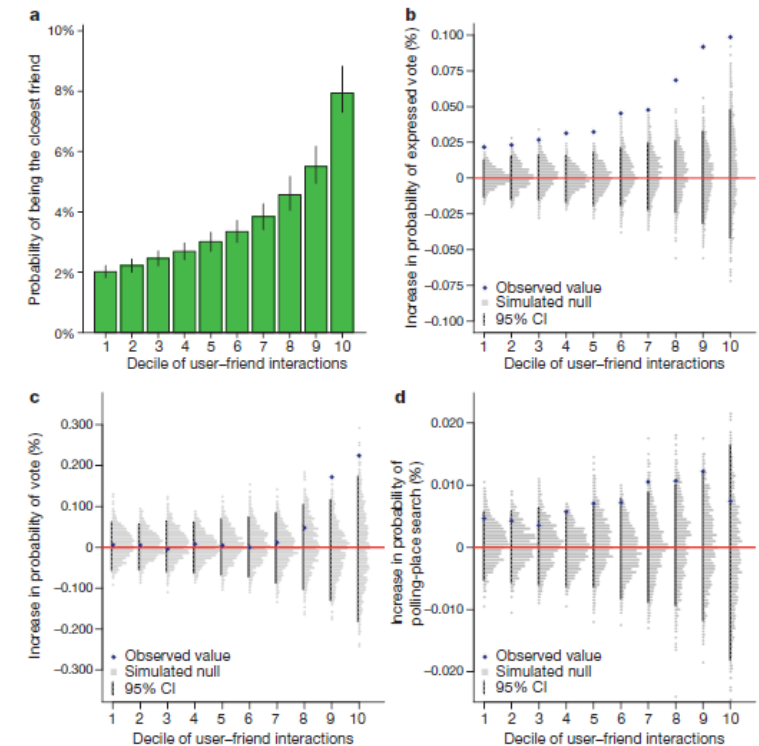
- ▶ “Users in our sample had on average 149 Facebook friends...”
  - ▶ Recall Dunbar’s number
- ▶ [But] “close friendships accounted for all of the significant contagion of these behaviors, in spite of the fact that they make up only 7% of all friendships on Facebook.”
- ▶ “Our results suggest that the Facebook social message increased turnout **directly** by about 60,000 voters and **indirectly** through social contagion by another 280,000 voters, for a total of 340,000 additional votes. That represents about 0.14% of the voting”





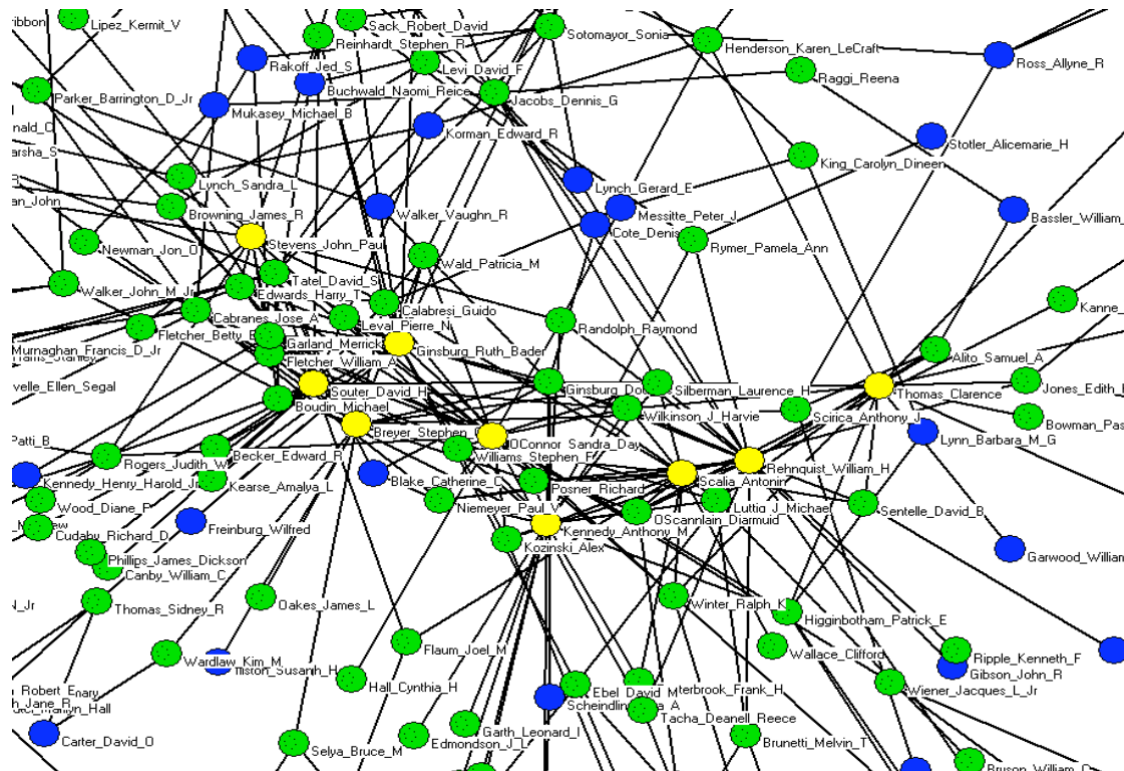
# Bond et al. - A 61-million-person experiment in social influence and political mobilization

- ▶ [In fact], “close friends exerted about four times more influence on the total number of validated voters mobilized than the message itself.”
- ▶ “Thus, efforts to influence behavior should pay close attention not only to the effect a message will have on those who receive it but also to the likelihood that the message and the behavior it spurs will spread from person to person through the social network.”
- ▶ “Online mobilization works **because it primarily spreads through strong-tie networks** that probably exist offline but have an online representation...it is plausible that unobserved face-to-face interactions account for at least some of the social influence that we observed in this experiment.”



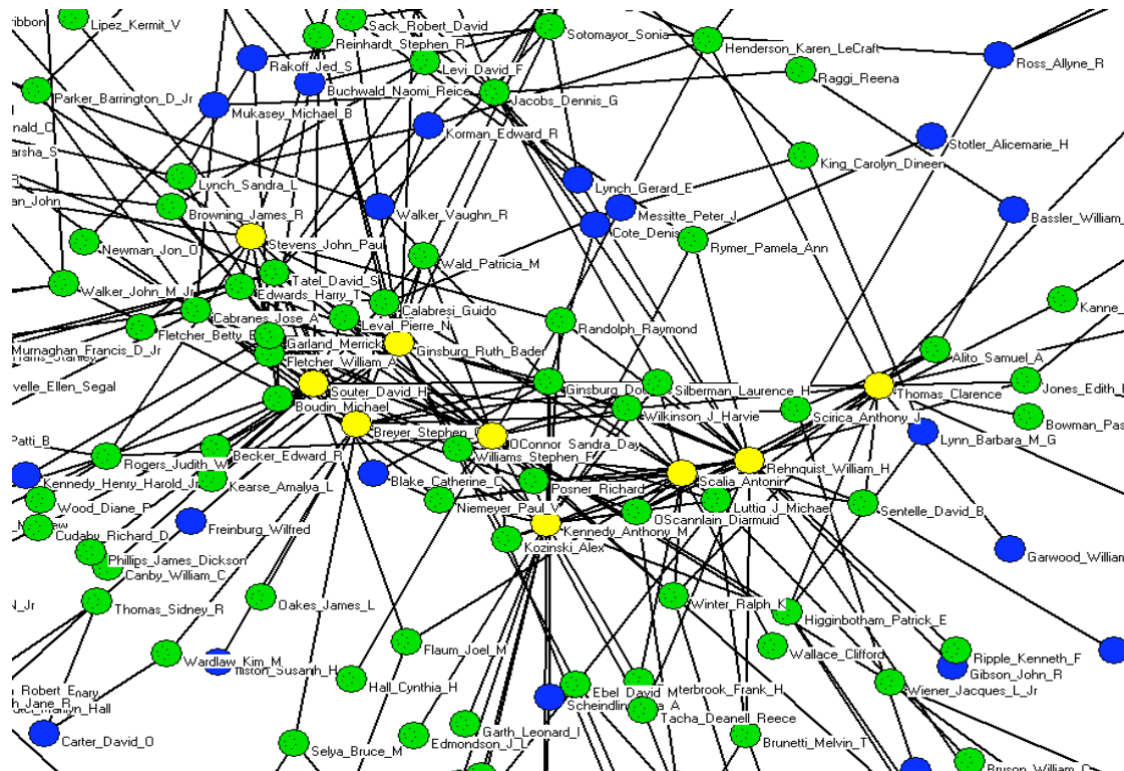


# Katz and Stafford - A Social Network Analysis of the Federal Judiciary



- ▶ “judicial social structure—**operationalized** as the professional and social connections between judicial actors—partially directs outcomes in the hierarchical federal judiciary.”
- ▶ “the flow of law clerks reflects a reasonable proxy for social and professional linkages between jurists.”
- ▶ “[W]e find the **distribution of “degrees”** is highly skewed, implying the social structure is dictated by a small number of socially-prominent actors.”

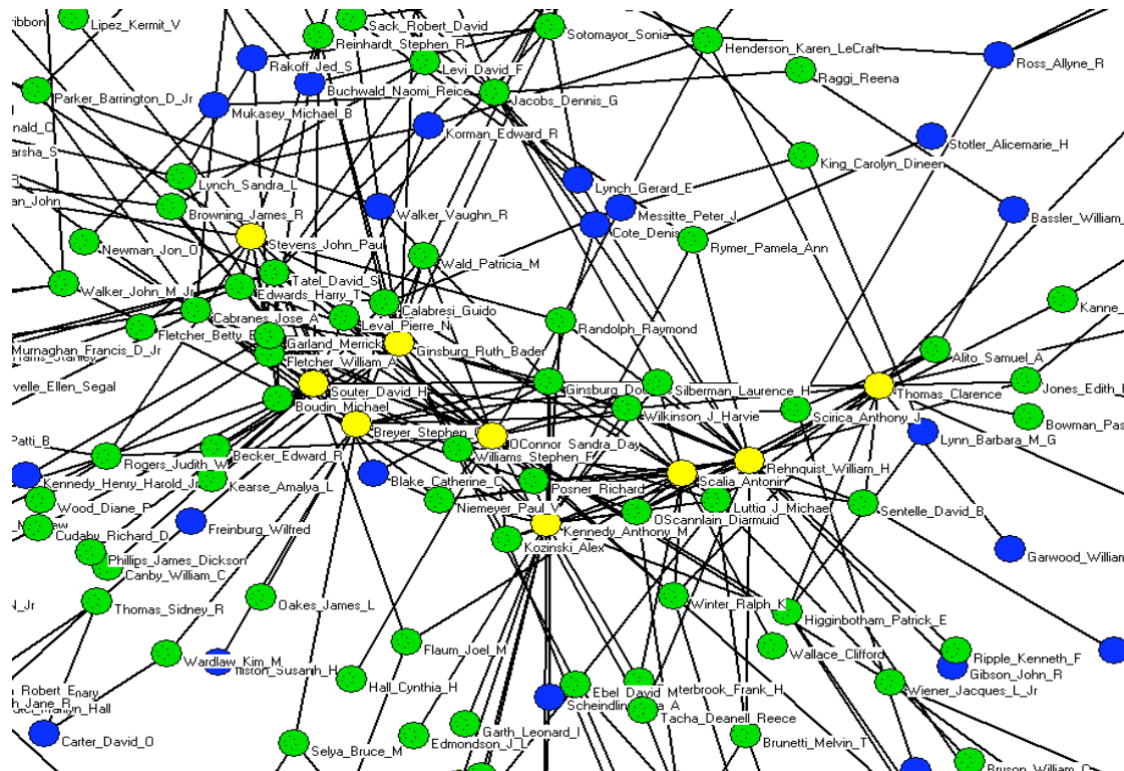
# Katz and Stafford - A Social Network Analysis of the Federal Judiciary



▶ “[W]hile the notion of a “feeder judge” is commonly invoked...visualization displays a host of secondary movers who “feed” the feeders thereby increasing their centrality within the network.”

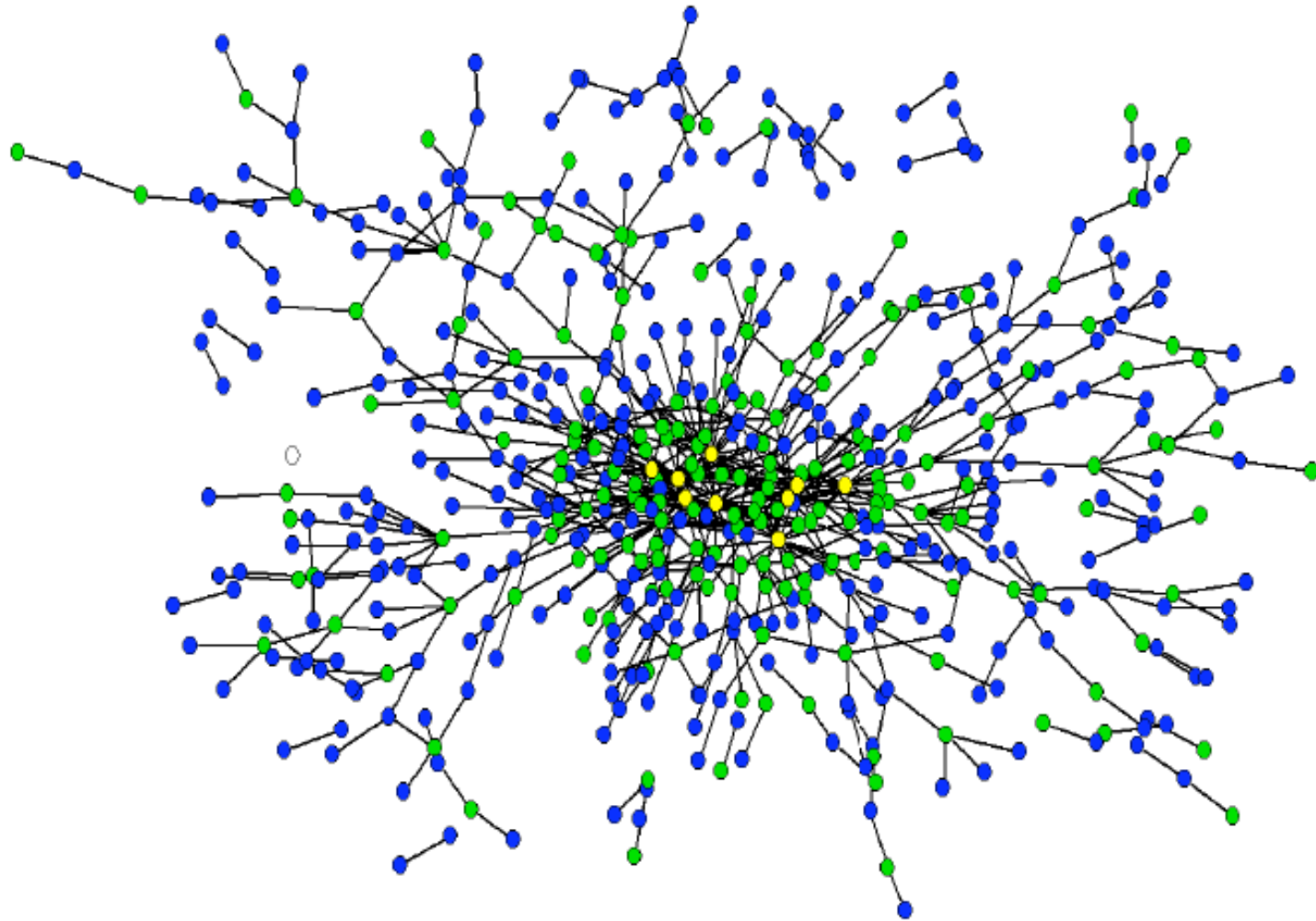
▶ “Despite the presence of clear cliques or communities, the center of the network is dense and clustered enough to keep interconnected most of the members of the federal judiciary.”

# Katz and Stafford - A Social Network Analysis of the Federal Judiciary



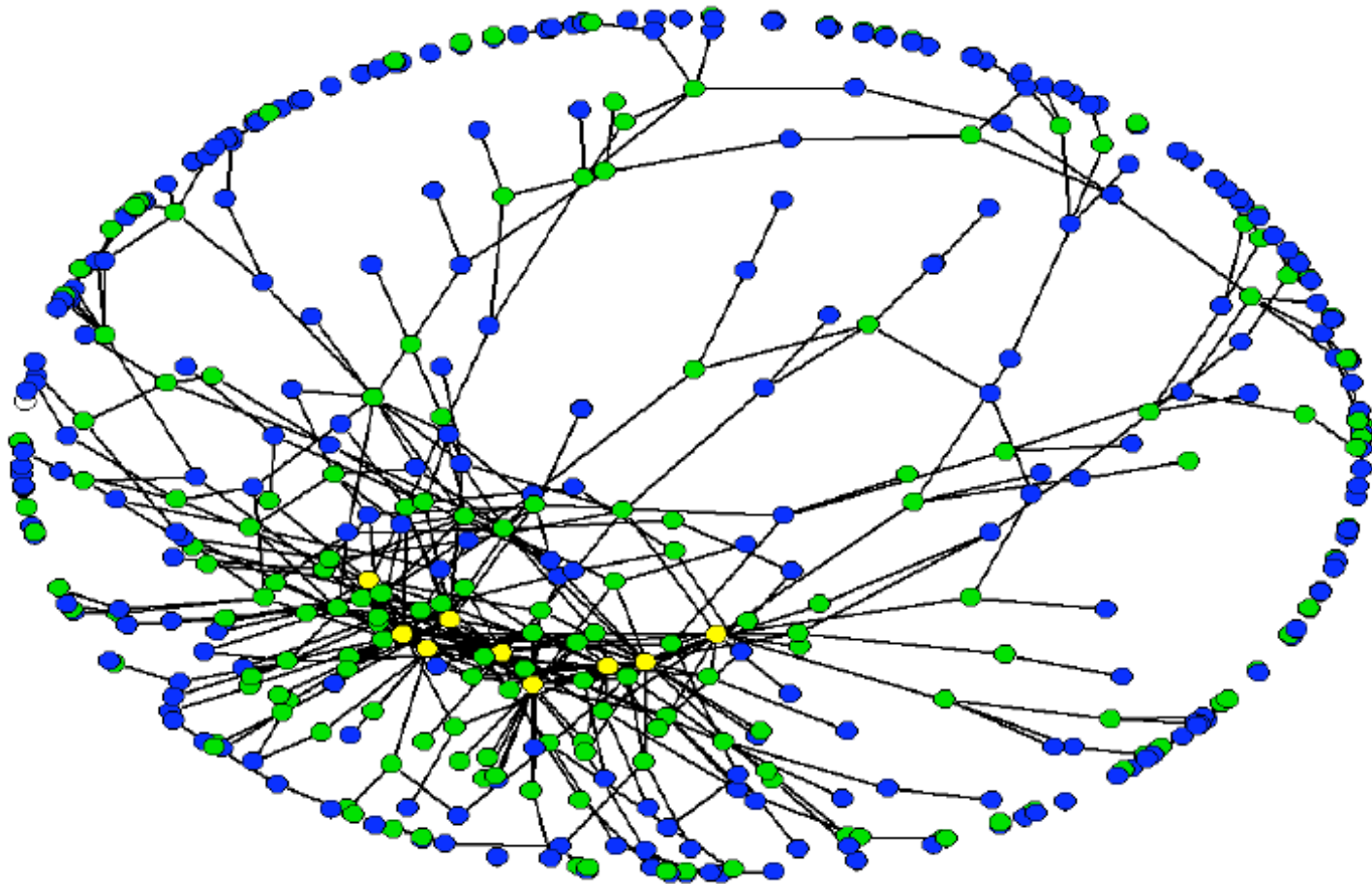
► “The nodes are the individual judges and, as operationalized, the edges reflect a weighted measure of shared clerks between the jurists. Although the traffic is directed, we explicitly choose to model the network as undirected because we believe the influence is bidirectional.”

► See footnote 125. They never explain why.



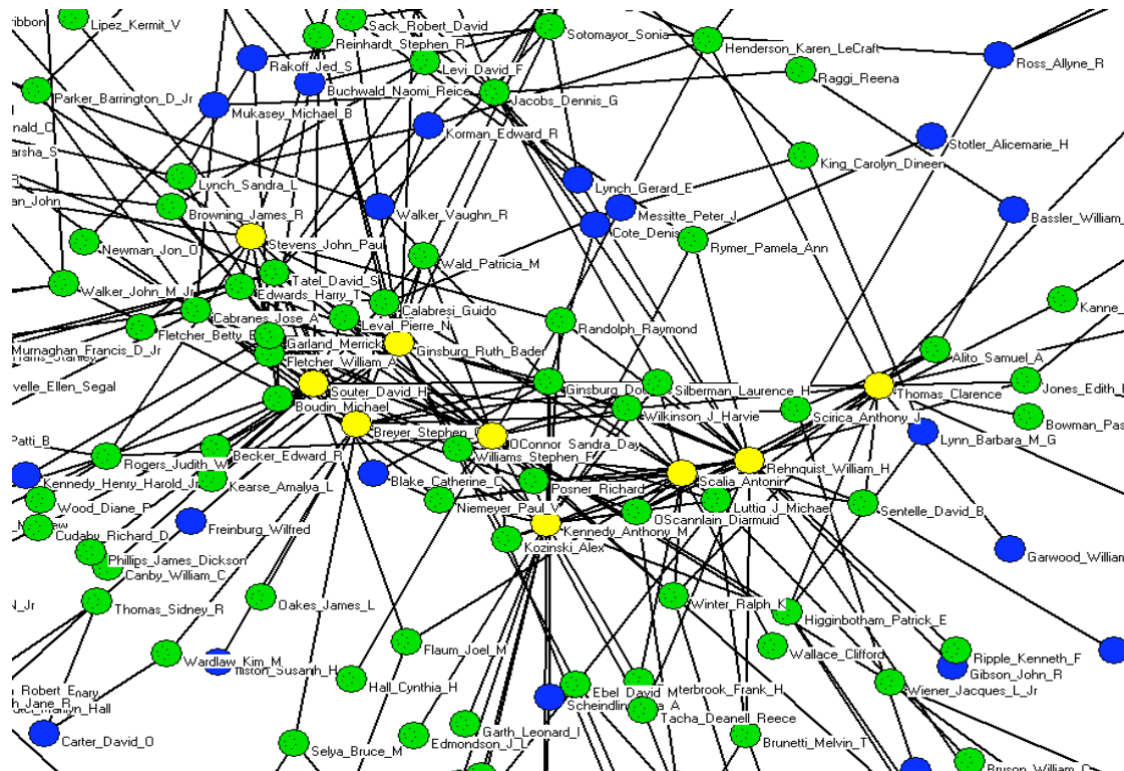
# Katz and Stafford - A Social Network Analysis of the Federal Judiciary





# Katz and Stafford - A Social Network Analysis of the Federal Judiciary

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“In the context of the federal judiciary network, [closeness centrality] will be highest when a judge is on average nearer to the rest of the jurists than any other judge.”

“Jurists that exhibit high betweenness [centrality] scores may act as gatekeepers that connect communities in a bowtie-like fashion. These jurists are...important in maintaining the connectivity of the network.”

Table 1: Ranking Jurists Using Various Measures of Centrality

Rank	Authority	Closeness	Betweenness
1	Luttig, J. Michael	Ginsburg, Douglas H.	Sotomayor, Sonia
2	Wilkinson, J. Harvie	Wilkinson, J. Harvie	Brunetti, Melvin T.
3	Kozinski, Alex	Silberman, Laurence H.	Gillmor, Helen W.
4	Silberman, Laurence H.	Randolph, A. Raymond	Straub, Chester J.
5	O'Scannlain, Diarmuid	Tatel, David S.	Henderson, Karen LeCraft
6	Calabresi, Guido	Jacobs, Dennis G.	Gilman, Ronald Lee
7	Tatel, David S.	Luttig, J. Michael	Tjoflat, Gerald B.
8	Posner, Richard	Calabresi, Guido	Gibbons, Julia Smith
9	Ginsburg, Douglas H.	Williams, Stephen F.	Randolph, A. Raymond
10	Sentelle, David B.	Kozinski, Alex	Tatel, David S.
11	Boudin, Michael	Winter, Ralph K.	Gleeson, John
12	Edwards, Harry T.	Gleeson, John	Black, Susan Harrell
13	Williams, Stephen F.	Cabranes, José A.	Arnold, Morris S.
14	Garland, Merrick B.	O'Scannlain, Diarmuid	Walker Jr., John M.
15	Jones, Edith Hollan	Garland, Merrick B.	Sentelle, David B.

# Katz and Stafford - A Social Network Analysis of the Federal Judiciary

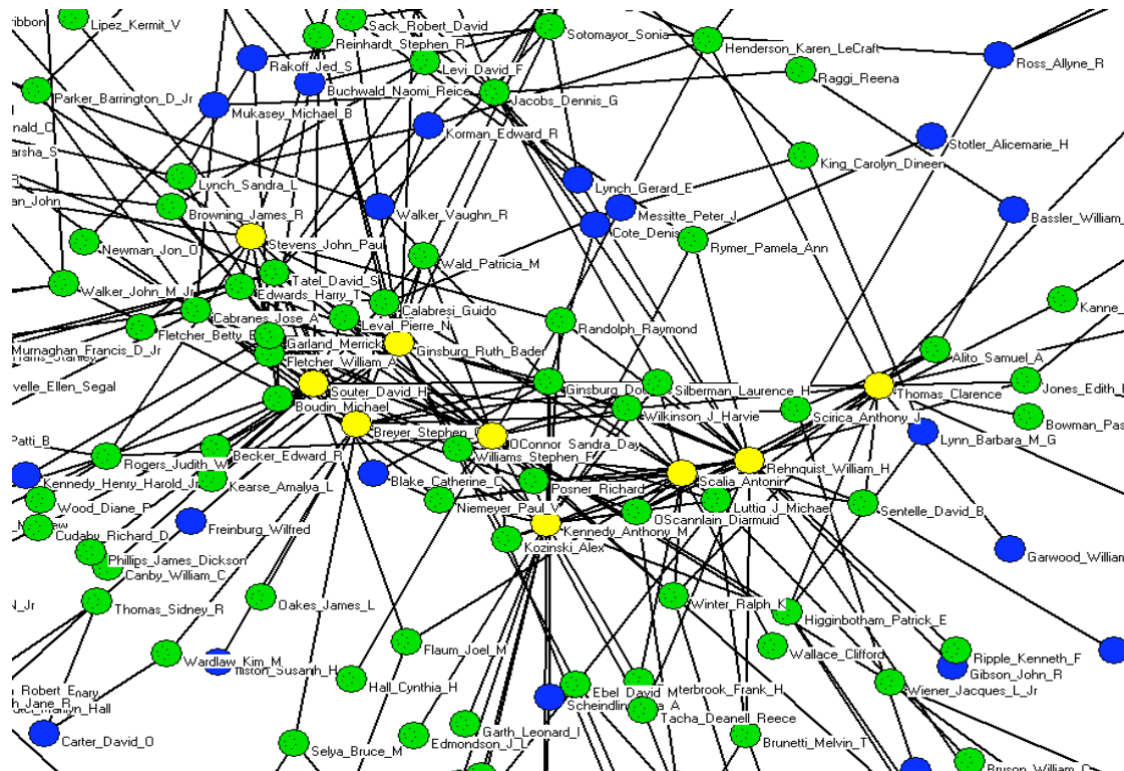


Table 2: Degree Distribution

% of Judges	District Judges	Circuit Judges	Aggregate
with Degree 0	57.43%	23.20%	<b>50.04%</b>
	(522)	(58)	<b>(580)</b>
with Degree 1	25.85%	21.60%	<b>24.16%</b>
	(235)	(54)	<b>(280)</b>
with Degree 2	9.90%	18.40%	<b>11.73%</b>
	(90)	(46)	<b>(136)</b>
with Degree 3	3.96%	11.60%	<b>5.61%</b>
	(36)	(29)	<b>(65)</b>
with Degree 4	1.87%	8.40%	<b>3.28%</b>
	(17)	(21)	<b>(38)</b>
with Degree 5	0.33%	6.00%	<b>1.56%</b>
	(3)	(15)	<b>(18)</b>
with Degree 6–10 inclusively	0.55%	6.80%	<b>1.90%</b>
	(5)	(17)	<b>(22)</b>
with Degree greater than 10	0.11%	7.6%	<b>1.73%</b>
	(1)	(19)	<b>(20)</b>
<b>Total</b>	<b>909</b>	<b>250</b>	<b>1159</b>

# Katz and Stafford - A Social Network Analysis of the Federal Judiciary

# Katz and Stafford - A Social Network Analysis of the Federal Judiciary



► “Using the MLE approach, the alpha for the judicial social network is  $\{-2.38\}$ , placing it in the traditional  $2 < \alpha < 3$  interval for a power law...

► “[T]he empirical evidence presented herein is consistent with prior scholarship describing and documenting the fractal nature of the American common law and its constitutive institutions.”