

# Lecture 6: Foci

Matthew Salganik

Sociology 204: Social Networks, Fall 2021  
Princeton University

Wednesday, September 22, 2021



Feedback on the feedback

- ▶ everything seems pretty good

## Feedback on the feedback

- ▶ everything seems pretty good
- ▶ trying slightly different lights

1. Gladwell, M. (1999). Six degrees of Lois Weisberg. *The New Yorker*.
2. Watts, Chapter 4, 114-129.
3. Feld, S.L. (1981) The focused organization of social ties. *American Journal of Sociology*.

## Review

- ▶ growth + preferential attachment  $\rightarrow$  power law degree distribution

## Review

- ▶ growth + preferential attachment  $\rightarrow$  power law degree distribution
- ▶ some (but not all) real networks have a power law degree distribution

## Review

- ▶ growth + preferential attachment  $\rightarrow$  power law degree distribution
- ▶ some (but not all) real networks have a power law degree distribution
- ▶ diseases spread more easily on networks with power law degree distribution than on other types of networks

# Review

- ▶ growth + preferential attachment  $\rightarrow$  power law degree distribution
- ▶ some (but not all) real networks have a power law degree distribution
- ▶ diseases spread more easily on networks with power law degree distribution than on other types of networks
- ▶ networks with power law degree distribution are robust to random failure but fragile to targeted attack



# Review

- ▶ growth + preferential attachment  $\rightarrow$  power law degree distribution
- ▶ some (but not all) real networks have a power law degree distribution
- ▶ diseases spread more easily on networks with power law degree distribution than on other types of networks
- ▶ networks with power law degree distribution are robust to random failure but fragile to targeted attack
- ▶ “hubs” seem important



Her story connects 2 ideas: power law degree distributions and foci

Source: [www.wbez.org](http://www.wbez.org)

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

▶ the actors

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers
- ▶ the doctors

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers
- ▶ the doctors
- ▶ the lawyers

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers
- ▶ the doctors
- ▶ the lawyers
- ▶ the park lovers



“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers
- ▶ the doctors
- ▶ the lawyers
- ▶ the park lovers
- ▶ the politicians

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers
- ▶ the doctors
- ▶ the lawyers
- ▶ the park lovers
- ▶ the politicians
- ▶ the railroad bugs

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers
- ▶ the doctors
- ▶ the lawyers
- ▶ the park lovers
- ▶ the politicians
- ▶ the railroad bugs
- ▶ the flea-market aficionados

“It is not nearly that she knows lots of people. It is that she belongs to lots of different worlds.”

- ▶ the actors
- ▶ the writers
- ▶ the doctors
- ▶ the lawyers
- ▶ the park lovers
- ▶ the politicians
- ▶ the railroad bugs
- ▶ the flea-market aficionados

A key point is that these people don't know each other. That enables Lois to be a “broker.”



Michael Simmons  
Contributor

FOLLOW

*I write on authentic relationship building in the age of social media*  
[full bio →](#)

Opinions expressed by Forbes Contributors are their own.



ENTREPRENEURS 1/15/2015 @ 1:54PM | 238,828 views

# The No. 1 Predictor Of Career Success According To Network Science

+ Comment Now + Follow Comments

It has been over three years since [Steve Jobs](#) died.

Since then, books have been written and movies have been made.

Each has celebrated his legacy and aimed to share the secrets he used to build the largest company in the world; things like attention to detail, attracting world-class talent and holding them to high standards.

We think we understand what caused his success.

We don't.

We dismiss usable principles of success by labeling them as personality quirks.

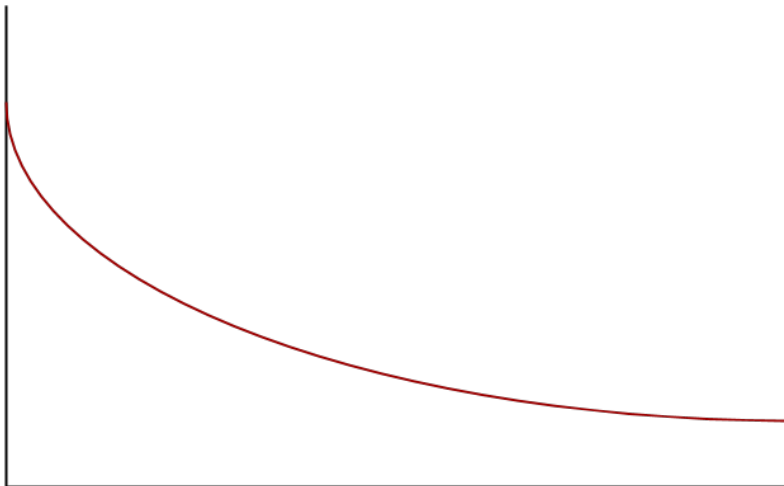
Next Post

Source: [http:](http://www.forbes.com/sites/michaelsimmons/2015/01/15/this-is-the-1-predictor-of-career-success-according-to-network-science/)

[//www.forbes.com/sites/michaelsimmons/2015/01/15/this-is-the-1-predictor-of-career-success-according-to-network-science/](http://www.forbes.com/sites/michaelsimmons/2015/01/15/this-is-the-1-predictor-of-career-success-according-to-network-science/)

## Relative Performance

(compensations, evaluation, promotion)



**large, open network** where you are the link between people from different clusters.



**small, closed network** where you are connected to people who already know each other.



Comics

Blog

Shop



Reblog

+ Follow

Dashboard

## Do Open Networks Boost Your Odds of Success?

Posted January 23rd, 2015 @ 8:46am in [#success](#)

Every time I hear of a study suggesting that doing (whatever) is important for success, I ask myself if the authors interpreted the correlations correctly.

And I rarely think they did.

Take for example this [recent article](#) describing how people with "open networks" are far more successful than those with "closed networks." In this context, it means that the more new ideas you are exposed to, the more likely you are a success.

That interpretation makes perfect sense to me. Seeing lots of new ideas is probably a good thing in most situations.

But another interpretation is that the folks with the personalities and resources to succeed are more likely to also have open networks. It doesn't necessarily mean one causes the other.

The good people manufacturing mature products, such as concrete,

# STRUCTURAL HOLES

---

*The Social Structure of Competition*

RONALD S. BURT



How does Lois Weisberg's story—and the readings more generally—change how we should think about networks?

How does Lois Weisberg's story—and the readings more generally—change how we should think about networks?

Combines:

- ▶ network structure
- ▶ social structure

Affiliation network



Bipartite  
Graph

Affiliation network



Bipartite  
Graph

► actors and movies

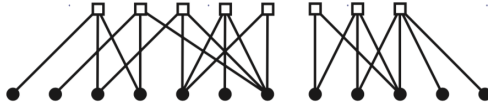
Affiliation network



Bipartite  
Graph

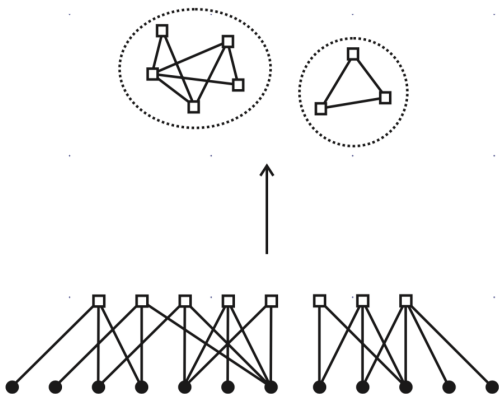
- ▶ actors and movies
- ▶ scientists and papers

Affiliation network



Bipartite  
Graph

- ▶ actors and movies
- ▶ scientists and papers
- ▶ board members and boards of directors

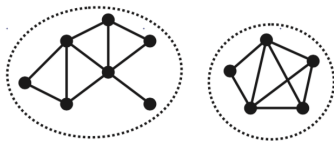


Group Interlock  
Network

Bipartite  
Graph



Bipartite  
Graph



Actor Affiliation  
Network



# **The Focused Organization of Social Ties<sup>1</sup>**

Scott L. Feld

*State University of New York at Stony Brook*

# The Focused Organization of Social Ties<sup>1</sup>

Scott L. Feld

*State University of New York at Stony Brook*

- ▶ you are stepping in a conversation

# The Focused Organization of Social Ties<sup>1</sup>

Scott L. Feld

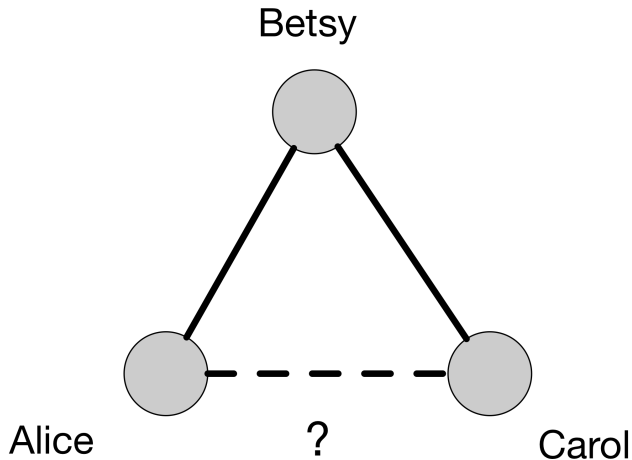
*State University of New York at Stony Brook*

- ▶ you are stepping in a conversation
- ▶ a very dense—but interesting—conversation

Foci: a social, psychological, or physical entity around which joint activities are organized.

Foci: a social, psychological, or physical entity around which joint activities are organized.

Think-pair-share: What are some examples of foci at Princeton?



Explaining triadic closure:

- ▶ balance theory vs foci
- ▶ psychology vs sociology
- ▶ agency vs structure

Context about Feld (1981)

- ▶ This style of sociology (definition, assumption, proposition) is rare

### Context about Feld (1981)

- ▶ This style of sociology (definition, assumption, proposition) is rare
- ▶ I found it striking that this was so hard to test because we didn't have the right data



Roughly speaking: you don't pick your friends, your environment picks your friends for you

ALPHABET AND ATTRACTION:  
AN UNOBTRUSIVE MEASURE OF THE EFFECT OF  
PROPINQUITY IN A FIELD SETTING<sup>1</sup>

MADY WECHSLER SEGAL<sup>2</sup>

*Department of Sociology, Eastern Michigan University*

<http://dx.doi.org/10.1037/h0037446>

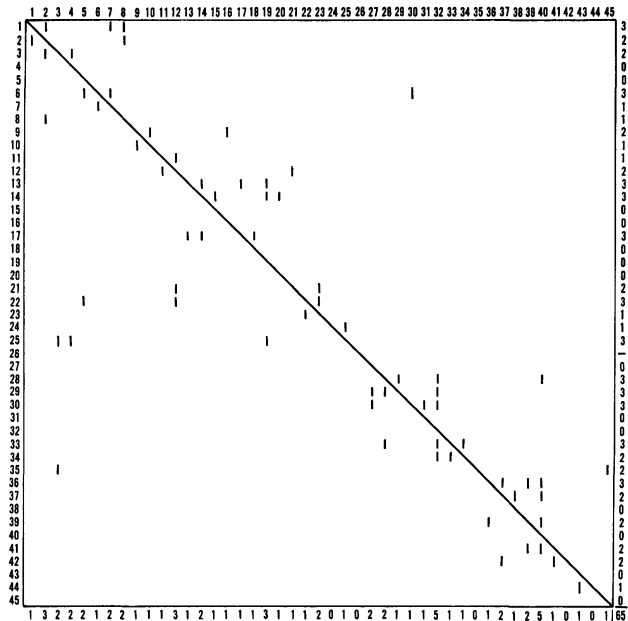


FIGURE 1. Matrix of friendship choices. (Numbers across the top of the matrix indicate place in alphabetical order of *chosen*. Numbers down the left of the matrix indicate place in alpha-

# RESIDENTIAL PROPINQUITY AS A FACTOR IN MARRIAGE SELECTION

JAMES H. S. BOSSARD  
University of Pennsylvania

- ▶ study of 5,000 marriage licenses in which one or both applicant lived in Philadelphia (January - May 1931)

<https://www.jstor.org/stable/2766455>

TABLE II  
DISTRIBUTION, CUMULATIVELY OF FIVE THOUSAND MARRIAGES  
BY RESIDENTIAL PROPINQUITY BEFORE MARRIAGE

Number of Blocks Apart	Number of Cases	Per Cent
Same address . . . . .	632	12.64
Within one block or less . . . . .	859	17.18
Within two blocks or less . . . . .	1163	23.26
Within three blocks or less . . . . .	1373	27.46
Within four blocks or less . . . . .	1528	30.56
Within five blocks or less . . . . .	1679	33.58
Within six blocks or less . . . . .	1798	35.96
Within seven blocks or less . . . . .	1889	37.78
Within eight blocks or less . . . . .	1968	39.38
Within nine blocks or less . . . . .	2037	40.74
Within ten blocks or less . . . . .	2116	42.32
Within fifteen blocks or less . . . . .	2400	48.00
Within twenty blocks or less . . . . .	2597	51.94

- More than one in three couples involved a person lived within 5 blocks or less.

TABLE II  
DISTRIBUTION, CUMULATIVELY OF FIVE THOUSAND MARRIAGES  
BY RESIDENTIAL PROPINQUITY BEFORE MARRIAGE

Number of Blocks Apart	Number of Cases	Per Cent
Same address . . . . .	632	12.64
Within one block or less . . . . .	859	17.18
Within two blocks or less . . . . .	1163	23.26
Within three blocks or less . . . . .	1373	27.46
Within four blocks or less . . . . .	1528	30.56
Within five blocks or less . . . . .	1679	33.58
Within six blocks or less . . . . .	1798	35.96
Within seven blocks or less . . . . .	1889	37.78
Within eight blocks or less . . . . .	1968	39.38
Within nine blocks or less . . . . .	2037	40.74
Within ten blocks or less . . . . .	2116	42.32
Within fifteen blocks or less . . . . .	2400	48.00
Within twenty blocks or less . . . . .	2597	51.94

- ▶ More than one in three couples involved a person lived within 5 blocks or less.
- ▶ Bossard (1932): "Cupid may have wings, but apparently they are not adapted for long flights."

- ▶ The theory of foci calls attention to the fact that many network ties are formed because of social structure.

- ▶ The theory of foci calls attention to the fact that many network ties are formed because of social structure.
- ▶ What do foci have to do with Facebook and Google+?



STEVEN LEVY

BUSINESS 06.28.2011 01:10 PM

## **Inside Google+ — How the Search Giant Plans to Go Social**

<https://www.wired.com/2011/06/inside-google-plus-social/>



# THE REAL LIFE SOCIAL NETWORK

Hi everyone, thanks for coming.

[https://www.businessinsider.com/  
heres-the-presentation-that-inspired-google-2011-7](https://www.businessinsider.com/heres-the-presentation-that-inspired-google-2011-7)

## More about Google Plus:

- ▶ Paul Adams *Grouped: How Small Groups of Friends are the Key to Influence on the Social Web*
- ▶ “Google Plus: a \$585 million dollar mistake”:  
<https://slidebean.com/blog/startups-google-plus>
- ▶ “Looking back at Google+”:  
<https://techcrunch.com/2018/10/08/looking-back-at-google/>
- ▶ <https://en.wikipedia.org/wiki/Google%2B>

- ▶ sometimes the edges that don't exist are as important as the edges that do exist

- ▶ sometimes the edges that don't exist are as important as the edges that do exist
- ▶ affiliation networks (people and groups) help us understand patterns in personal network structure

- ▶ sometimes the edges that don't exist are as important as the edges that do exist
- ▶ affiliation networks (people and groups) help us understand patterns in personal network structure
- ▶ compare and contrast psychological vs sociological explanations for network structure

- ▶ sometimes the edges that don't exist are as important as the edges that do exist
- ▶ affiliation networks (people and groups) help us understand patterns in personal network structure
- ▶ compare and contrast psychological vs sociological explanations for network structure
- ▶ sociological principles can shape the design of technical systems

Feedback: <http://bit.ly/soc204-2021>



Feedback: <http://bit.ly/soc204-2021>

- ▶ Watts, Chapter 5.
- ▶ Lee, N.H. (1969). *The Search for an Abortionist*: Preface, Chapter 1, and Chapter 5. (Available from Canvas).