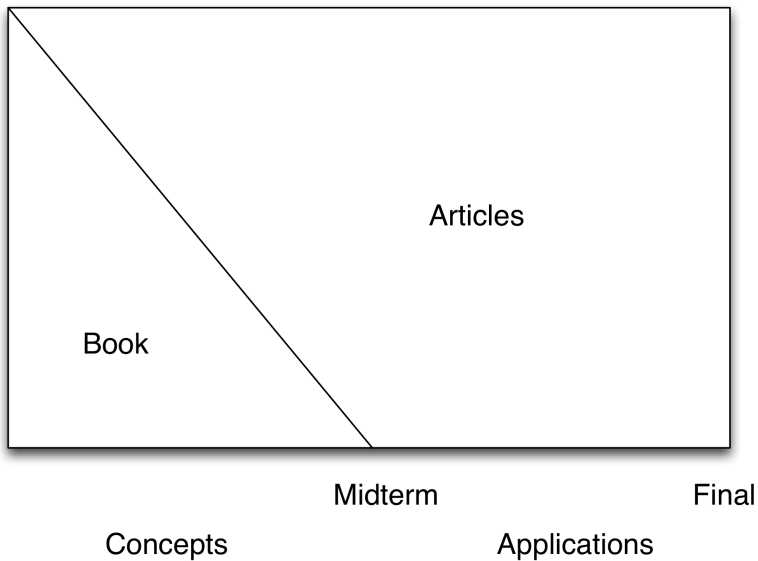# Class 14: Strength of weak ties

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Sociology 204: Social Networks
Princeton University

1/2 Strength of weak ties for individuals and groups

Articles

Book

Midterm   Final

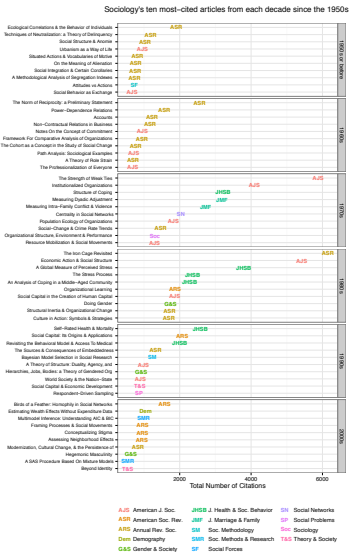Concepts   Applications

- ▶ Students will be able to *describe* the major ideas and models used in the study of networks.
- ▶ Students will be able to *describe* the interconnections between the major ideas and models used in the study of networks.
- ▶ Students will be able to *use* the major ideas and models used in the study of networks to gain insight into real-world phenomena.
- ▶ Students will be able to *evaluate* real, modern research that connects the major ideas and models of networks to real-world phenomena.

Strength of weak ties is a classic.

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Sociology's ten most-cited articles from each decade since the 1950s

https://kieranhealy.org/blog/archives/2014/11/15/top-ten-by-decade/

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- ▶ one extra bit of complexity and one plausible assumption lead to surprising empirical predictions, many that turn out to be true
- ▶ connects micro rules to macro patterns (similar to Bearman et al. study of sexual networks)
- ▶ generates lots of new research
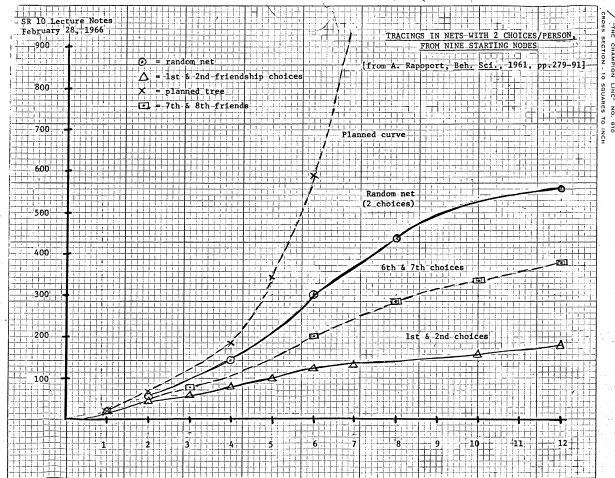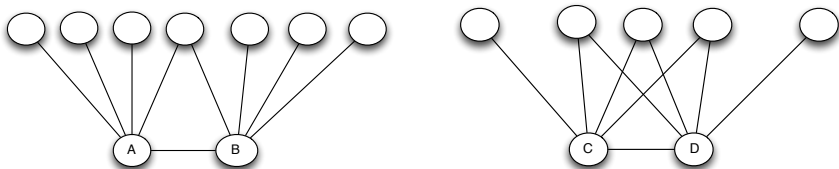
Source: From Harrison White's class in 1966

https://www.youtube.com/watch?v=g3bBajcR5fE
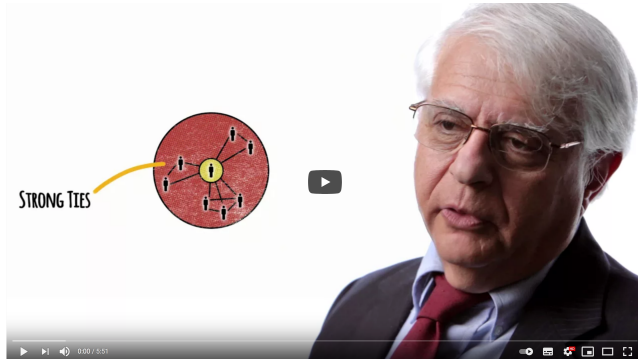
"Strength of a tie is a (probably linear) combination of the amount of time, emotional intensity, the intimacy, and reciprocal services which characterize the tie."

Prediction:
The stronger the tie between two people, the more their friendship sets overlap.

No good data to test in 1973, but there is now (as you will see with your future homeworks).

For the rest of the paper, he deals with a simplification:

- ▶ Old idea: tie is either present or absent
- ▶ New idea: tie is either strong, weak, or absent
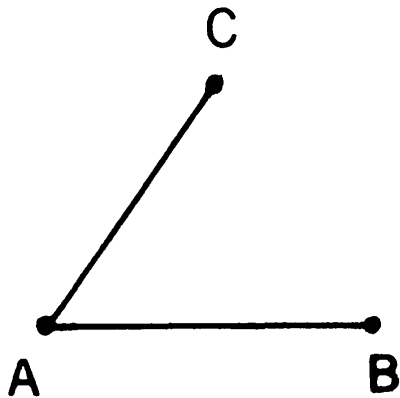
Assume no forbidden triad

F<small>IG</small>. 1.—Forbidden triad

Except in weird cases, *no strong tie is a bridge*. Or *all bridges are weak ties*.

But, it is not the case that all weak ties are bridges.

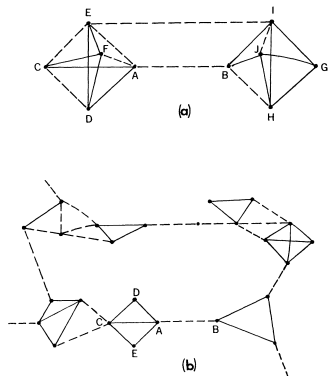Bridges are probably rare, so Granovetter talks about *local bridges*

FIG. 2.—Local bridges. *a*, Degree 3; *b*, Degree 13. ———— = strong tie; — — — = weak tie.

"The significance of weak ties, then, would be that those which are local bridges create more and shorter paths."
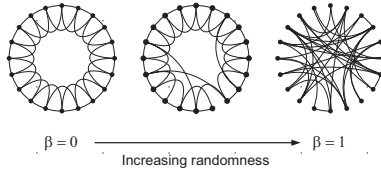
Which concept or model that we learned about does this remind you of?

"The significance of weak ties, then, would be that those which are local bridges create more and shorter paths."

Which concept or model that we learned about does this remind you of?

Shortcuts in beta model

3.6

$\beta = 0$ ⟶ Increasing randomness ⟶ $\beta = 1$

Strength of weak ties for
- communities
- individuals

Strength of weak ties for communities

Boston's West End was unable to resist "urban renewal", Granovetter argues that this is because of lack of short paths between people (think "caveman graph")

Granovetter predicts: weak ties hold communities together and enable them to act cohesively

Strength of weak ties for individuals

Local bridges are most important for spreading new things. Therefore, weak ties are important for spreading new things and receiving information.
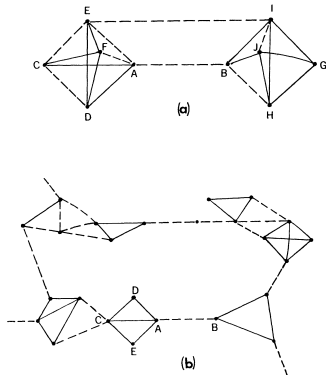

Fig. 2.—Local bridges. *a*, Degree 3; *b*, Degree 13. ———— = strong tie; — — — = weak tie.

In the sample he studied (professionals in a suburb of Boston), of those who found a job through a contact, how often did they see the contact?

- ▶ often (at least twice a week): 17%
- ▶ occasionally (more than once a year but less than twice a week): 56%
- ▶ rarely (once a year or less): 28%

The people you see occasionally and rarely can be the most important.

[15] Although this corresponds only to the first of the four dimensions in my definition, supplementary anecdotal evidence from interviews makes it likely that, in this case, the entire definition is satisfied by this measure. At the time of research, it had not occurred to me that tie strength would be a useful variable.

To summarize lots of subsequent research, it is non-redundant information that is important, not weak ties.

Therefore, a better title might have been: *The strength of local bridges*