SEPTEMBER

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CONCEPT OVERVIEW PRIMER

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THE FOUNDATION OF THIS IDEA IS THE VIEW THAT **THOUGHT** AND **COMMUNITY** CAN BEHAVE LIKE AN INFECTION

Ideas, even deeply creative ones, exist and spread in a context.

People naturally pass them to others by means of imitation, conversation, and persuasion.

If we look at a person holding an idea (or buying a product) as infected with that idea, we can see that they spread that idea to the people around them in ways that are predictable and manipulable.

Viewing our world through this lens opens a word of possibility…

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It starts with a community of people…

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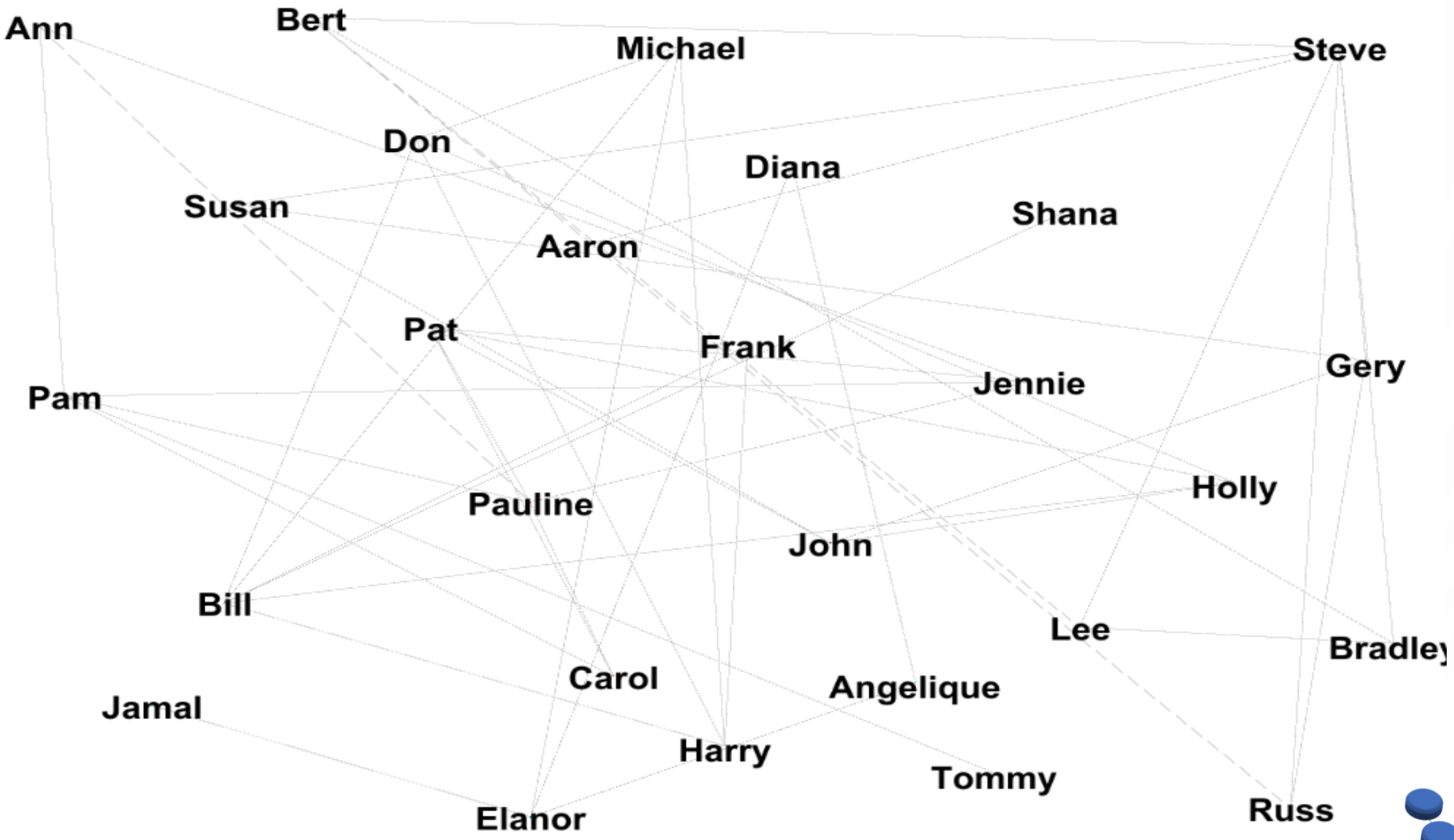
… who have relationships (represented as lines or edges).



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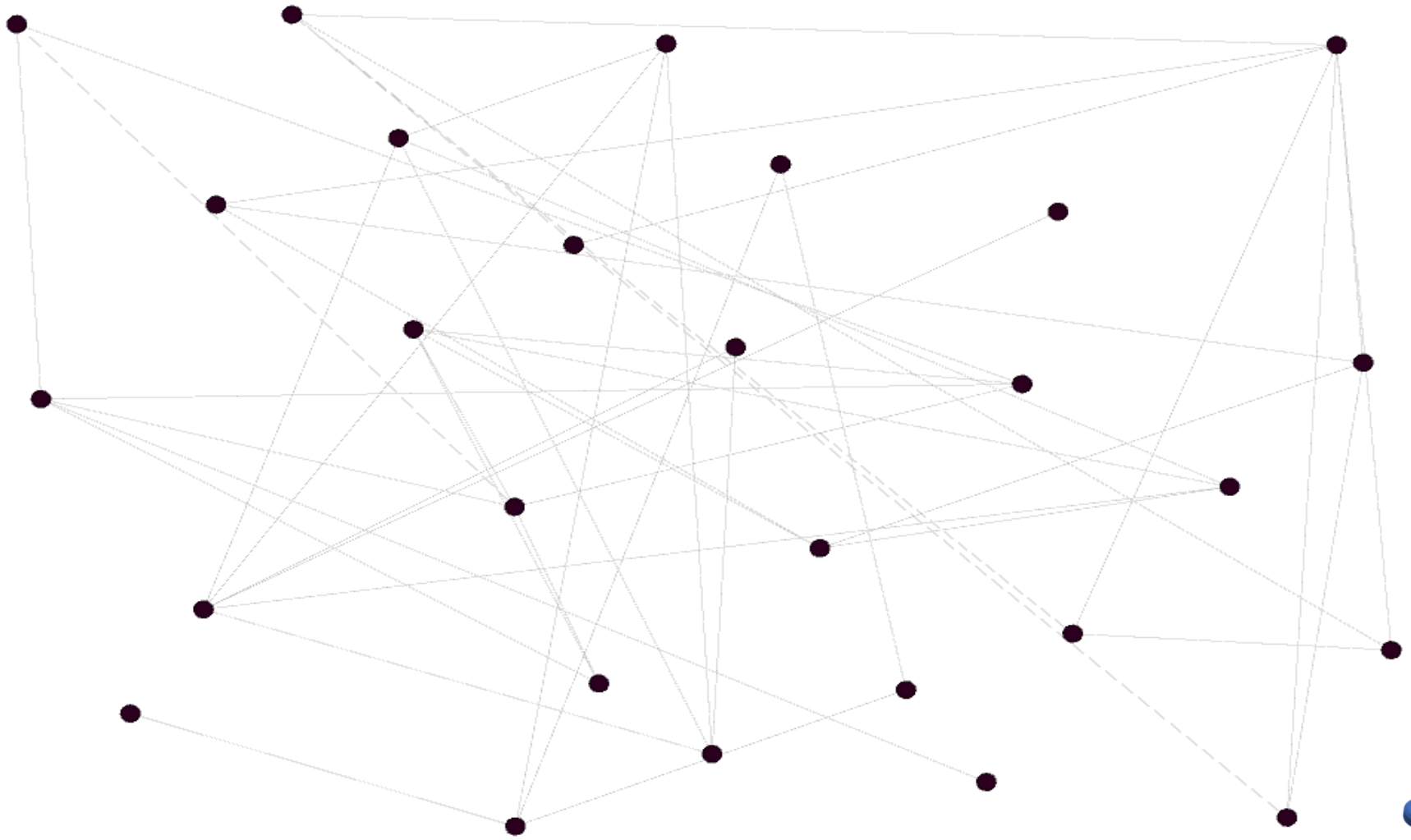
We represent those people as dots (or *nodes*)…



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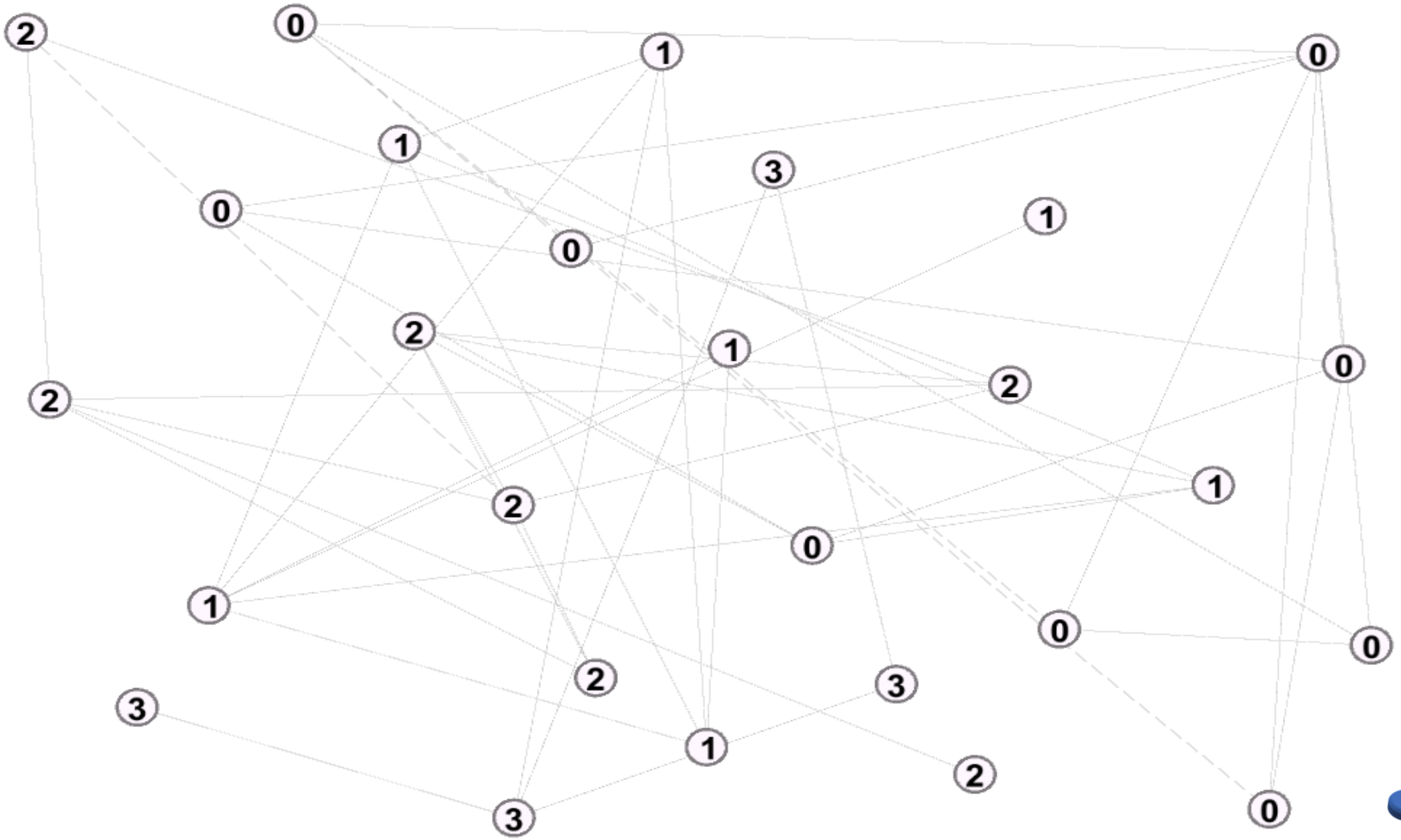
…we can use clustering algorithms to group them…



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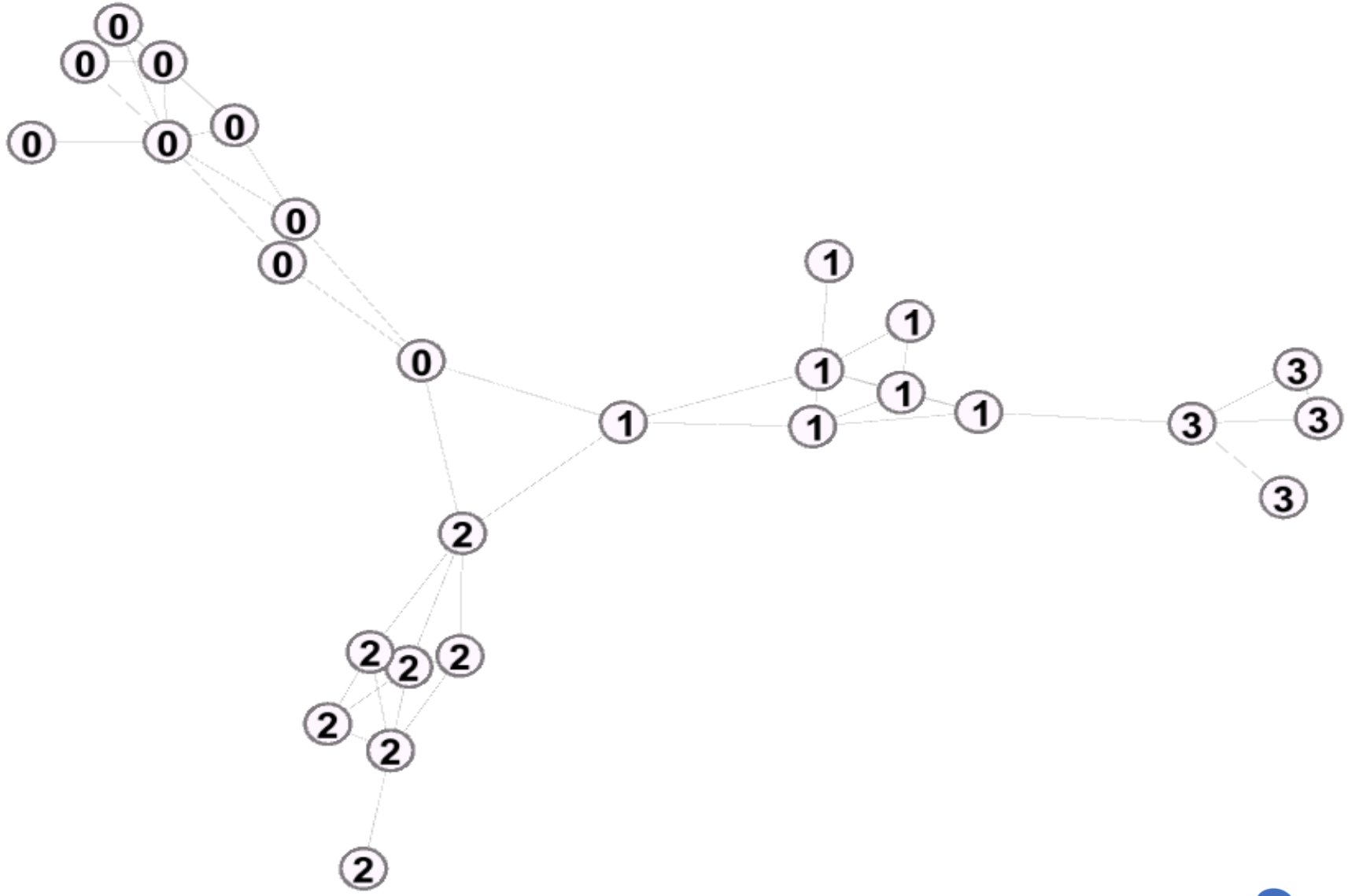
…and then we can sort those groupings to make meaningful maps.



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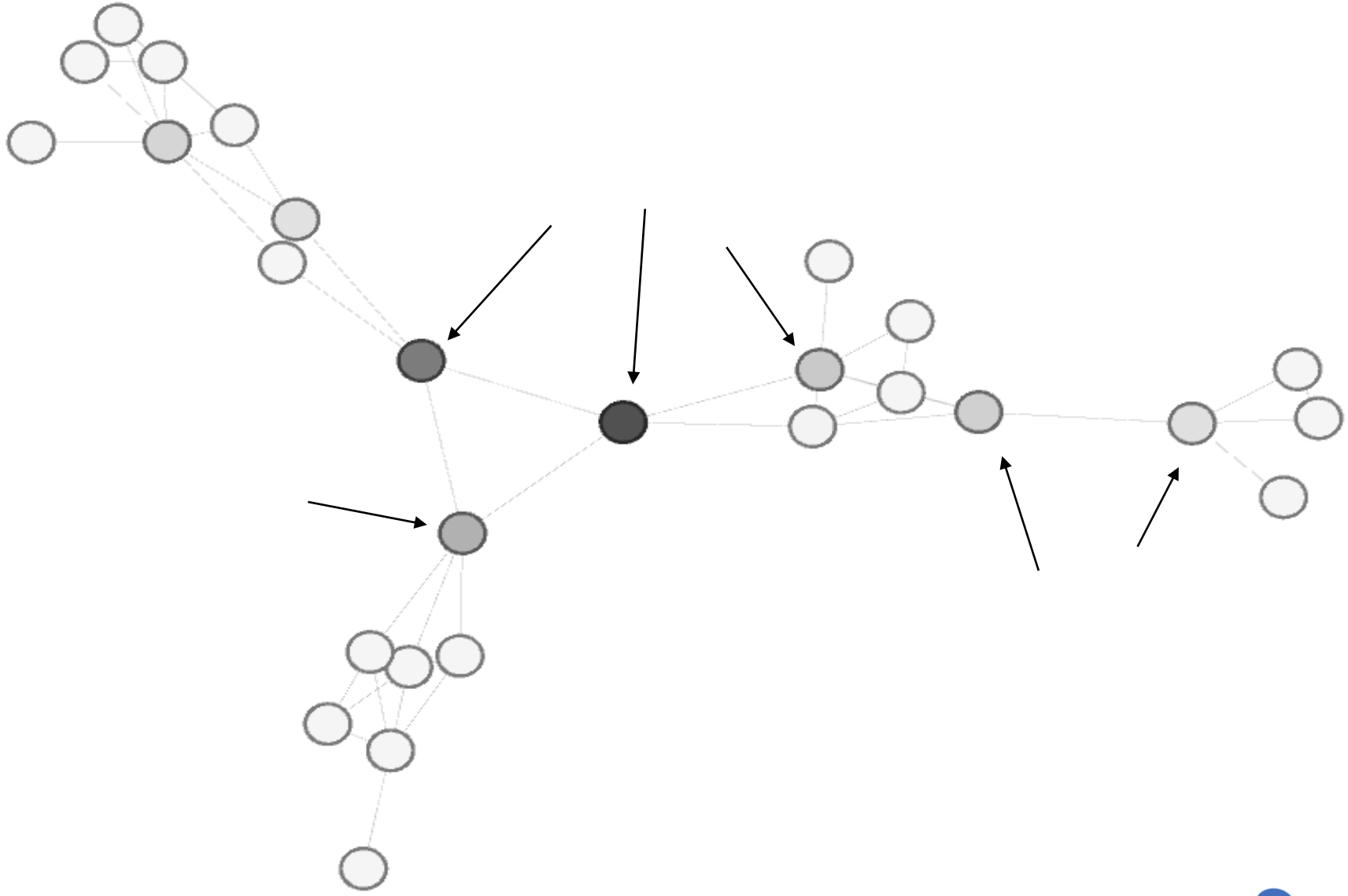
These maps can track critical communication lines and choke points…



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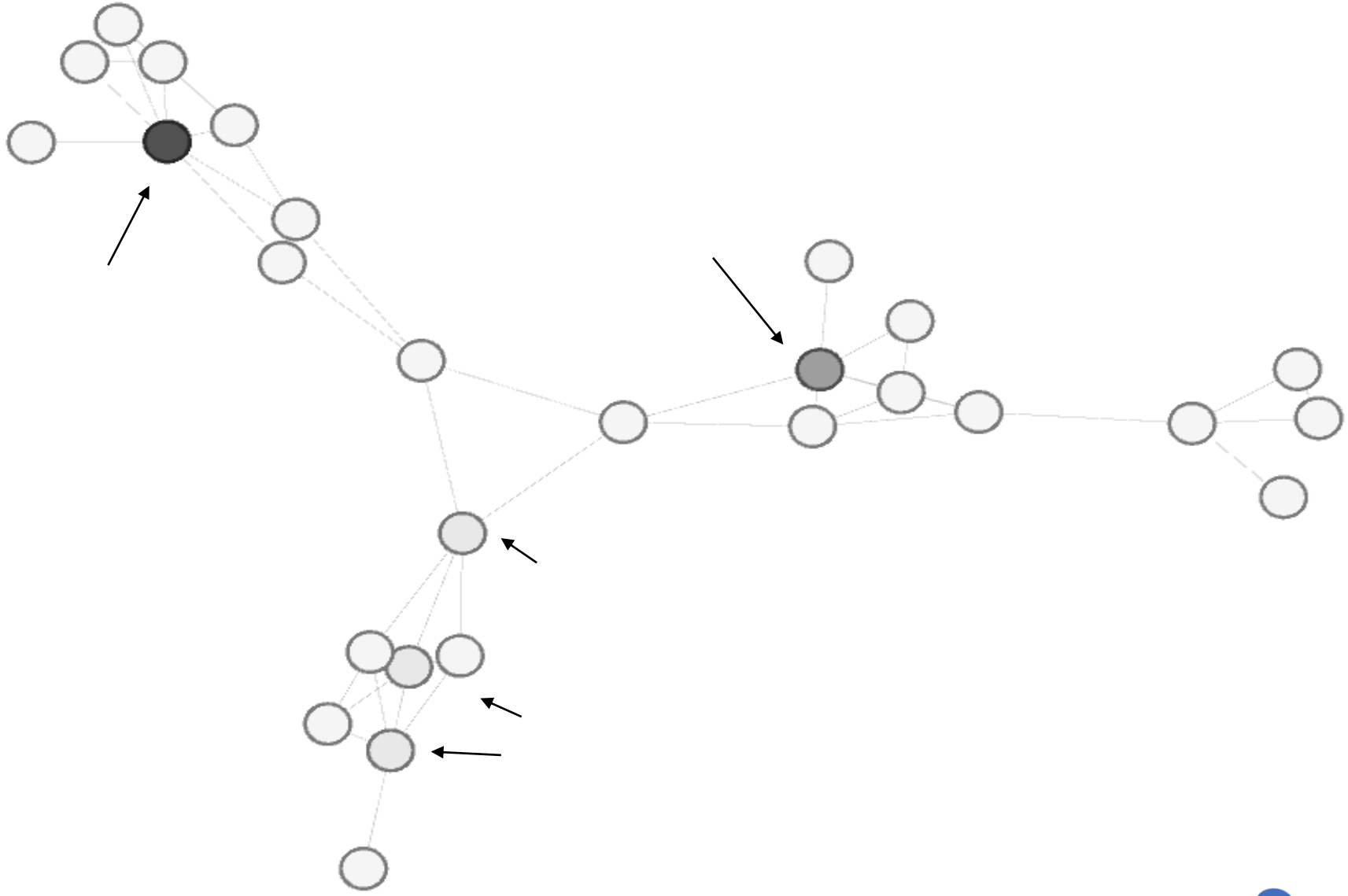
…or spot the highly connected actors in a community or subcommunity.



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All of this can be expressed mathematically (& worked with).

Id	Modu...	Eigenvector Centrality	Clustering Coefficient	Bridging Centrality	Betweenness Centrality	Bridging Coefficient	N
Bradley	0	0.559978	1.0	0	0	0.4590163934426229608.	3
Lee	0	0.559978	1.0	0	0	0.4590163934426229608.	3
Steve	0	1.0	0.285714	0.0128248222365869440..	0.2543589743589744 1203	0.0504201680672268851.	6
Bert	0	0.680087	0.666667	0.00067307692307692 30..	0.0030769230769230769 20	0.21875	4
Russ	0	0.602388	0.666667	0.0109021842355175747..	0.0210256410256410390 66	0.5185185185185184897.	2
Gery	0	0.740852	0.5	0.0509420916162489426..	0.2158974358974359575 30	0.2359550561797753298.	3
John	0	0.774976	0.333333	0.1071960297766749586..	0.4430769230769230904 16	0.2419354838709677768.	2
Michael	1	0.665914	0.5	0.0738461538461538530..	0.2707692307692307620 57	0.2727272727272727625.	3
Bill	1	0.891159	0.333333	0.0196923076923076929..	0.2953846153846154121 14	0.0566666666666666657.	5
Harry	1	0.681833	0.666667	0.0019780219780219784..	0.0092307692307692316 28	0.2142857142857143015.	4
Don	1	0.767205	0.666667	0.0427972027972028032..	0.1569230769230769151 34	0.2727272727272727625.	4
Holly	1	0.836558	0.333333	0.1420118343195266308..	0.4923076923076923350 20	0.2884615384615384359.	2
Frank	1	0.393453	1.0	0	0	1.2000000000000001776.	1
Pat	2	0.972903	0.3	0.0577022977022977126..	0.3702564102564102621 60	0.1558441558441558683.	3
Pauline	2	0.930976	0.6	0.0118403115871470246..	0.0779487179487179104 86	0.1518987341772151944.	6
Jennie	2	0.803112	0.666667	0.0201923076923076830..	0.0753846153846153554 93	0.2678571428571428492.	4
Carol	2	0.653154	0.666667	0.0239316239316239333..	0.0430769230769230890 28	0.5555555555555554692.	2
Pam	2	0.779674	0.4	0.0075105996365838903..	0.0794871794871794823 40	0.0944881889763779792.	4
Ann	2	0.613223	1.0	0	0	0.5128205128205127749.	3
Elanor	3	0.278283	0.166667	0.0242735042735042726..	0.2184615384615384570 12	0.1111111111111111049.	1
Susan	0	0.620743	0.666667	0.0707312440645773976..	0.1364102564102564196 79	0.5185185185185184897.	2
Jamal	3	0.082156	0.0	0	0	4	0
Angelique	3	0.122918	1.0	0	0	0.6566666666666666296.	1
Tommy	2	0.1916	0.0	0	0	5	0
Aaron	0	0.249516	0.0	0	0	7	0
Shana	1	0.222553	0.0	0	0	6	0
Diana	3	0.122918	1.0	0	0	0.6566666666666666296.	1

YET, WHILE IDEAS SPREAD, THEY DON'T ALWAYS

While ideas often spread, we also intuitively know that this is not always the case (as evidenced by some of the ideas that our friends hold that we do not).

The math has a lot to say about this phenomenon too. Factors that can help affect whether an idea will be absorbed include:

- **INTENSITY** – the intensity with which a source holds an idea will affect the amount they will project it
- **EXPOSURE** – the amount of *different* exposures of the same belief in a given time frame that the recipient has. Note that these are naturally weighted to favour sources unconnected to each other
- **RESISTANCE** – the natural receptiveness to the idea based on the other ideas held by the recipient and how in line it is with their existing beliefs
- **AFFINITY** – the efficiency of communication between a given source and recipient and how much translation of thought is required for ideas to be transferred
- **BRIDGE WEIGHT** – the amount of connection or exposure opportunity existing between two people
- **LIFESPAN** – how long the idea stays active in someone's thoughts and conversations

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TWO OTHER IMPORTANT CONCEPTS - K-SHELLS VS. CENTRALITY

The amount of edges (relationships) a person has can be expressed as their K-SHELL VALUE

- If your k-shell value is 1, it means you have 1 friend connection in the network, If you know 10 people in the network, your k-shell value would be 10
- On the other hand, CENTRALITY reflects the average amount of jumps to go between you and other actors in the complete group

Removing low k-shell actors can quickly identify clusters of tightly knit relationships within the larger community. Redrawing the map by removing the people with low level k-shells can quickly identify centers of community.

Note that centrality and k-shells are linked but not synonymous – if I have only 1 friend in the network, but that friend is deeply embedded in the network with lots of friends, I have a high centrality but a low k-shell value. Likewise, if I am a part of a very tightly knit sub-community on the edge of the larger network which is generally isolated from the whole, I might have a relatively high k-shell value but a lower centrality score.

PART 2 – APPLICATIONS

KEY INFLUENCER APPLICATION

Expose and convert a single, high-value person to your idea

Powerful people in a community can get things done, and more importantly inspire others to follow suit.

The challenge is that high value contributors are insulated from your ideas because of their network attributes. Getting access to them is hard and getting through the noise is harder. They are protective of their relationships, especially to unknown or partially trusted sources. This is true of influencers, major donors, or any other high impact, single decision maker. These high value allies are hard targets to reach – they are naturally inoculated from a baseline exposure to new ideas from unknown sources and they have to be judicious of the use of their influence for the health of their community.

Conversely, the further from the network epicenter someone is, the more open they will naturally be to non-network influence: people at the edges are naturally valued for their ability to introduce the group to new things.

The key is to harness strategically placed people AROUND the people who surround the key influencer in such a way that those people are given high exposure frequency from varied sources. These independent waves will meet and intensify, coming organically in under the radar with great exposure strength, effectively surrounding and normalizing the new idea to the core.

CULTURE & INFORMATION FLOW

Manage the spirit and soft-power dynamics in a community

Formal networks, like the classic org chart or accountability reporting map, help us understand who reports to who and the channels of delegated authority in a network.

Informal networks, on the other hand, represent the working groups and water cooler conversations of an organization. Unfortunately these hidden power structures usually carry the bulk of company culture. Specifically these relationships significantly drive:

- Collective and individual mood
- Rumors and consensus building
- Informal fact checking

Unmanaged, these informal networks can effectively drive alternate or unauthorized policy decisions.

Just like virus innoculations during an outbreak – the algorithms can help identify or create key information flow points, methods for increasing the support for good spirited actors, and early warning detection systems for disquiet or discontent. These processes can materially improve alginment in complex organization culture structures, especially in cases where natural silos (like committees or organizational divisions) exist.

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MARKET TREND APPLICATION

Create a critical mass effect where conversions all mutually support each other to manifest widespread adoption

In this application, a small number of strategically placed, equidistant people are simultaneously "infected" with a high energy exposure, such as a one-on-one personal call, such that when they begin to broadcast, each person is broadcasting to other people who are being simultaneously broadcasted to by one or more additional sources, making them far more likely to convert.

Once a group of related nodes are converted (a conversion cluster) on a macro level, these conversion clusters are spaced within the network so that they, in turn, fill in the gaps in between, with a focus to high k-shell targets.

The net effect is to have a viral event occur, where the energy of simultaneous exposures offsets the natural drag any idea has as it moves through the system. When transmission of an idea tapers off, it encounters another fresh exposure from the other wave to reinvigorate it.

This use case is particularly valuable where efficiency of effective communication is important, or where the community is "tired" from traditional message bombardment.

CONNECTION MANAGEMENT

Rewire network transmissibility and power by driving key introductions

It can be extremely tempting to look at the map of a community network as a static reality – with node and edge value being a kind of absolute in which we can make our insertions of messaging.

By contrast, this approach to the algorithm application turns that on its head by instead asking what relationships we can forge to rewire the network map in order to bring key (converted) actors into a more dominant position.

This approach has tremendous impact on:

- organizational cohesion and resilience, minimizing dangerous silos
- diversity and inclusion for soft power structures – information, influence, and input
- efficiency and accuracy of communication within an organization (reducing the broken telephone game)
- engagement and excitement – bringing high energy people in range of each other to support one another

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PART 3 – NEXT STEPS

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Having established together the big picture and a common vocabulary of the key concepts involved, our conversation naturally flows from **WHAT** to ***WHY*** and ***HOW*.**

I would love the chance to chat about how we can harness the power of the algorithms together to help you build in maximum impact in a low friction way.

Thank you so much for taking the time to read all the way to the end!

~ Graham

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