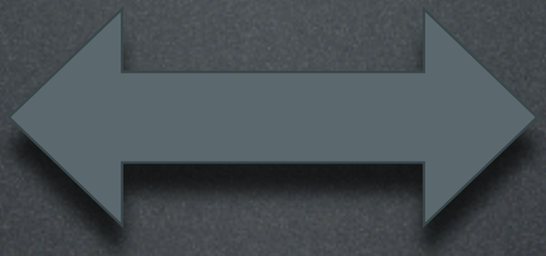
How Stuff go Viral

Social Science Theory to Math Equations

Sociology & Psychology



Network Theory Math

Hong Qu
Visiting Nieman Fellow
April 30, 2013 Berkman Center

Content

- Introduction
- YouTube formula
- Upworthy equation
- Sociology & Psychology
- Network Theory
- Summary

About me

UC Berkeley School of Information

2003

The City University of New York
CUNY GRADUATE SCHOOL OF JOURNALISM

2006

Nieman Foundation for Journalism at Harvard

2012

2013

UPWORTHY

YouTube

Google

UPWORTHY

Will That One Thing You Made Go Viral?

http://www.slideshare.net/Upworthy/the-sweet-science-of-virality/19

Factor Analysis

Total Views = (x)Shares + (y)Embeds + (z)Parodies

What The Hell Is Virality?

Shares per View	Clicks per Share	Viral?
LOW	LOW	Nope.
HIGH	LOW	Kinda?
LOW	HIGH	Not so much.
HIGH	HIGH	Hell yeah!

To get clicks, you MUST focus on framing things perfectly.

http://www.slideshare.net/Upworthy/the-sweet-science-of-virality/18

Harlem Shake

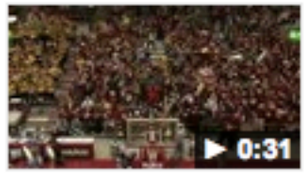
Harvard presents **Harlem Shake** (HMS/HSDM c/o 2016) - YouTube

www.youtube.com/watch?v=ELbeouceGQM

Feb 15, 2013 - Uploaded by clifference

Harlem Shake, **Harvard** Style **Harvard** Medical School + **Harvard** School of Dental Medicine class of 2016 ...

Harvard Student Section **Harlem Shake** - YouTube

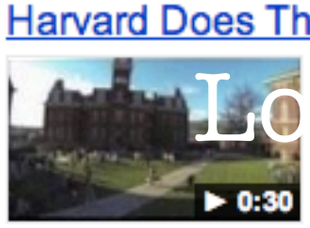


www.youtube.com/watch?v=5kTfecF7J-s

Feb 17, 2013 - Uploaded by bestspacetv

Harlem shake aka going retarded aka the retarded shake, sheeple new world order, mind control dumb ...

Harvard Does The Harlem Shake (**Harvard Harlem Shake**) - YouTube



www.youtube.com/watch?v=9fJq62fiWtM

Feb 13, 2013 - Uploaded by MoojoeMedia

Students at **Harvard** grouped together to create the popular growing dance known as the **Harlem Shake**. For ...

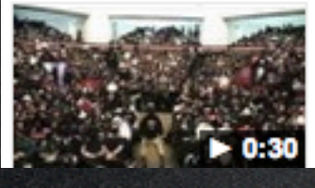
Harlem Shake vpf (**Harvard** Housing Day Edition) - YouTube

www.youtube.com/watch?v=LuydL61SnTs

Feb 12, 2013 - Uploaded by Matthew Chuchul

Housing Day 2013 Pforzheimer House We do not own the rights to any of the music in this video.

Harvard Harlem Shake Official From Harvard Students and ...



www.youtube.com/watch?v=SBuKLxCAdso

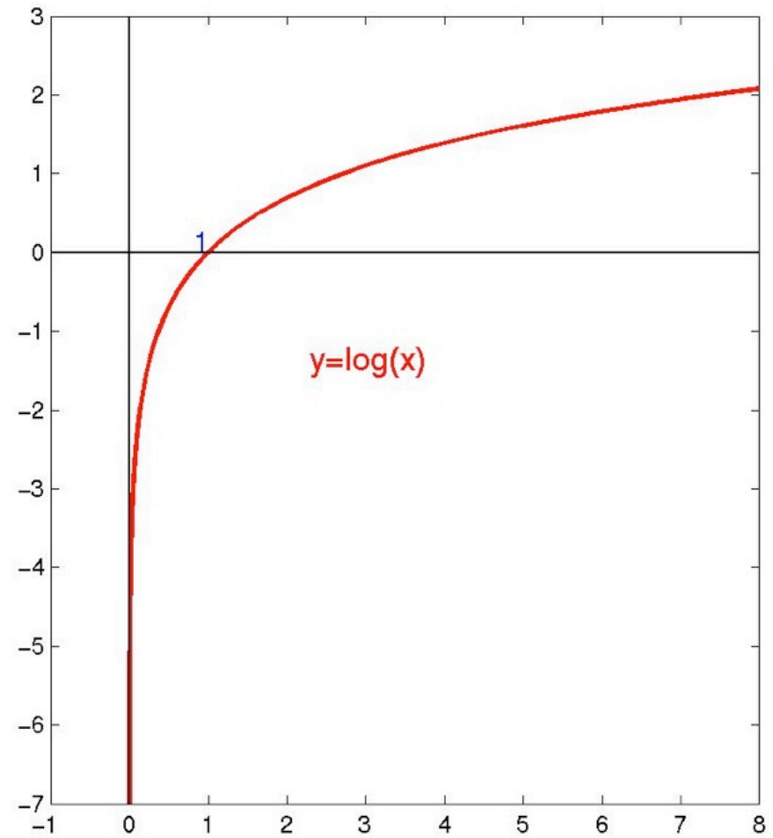
Feb 14, 2013 - Uploaded by MoojoeMedia

Students at **Harvard** grouped together to create the popular growing dance known as the **Harlem Shake**. For ...

http://knowyourmeme.com/memes/harlem-shake

Small World Networks

a network where the typical distance *L* between two randomly chosen nodes (the number of steps required) grows proportionally to the logarithm of the number of nodes *N* in the network



https://en.wikipedia.org/wiki/Small-world_network

Rethinking Information Diversity in Networks

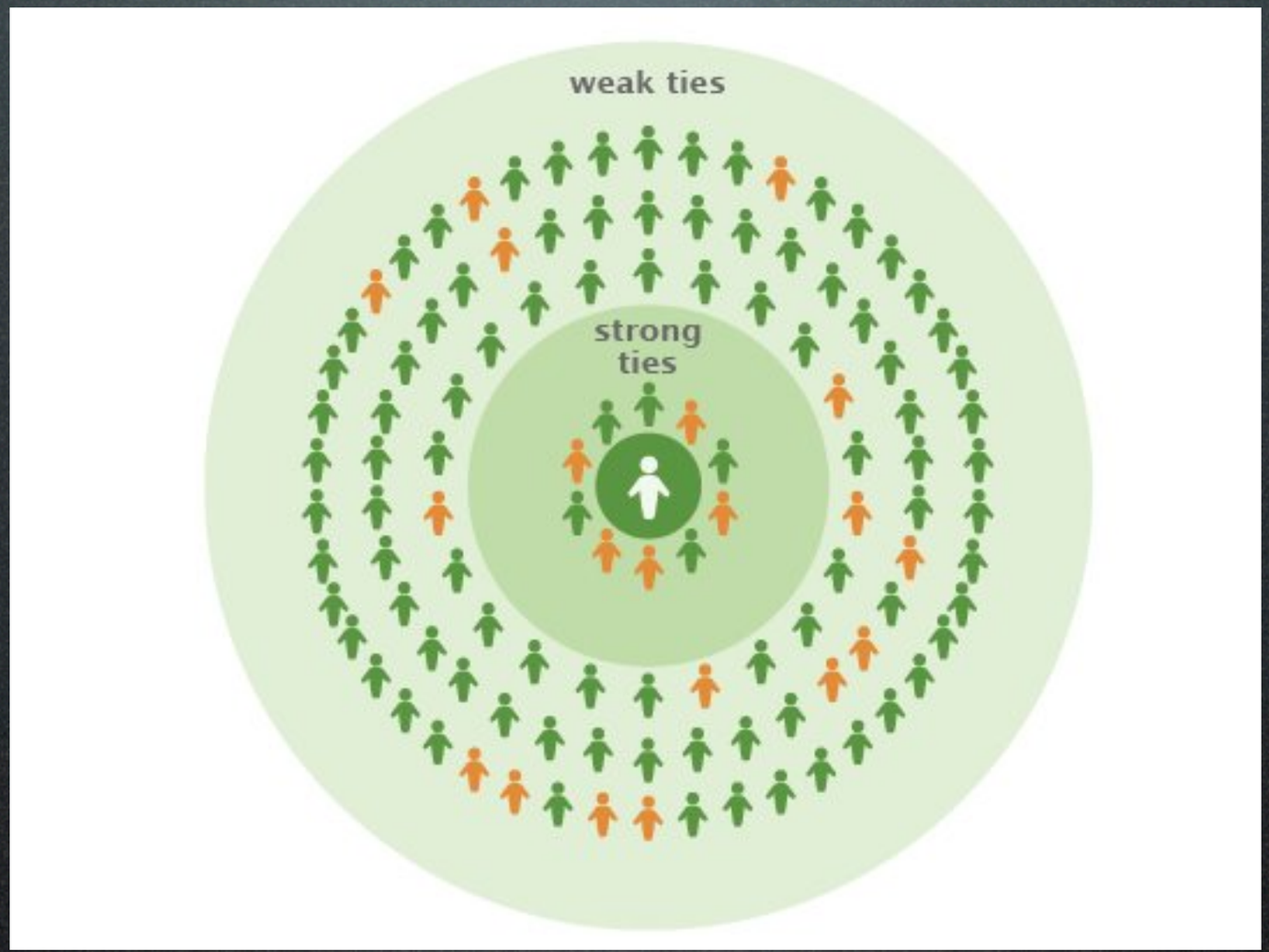
"Even though a person is more likely to share a single piece of information from one of their close contacts, it turns out that weak ties are collectively responsible for the majority of information spread."

"Tie strength between two individuals is measured by the number of comments a person received from their friend on Facebook. Other measurements of tie strength, like the number of messages, co-appearances in photos, and discussion on posts are discussed"

https://www.facebook.com/note.php?note_id=10150503499618859

http://www.scribd.com/doc/78445521/Role-of-Social-Networks-in-Information-Diffusion

Weak Ties



information spread due to weak and strong ties would be

100*0.15 = 15, and 10*0.50 = 5

https://www.facebook.com/note.php?note_id=10150503499618859

https://en.wikipedia.org/wiki/Mark_Granovetter#The_strength_of_weak_ties

PACIFIC OCEAN
ATLANTIC OCEAN
GULF OF MEXICO
Train Routes
Domestic Routes
Continental Airlines

Hubs

“the small-world network of airline flights has a small mean-path length (i.e. between any two cities you are likely to have to take three or fewer flights) because many flights are routed through hub cities.”

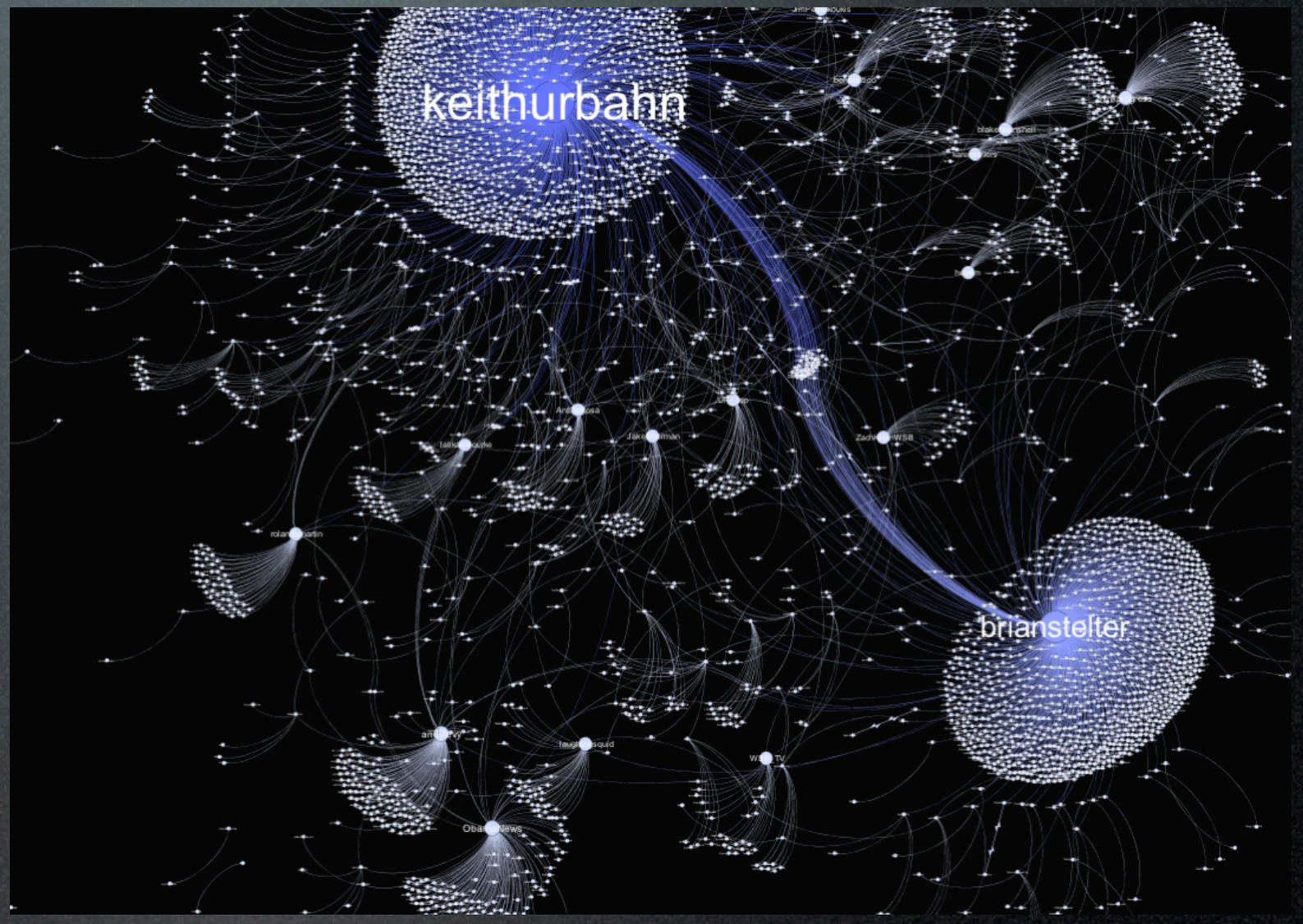
https://en.wikipedia.org/wiki/Small-world_network#Properties_of_small-world_networks

“Star Trek” star George Takei, who has 3.8 million fans on Facebook, drives more than 20,000 people to Upworthy at any one time for hours on end”

http://pandodaily.com/2013/04/03/upworthy-says-weve-been-doing-viral-all-wrong-serious-stuff-is-more-shareable-than-lol-cats/

Super Sharers are Hubs

- Influencers
- Amplifiers
- Connectors
- Hubs



Hubs connect subgroups or cliques

Dramaturgy

“Sharing information between two people used to be about giving a part of yourself away. Now, I'm wondering if it's about crafting a persona.”

“Sharing used to be an exchange; now it's a declaration.”

https://en.wikipedia.org/wiki/The_Presentation_of_Self_in_Everyday_Life

https://medium.com/you-are-what-you-share/b5ab1f1806fb

UPWORTHY

Everyone Loves Raw, Human, Honest Moments

Bully Calls News Anchor Fat, News Anchor Destroys Him On Live TV

Mitt Romney Accidentally Confronts A Gay Veteran; Awesomeness Ensues

A Tea Partier Decided To Pick A Fight With A Foreign President. It Didn't Go So Well.

Elizabeth Warren Asks The Most Obvious Question Ever And Stumps A Bunch Of Bank Regulators

You can't fake authenticity.
People love it and share it.

http://www.slideshare.net/Upworthy/the-sweet-science-of-virality/31

symbiotic meme

[14T x (A1 + V1)] => Δ => [14T x (A2 + V2)] => [2T x (A3+V3)] OR

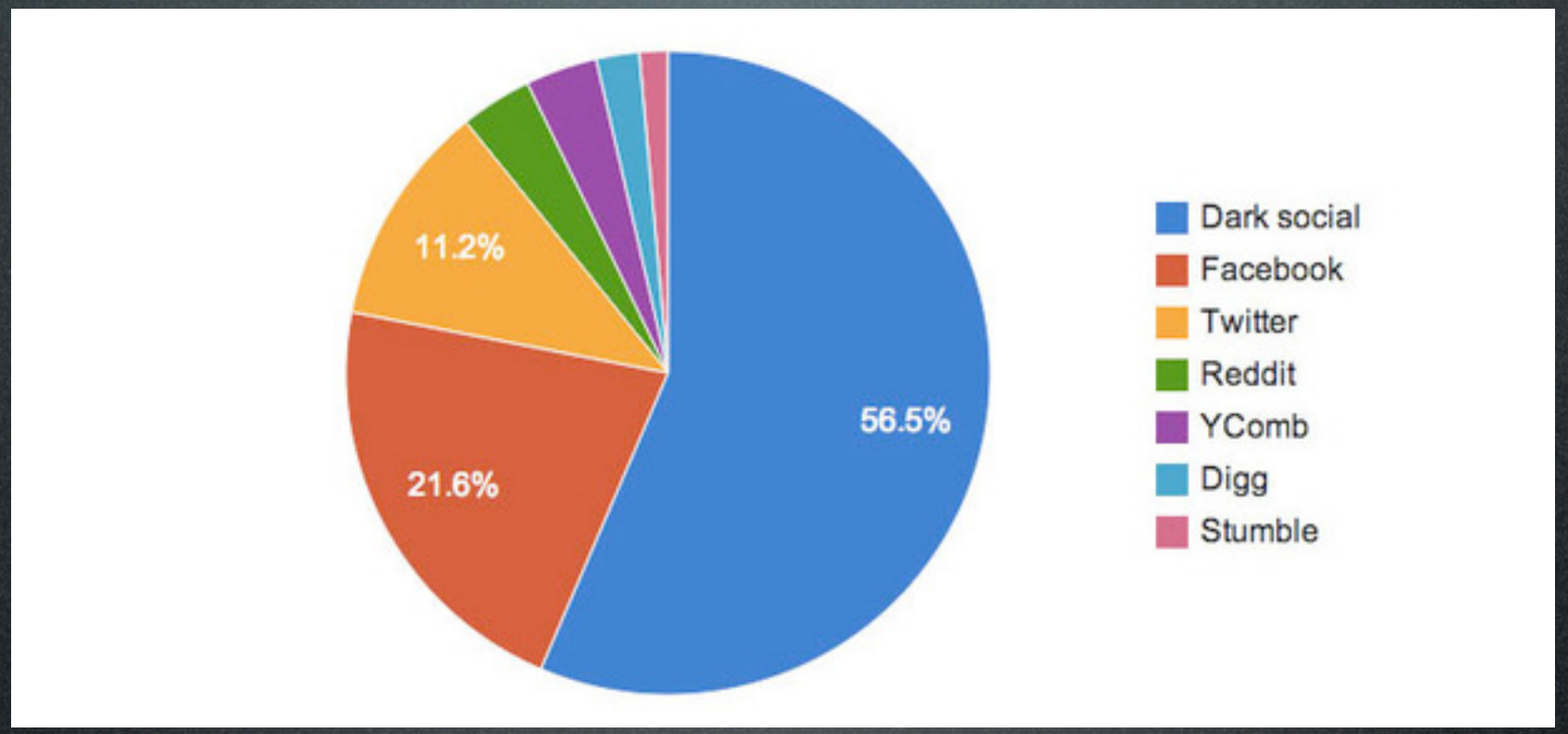
[14 seconds of (build-up music) played as (one person passively dances while others linger around them motionless)] then an instant video cut to [14 seconds of (bombastic dance music) played as (many people dance aggressively)] then [2 seconds of (a slurring sound) and (slow-motion video of the aggressive dancing)]

http://techcrunch.com/2013/02/18/what-is-the-harlem-shake-so-popular/

https://en.wikipedia.org/wiki/Fandom

https://en.wikipedia.org/wiki/Henry_Jenkins#Research_fields

Dark Social



“This means that this vast trove of social traffic is essentially invisible to most analytics programs. I call it **DARK SOCIAL**. It shows up variously in programs as "direct"... Most of the time, someone Gchatted someone a link, or it came in on a big email distribution list, or your dad sent it to you.”

http://m.theatlantic.com/technology/archive/2012/10/dark-social-we-have-the-whole-history-of-the-web-wrong/263523/

Summary

- Virality equations
  - factor analysis
  - clickability and shareability
- Memes mutate through fandom
- Weak ties spread information
- Hubs amplify to subgroups
- Self-expression drives dark sharing

Resources

- Upworthy Insider
- YouTube Trends
- Know Your Meme
- George Takei
- Measuring Dark Social Using Google Analytics
- Facebook Data
- Eytan Bakshy
- Social Design Principles -Paul Adams
- Duncan Watts
- Henry Jenkins