

“How do we get relevant information
to people without them explicitly asking or
looking for it?”

Will Webberley

Supervised by Dr Stuart Allen & Prof Roger Whitaker

Epistemic search – “search information just to satisfy their desire for knowledge” [1]

WIKIPEDIA
The Free Encyclopedia

Article Discussion Read Edit View history Search

Lake Vostok

From Wikipedia, the free encyclopedia

Coordinates:  77°30'S 106°00'E

Lake Vostok (Russian: восток, "East") is the largest of more than 140 subglacial lakes found under the surface of Antarctica. The overlying ice provides a continuous paleo-climatic record of 400,000 years, although the lake water itself may have been isolated for 15^[1][2] to 25 million years.^[3] The lake is named after the ship of Fabian von Bellingshausen, an Antarctic pioneer.

The lake is located beneath Russia's Vostok Station, 4,000 metres (13,000 ft) under the surface of the central East Antarctic ice sheet. The ice surface is at 3,488 metres (11,444 ft) above sea level. The lake is 250 kilometres (160 mi) long by 50 kilometres (31 mi) wide at its widest point, thus similar in size to Lake Ontario, and is divided into two deep basins by a ridge. The water over the ridge is about 200 metres (660 ft), compared to roughly 400 metres (1,300 ft) deep in the northern basin and 800 metres (2,600 ft) deep in the southern. Lake Vostok covers an area of 15,690 square kilometres (6,060 sq mi). It has an estimated volume of 5,400 cubic kilometres (1,300 cu mi) and consists of fresh water.^[4] The average depth is 344 metres (1,129 ft). No water sample has been obtained yet.

Contents [hide]

1 Discovery
2 Geological history



Satellite-based image of Lake Vostok. (NASA GSFC)

Coordinates	 77°30'S 106°00'E
Lake type	subglacial rift lake
Basin countries	(Antarctica)
Max. length	250 km

[1] Yunjie Xu, *Relevance Judgment in Epistemic and Hedonic Information Searches*, Journal of the American Society for Information Science and Technology, 2007.

Princess Beatrice's hat offered own TV series

06-05-11

THE hat worn by Princess Beatrice at the Royal Wedding has been offered its own chat show.

The Philip Treacy creation became a hit with online communities due to its self-deprecating nature and will now sign a television contract thought to be worth millions.

A spokesman said: "Princess Beatrice's hat fronting a talk show is just what the nation needs during these tough times. It's strange looking but talented, like Susan Boyle if she was a hat."

But the TV deal has been condemned by Princess Beatrice's sister Eugenie who also wore a hat at the wedding.

A friend of Eugenie's said: "If you'd told her last week that Bea's hat would be offered a prime-time talk show she'd have eaten her own hat which at least looks like a hat."



The Duchess of York is offering people the

Hedonic search –

"search information for fun or affective stimulation" [1]



NEWS TECHNOLOGY

[Home](#) | [World](#) | [UK](#) | [England](#) | [N. Ireland](#) | [Scotland](#) | [Wales](#) | [Business](#) | [Politics](#) | [Health](#) | [Education](#) | [Sci/Environment](#) | **Technology** | [Entertainment & Arts](#)

30 April 2011 Last updated at 00:01

454 Share

William and Kate's World Wide Wedding



By **Iain Mackenzie**
Technology reporter, BBC News

The marriage of Prince William and Kate Middleton was an event for the internet age.

Great traditions of state were celebrated by the modern institutions of the web.

Facebook, Twitter, Google and YouTube were all given over to the royal wedding.

And, like the streets around Westminster Abbey, cyberspace was buzzing with talk of the big day.

Leading the online celebrations was the British monarchy's own [royal wedding website](#).

Royal tweets

Throughout the ceremony, @ClarenceHouse tweeted updates:

"The Archbishop of Canterbury begins the solemnization of the marriage #rw2011"

"The Fanfare plays! Congratulations to The Duke and The Duchess of Cambridge! You can use our hashtag #rw2011 to send a message #royalwedding"



Google's "doodle" featured a carriage progressing from Westminster Abbey to a fairytale castle

[Web](#) [Images](#) [Videos](#) [Maps](#) [News](#) [Shopping](#) [Gmail](#) [more ▾](#)



- [Everything](#)
- [Images](#)
- [Videos](#)
- [News](#)
- [Shopping](#)
- [Books](#)
- [More ▾](#)

giraffes | can't dance



Search

giraffes can't dance

giraffes giraffes

giraffes facts

giraffes like cake

giraffes habitat

About 13,500,000 results (0.09 seconds)

[Go to Google.com](#) [Advanced search](#)



What's happening?

Timeline @Mentions Retweets Searches Lists



moonboywales Nicky Moon

Cup of tea and a bit of 60 minute makeover...when did I become my nan...?

2 minutes ago



csus2 Matthew Caddick

@DaveHillLovesIt its sunny here!

4 minutes ago



joeugh Joe Starling

Could really do without having a rugby tour to organise. *sigh*

6 minutes ago



_robin_sharma Robin Sharma by DanniiMinogue

If your biggest goals don't scare you at least a little, they're too small. #leadership

2 hours ago



stephenfry Stephen Fry

M'coll's album "Let Them Talk" just released today and it's already

No 2 in the iTune charts. itunes.apple.com/gb/album/let-t...

@HughLaurieBlues

10 minutes ago

Your Tweets 376

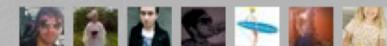


4 hours ago: I'm at School of Computer Science and Informatics w/
@martinjc @monkeyfishgoat <http://4sq.com/kDVkSr>

Following 64



Followers 72



Listed 4

Recently listed in: COMSCI, Best Friends, People I actually know, school

Trends

Worldwide · [change](#)

#100daystoheaven

#kutschool

#backtotwitterungmin

LoveULikeALoveSong

KIM RYEOWOOK

PARK JUNGSOO

WeLoveSwift

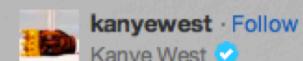
KPOP VOCALIST

CHOI SIWON

CHO KYUHYUN

Who to follow

Suggestions for you · [view all](#)



kanyewest · Follow

Kanye West



RPaul188 · Follow

Rebecca Paul



CaraConfused · Follow

Cara

[Refresh suggestions](#)

[Browse interests](#) · [Find friends](#)

Twitter-for-iPhone

n. the official Twitter app for iPhone.



Stephen Fry

@stephenfry [view full profile →](#)

London



British Actor, Writer, Lord of Dance, Prince of Swimwear & Blogger

<http://www.stephenfry.com/>

8,419

Tweets

52,652

Following

2,555,024

Followers

42,150

Listed



Neil Patrick Harris

@ActuallyNPH [view full profile →](#)

Hollywoodland

I act some. Dig variety acts, Pixar, puppets, theme parks and great meals. <http://twitter.com/ActuallyNPH>

466

Tweets

41

Following

1,423,980

Followers

39,044

Listed

Retweeting: how information is passed around Twitter



Queen_UK Elizabeth Windsor

Might take the DoE to the Antiques Roadshow. He's bound to be worth a bob or two.

18 hours ago Favorite Retweet Reply



Queen_UK Elizabeth Windsor by flyingSparx

Might take the DoE to the Antiques Roadshow. He's bound to be worth a bob or two.

19 hours ago



[flyingSparx](#): RT [@Queen_UK](#): Might take the DoE to the Antiques Roadshow. He's bound to be worth a bob or two.

less than 20 seconds ago via *TweetDeck* · [Reply](#) · [View Tweet](#)

Post a tweet

$x = \text{retweet_factor}$

Chance of being
retweeted

$$p(r) = f * x$$

Increases your chance of
gaining more followers

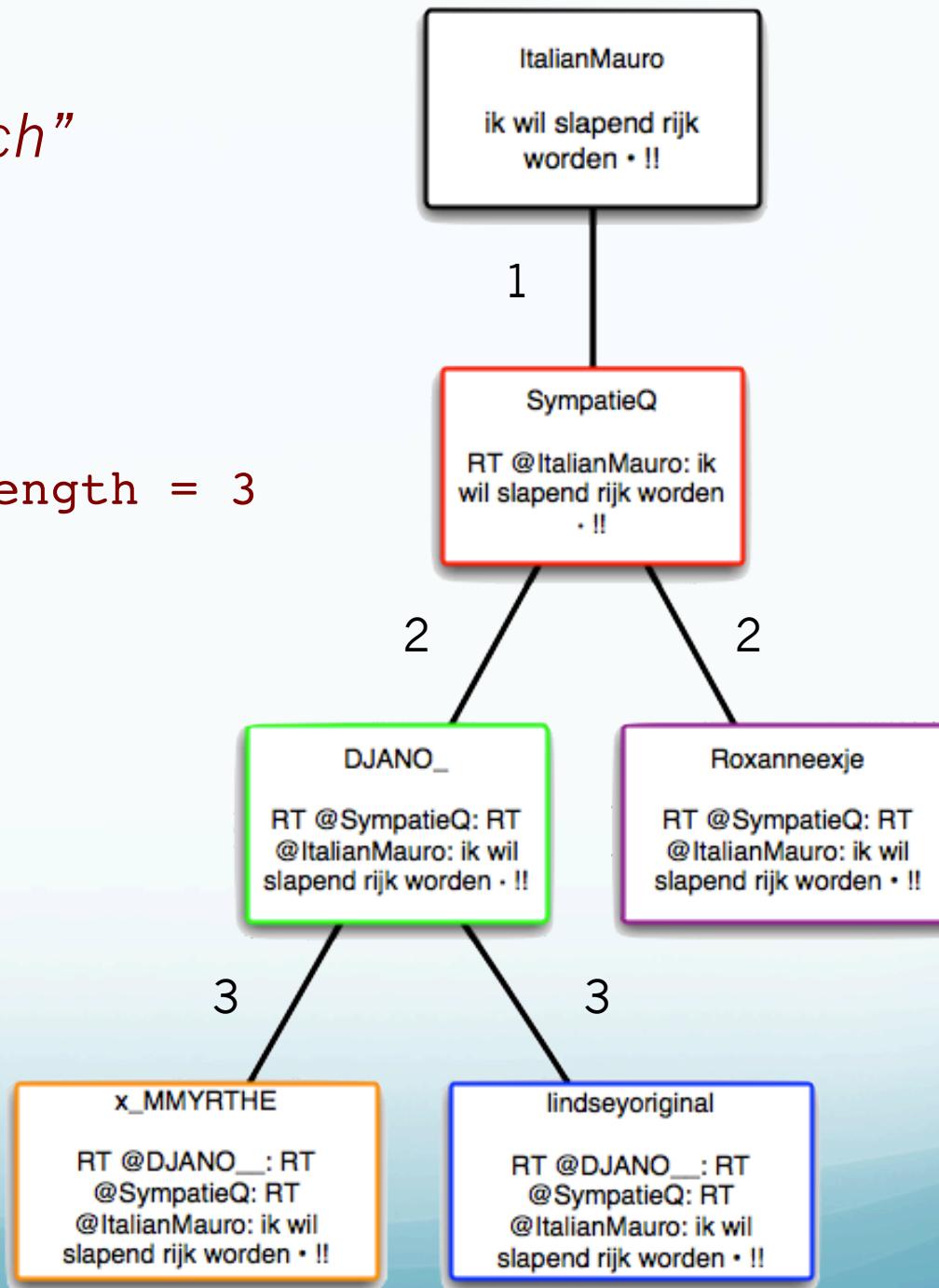
$f++$

Larger audience size

"I want to get rich"

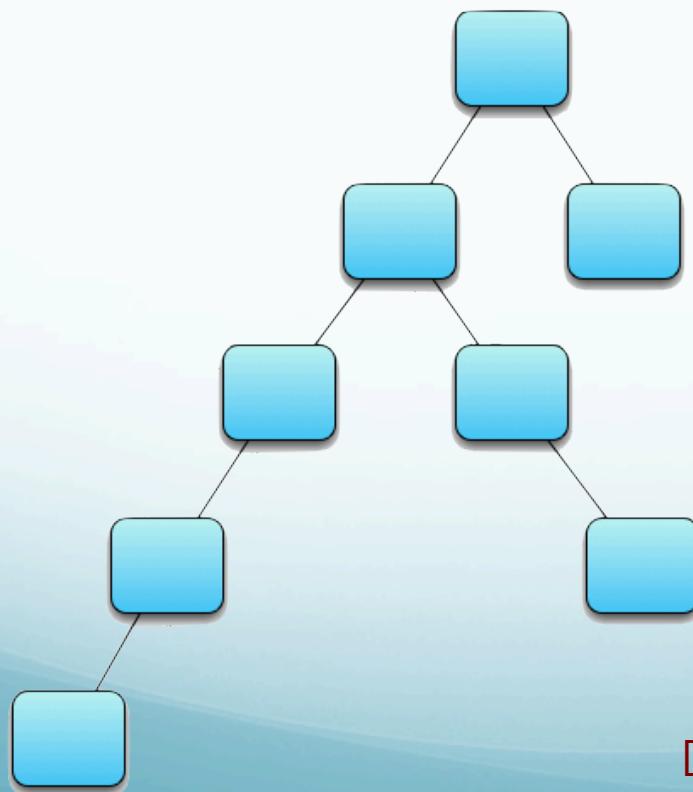
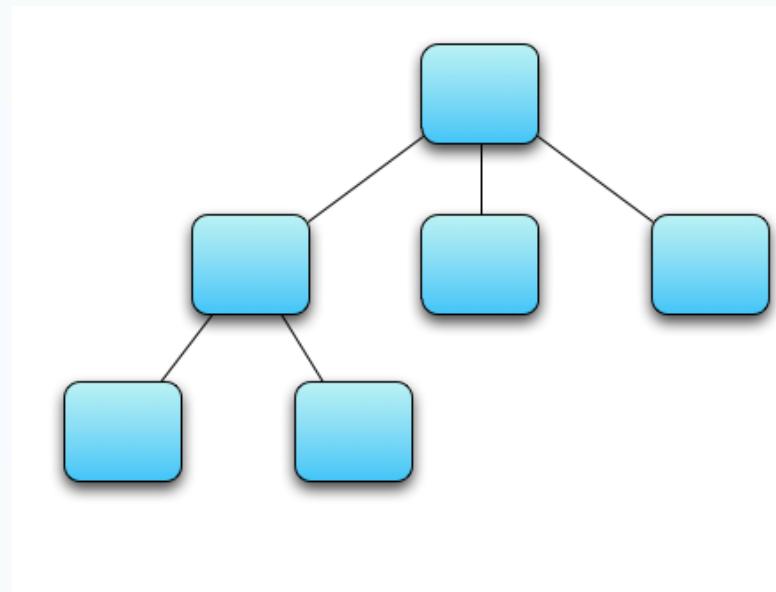
Maximum path-length = 3

Group size = 6



Average maximum path-length ~ 2

Average size ~ 6

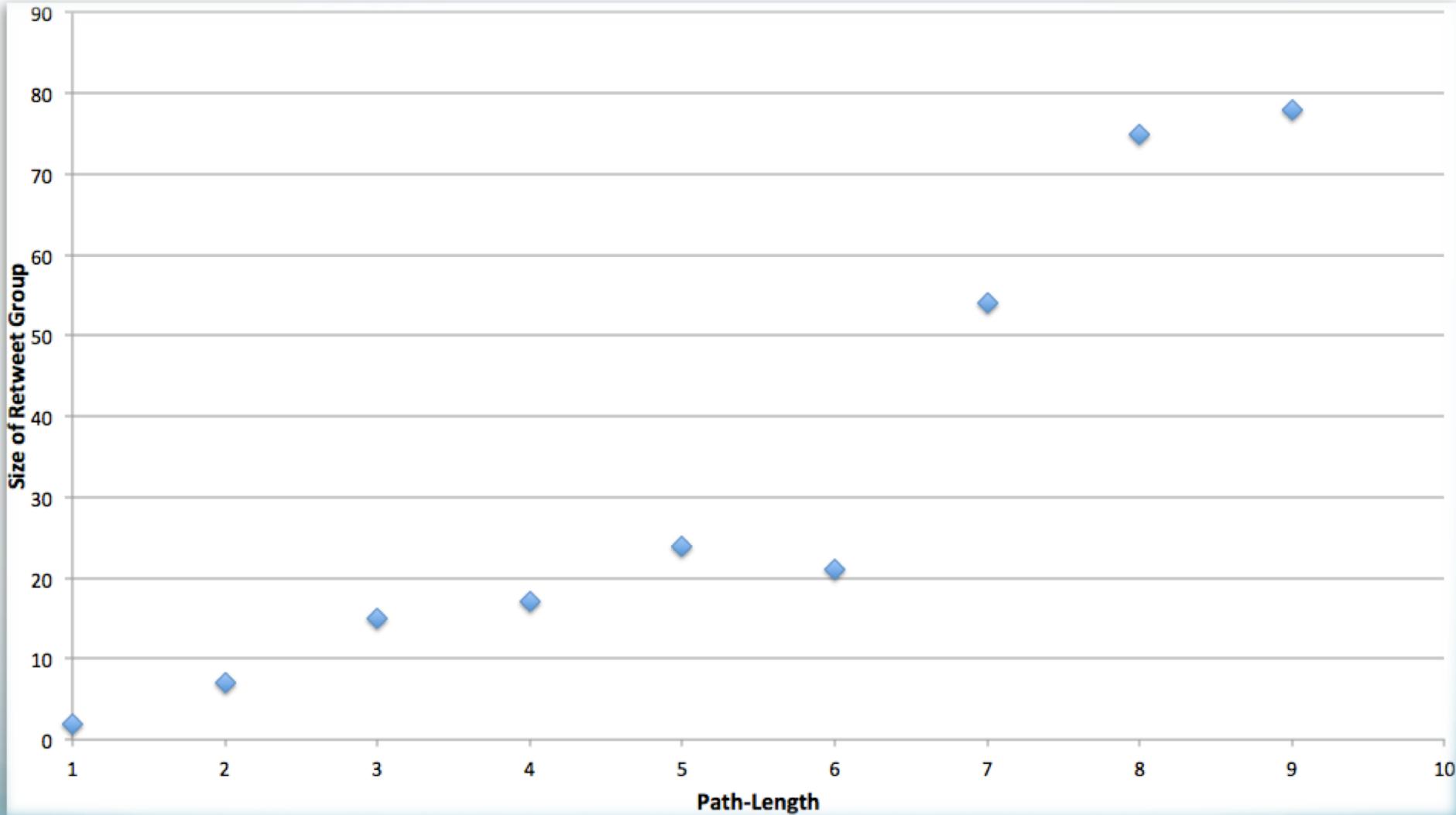


Longest maximum path-length = 9

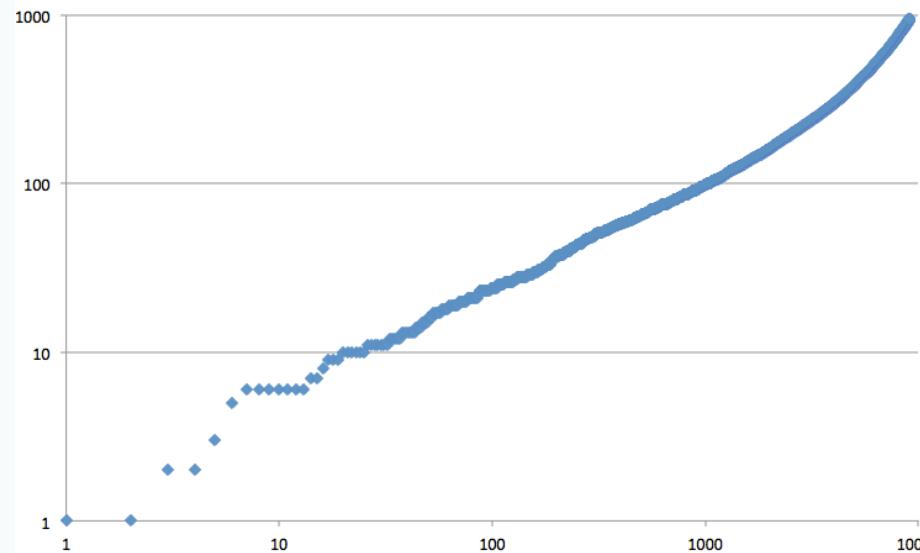
Largest size = 284

Data = 3900 groups (around 22,620 retweets)

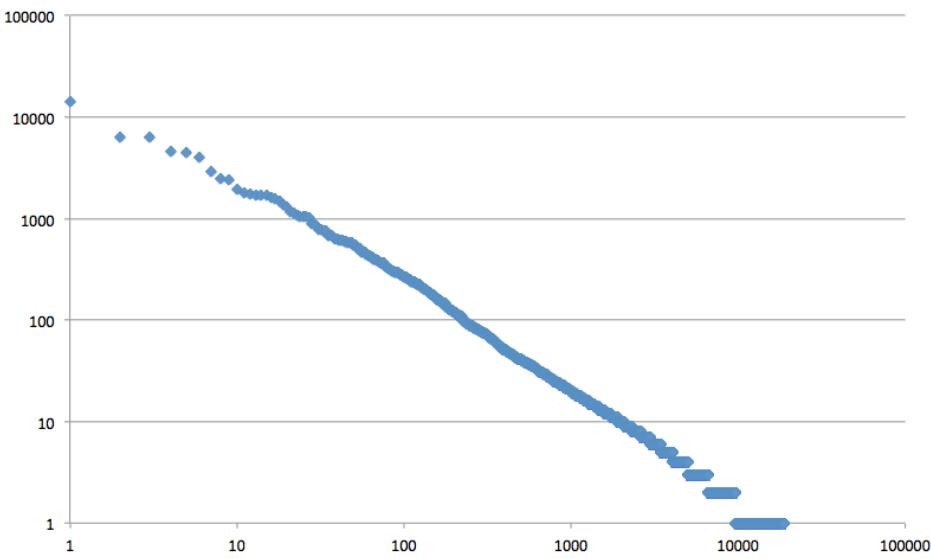
Size of retweet group varying with path-length



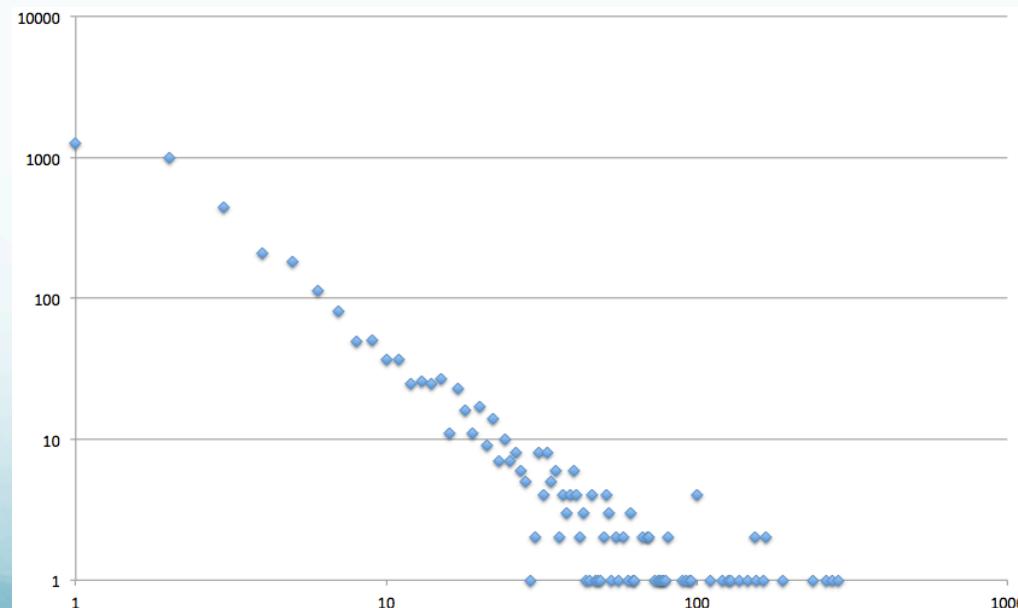
The human populations of US cities in 2000 [2]



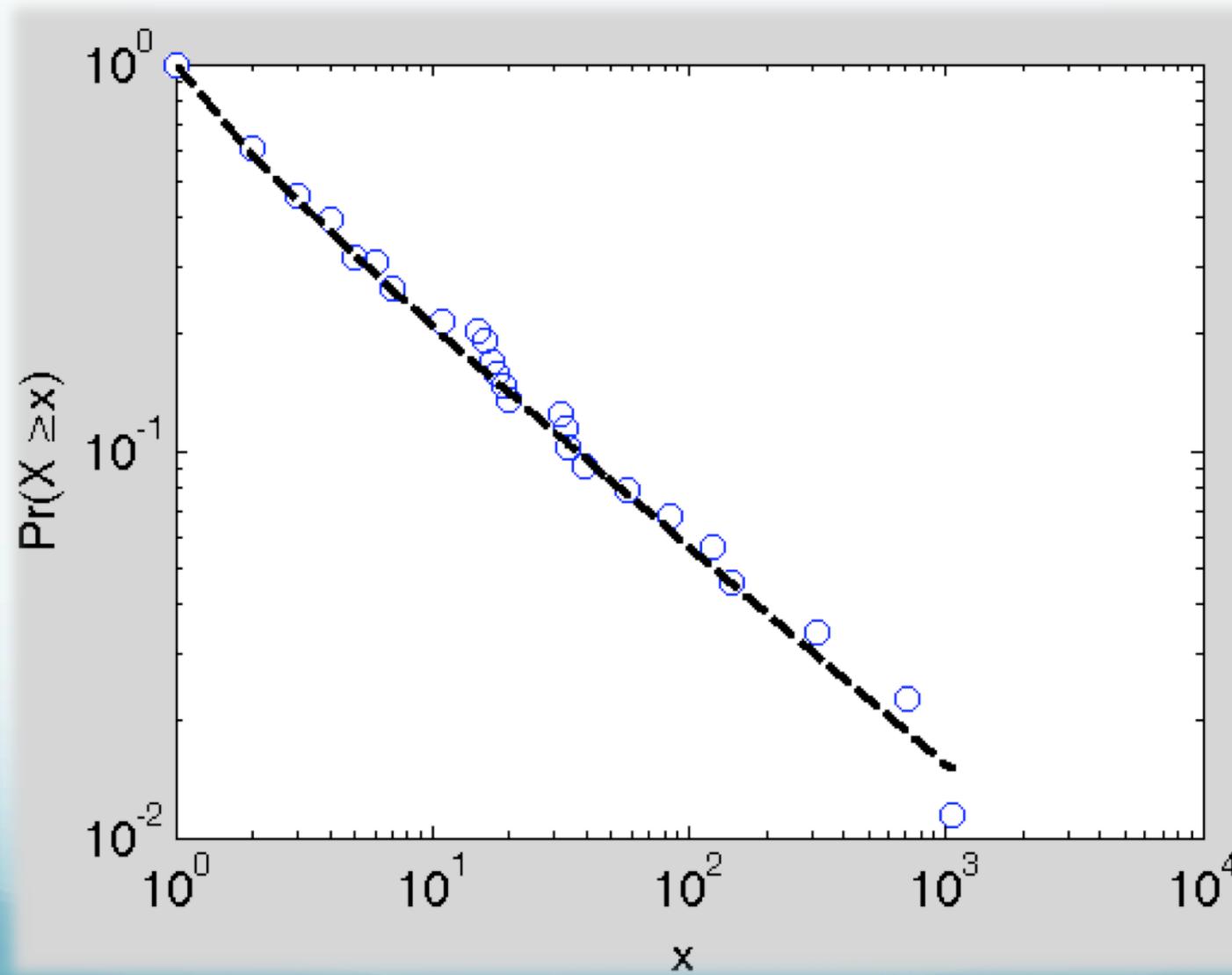
Occurrences of unique words in Moby Dick [2]



Occurrences of retweet group sizes



Maximum likelihood power-law fit for the cumulative distribution of retweet group sizes



Audience size =

1220

320

120

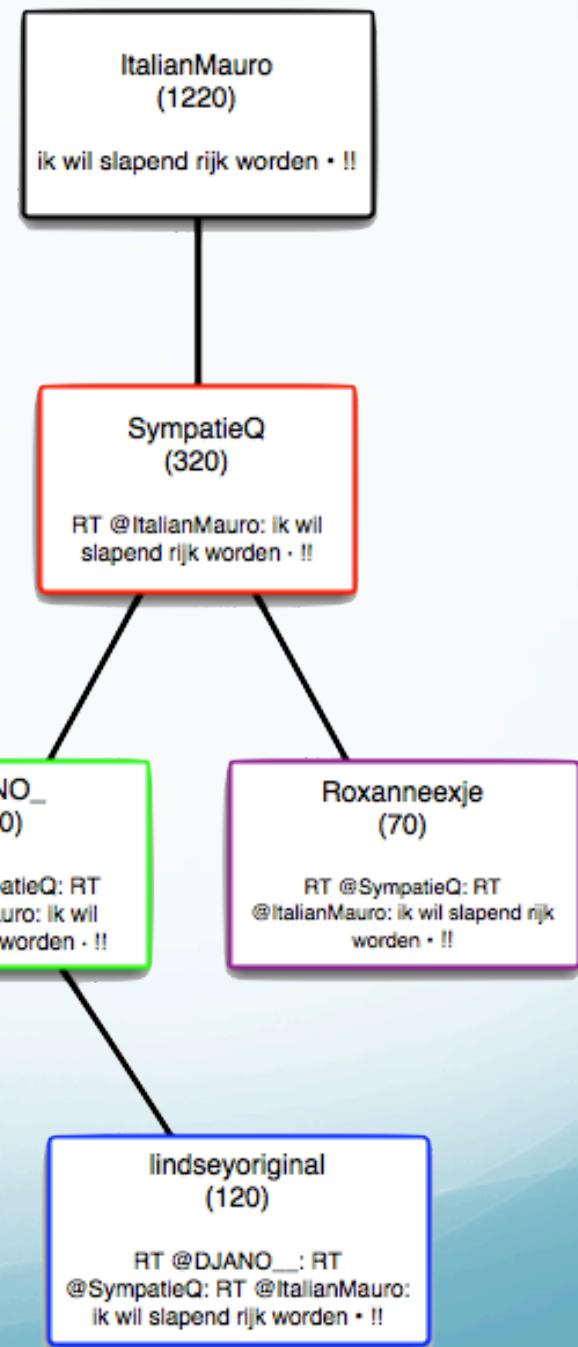
70

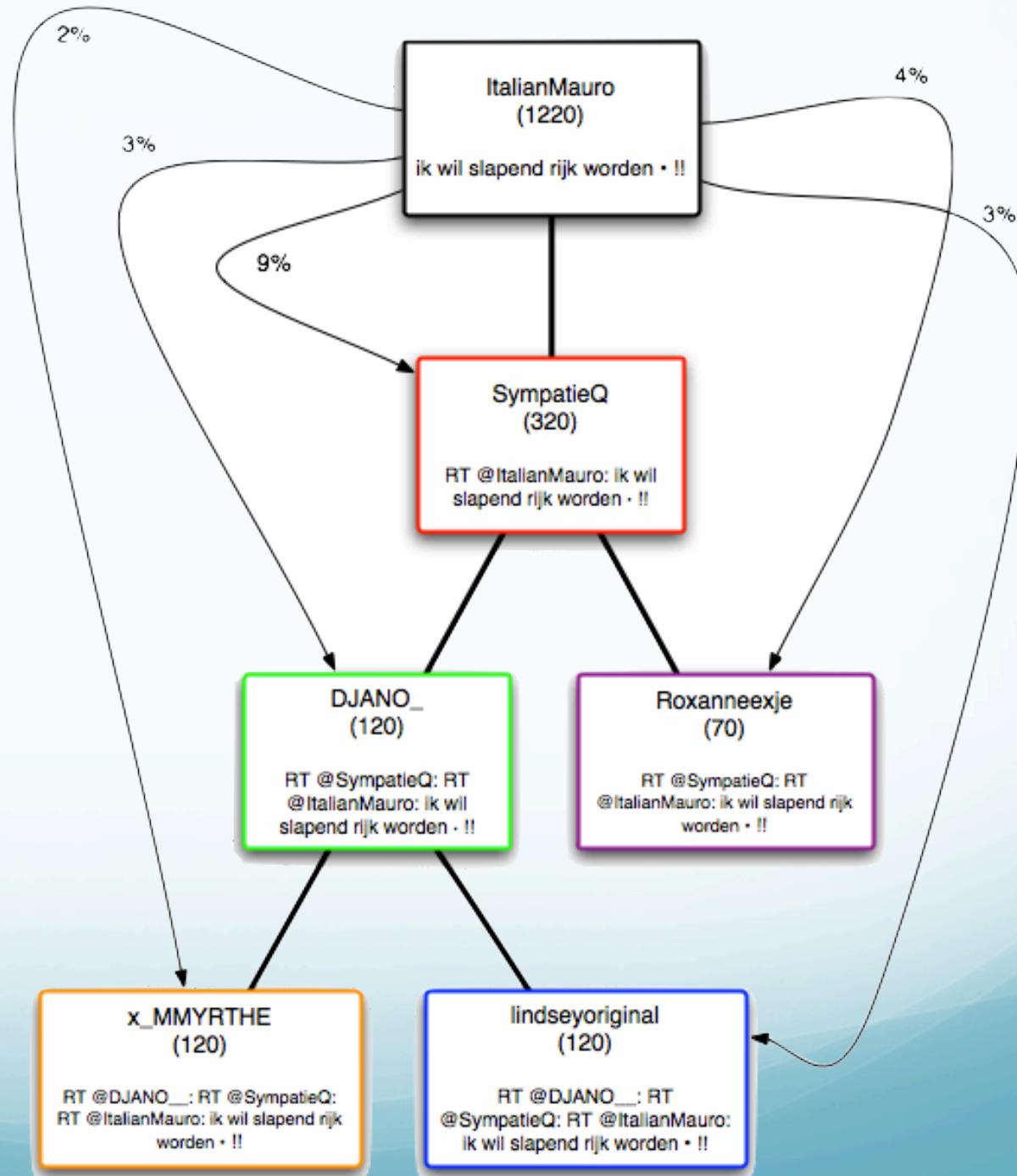
120

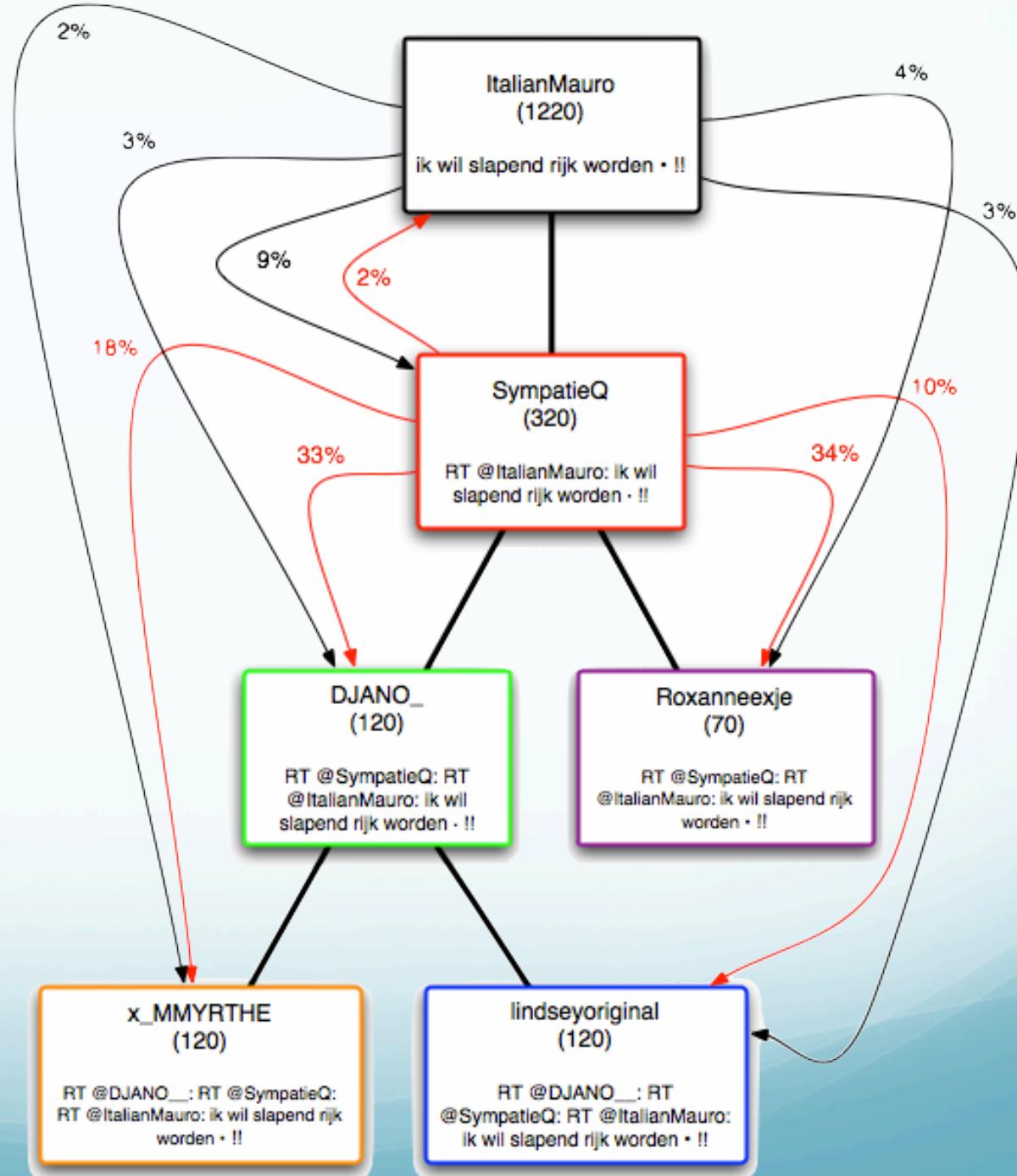
120

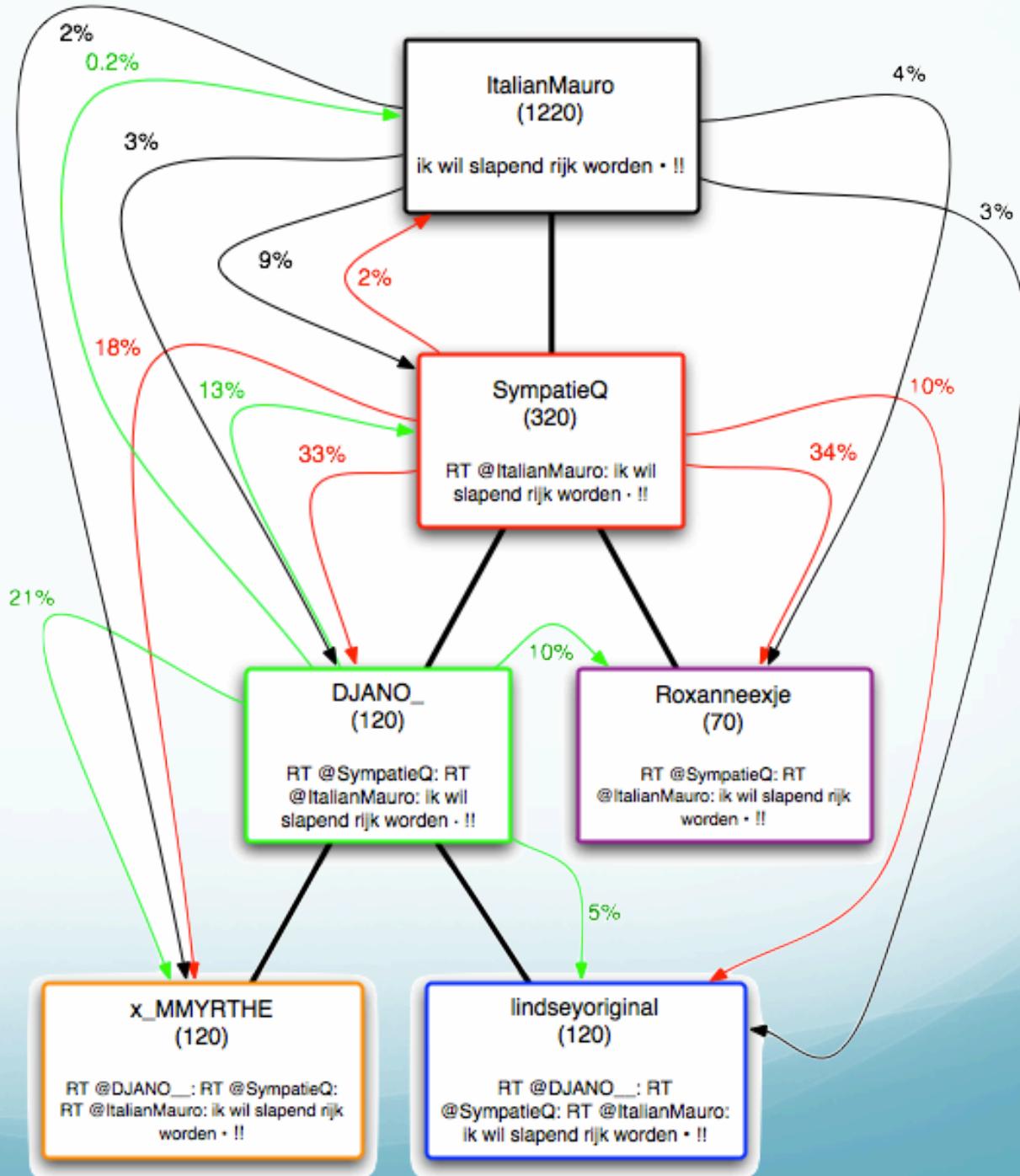
+

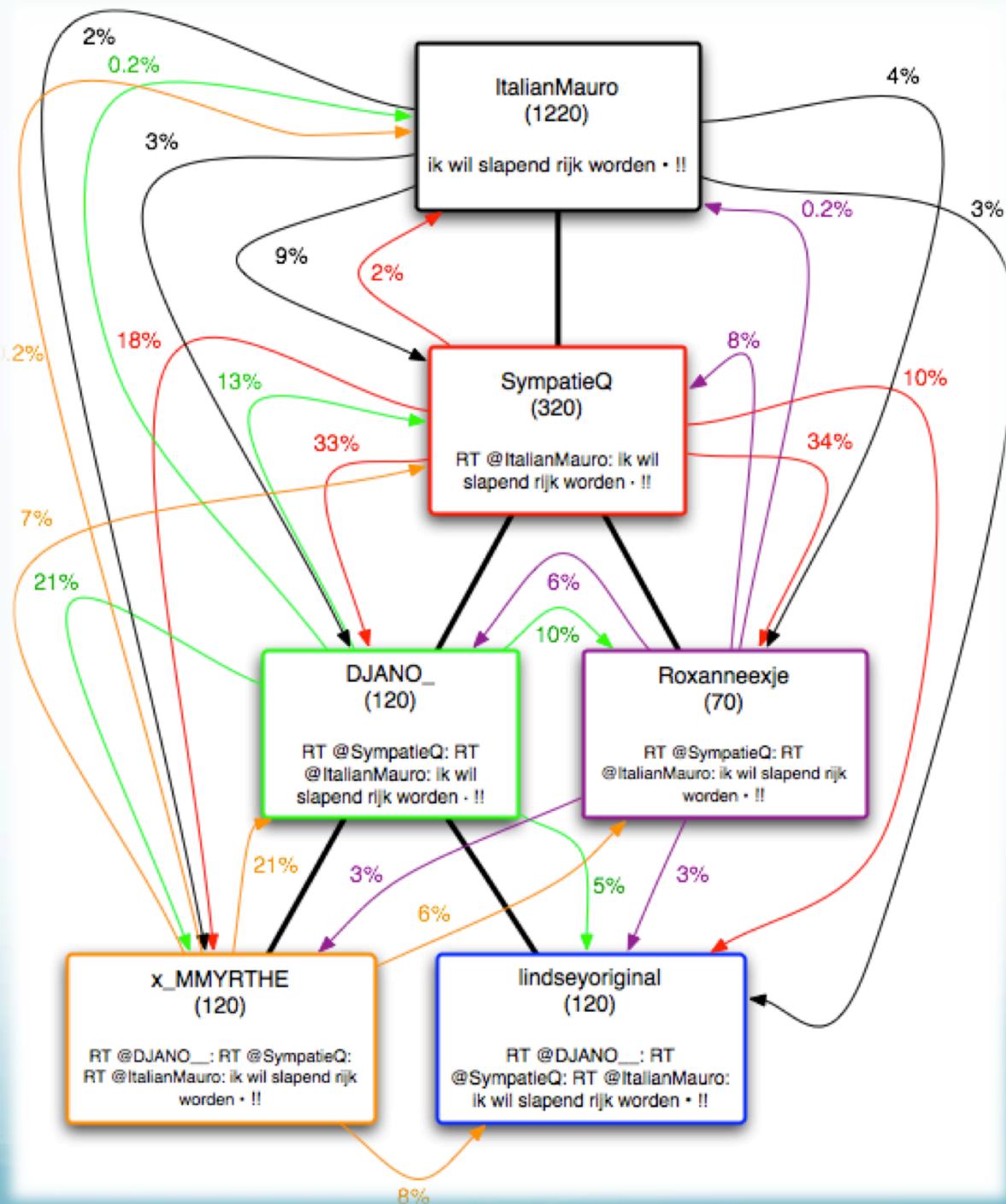
1970

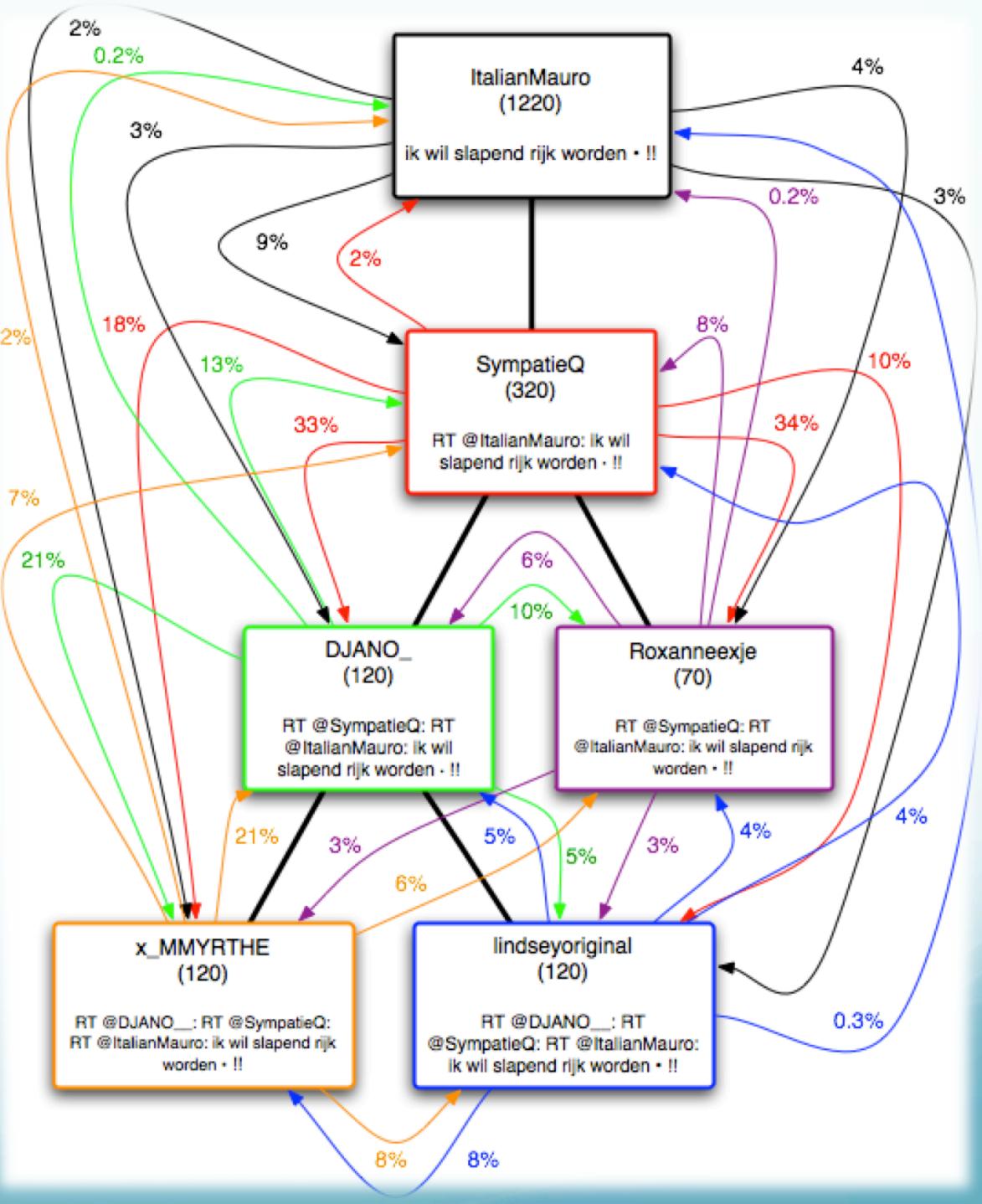












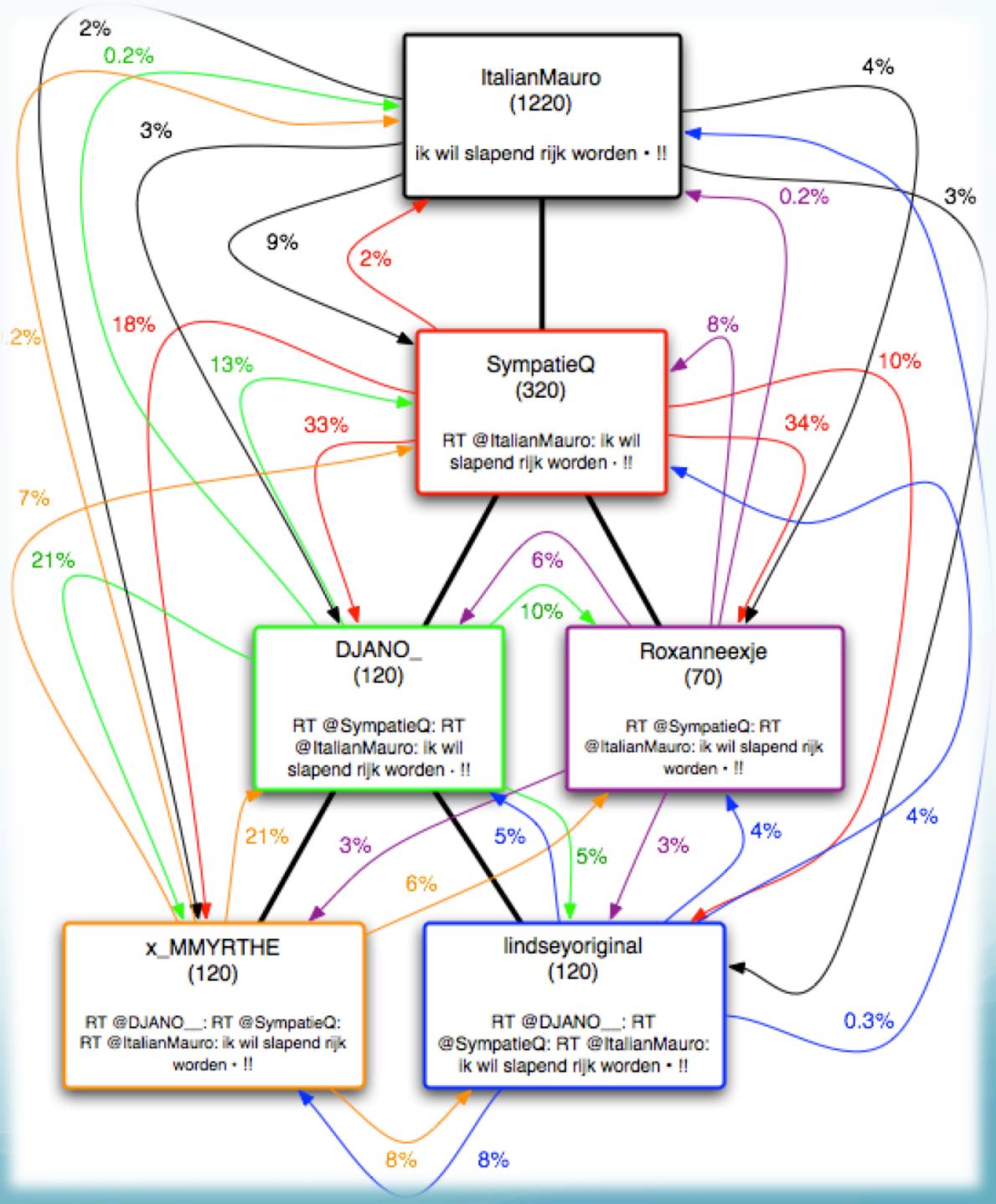
Audience size =

1970

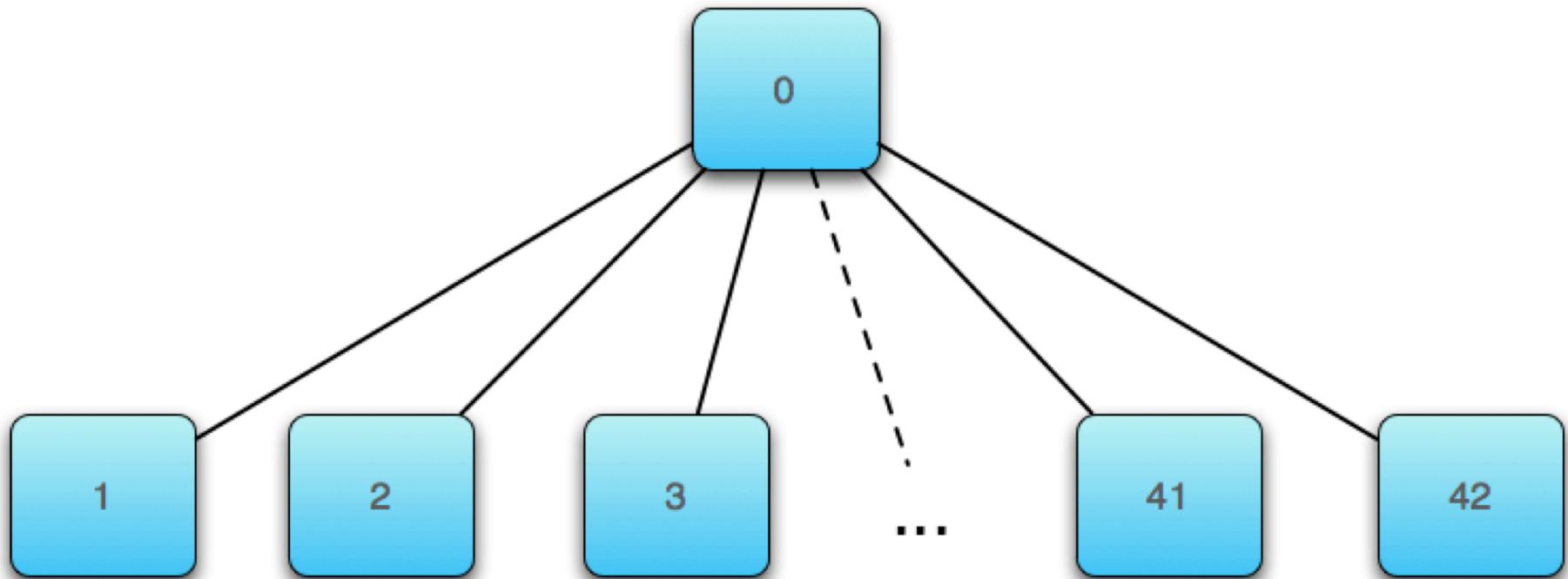
14.7% -

1681

Overhead = 289



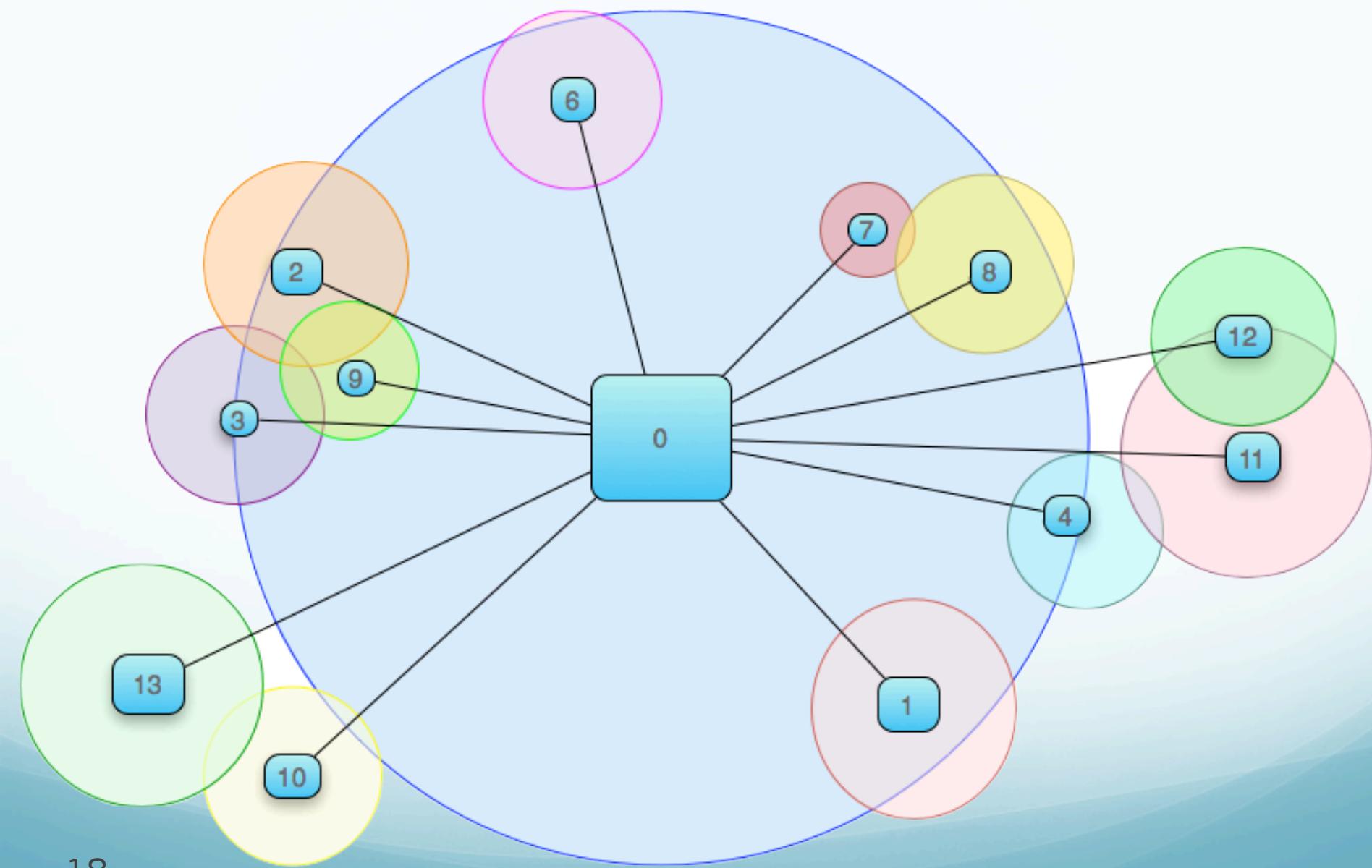
Overhead > audience size in 3% of cases



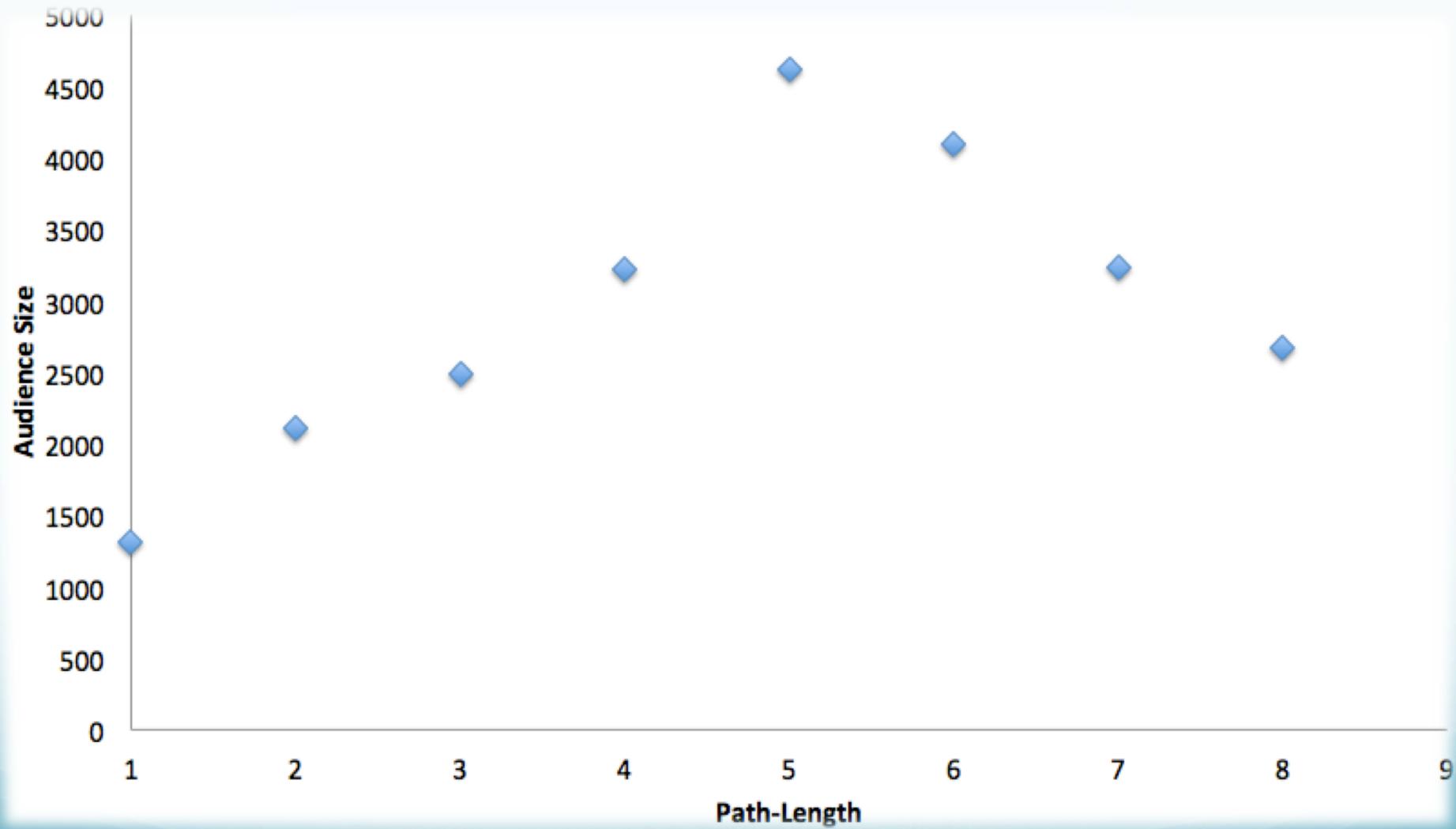
Audience = 7327

Overhead = 48868 (667%)

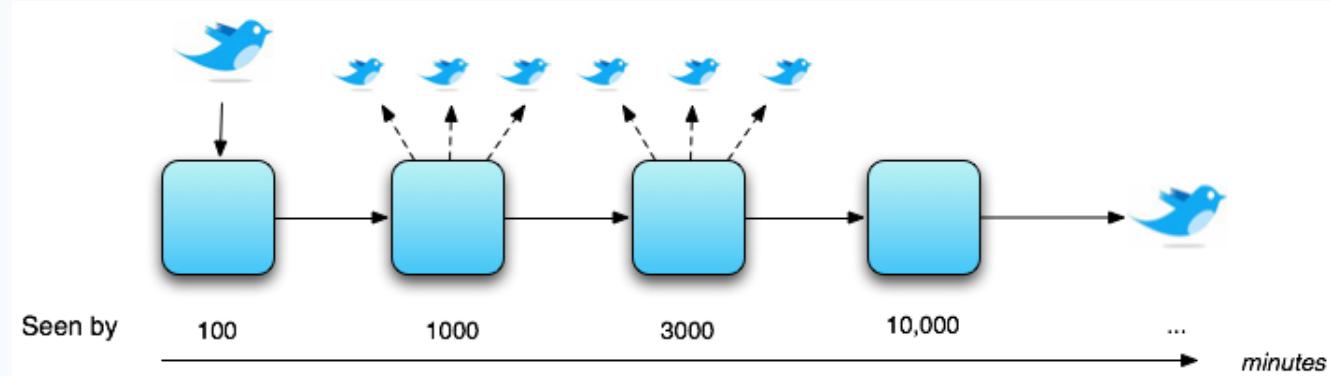
Conceptual follower graph for a ‘shallow’ retweet group



Audience size varying with path-length



In summary...



Next steps...

