CS 6474 Social Computing: Polarization and Selective Exposure

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Bubble Trouble

Is Web personalization turning us into solipsistic twits?

By *Jacob Weisberg*

Eli Pariser

The first conversation I ever had about the Internet was in 1993 with Robert Wright, who was then a colleague at the *New Republic*. This "Net" thing was going to be a big deal, I remember Bob telling me, but it could create a few problems. One was that it was going to empower crazies, since geographically diffuse nut jobs of all sorts would be able to find each other online. Another was that it could hurt democratic culture by encouraging narrow-minded folk to burrow deeper into their holes. Wright spelled out those concerns in an **article** that stands as a model of prescience and a delightful time-capsule. ("People who 'post' on the Net's many different bulletin boards—its 'newsgroups'—know that their words can be seen from just about any chunk of inhabited turf on this planet.")

How to Burst the "Filter Bubble" that Protects Us from Opposing Views

Computer scientists have discovered a way to number-crunch an individual's own preferences to recommend content from others with opposing views. The goal? To burst the "filter bubble" that surrounds us with people we like and content that we agree with.
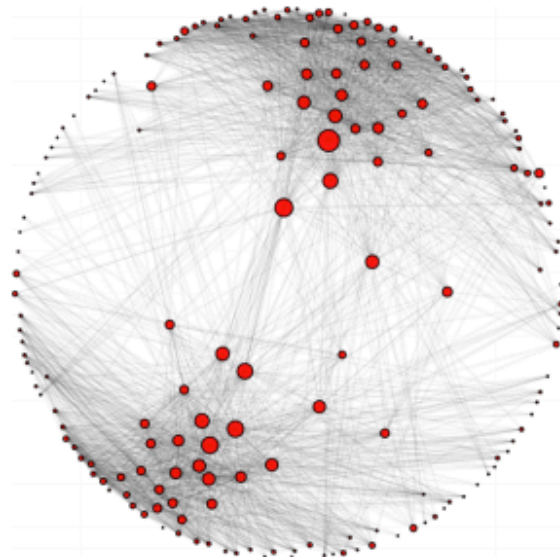
The term "filter bubble" entered the public domain back in 2011when the internet activist Eli Pariser coined it to refer to the way recommendation engines shield people from certain aspects of the real world.

Pariser used the example of two people who googled the term

Echo Chambers Online?: Politically Motivated Selective Exposure among Internet News Users

Summary

- The paper performs a survey study to examine how online news reading affects opinion reinforcement

- 700 people were asked to read news on two news sites
  - Individuals more like to read news stories that reinforces their opinions than those which challenge them

- Important finding:
  - "Having decided to view a news story, evidence of an aversion to opinion challenges disappears: There is no evidence that individuals abandon news stories that contain information with which they disagree."
  - People don't actively seek to exclude information that challenges their opinions, unlike what popular knowledge indicated
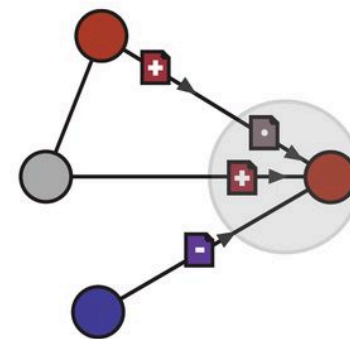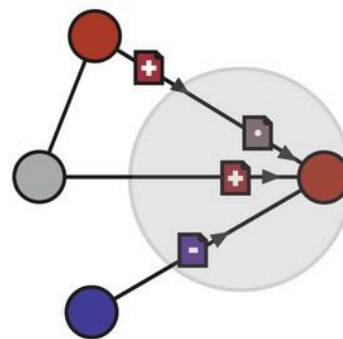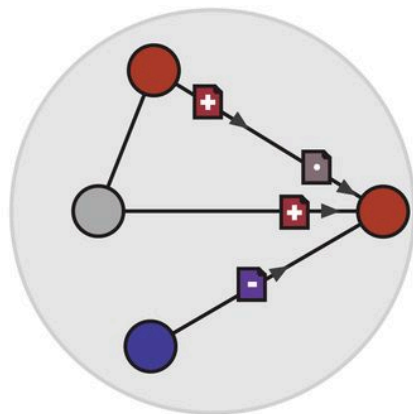
Exposure to ideologically diverse news and opinion on Facebook

Summary

- Rigorous work spanning examination of how 10.1 million U.S. Facebook users interact with socially shared news

- Directly measured ideological homophily in friend networks and examined the extent to which heterogeneous friends could potentially expose individuals to cross-cutting content
  - Examine how users clicked or engaged with ideologically similar or dissimilar content

- Main finding: Compared with algorithmic ranking, individuals' choices played a stronger role in limiting exposure to cross-cutting content.
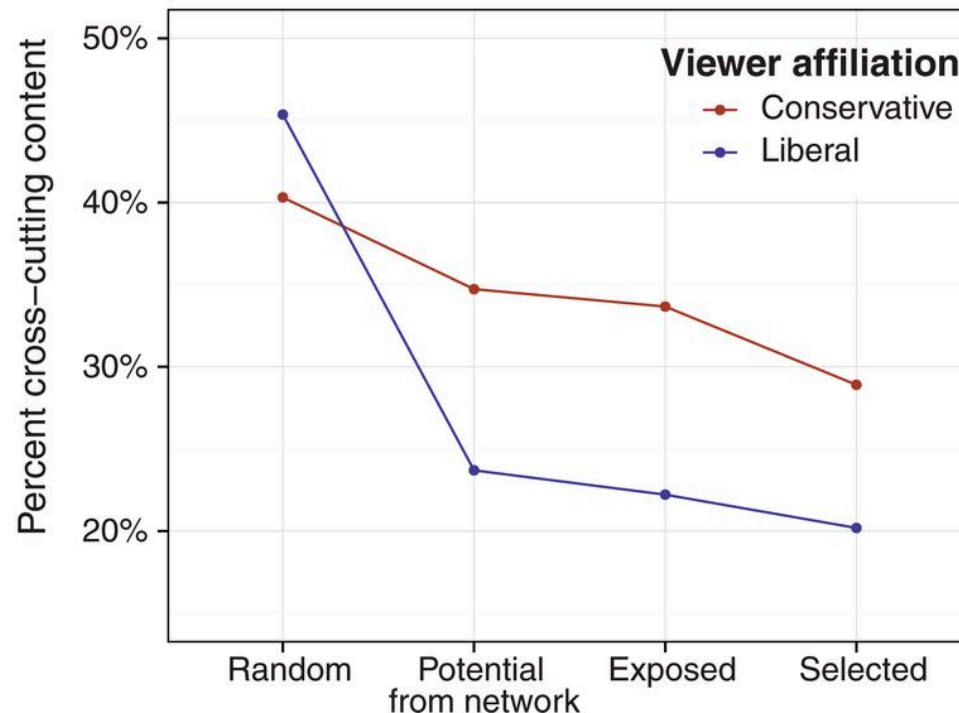
A

Stage in media exposure process

Potential from network   **Exposed**   **Selected**

Proportion of content that is cross-cutting

1/3   1/2   0/1

B

Percent cross-cutting content

50%
40%
30%
20%

Viewer affiliation
— Conservative
— Liberal

Random   Potential from network   Exposed   Selected

How did we get here? What do you think was the reasoning behind online platforms promoting/encouraging polarization or selective exposure?

Perhaps one of the biggest strengths of social computing systems is that they allow people to find like minded others and form communities. This seems to be at odds with the dangers of polarization.

Influence in the political sphere: 62% of adults in the US use social media to consume news, and 18% of adults are frequent consumers – Pew Internet
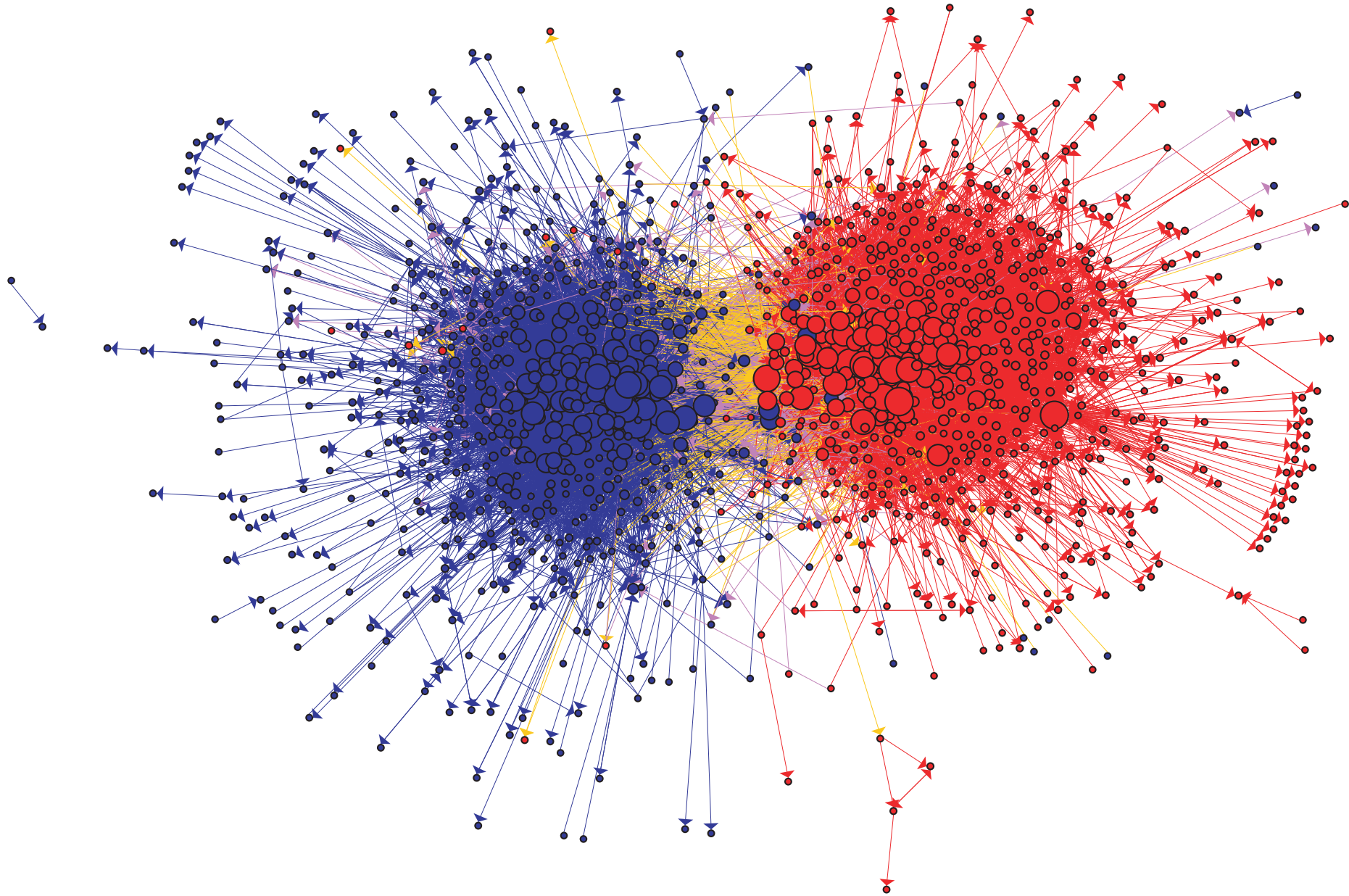
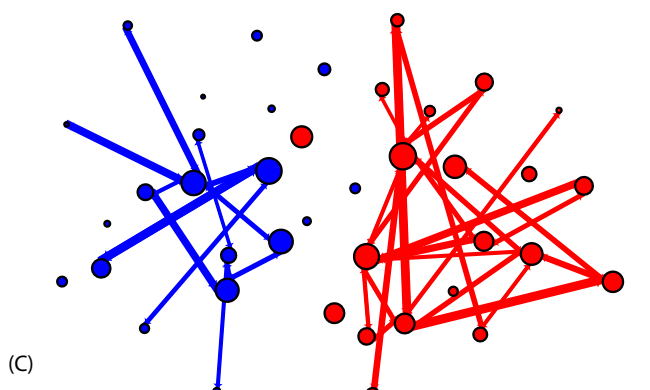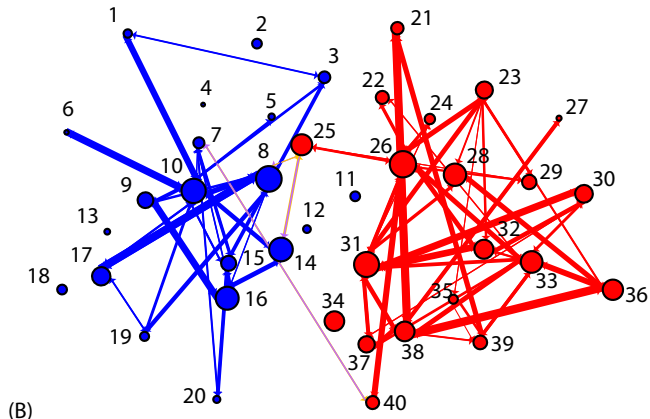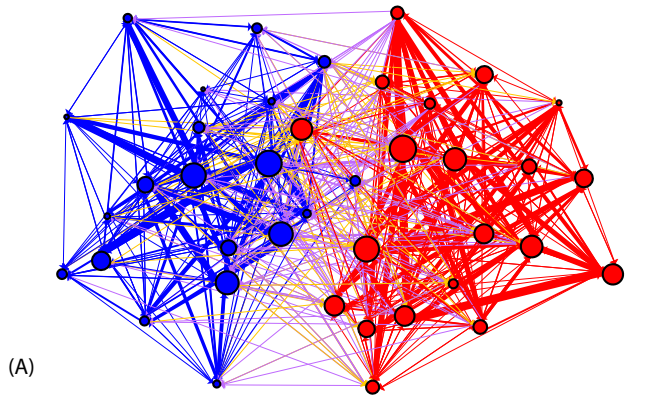Netflix Traffic - Sample N. American, Fixed Network
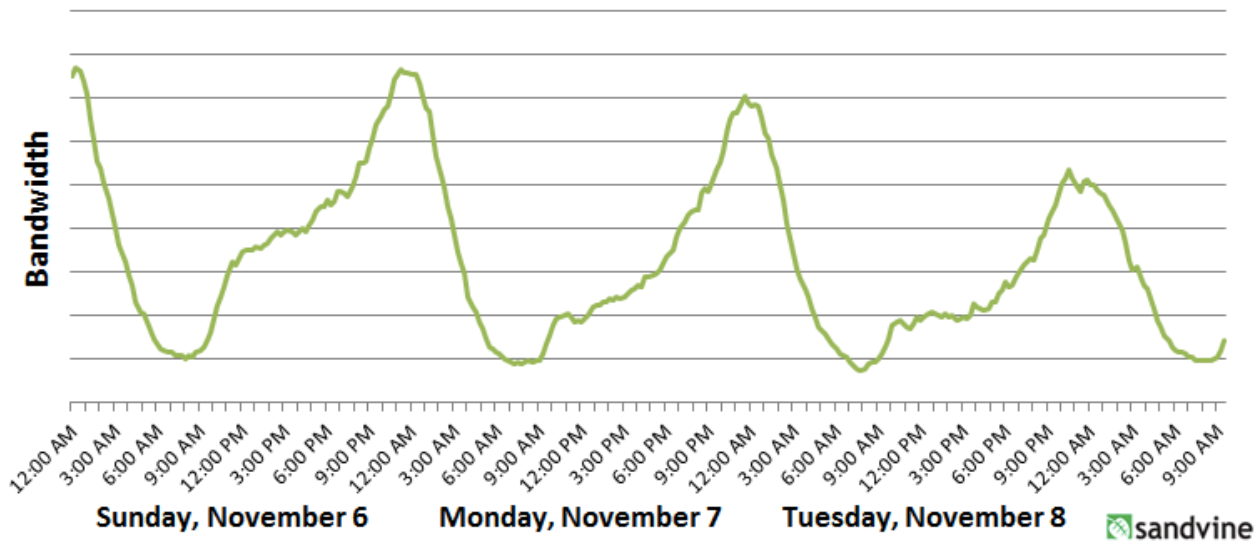
Social Networking Traffic - Sample N. American, Fixed Network

http://www.internetphenomena.com/2016/11/us-election-2016-tv-trumps-the-internet/
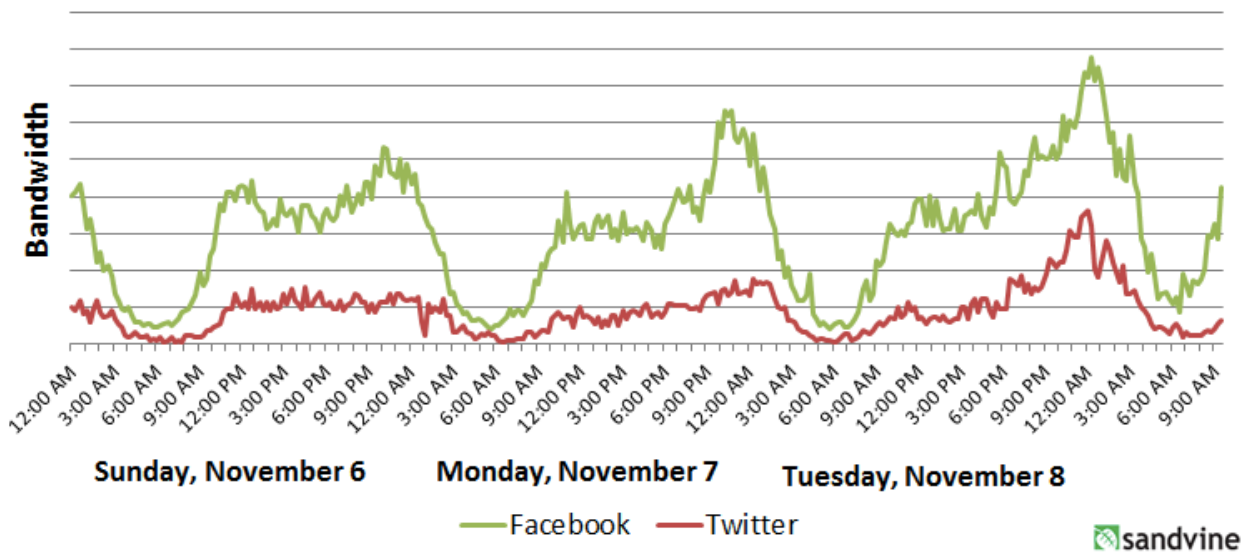
Adamic and Glance, 2004

Adamic and Glance, 2004

(A)

(B)

(C)

1 Digbys Blog
2 James Walcott
3 Pandagon
4 blog.johnkerry.com
5 Oliver Willis
6 America Blog
7 Crooked Timber
8 Daily Kos
9 American Prospect
10 Eschaton
11 Wonkette
12 Talk Left
13 Political Wire
14 Talking Points Memo
15 Matthew Yglesias
16 Washington Monthly
17 MyDD
18 Juan Cole
19 Left Coaster
20 Bradford DeLong

21 JawaReport
22 Voka Pundit
23 Roger L Simon
24 Tim Blair
25 Andrew Sullivan
26 Instapundit
27 Blogs for Bush
28 Little Green Footballs
29 Belmont Club
30 Captain's Quarters
31 Powerline
32 Hugh Hewitt
33 INDC Journal
34 Real Clear Politics
35 Winds of Change
36 Allahpundit
37 Michelle Malkin
38 WizBang
39 Dean's World
40 Volokh
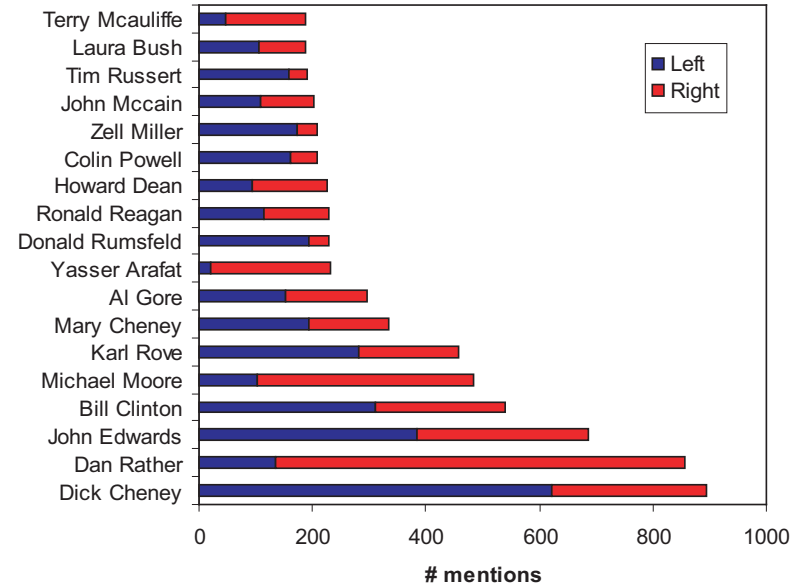
Facebook, in Cross Hairs After Election, Is Said to Question Its Influence

By MIKE ISAAC   NOV. 12, 2016

Mark Zuckerberg ✓

November 12 at 10:15pm · 🌐

I want to share some thoughts on Facebook and the election.

Our goal is to give every person a voice. We believe deeply in people. Assuming that people understand what is important in their lives and that they can express those views has driven not only our community, but democracy overall. Sometimes when people use their voice though, they say things that seem wrong and they support people you disagree with.

After the election, many people are asking whether fake news contributed to the result, and what our responsibility is to prevent fake news from spreading. These are very important questions and I care deeply about getting them right. I want to do my best to explain what we know here.

Of all the content on Facebook, more than 99% of what people see is authentic. Only a very small amount is fake news and hoaxes. The hoaxes that do exist are not limited to one partisan view, or even to politics. Overall, this makes it extremely unlikely hoaxes changed the outcome of this election in one direction or the other.

That said, we don't want any hoaxes on Facebook. Our goal is to show people the content they will find most meaningful, and people want accurate news. We have already launched work enabling our community to flag hoaxes and fake news, and there is more we can do here. We have made progress, and we will continue to work on this to improve further.

This is an area where I believe we must proceed very carefully though. Identifying the "truth" is complicated. While some hoaxes can be completely debunked, a greater amount of content, including from mainstream sources, often gets the basic idea right but some details wrong or omitted. An even greater volume of stories express an opinion that many will disagree with and flag as incorrect even when factual. I am confident we can find ways for our community to tell us what content is most meaningful, but I believe we must be extremely cautious about becoming arbiters of truth ourselves.

Zuckerberg Has Thought About the Election and Decided Facebook Is Not to Blame

Rhett Jones

To quote TechCrunch: "*Zuckerberg defended the News Feed's progress arguing that the filter bubble isn't an issue for Facebook. He suggested the real problem is that people by nature engage with content they like and find agreeable, and dismiss things they don't agree with online as they would in real life.*"

To what extent is polarization a new problem with social technologies, as against an offline phenomenon?

What is the tentative interaction between selective exposure and people's belief systems (wrt information consumption online)? Can we quantify it?

Reading opinion-reinforcing content can have widespread impact on our perceptions what is real and what is fake. Could this impact our credibility perceptions?

Class Exercise

If you were to design a tool that works in tandem with Twitter or Facebook, how would you encourage diverse exposure?

Remember, humans have "agency", so polarization should have something to do beyond just homophily and network structure. How would you incorporate a user's intrinsic attributes to discourage polarized views of information?

http://graphics.wsj.com/blue-feed-red-feed/

What makes curbing polarization in social computing systems challenging?

A deeper question (from TechCrunch): Why would [Facebook] want to change? And are people even ready for a fair Feed?