# CS 3001-C: COMPUTING, SOCIETY, AND PROFESSIONALISM

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## Week 13: Online Polarization
## April 5, 2023

# A background on polarization

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SAGE

# Dynamic Debates: An Analysis of Group Polarization Over Time on Twitter

**Sarita Yardi[1] and Danah Boyd[2]**

**Abstract**

The principle of homophily says that people associate with other groups of people who are mostly like themselves. Many online communities are structured around groups of socially similar individuals. On Twitter, however, people are exposed to multiple, diverse points of view through the public timeline. The authors captured 30,000 tweets about the shooting of George Tiller, a late-term abortion doctor, and the subsequent conversations among pro-life and pro-choice advocates. They found that replies between like-minded individuals strengthen group identity, whereas replies between different-minded individuals reinforce in-group and out-group affiliation. Their results show that people are exposed to broader viewpoints than they were before but are limited in their ability to engage in meaningful discussion. They conclude with implications for different kinds of social participation on Twitter more generally.

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

# Bubble Trouble

## Is Web personalization turning us into solipsistic twits?

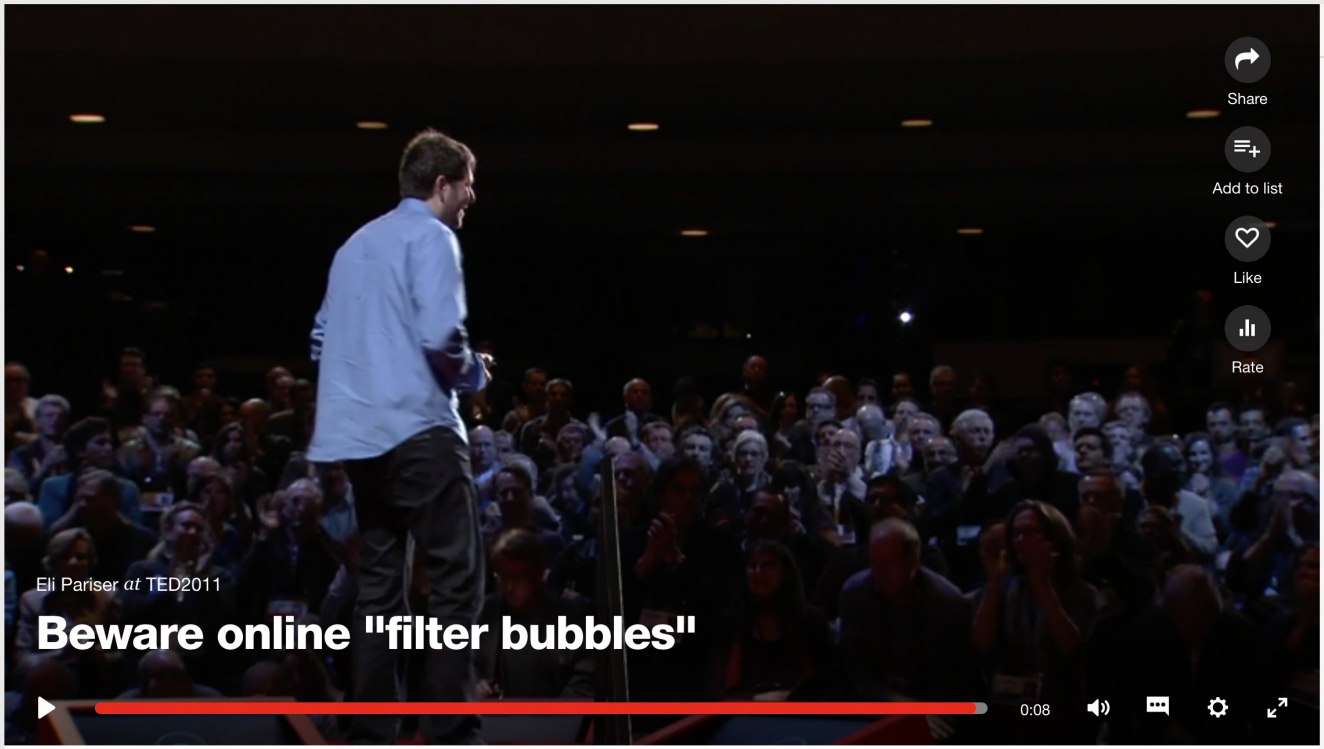


*By Jacob Weisberg*

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.")

TED Ideas worth spreading




**Details** About the talk | **Transcript** 41 languages | **Comments** Join the conversation

As web companies strive to tailor their services (including news and search results) to our personal tastes, there's a dangerous unintended consequence: We get trapped in a "filter bubble" and don't get exposed to information that could challenge or broaden our worldview. Eli Pariser argues powerfully that this will ultimately prove to be bad for us and bad for democracy.

*This talk was presented at an official TED conference, and was featured by our editors on the home page.*

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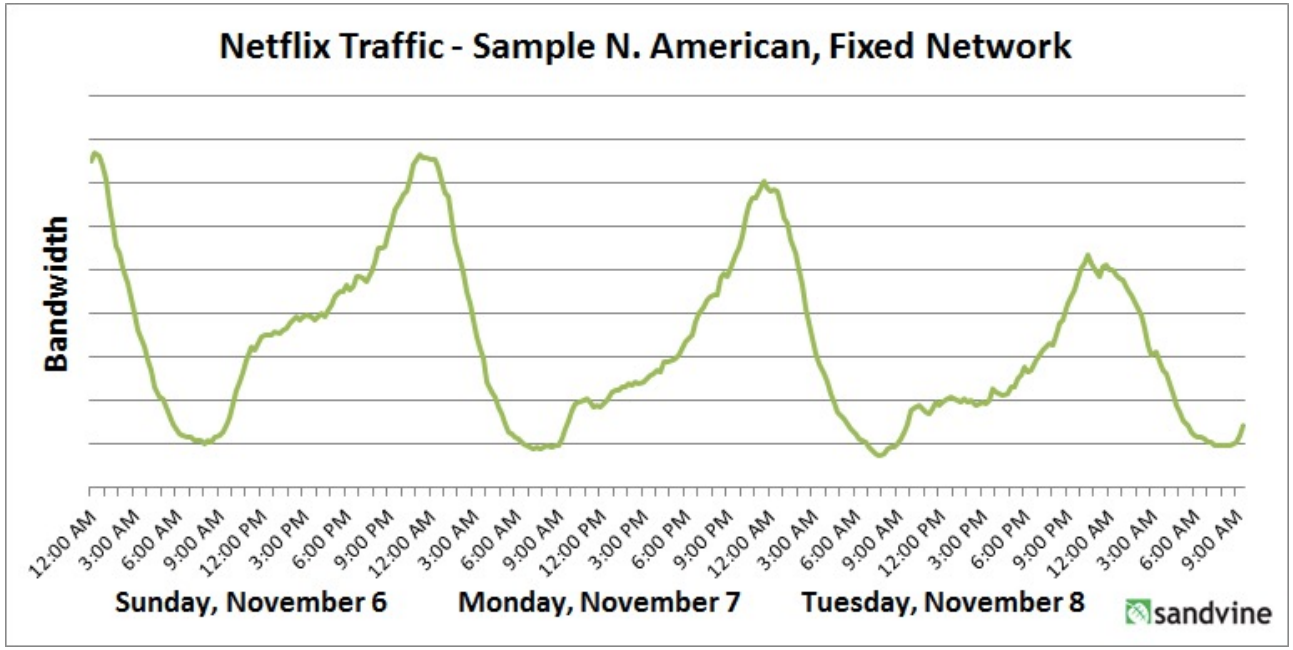
ABOUT

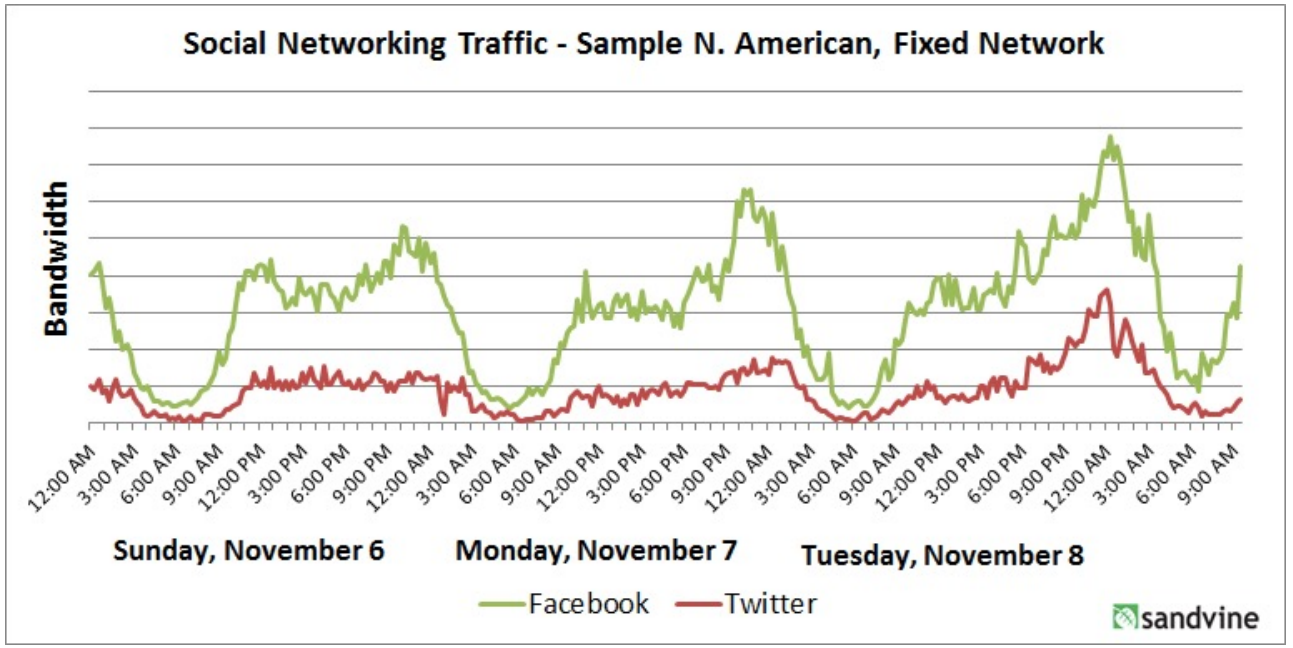
**Eli Pariser** · Organizer and author
Pioneering online organizer Eli Pariser is the author of "The Filter Bubble," about how personalized search might be narrowing our worldview.

https://www.ted.com/talks/eli_pariser_beware_online_filter_bubbles

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

**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




http://www.internetphenomena.com/2016/11/us-election-2016-tv-trumps-the-internet/

POLITICS

# Did Social Media Ruin Election 2016?

November 8, 2016 · 5:00 AM ET

SAM SANDERS

One happens on Facebook all the time. Just about all of your friends are posting about the election, nonstop. And there are a few who brag about deleting friends, or who urge friends to unfriend them over their political leanings: "Just unfriend me now." Or something like "If you can't support candidate X/Y, we don't need to be friends anymore." Or "Congrats, if you're reading this, you survived my friend purge!"

And then on Twitter, there's the public shaming of those who dare disagree with or insult you. (I am guilty of this.) Someone tweets at you with something incendiary, bashing the article you just shared or the point you just made, mocking something you said about politics, calling you stupid. You quote the tweet, maybe sarcastically, to prove it doesn't affect you. But it does! You tweeted it back, to all of your followers. It's an odd cycle. A rebuttal of nasty political exchanges by highlighting nasty political exchanges.

Facebook

# Facebook's failure: did fake news and polarized politics get Trump elected?

**The company is being accused of abdicating its responsibility to clamp down on fake news stories and counter the echo chamber that defined this election**





# Your Filter Bubble is Destroying Democracy

| 2016 Presidential Election – Digital Analysis by the Numbers | | |
|---|---|---|
| Hillary Clinton | Criteria | Donald Trump |
| 238.5M | Total Social Media Shares | 256.5M |
| 16,633 | Average Shares per Post | 17,894 |
| 8.3M | Facebook Page Likes (Official Page) | 12.2M |
| 10.3M | Twitter Following (Official Page) | 13.1M |
| 32.9K | Number of Referring Domains | 21.4K |
| 1.51M | Number of Backlinks to Website | 960K |

TECHNOLOGY

# *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 ·

Follow

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

Yesterday 12:39pm · Filed to: HOAXES

15.3K 88 6

# Exposure to ideologically diverse news and opinion on Facebook

"*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*." – Techcrunch

To what extent is it fair to put the blame or responsibility on people?

# Exposure to opposing views on social media can increase political polarization

Christopher A. Bail[a,1], Lisa P. Argyle[b], Taylor W. Brown[a], John P. Bumpus[a], Haohan Chen[c], M. B. Fallin Hunzaker[d], Jaemin Lee[a], Marcus Mann[a], Friedolin Merhout[a], and Alexander Volfovsky[e]

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Edited by Peter S. Bearman, Columbia University, New York, NY, and approved August 9, 2018 (received for review March 20, 2018)

**There is mounting concern that social media sites contribute to political polarization by creating "echo chambers" that insulate people from opposing views about current events. We surveyed a large sample of Democrats and Republicans who visit Twitter at least three times each week about a range of social policy issues. One week later, we randomly assigned respondents to a treatment condition in which they were offered financial incentives to follow a Twitter bot for 1 month that exposed them to messages from those with opposing political ideologies (e.g., elected officials, opinion leaders, media organizations, and nonprofit groups). Respondents were resurveyed at the end of the month to measure the effect of this treatment, and at regular intervals throughout the study period to monitor treatment compliance. We find that Republicans who followed a liberal Twitter bot became substantially more con-**

challenges for the study of social media echo chambers and political polarization, since it is notoriously difficult to establish whether social media networks shape political opinions, or vice versa (27–29).

Here, we report the results of a large field experiment designed to examine whether disrupting selective exposure to partisan information among Twitter users shapes their political attitudes. Our research is governed by three preregistered hypotheses. The first hypothesis is that disrupting selective exposure to partisan information will decrease political polarization because of intergroup contact effects. A vast literature indicates contact between opposing groups can challenge stereotypes that develop in the absence of positive interactions between them (30). Studies also indicate intergroup contact increases the likelihood of deliberation and political compromise (31–33). However, all of

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

# Homophily and polarization in the age of misinformation

Alessandro Bessi[1,2], Fabio Petroni[3], Michela Del Vicario[2], Fabiana Zollo[2], Aris Anagnostopoulos[3], Antonio Scala[4], Guido Caldarelli[2], and Walter Quattrociocchi[1,a]

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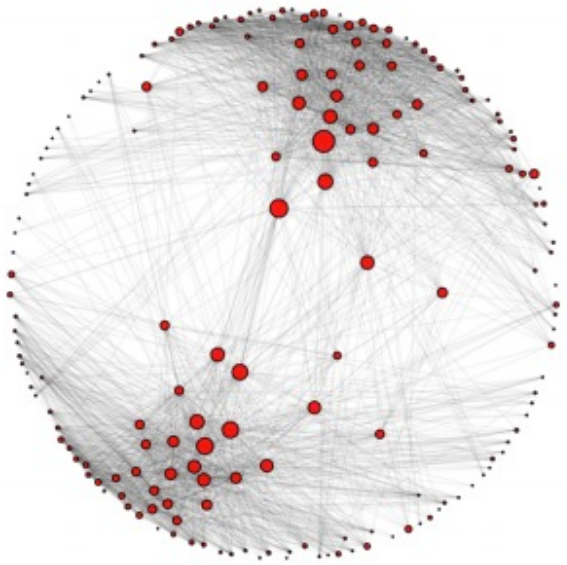
**Abstract.** The World Economic Forum listed massive digital misinformation as one of the main threats for our society. The spreading of unsubstantiated rumors may have serious consequences on public opinion such as in the case of rumors about Ebola causing disruption to health-care workers. In this work we target Facebook to characterize information consumption patterns of 1.2 M Italian users with respect to verified (science news) and unverified (conspiracy news) contents. Through a thorough quantitative analysis we provide important insights about the anatomy of the system across which misinformation might spread. In particular, we show that users' engagement on verified (or unverified) content correlates with the number of friends having similar consumption patterns (*homophily*). Finally, we measure how this social system responded to the injection of 4,709 false information. We find that the frequent (and selective) exposure to specific kind of

If you were to re-design a tool that works on social media to reduce polarization, what would that tool look like? What would it do?

Emerging Technology From the arXiv
November 29, 2013

# 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

# WSJ's Blue and Red Feed

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

What makes reducing polarization in social computing systems challenging?

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