

Technology as Enabler of Fake News and a Potential Tool to Combat it

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the request of IMCO Committee

Content

- news circulation process has changed
 - in the past it was edited by professionals
 - now it is edited by everyone
- “fake news” circulates largely due to social networks
 - 30-40%
- technically it is possible to interfere with circulation of “fake news”
 - but cannot be stopped entirely
- conclusion
 - yes we can but should we

The news process



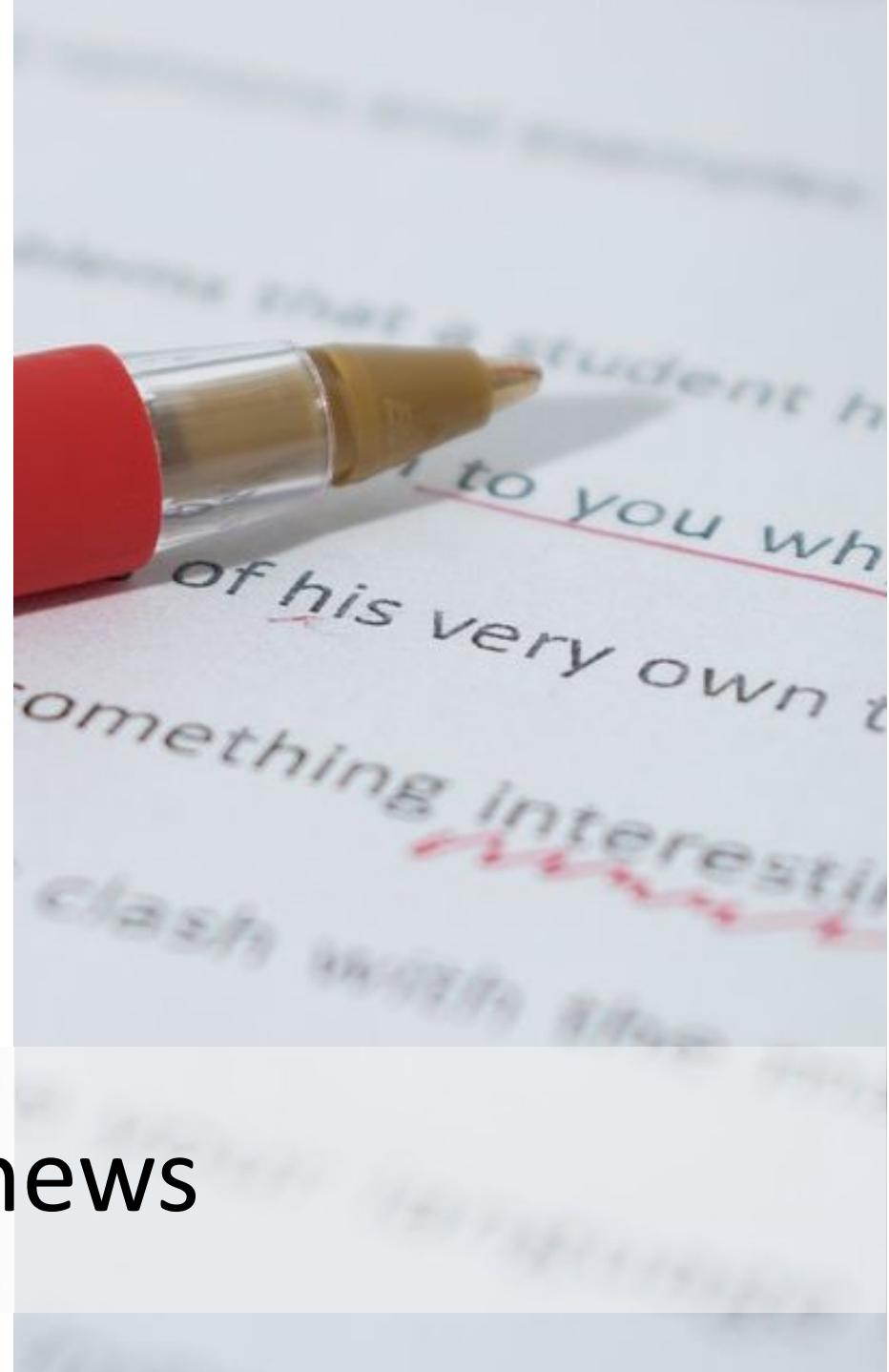
Create news

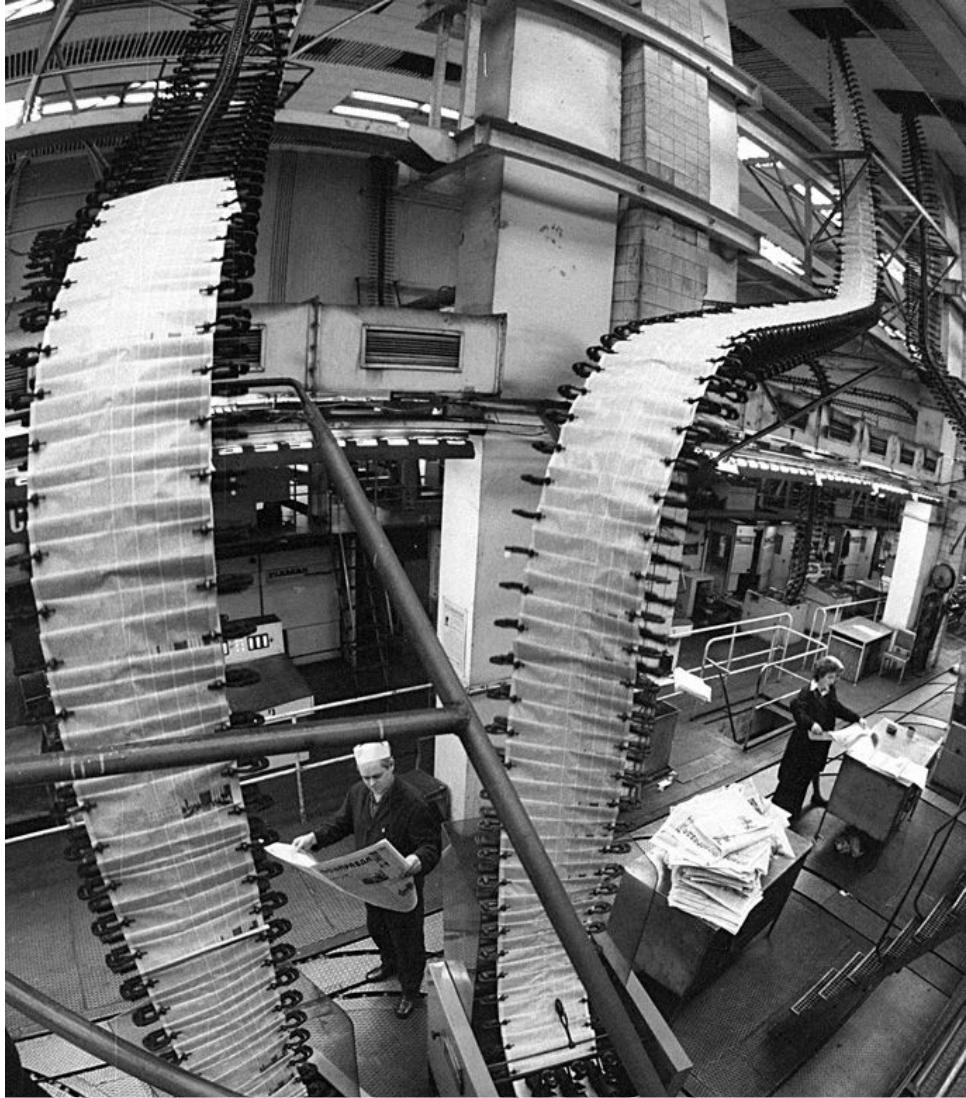
Travel is to make a journey or to have an adventure to somewhere by bicycle, train, airplane, car, motorcycle, or boat. It could be an exploration to somewhere new planned or unplanned to meet new people, new things and new places. There are different types of adventures waiting for you to explore.

There are lots of places to explore. Places could be urban or mountain. Some people loves to be with nature to free their minds and refresh their souls, but some like to be in the city. You will get lots of benefits such as exploring new culture.



Quality control of news





Publication of news

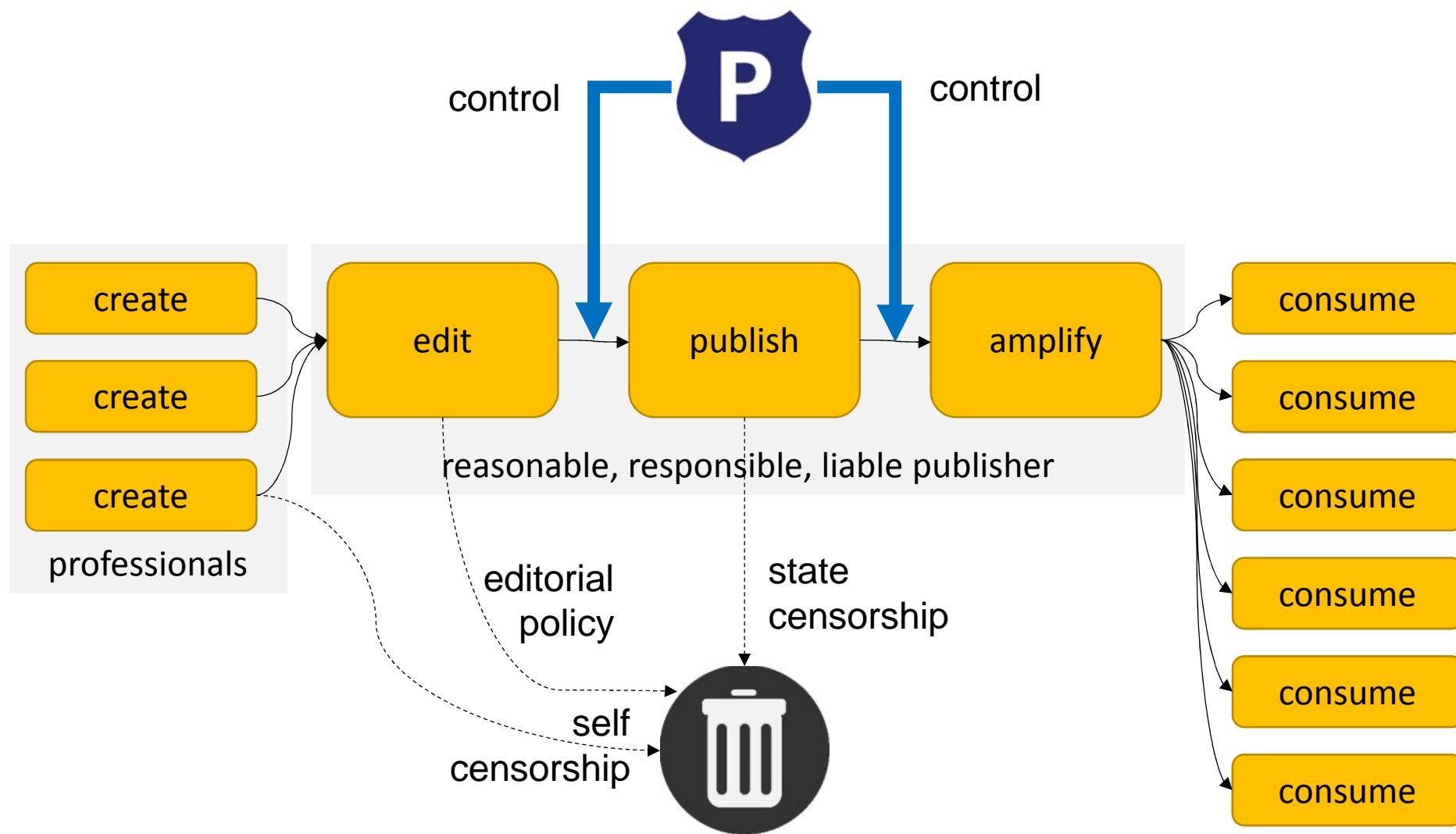




Consumption of news

The news process
schematically

Traditional news process



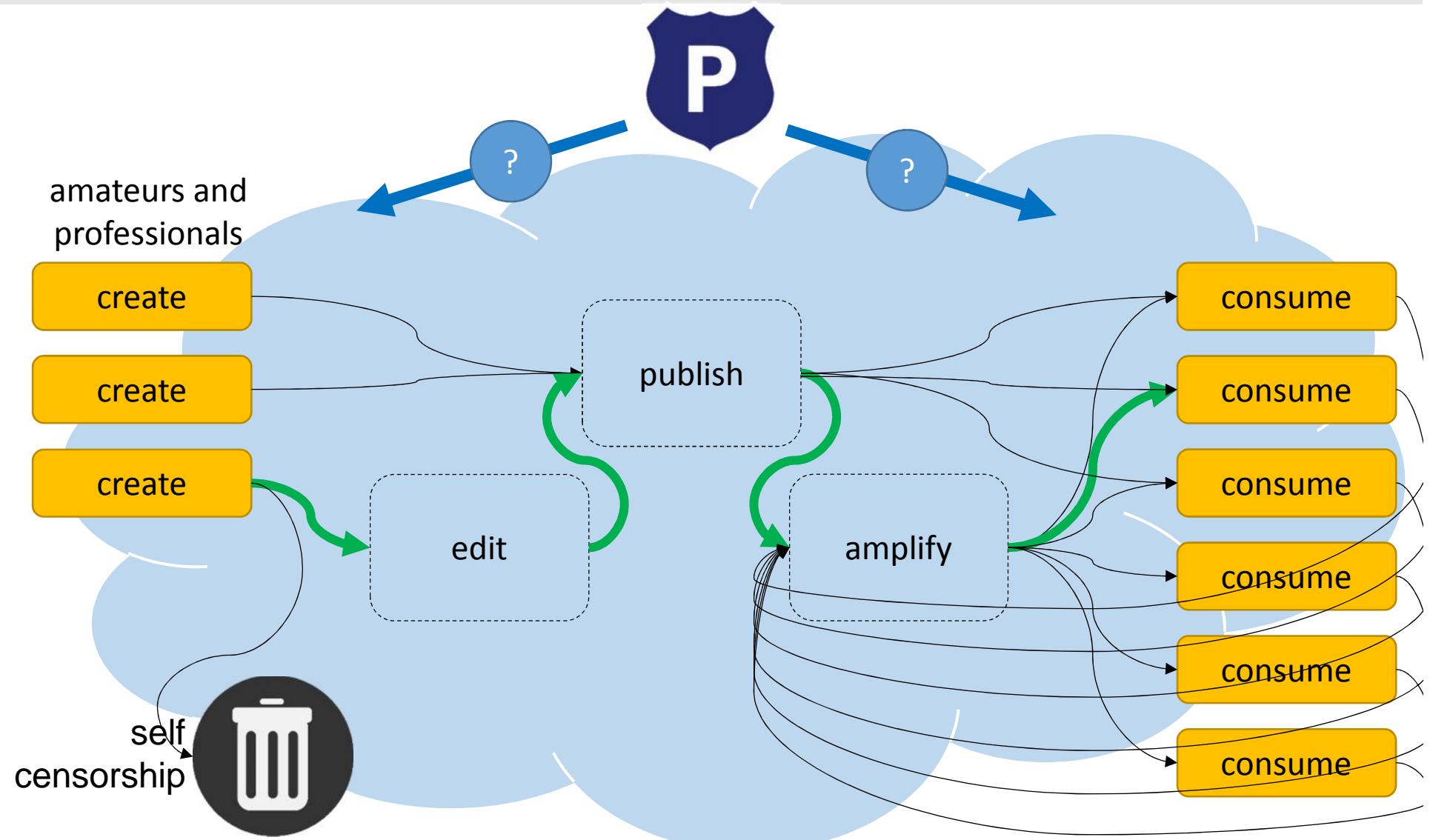
Enters the Internet

- anyone can publish
- anyone can amplify
- anyone can edit
- editors are gone
- no trashcan



source: wikipedia

Internet-age news process

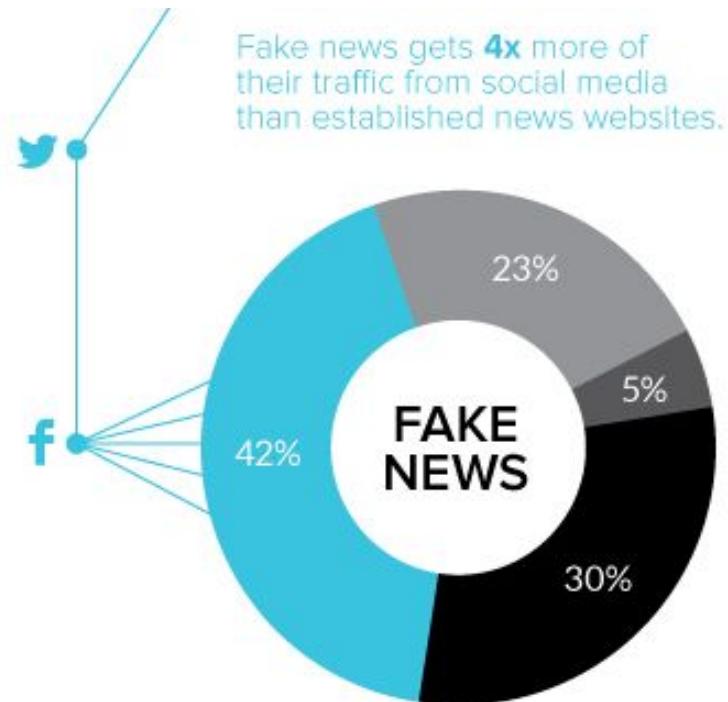
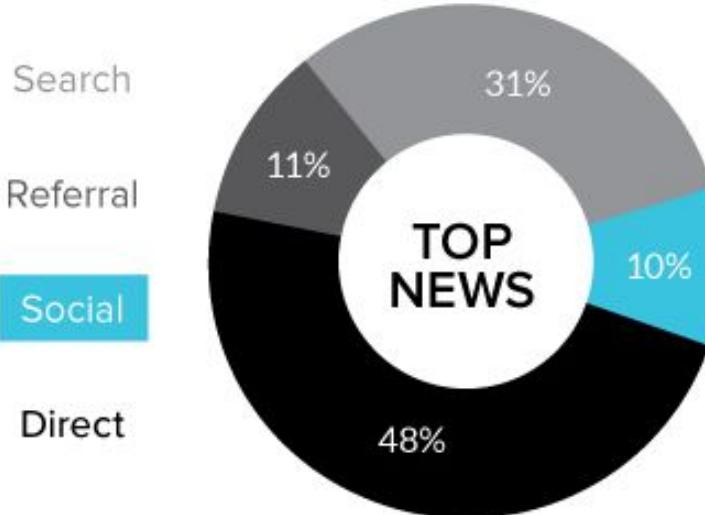


Technology for “fake
news” dissemination

Social media is main driver for “fake news”

- 10% of readers of top news come via social media
- 40% of readers of “fake news” come via social media

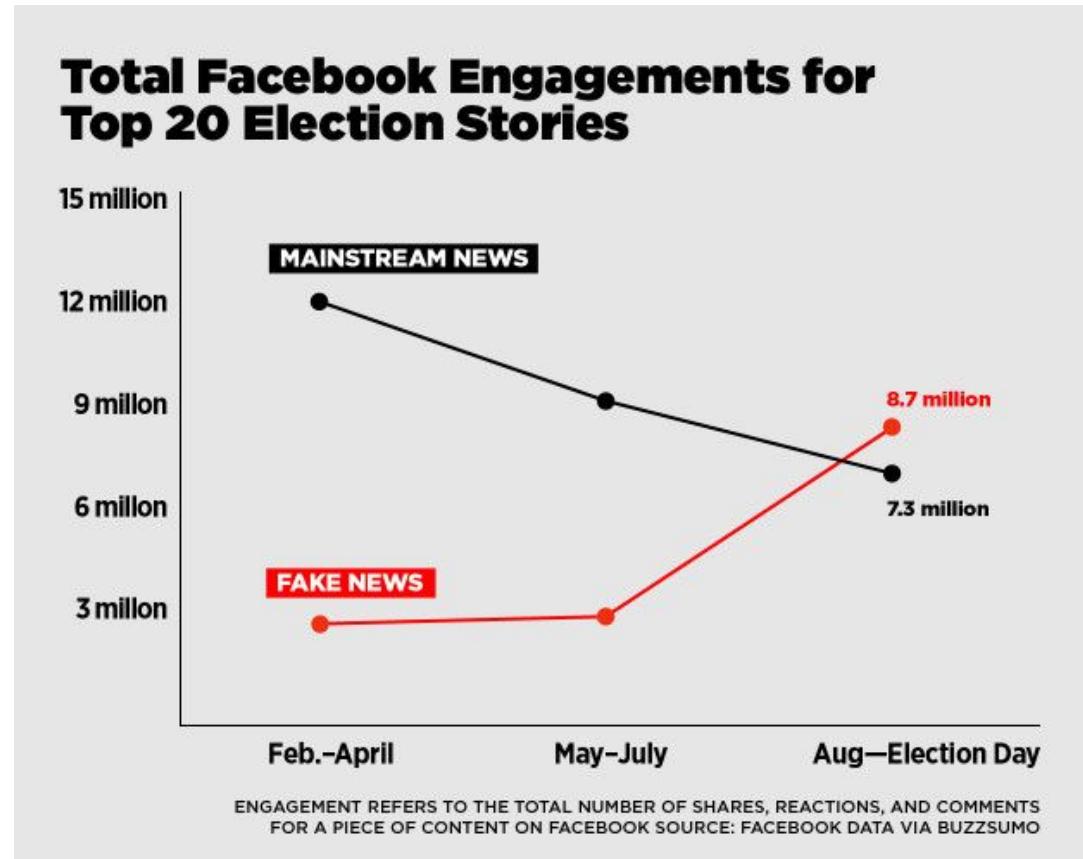
TRAFFIC SOURCES



Fake news gets **4x** more of their traffic from social media than established news websites.

Fake and real news have about the same engagement on social media

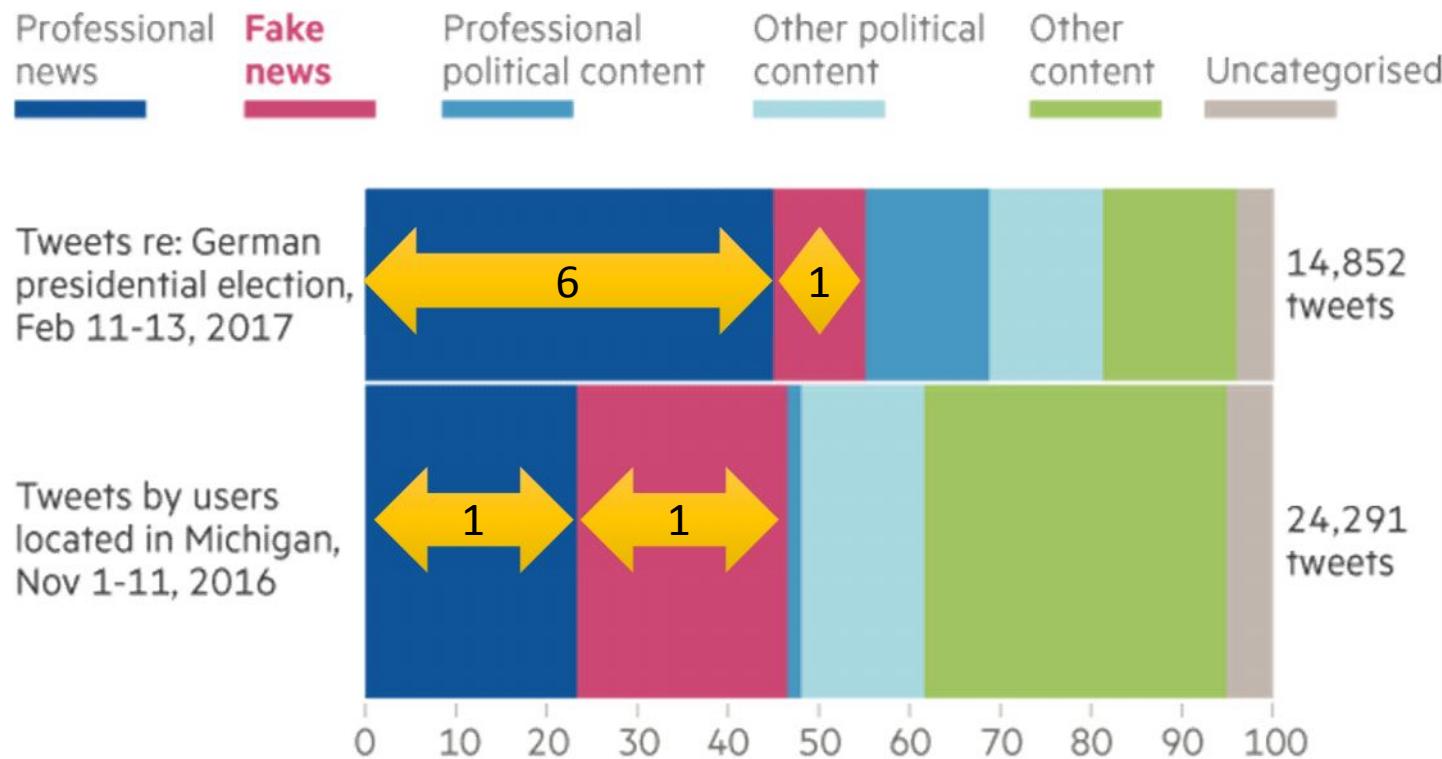
- this is 10% for real news
- but 40% for “fake news”



In Europe “real” beats “fake” 6:1, in US it is 1:1

University of Oxford studies show differing rates at which “fake news” is shared on Twitter

Percentage of links shared



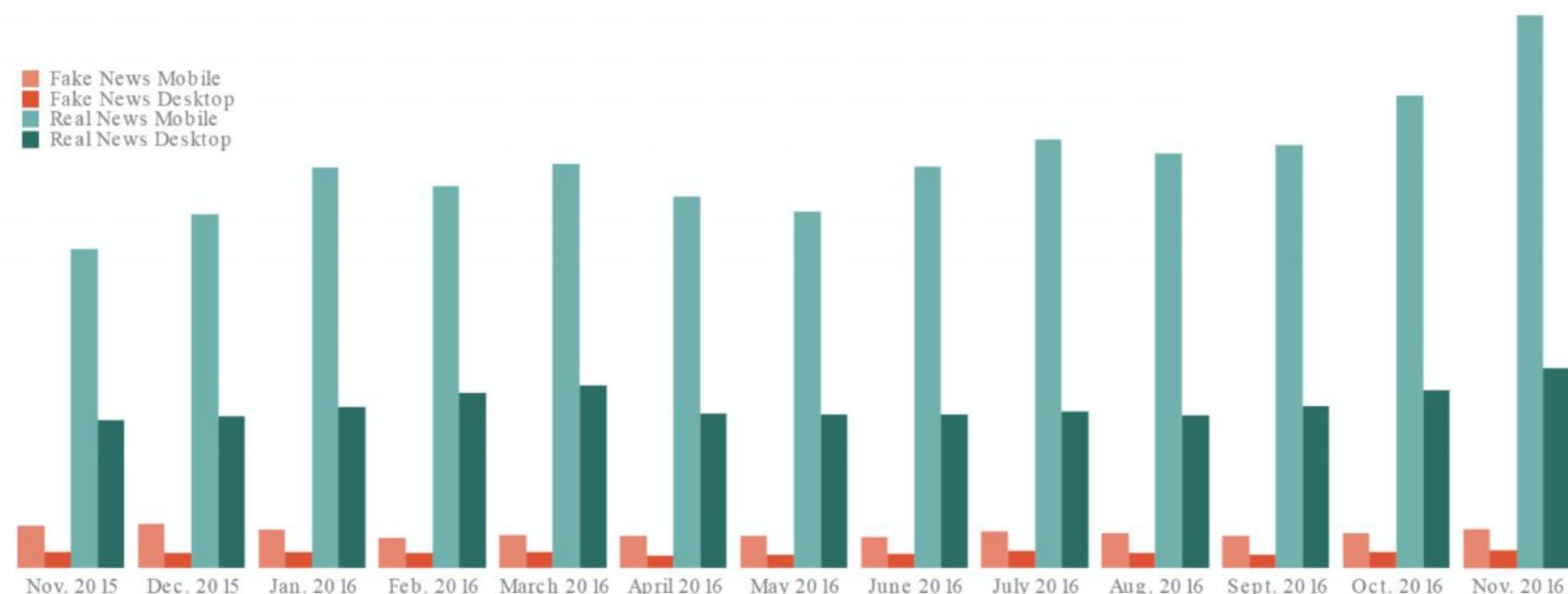
FT graphic: David Blood Source: Oxford Internet Institute

FT

“Fake news” (orange) audience is 10% of real news (green)

Columbia Journalism Review.

The real news audience even spiked in October and November 2016, while the fake news audience stayed the same.

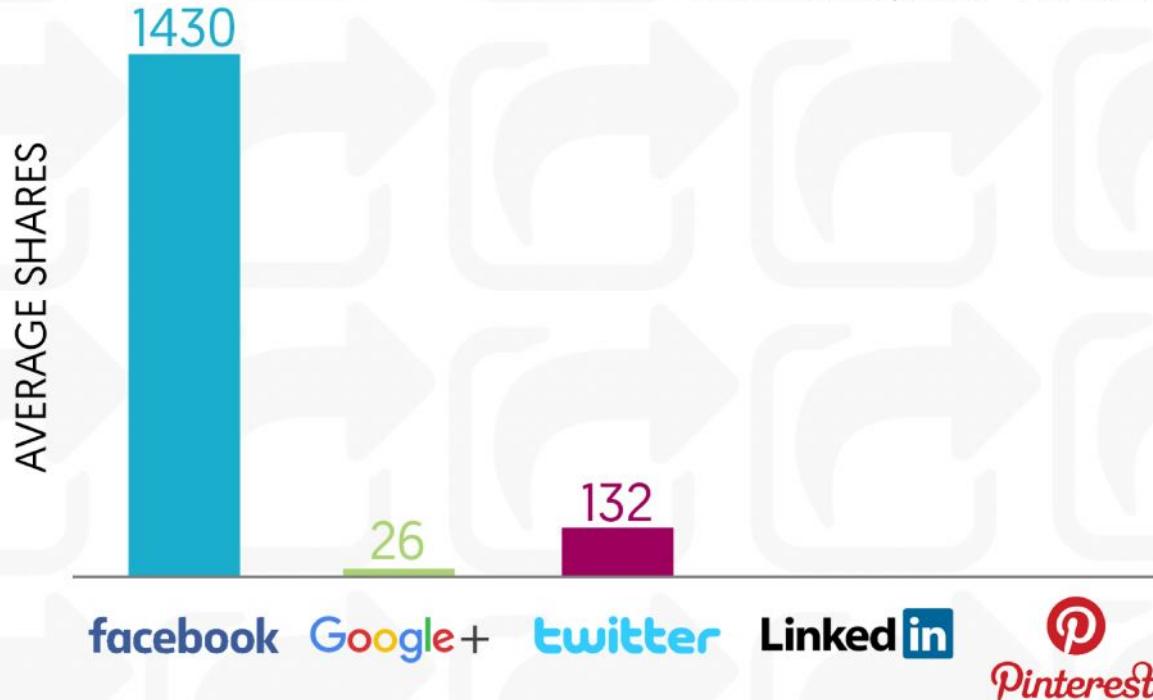


For „fake news“ main source is Facebook

Average “Pizzagate” Shares By Network

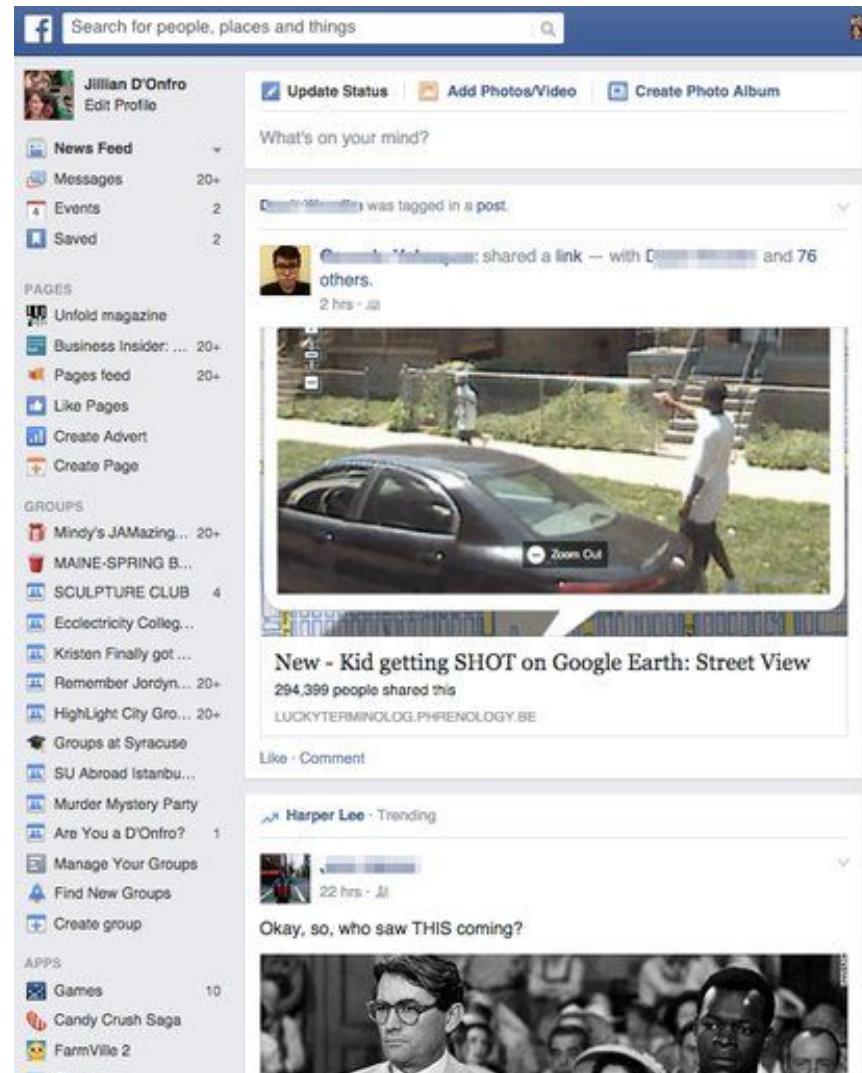
Including Both Fake And Real News Articles

October 30, 2016 - November 21, 2016



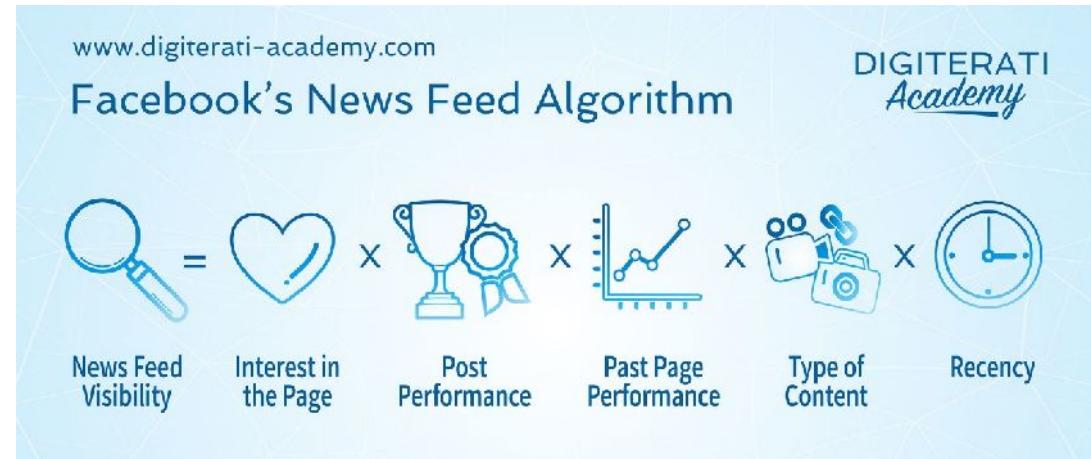
On Facebook users see 10% of what they „subscribe” to

- Facebook decides which 10%
- Facebook chose to remove news from feed
 - hurting 10% of real news traffic
 - hurting 40% of fake news traffic
- Both unhappy!

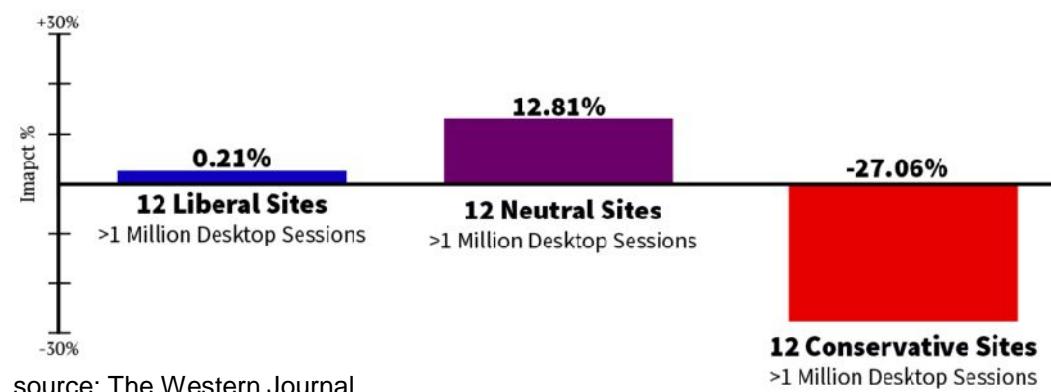


How they choose the 10% is key issue for stopping “fake news”!

- Facebook's goal: „keep audience at site and engaged“
- Algorithm is opaque
- Algorithm is changing
- Algorithm is unfair?

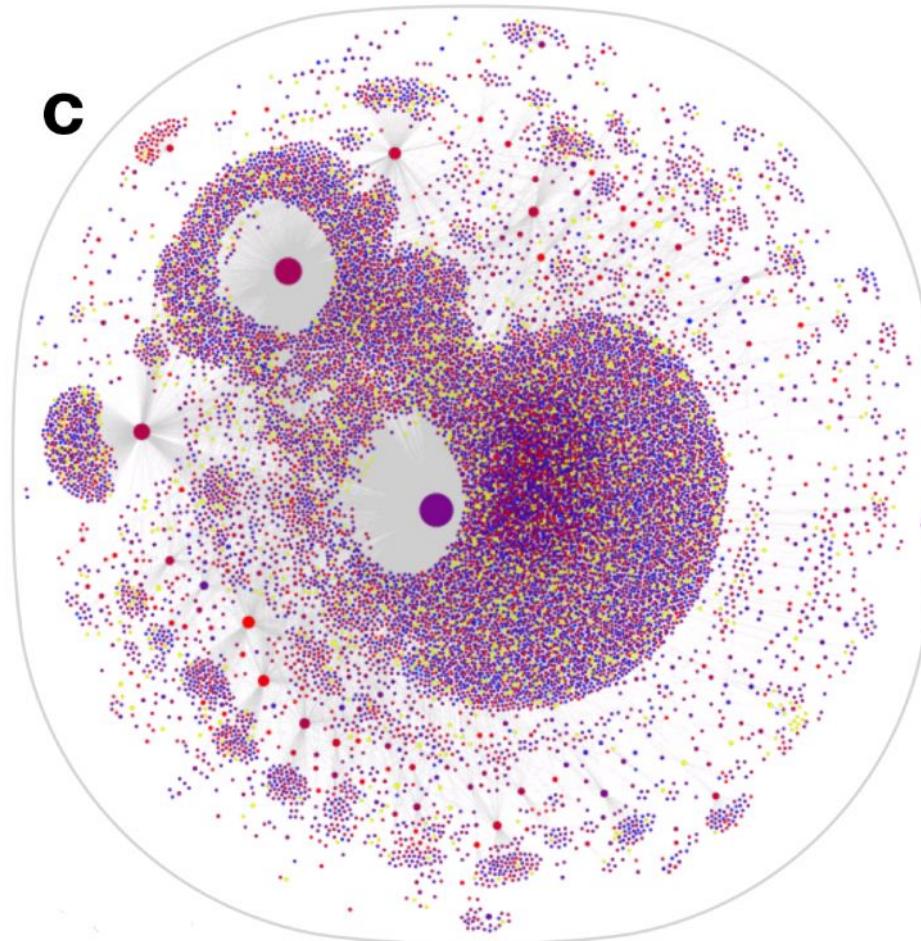


Average Facebook Algorithm Impact



Bots spread fake news on Twitter. And real news.

- “We find evidence that social bots play a disproportionate role in spreading and repeating misinformation.” ([source](#)).
- “Contrary to conventional wisdom, robots accelerated the spread of true and false news at the same rate, implying that false news spreads more than the truth because humans, not robots, are more likely to spread it” ([source](#))

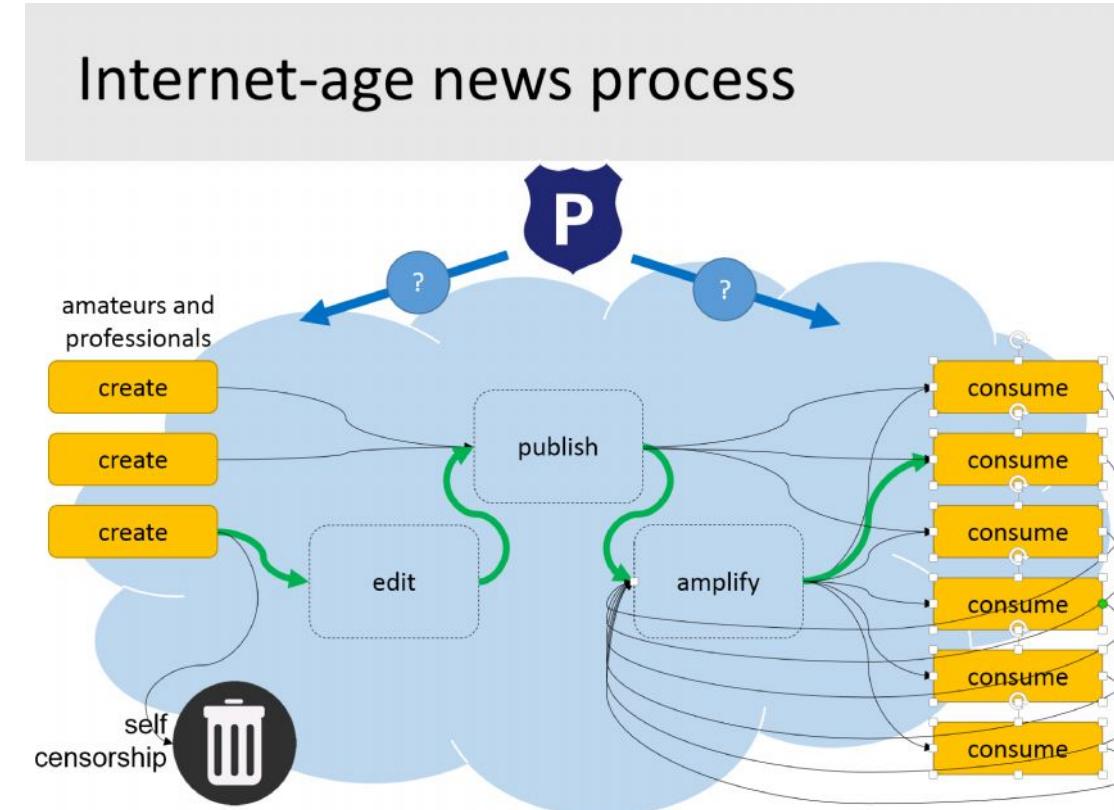


Propagation of fake news: Nodes and links represent Twitter accounts and retweets of the claim, respectively. Node size indicates account influence, measured by the number of times an account is retweeted. Node color represents bot score, from blue (likely human) to red (likely bot).

Can we stop
“fake news”?

Yes we can!

- with author
- with publisher
- with platform
- with amplifier
- with reader



Stopping authors to publish “fake news”

- demonetize
 - deny advertising at fake news sites
- threaten prison
 - e.g. Polish anti-holocaust law
- lock them up
 - e.g. Turkey

The Rubin Report (talk show) Dave Rubin +3

What was YouTube's reason for demonetizing the Rubin Report conversation between Dave Rubin, Jordan Peterson and Ben Shapiro?

[Answer](#) [Request](#) Follow 22 Comment Downvote [Facebook](#) [Twitter](#) [Link](#) ...

1 Answer

Jeff Franz-Lien, Strategic Marketing Manager at Vodafone Group PLC [+ Add to myFT](#)

Answered Feb 2

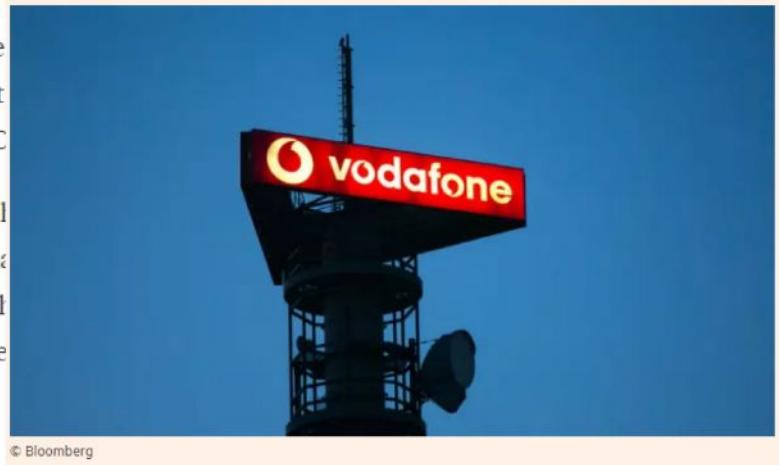
Vodafone to block its ads appearing on offensive websites

What was YouTube's reason for demonetizing the Rubin Report conversation between Dave Rubin, Jordan Peterson and Ben Shapiro?

Telecoms group working with Google, Facebook, WPP to avoid hate speech and 'fake news'

According to chatter on the web, Vodafone is one of several companies that have stopped demonetizing "controversial" content on YouTube. It's not just Rubin or other right-wing hosts who were hit too, including Donald Trump.

Rubin confirms this in the video above, noting that he's been losing big bucks (Dave says \$100,000 per video) because of the offensive content. Who knows what will happen if YouTube and its adver



© Bloomberg

Stopping “fake news” when published

- deny hosting
- deny listing in DNS directory
- block internet traffic to “fake news” site

The image displays two news articles side-by-side. On the left is a Vox article titled "GoDaddy and Google have refused service to a notorious neo-Nazi site". The right is a Bloomberg article titled "The Great Firewall of China". Both articles discuss internet censorship.

Vox Article:
GoDaddy and Google have refused service to a notorious neo-Nazi site
But the site will still be accessible via other means.
By Aja Romano | @ajaroman
f t SHARE
Catalan independence websites blocked by Spanish government in bid to stop referendum
'Blocking domain name servers does'
Lydia Smith | Thursday 28 September 2017 11:00 BST
548 shares

Bloomberg Article:
The Great Firewall of China
Bloomberg News
Updated on December 1, 2017, 4:19 AM GMT+1
From Bloomberg QuickTake
China's online population of 731 million gets a highly restricted internet, one that doesn't include access to Google, Facebook, YouTube or the New York Times. There's little coverage of the 1989 student protests in Tiananmen Square. Even Winnie the Pooh got temporarily banned. China is able to control such a vast ocean of content through the largest system of censorship in the world, aptly known as the Great Firewall of China. It's a joint effort between government monitors and the technology and telecommunications companies that are compelled to enforce the state's rules. The stakes go beyond China, which is setting an example that other authoritarian countries can imitate.

Stopping fake news at platforms

- public platforms

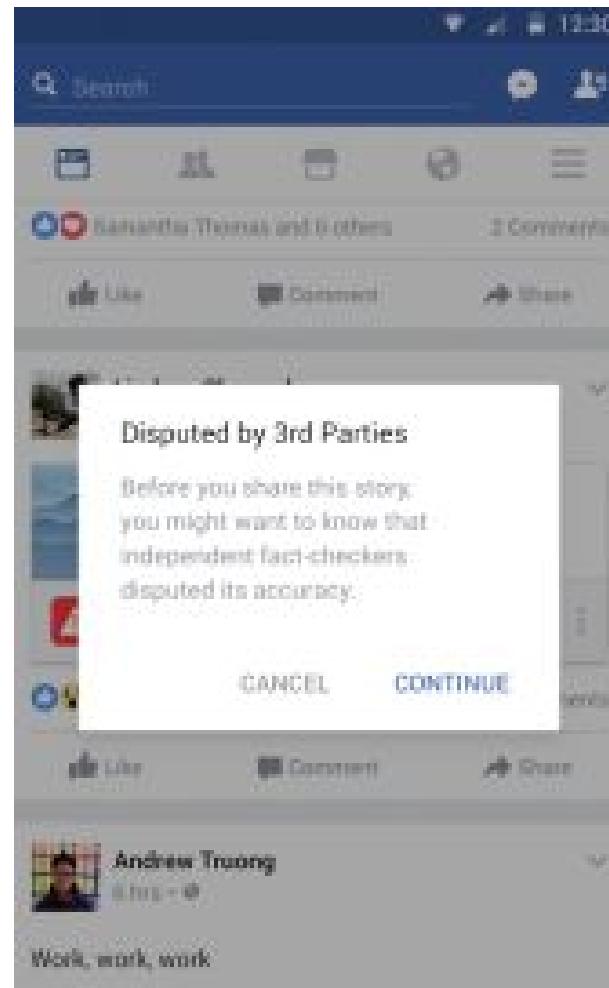
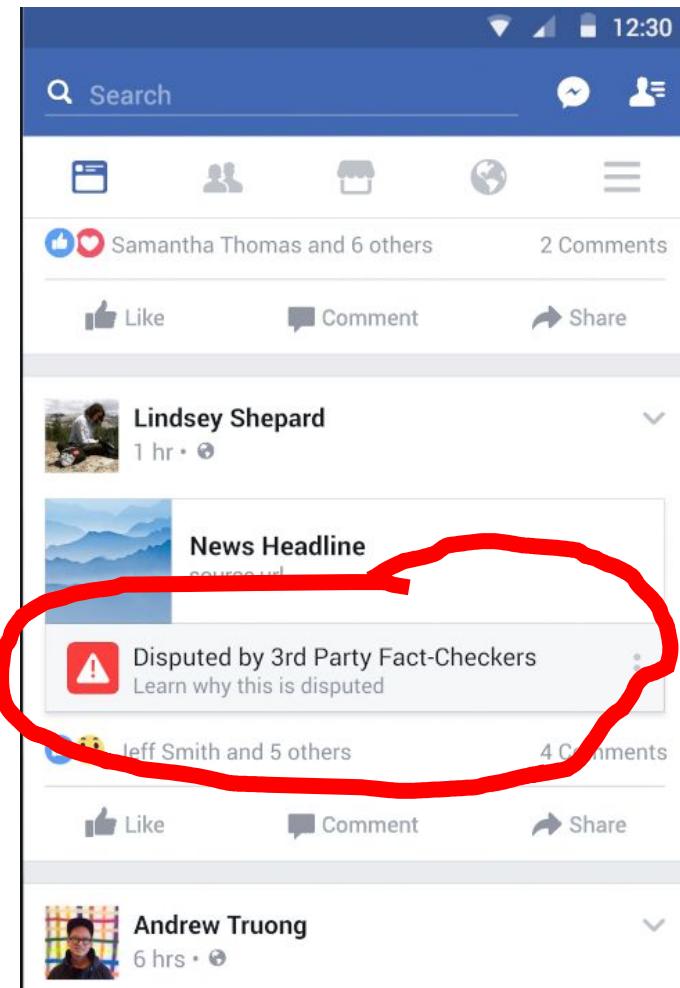
- Facebook, Google, Twitter, Baidu ...
- label, augment, hide or remove “fake news”

- private messaging platforms

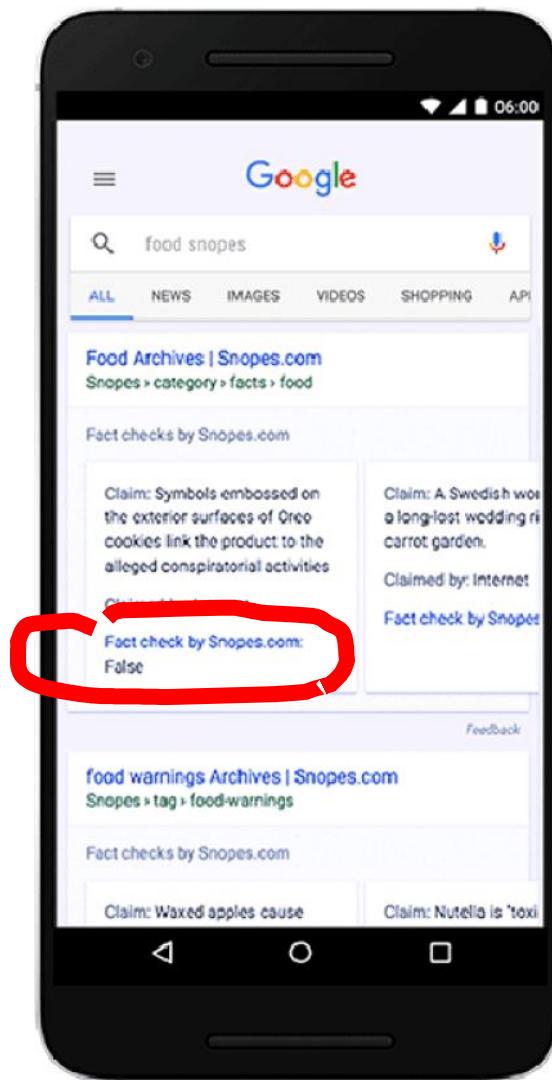
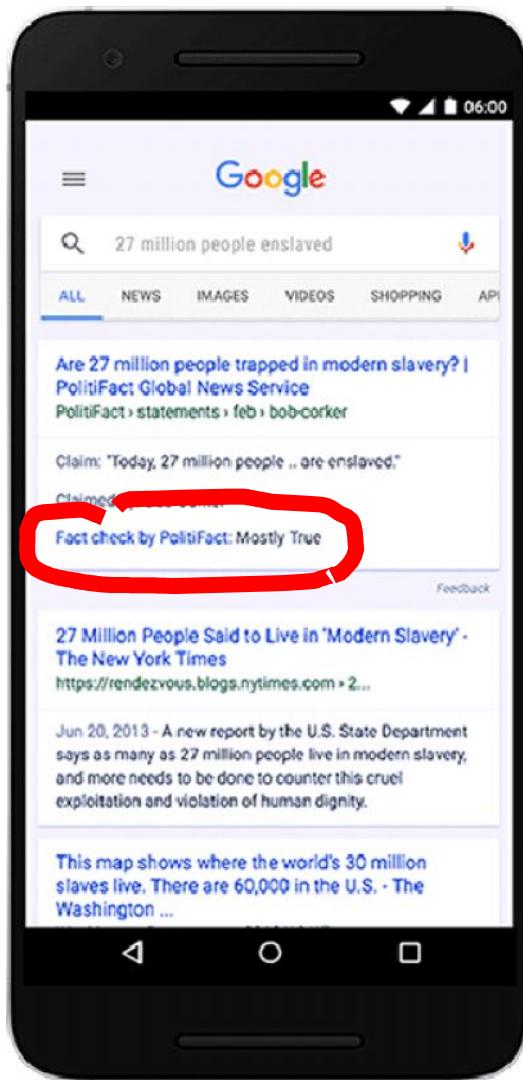
- Viber, WeChat, Snapchat
- listen to private conversations?!

- needs collaboration of platforms

Label „fake news“ on Facebook



Label “fake news” on Google



Label “fake news” on Twitter browser

The image shows a Twitter browser interface. On the left, there's a sidebar with a large portrait of Donald J. Trump and his profile information: "Donald J. Trump" with a blue verified checkmark, "@realDonaldTrump", "President-elect of the United States", a link to "DonaldJTrump.com", and "Joined March 2009". The main content area displays a tweet from Donald J. Trump (@realDonaldTrump). The tweet reads: "Are we talking about the same cyberattack where it was revealed that head of the DNC illegally gave Hillary the questions to the debate?". It has 20,819 retweets and 64,122 likes. Below the tweet, the timestamp is 6:09 AM - 16 Dec 2016, and there are engagement metrics: 15K replies, 21K retweets, 64K likes, and three more options. A "Follow" button is visible at the top right of the tweet card. To the right of the tweet, there's a dark image of Vice President Mike Pence smiling. At the bottom of the tweet card, there's a grey box containing text from The Washington Post: "This is incorrect or false. Documents published after Clinton campaign chairman John Podesta's email was hacked indicate that then-CNN-contributor Donna Brazile sent some questions from a CNN Democratic primary town hall event to the campaign in advance. When the chair of the Democratic National Committee resigned after documents stolen from the DNC were leaked, Brazile stepped in as acting chair -- after the leaks above. Both hacks are believed by intelligence agencies to have originated in Russia. What Brazile did, by the way, is in no way illegal. [LEARN MORE]". The text is attributed to "Brought to you by The Washington Post." At the very bottom right of the screen, there's a footer with links: "© 2016 Twitter About Help Terms Privacy Cookies Ads info".

Hide “fake news” by downranking – pushing down on search results



Facebook now flags and down-ranks fake news with help from outside fact checkers

Josh Constine @JoshConstine / Dec 15, 2016

Comment



Snopes, FactCheck.org, Politifact, ABC News, and AP will help Facebook make good on four of the six promises Mark Zuckerberg made about fighting fake news without it becoming “the arbiter of truth.” It will make fake news posts less visible, append warnings from fact checkers to fake news in the feed, make reporting hoaxes easier and disrupt the financial incentives of fake news spammers.



Myanmar Energy & Environment Brexit North Korea Earnings Future o

TECHNOLOGY NEWS NOVEMBER 29, 2017 / 9:15 PM / 4 MONTHS AGO

Russia says Google down-ranking Sputnik, RT would be censorship

Reuters Staff

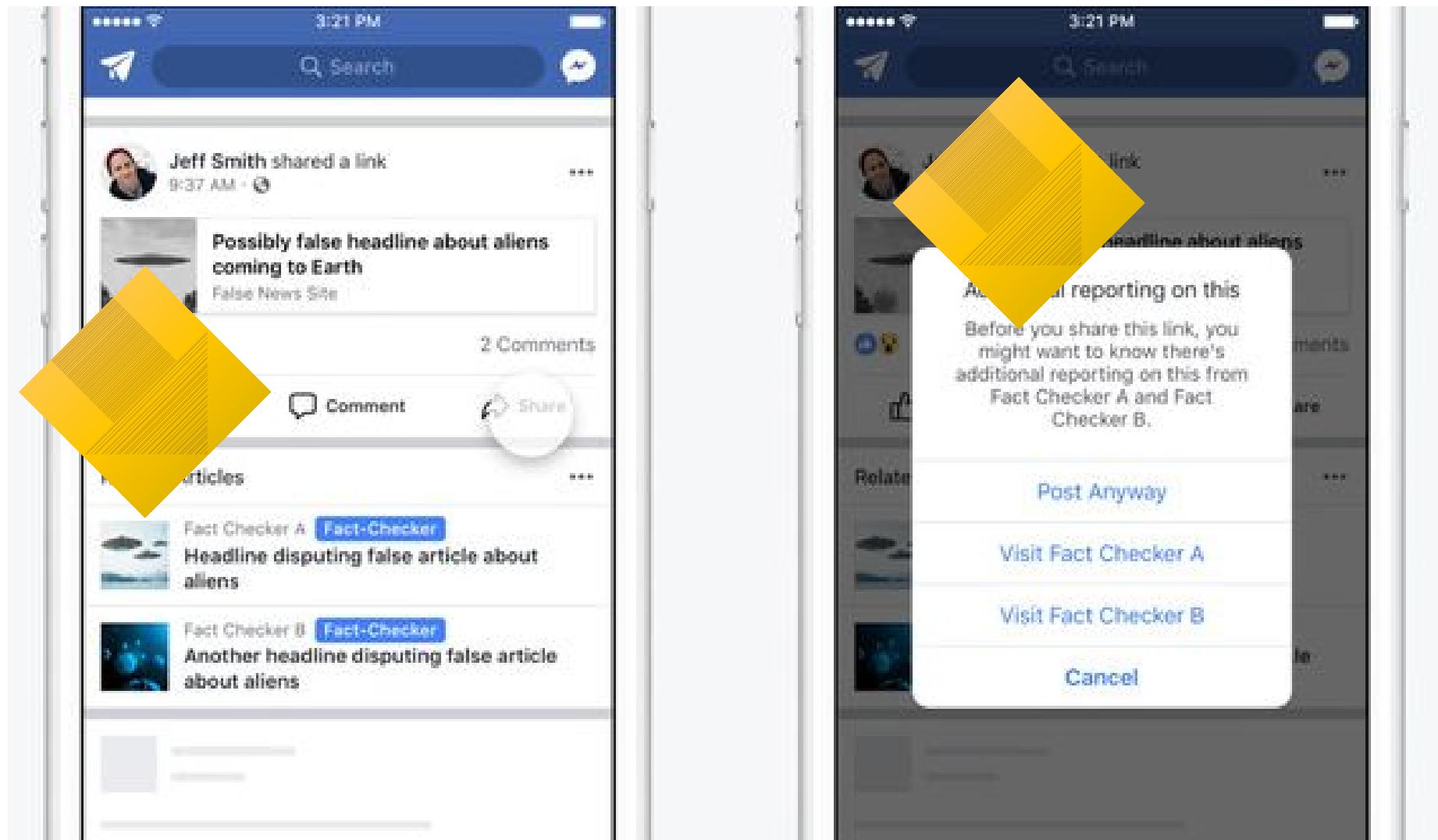
1 MIN READ



MOSCOW (Reuters) - Russia's foreign ministry said on Thursday that moves by Alphabet Inc's (GOOGL.O) Google to place articles from Russian news outlets Sputnik and Russia Today lower in search results would amount to censorship.

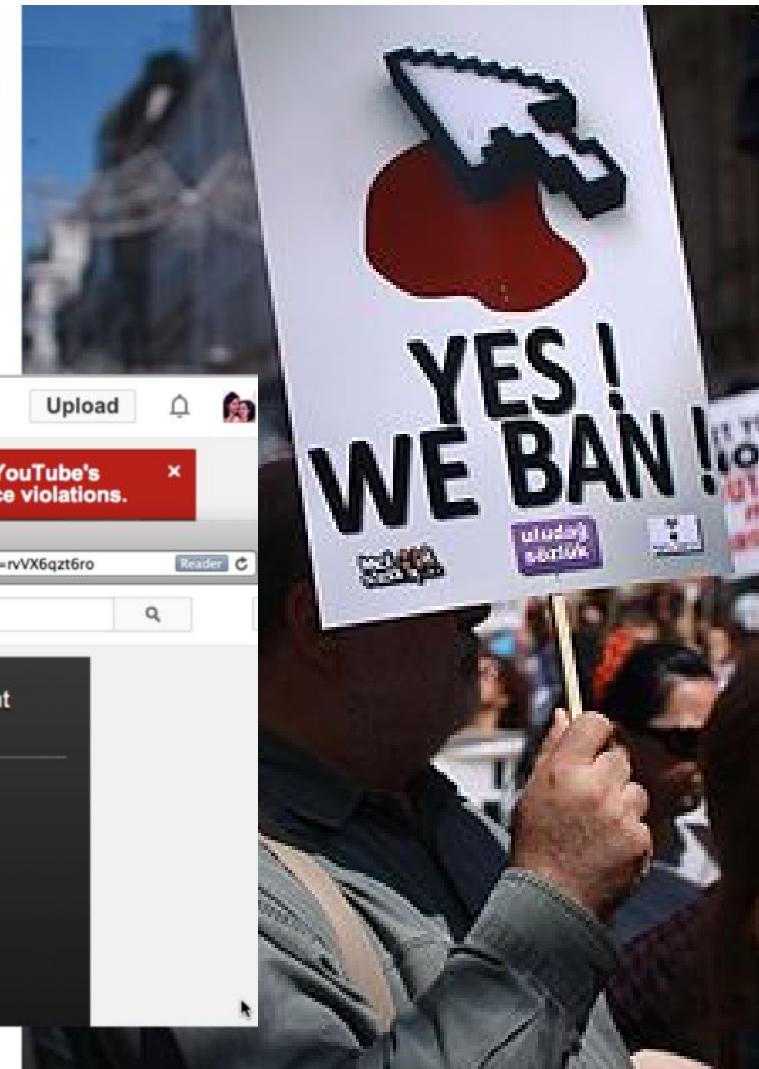


Augment “fake news” with links to real news, warn before sharing



Remove “fake news” - deplatform

The Guardian website interface. Top navigation includes "Support The Guardian", "Subscribe", and "Find a job". Main menu categories are "News", "Opinion", "Sport", "Culture", and "Lifestyle". Sub-menu categories include "Books", "Music", "TV & radio", "Art & design", "Film", "Games", "Classical", "Stage", and "More". A sidebar on the left shows a thumbnail for "Berkeley's KPFA after learning of author contests". The main article headline is "Richard Dawkins event cancelled over his 'abusive speech against Islam'".



Stop bots!

 **Verified Account** BETA

What is a verified account?

To prevent identity confusion, Twitter is experimenting (beta testing) with a 'Verified Account' feature. We're working to establish authenticity with people who deal with impersonation or identity confusion on a regular basis. Accounts with a  are the real thing!



Stopping “fake news” in private chat, email – the next frontier

- What's Up
- Facebook Chat
- Snapchat
- Gmail
- Signal
- Telegram
- Viber
- can be done, but!?



How China's highly censored WeChat and Weibo fight fake news ... and other controversial content

As debate rages over Facebook's role in spreading false information on US elections, we look at how Chinese social media sites control such content shared online

PUBLISHED : Friday, 16 December, 2016, 4:01pm
UPDATED : Monday, 12 June, 2017, 11:19pm

COMMENTS: 7



Key element: how to identify “fake news”?

Fake news can be identified by humans, machines or combination

- Human

- human work by fact checkers
- fact-checking industry appearing, looking for business model

- Human-machine teamwork

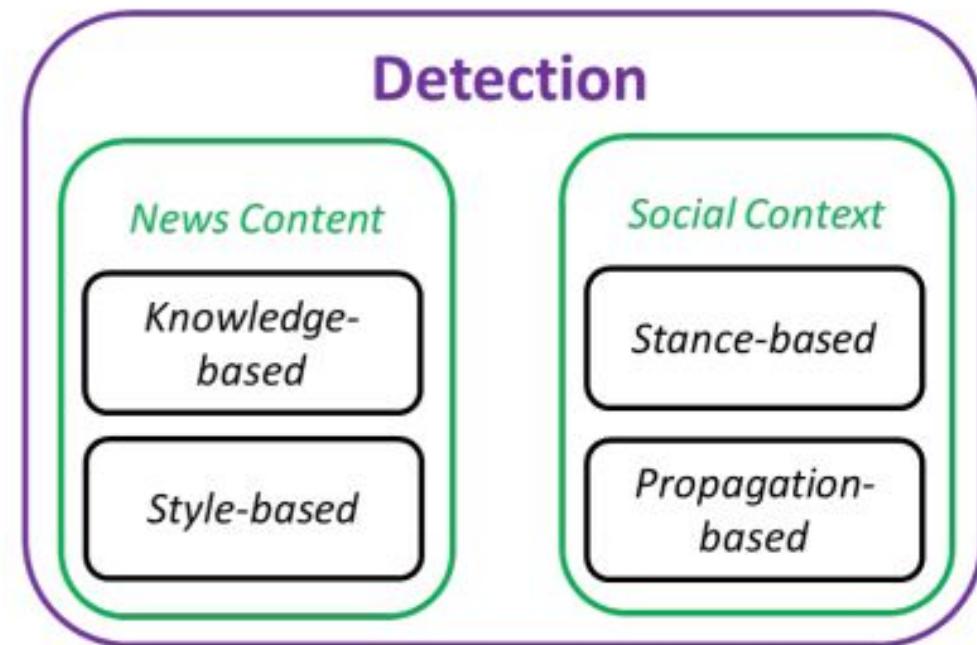
- machine identifies potentially fake stories
- double-checked by human

- Machine only

- artificial intelligence

Two strategies for automatic identification of “fake news”

- From content
 - facts
 - style
- From social
 - stance
 - propagation



Shu, Kai, Amy Sliva, Suhang Wang, Jiliang Tang, and Huan Liu.
"Fake news detection on social media: A data mining perspective." *ACM SIGKDD Explorations Newsletter* 19, no. 1 (2017): 22-36.

Content analysis is hard because ...

- ... needs to understand content
 - few news pieces are blatantly false
- style?
 - authors will adapt

POLITICAL LANGUAGE
is designed to make lies sound truthful and murder respectable, and to give an appearance of solidity to pure wind.

George Orwell

Artificial Intelligence can help. But “Computer did it” is a fallacy

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COMPUTING

Could AI Be the Future of Fake News and Product Reviews?

An experiment using a computer algorithm to create deceptive Yelp reviews was disturbingly successful, and could point to bigger problems as artificial intelligence matures

By Larry Greenemeier on October 16, 2017

SHARE

SHARE 421

TWEET

COMMENT

EMAIL

TM SIMONITE BUSINESS 08.15.17 11:04 AM

HUMANS CAN'T EXPECT AI TO JUST FIGHT FAKE NEWS FOR THEM



YENPITSU NEMOTO/GETTY IMAGES

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Theranos and Silicon Valley's Take It Till You Make It Culture
ERIN GRIFFITH

SCIENCE
Maybe Nobody Wants Your Space Internet
SARAH SCOLE

SECURITY
Today's Debate Over Online Porn Laws Started Decades Ago
LOUISE MATSAKIS

MORE STORIES



FAKE NEWS DETECTOR AI

Ex: nytimes.com

Detect fake news sites using the power of artificial intelligence!

We analyze websites to see if they are similar to known fake news sites using a neural network. The same technology is used to power other artificial intelligence applications, like Siri and self-driving cars!

New source is an easy identifier of “fake news”

- what site is the origin of news
- shortlist of “fake news” sites

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The Free Encyclopedia

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List of fake news websites

From Wikipedia, the free encyclopedia

For satirical news, see [List of satirical news websites](#).
This is a dynamic list and may never be able to satisfy particular standards for completeness. You can help by expanding it with reliably sourced entries.

This is a list of fake news sites. These sites intentionally, but not necessarily, solely publish hoaxes and disinformation for purposes other than news satire.

Some of these sites use homograph spoofing attacks, typosquatting and other deceptive strategies similar to those used in phishing attacks to resemble genuine news outlets.^{[1][2]}

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2 List
 2.1 For Philippine audiences
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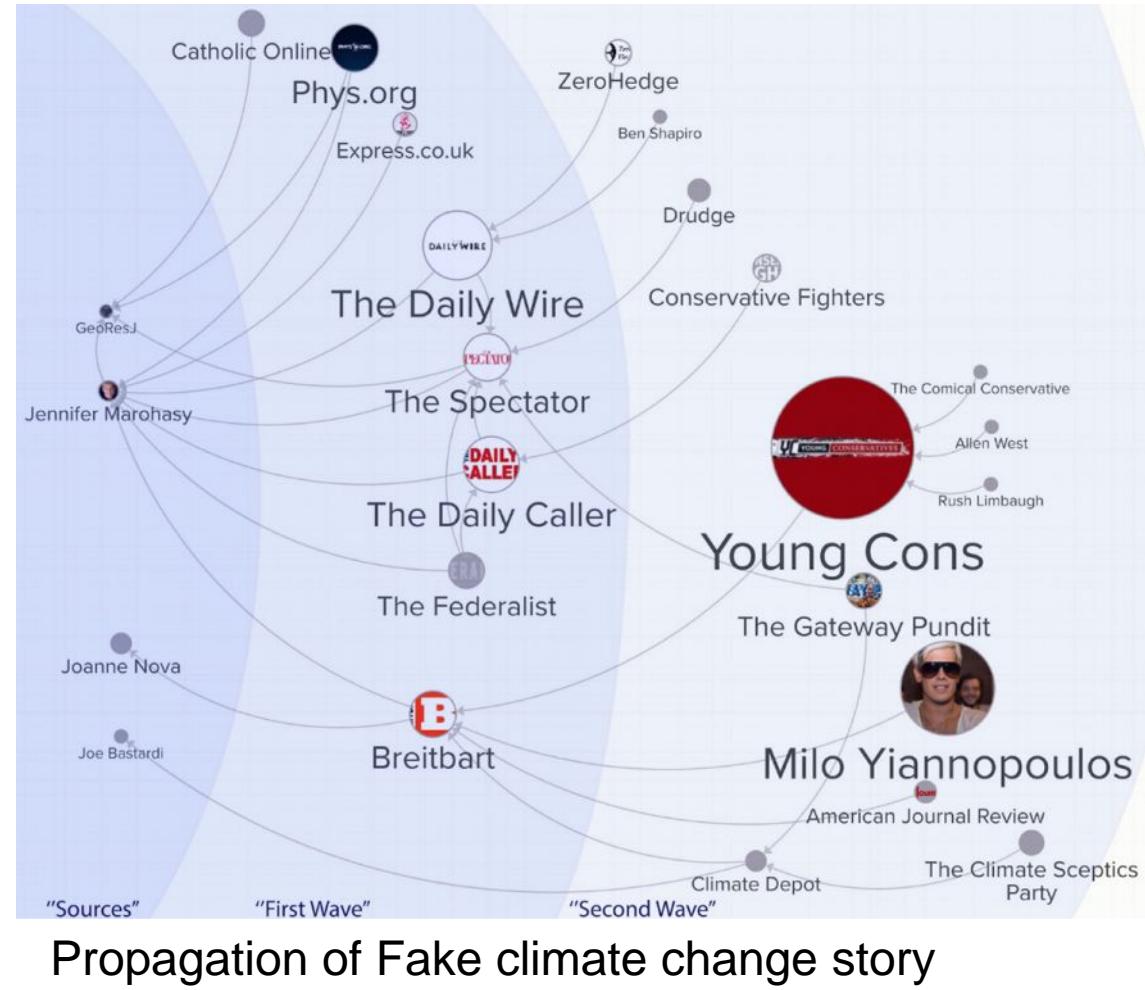
Definition

Fake news websites deliberately publish hoaxes and disinformation to drive web traffic inflamed by social media.^{[3][4][5]} These sites are distinguished from news satire (which is humorous) as they mislead and sometimes profit from readers' gullibility.^[4] While most fake news sites are portrayed to be spinoffs of other news sites, some of these websites are examples of website spoofing, structured to make visitors believe they are visiting trusted sources like ABC News or MSNbc.^[6] *The New York Times* pointed out that within a strict definition, "fake news" on the Internet referred to a fictitious article which was fabricated with the deliberate motivation to defraud readers, generally with the goal of profiting through clickbait.^[7] PolitiFact described fake news as fabricated content designed to fool readers and subsequently made viral through the Internet to crowds that increase its dissemination.^[8]

The New York Times noted in a December 2016 article that fake news had previously maintained a presence on the Internet and within tabloid journalism in the years prior to the 2016 U.S. election.^[1] Prior to the election between Hillary Clinton and Donald Trump, fake news had not impacted the election process and subsequent events to such a high degree.^[7] Subsequent to the 2016 election, the issue of fake news turned into a political weapon, with supporters of left-wing politics saying those on the opposite side of the spectrum spread falsehoods, and supporters of right-wing politics arguing such accusations were merely a way to censor conservative views.^[7] Due to these back-and-forth complaints, the definition of fake news as used for such polemics became more vague.^[7]

Social context tells a lot about trustworthiness of news

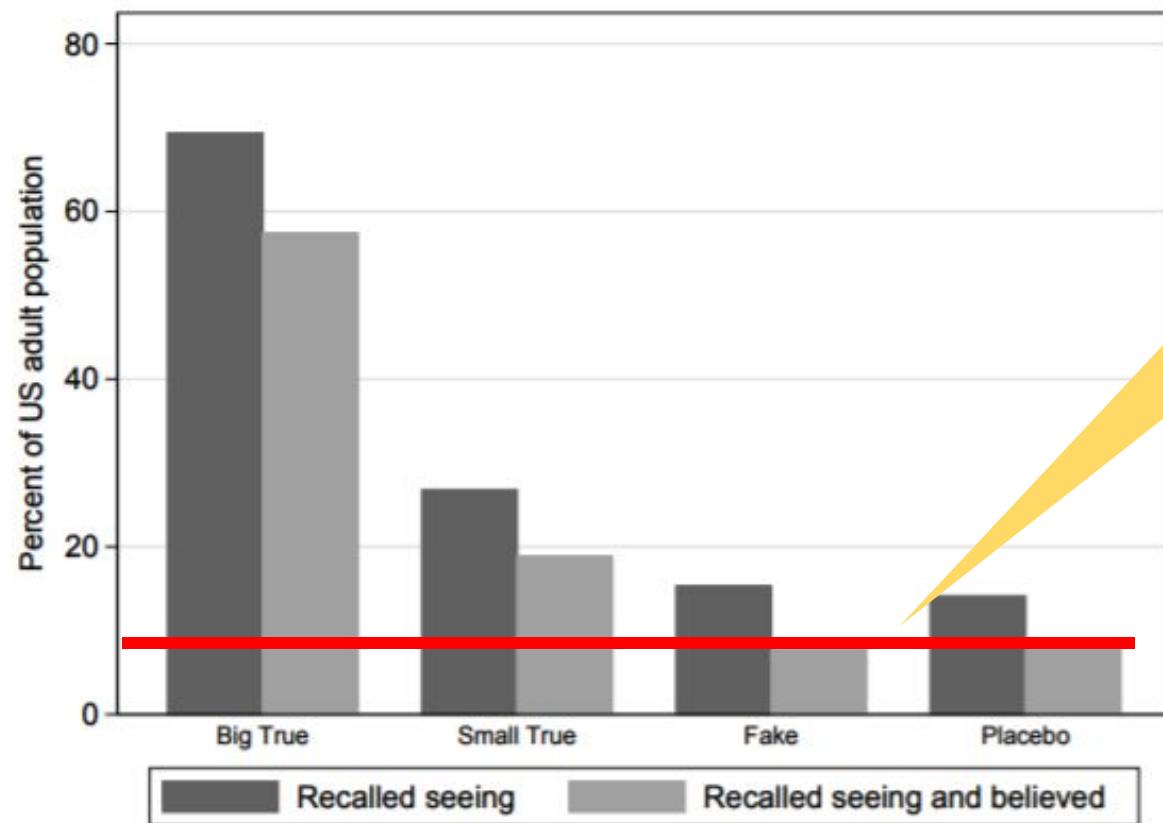
- “influencers”
- propagation patterns
- deployment of bots
- need for speed



Stop at consumption

Media literate user is the last and best line of defense

Figure 5: Percent of US Adult Population that Recall Seeing or Believed Election News



people remember and believe “fake news” about as much as placebo news (non existent news)

“Available evidence suggests that for now the influence of fake news is limited”.

Conclusions

Yes we can. But may we?

- gatekeepers are gone
 - only guerrilla war on fake news is possible
- technology to disturb circulation of fake news exists
 - most efficient if platforms cooperate
 - some approaches are clearly interfering with free speech
- users seem to be quite capable at identifying fake news
 - too early to blame election results on fake news

The End

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