Social Media Junk News concerning Pfizer's Vaccine
Weekly Misinformation Briefing 14-12-2020

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SUMMARY

We provide a weekly briefing about the spread of misinformation across six social media platforms. For the seven days prior to 10-12-2020 we find:

- The social media distribution network of all articles from the top fifteen mainstream news outlets reached just below three billion social media users this week, achieving much greater distribution than state-backed and junk news sources. The average article from state-backed sources reached over 7,400 users, while the average article from mainstream sources reached over 4,400 users and the average junk health article reached over 2,000 users.
- Similarly, aggregate content from mainstream sources receives the largest amount of total user engagement. However, on a per article basis, state-backed news receives over 500 engagements and junk news receives over 1,100, while average articles from mainstream sources get over 300 engagements.
- The most prominent junk news and state-backed topics, in descending order, were accusations of electoral fraud, Pfizer's vaccine candidate, photos of the week, and attacks on President-Elect Biden.

INTRODUCTION

Using an actively curated list of major sources of junk news and state-backed sources, we track the spread of misleading, polarizing, and inflammatory content on social media. Sources from state-backed media include information operations and editorially controlled national media organizations. Other domestically and independently-produced sources also act as politically motivated sources of misinformation.[1] All such media sources play a major role in the online information ecosystem and generate engagement from millions of social media users. We define junk news and information sources by evaluating whether their content is extremist, sensationalist, conspiratorial, or commentary masked as news. See our Methodology FAQ for further details.

We currently track 142 junk news websites and 22 state-backed media outlets that are actively publishing misleading information—164 in total. From these we select the top fifteen most engaged state-backed and junk news sites respectively for comparison. We examine how successful they are in terms of distributing their content on social media and generating engagement and compare this to fifteen major sources of credible mainstream news and information. Our data comes from the APIs of Facebook, Instagram, Reddit, Telegram, Twitter, and YouTube. Facebook and Instagram are accessed through the CrowdTangle platform. Additional analytics allow us to benchmark and track how users spread and engage with misleading information.

DISTRIBUTION & ENGAGEMENT

Understanding the flow and impact of misinformation requires measuring how users distribute and engage with that content over social media. We analyze such patterns for the period from 3rd December to 10th December and offer comparisons between the trends for junk news and state-backed sources, and the trends for fifteen prominent English-language sources of credible news and information.

The "social distribution network" of an outlet is the sum of follower counts of the Facebook groups and pages, subreddits, Instagram and Twitter accounts that have shared at least one of the sources' articles over the previous week. On YouTube, this distribution network is counted as a channel's number of subscribers. This provides an impression of the capacity that sources have for distributing their content. It is important to emphasize that not all these followers may have been reached by this content—only the social media firms themselves could confirm this. We use "engagement" to refer to the sum of actions that users of social media took in response to content shared by the distribution network. On Facebook, users may comment on content, share it, and react by signaling like, love, laughter, anger, sadness, or amazement. On Twitter, users can retweet, comment, and signal their favorite tweets by clicking on the heart button. On Reddit, this is the sum of comments, cross posts, scores, and awards on posts containing the links to articles from our watch list. On Instagram, this is the sum of likes and comments. On

Telegram, this is the number of views. On YouTube, this is the video view count as well as comment and like reactions. Our overall engagement measure is the sum of all these actions. We should say that we are not able to distinguish between genuine and inauthentic accounts or acts of engagement.

We can offer some broad observations about how English-language social media users interact with content from junk news health sources and state-backed agencies. Overall, 35% of the engagement with non-mainstream sources we observed this week was from state-backed sources. Further, 49% of engagements with state-backed media were with Chinese content, whereas 43% was with Russian content. 7% was with Turkish content.

Distributional reach and engagement are presented in Table 1. This week, the top fifteen mainstream sources achieved much greater distribution networks than either state-backed or junk news sources. However, the average article from state-backed sources still has a larger distribution network, this week reaching a potential audience of over 7,400 users, whereas average mainstream news articles reach over 4,400 users. Junk news articles reached an average audience of over 2,000 users. Mainstream news achieved 38 million total engagements. Junk news generated over 15 million engagements. State-backed news reached over 8 million engagements. On average, junk news generated the most engagement this week, reaching over 1,100 engagements per article, whereas state-backed media achieved an average of over 500 engagements per article.

Figure 1 displays the trends over the last four weeks. Mainstream news sources achieved over 10 million engagements on some days. Junk news and state-backed media seldom reach that threshold. On a per-article average, however, mainstream news sources struggle to match the engagement generated by junk news and state-backed outlets.

KEY NARRATIVES

We also conduct a thematic review of articles published by both these junk news and state-backed sources. Previously, we found that state-backed and junk news sources targeting English speakers generally politicize health news and information by criticizing democracies as corrupt and incompetent.[1] We have also found that Russian outlets, targeting French and German speakers, have consistently emphasized the flaws of Western democratic institutions, and Turkish outlets, targeting Spanish speakers, have promoted their global leadership in battling the pandemic.[2]
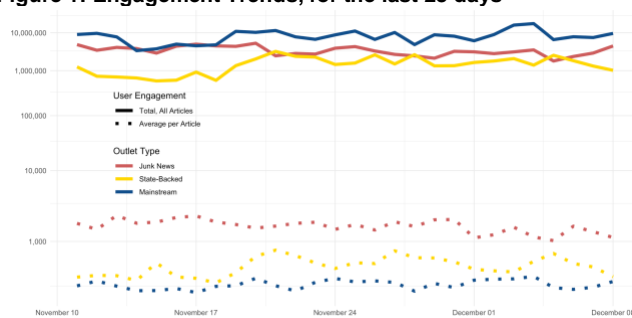
The thematic analysis presented in these weekly briefings incorporates both a quantitative topic modelling that categorizes articles from state-backed and junk news outlets into groups of articles on the same subject, and a qualitative narrative analysis typically on one or two of these identified topics. The qualitative analysis uses the articles with the greatest overall engagement in addition to the articles that fit

Table 1: Changes in Misinformation Production

	This Week	Percent Change from Last Week	Percent Change from Last Month
Total Distribution Network, All Articles (Billions)			
Junk News	0.4	↑ 21	↑ 39
Mainstream	2.8	↓ 3.1	↓ 1.5
State-Backed	1.4	↓ 9.1	↓ 13
Distribution Networks, Average Per Article			
Junk News	2,043	↑ 1.0	↑ 15
Mainstream	4,484	↑ 4.8	↓ 0.4
State-Backed	7,457	↓ 3.3	↑ 10
Total User Engagements, All Articles (Millions)			
Junk News	15.9	↓ 18	↑ 53
Mainstream	52.3	↓ 27	↑ 96
State-Backed	8.43	↓ 3.4	↑ 41
User Engagements, Average Per Article			
Junk News	1,177	↑ 20	↑ 37
Mainstream	326	↓ 0.6	↑ 16
State-Backed	537	↑ 6.4	↓ 0.4

Source: Based on authors' calculations using data collected 03/12/2020-10/12/2020.

Figure 1: Engagement Trends, for the last 28 days

Source: Based on authors' calculations using data collected 03/12/2020-10/12/2020.
Note: Distribution refers to the sum of the subscriber count of YouTube channels and follower count of Twitter and Instagram accounts, subreddits, and Facebook groups/pages sharing content. Engagement refers to the sum of all reaction types on Facebook, Instagram, Reddit, Telegram, Twitter, and YouTube.

best into each designated topic, or 'best-fitting' articles. Further detail on the quantitative topic modelling process can be found in the Methodology FAQ.

Topic Modelling

Four topics rose to prominence this week. A visualization of top words and their associations with topics are provided in Figure 2. Note that not all words associated with a topic can be displayed here. The engagements generated by the top twenty best-fitting articles for each topic are displayed in Figure 3. The first topic included words such as "election", "Trump", "Georgia", "vote", and "state". The top 20 best-fitting articles generated over 150,000 engagements. Best-fitting articles in this topic were mostly from junk news outlets and continued ongoing misinformation regarding alleged electoral fraud in the US. This week, a number of best-fitting articles in this topic concerned a recent filing from President Trump's campaign to hold another Presidential election in Georgia.[3], [4]

The second topic included words such as "vaccine", "COVID-19", "Pfizer", "health", and "case". The top 20

best-fitting articles in this topic generated over 46,000 engagements. The top 20 best-fitting articles in this topic were roughly half from junk news outlets and half from state-backed outlets. This topic concerned recent approvals and initial distributions of the Pfizer/BioNTech vaccine for coronavirus.[5], [6]

The third topic included words such as "China", "Chinese", "photo", "Xinhua", and "December". The top 20 best-fitting articles in this topic were all from state-backed outlets. The top 20 best-fitting articles generated over 37,000 engagements. The top 20 best-fitting articles contained photos taken during the week and published regularly in state-backed outlets.[7]

The fourth topic included words such as "new" "year", "news", "American", and "think". The top 20 best-fitting articles were mostly from junk news outlets and generated over 35,000 engagements. This topic contained hyper partisan articles from both the political left and right on the upcoming presidency of Joe Biden, and Democratic Party rule.[8], [9]
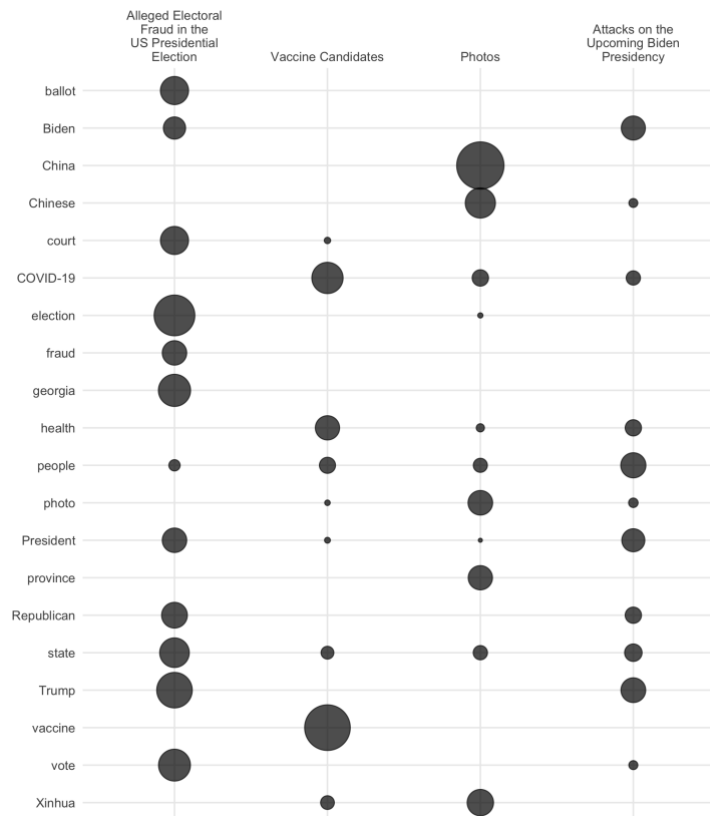
Qualitative Analysis

The most prominent topics among junk news and state-backed outlets this week related to coronavirus vaccines and continuing narratives on electoral fraud.

An article from *The Daily Wire* with over 140,000 engagements attacked Speaker Nancy Pelosi for stating that she would work with Senate Majority Leader Mitch McConnell on a smaller relief bill than she had previously advocated .[10] Speaker Pelosi stated that she was willing to negotiate and potentially accept a smaller relief bill due to the election of President-Elect Biden. She believes Biden? will better tackle the pandemic than President Trump has and is willing to negotiate a less aggressive relief bill for the moment. *The Daily Wire* argues that Speaker Pelosi failed to give credit to President Trump for the development of the Pfizer/BioNTech vaccine candidate through "Operation Warp Speed". However, this claim has been shown to be false, as OWS did not fund research and development into the Pfizer/BioNTech vaccine (CHECK).[11] "Operation Warp Speed" announced an agreement with Pfizer to obtain 100 million doses, pending approval from the Food and Drug Administration.[12], however the purchase of a vaccine candidate pending approval is not the same as funding research and development. Further, the same *Daily Wire* article omits many shortcomings of the outgoing administration's handling of the pandemic, such as President Trump's unfounded promotion of hydroxychloroquine as a treatment for the virus.

On the continuing false rhetoric of electoral fraud in the US Presidential election, one *Daily Wire* article with over 217,000 engagements lauded the introduction of a Congressional bill requiring "States to obtain information… on deaths for purposes of voter registration list maintenance…".[13] However, as has been documented by fact-checking organizations many times before and reinforced by election officials, deceased voters may appear on electoral rolls because
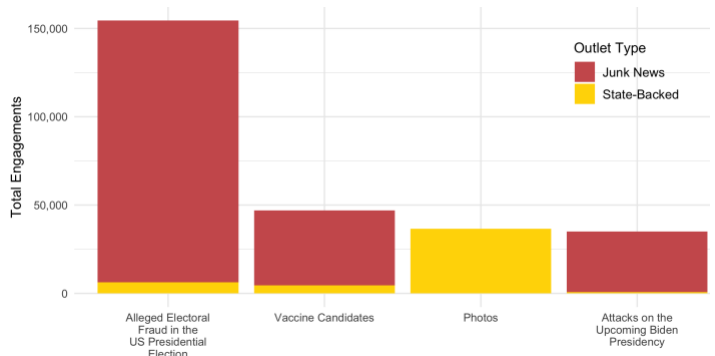
Figure 2: Junk News Keywords and Topic Modelling

Source: Based on authors' calculations using data collected 03/12/2020-10/12/2020.
Note: The size of each circle indicates how important each word was to each topic.

Figure 3: Engagements with Best-Fitting Articles in each Topic

Source: Based on authors' calculations using data collected 03/12/2020-10/12/2020.
Note: Total engagements of the top 20 best-fitting articles are labelled by outlet type.

they are unable to give notice for obvious reasons.[14] Electoral rolls are updated regularly, and officials do actively seek to obtain information on death for such purposes. Further, missing birth date data has been entered with placeholders such as 1st January 1900, making voters appear as if they are impossibly old. An article from *The Blaze* with over 96,000 engagements took a very similar line to the *Daily Wire* article, implying that the need for this "revolutionary idea" bill is ridiculous.[15]

Another collection of articles, some of which appeared in the first topic from the quantitative analysis section, reported again that Georgia's electoral process had "massive irregularities".[3] The *LifeNews* article claims

that "data experts" have verified numerous claims, including one that there were over 65,000 underage voters. Recount efforts already conducted in the state of Georgia have indicated "no substantial change".[16]

content. Sources of junk news and information have distribution networks reaching hundreds of millions of social media users. Junk news websites generate huge amounts of content that is widely disseminated and receives significant engagement.

CONCLUSION

We measure the social distribution networks of Facebook, Instagram, Reddit, Telegram, Twitter and YouTube and the levels of engagement with junk news

RELATED WORK

Find our previous weekly briefings.

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ABOUT THE PROJECT

The Computational Propaganda Project (COMPROP), based in the Oxford Internet Institute and University of Oxford, involves an interdisciplinary team of social and information scientists researching how political actors manipulate public opinion over social networks. This work includes analyzing how the interaction of algorithms, automation, politics, and social media amplifies or represses political content, disinformation, hate speech, and junk news. *Data Memos* present important trends with basic tables and visualizations. While they reflect methodological experience and considered analysis, they have not been peer reviewed. *Working Papers* present deeper analysis and extended arguments about public issues and have been collegially reviewed. Our *Weekly Misinformation Briefing* provides regular reports on the

most prominent social media trends from the prior week. COMPROP articles, book chapters, and books are significant manuscripts that have been through peer review and formally published.