Moderate Republicans
Computational Propaganda in the United States

Can the center hold? Moderate Republicans as disinformation targets in 2018

ABSTRACT

This paper presents a mixed-methods study comprising of qualitative interviews concerning moderate Republicans' experiences of disinformation and a quantitative analysis of tweets around relevant events.

The study focused on Arizona politics in 2018, specifically on the contentious US Senate Republican primary (won by moderate candidate Martha McSally) and the funeral of Senator John McCain. The moderate Republicans interviewed generally agree that the conservative media landscape has changed, that the internet demands information self-reliance, and that growing partisanship leaves voters vulnerable to disinformation. Our analysis reveals evidence of disinformation and its spread by automated accounts on Twitter. Although the presence of automated accounts was consistent across the events studied, disinformation was more prevalent around Senator McCain's funeral and was often focused on Israel or on the relationship between Israel and neoconservatives. But the study shows that moderate Republicans face a variety of disinformation issues, including a polarized news ecosystem and fringe conspiracy theories.

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ABOUT THESE PAPERS

This case study series explores the social implications of computational propaganda. Each report outlines how tools and tactics, including bots, disinformation and political harassment, were used over social media in attempts to silence social and issue-focused groups prior to the 2018 US midterm elections.

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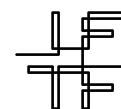
introduction

This paper considers the nature and extent of online disinformation aimed at moderate Republicans in the US, with particular reference to recent primaries and the 2018 midterm elections. The United States has historically been a target of Russian information warfare, and the post-2016 turmoil in the Republican party has produced a new range of actors who often spread disinformation through automated programs known as bots (Woolley & Guilbeault, 2017). Disinformation—false information designed to mislead—is just one aspect of ugly online politics, and it often intersects with issues of trolling, spam, or harassment. Divided between self-identified moderates and a radical faction, the conservative movement in an environment of post-truth politics is vulnerable to interference from foreign actors, domestic activists, and political campaigns. Disinformation is as old as politics, but its power is intensified by bot networks, with our data estimating that 9%-10% of Twitter accounts engaging with the topics we sampled are bots. Bots have the power to cheaply increase the reach of false information or narratives, and many of the smears and conspiracies our interviewees encountered were in part promoted by bot networks. While not all disinformation is spread by bots, we may generally expect that where we find bots, we will find disinformation (and, as our analysis shows, many bots linked to disinformation websites). Because of the tremendous variety of disinformation, our study chose to highlight two particularly contentious events in the area of Republican discourse—the death of Arizona Senator John McCain and the primary to replace his retiring colleague, Jeff Flake (R-AZ). This focused analysis enables us to present a microcosm of the Republican internet while illustrating the variety of disinformation attacks that moderate republicans experience.

background

Arizona has been home to many twists in the history of American disinformation. During the 2008 presidential campaign, the late Senator John McCain was the subject of vicious false claims about his military record, including accusations that he readily provided information to his captors while he was a prisoner of war and caused the USS Forrestal fire (Emery, 2017). These smears have since been revived by anti-McCain Republicans, as John McCain angered right-wingers with his opposition to President Donald Trump (Garcia, 2018). Many of these attacks may also be related to Senator McCain's foreign policy stances. The most commonly shared disinformation website in our bot dataset (youtube.com being the most shared website overall) is America-hijacked.com, an anti-Semitic conspiracy website dedicated to attacking the "Israel Lobby." The site has run many posts attacking "Israel first traitor John McCain" and arguing that McCain was complicit in a cover-up regarding the USS Liberty incident (America-hijacked.com, 2013). As Senator McCain was a lightning rod for disinformation attacks in life, his funeral offered a chance to discover how old conspiracy theories reappear in new media.

But Senator McCain's death on August 25, 2018, was not the first to rattle the world of disinformation. Paul Horner, an Arizonan considered to be a "fake-news pioneer," passed away on September 18, 2017—after his hoaxes had been shared across America, including by Donald Trump Jr. (White & Woods, 2017). PolitiFact has found that there are at least 64 disinformation sites registered in Scottsdale, Arizona, alone (Bowling, 2017). Furthermore, such hoaxes are often picked up and republished by foreign fake news sites that use them to make money from ads or to entice users into downloading malware (Silverman & Lytvynenko, 2017).

In the recent Arizona primary to replace retiring moderate Republican Jeff Flake, many unfounded allegations were made online about establishment candidate Martha McSally. One interview subject (an Arizonan Republican) believes these false attacks are expressions of a general

belief that McSally does not support President Trump, which is contradicted by her voting record (Hansen, 2017). McSally's main opponent, Kelli Ward, quoted and promoted a disinformation website during the campaign (Schwartz & Musgrave, 2018)—and the interview subject asserts that these attacks continue from the fringes of the party. Therefore, Arizona provides a particularly useful case to explore wider issues of disinformation on the Republican internet.

methods:
qualitative interviews

Interviews were conducted with six subjects, all of whom are or work with moderate or centrist conservatives who have encountered disinformation. They were selected to ensure a variety of relevant backgrounds and to provide diversity in age, gender, race, and political beliefs (within the moderate Right). The interviews were not structured, and the subjects were encouraged to present their views about disinformation, online media, the midterms, and Arizona state politics as they saw fit.

The subjects' perspectives and insights from their interviews are summarized and presented thematically, based on common threads in their thinking. Our data analysis is presented following the interviews with details about our quantitative methodology. The aim of a mixed-methods approach is to give a more holistic picture of the relevant social media landscape. Individuals in qualitative interviews can provide only their partial perspectives from their viewpoints in their information networks. Quantitative analysis alone, however, is also limited in its ability to capture the detail of a social media community. Bringing these two modes of analysis together adds richness to our data and allows for more effective generalization from individual observations.

results:
qualitative interviews

Effort was made to find people with complementary backgrounds involving conservative publishing, campaigning, and social media work, including two who have been involved in Arizona state politics. The six interview subjects have been given pseudonyms in this paper to protect their anonymity:

- **Michael**, an experienced Republican campaigner and editor of an intellectual conservative publication.

- **Olivia**, a member of a bipartisan project that provides officials and campaigns with resources to combat cyber and information threats to election integrity.

- **Anna**, an Arizona Republican who has been active in many state, local, and national campaigns.

- **Alex**, a recent graduate from Arizona State University who was active in student politics and volunteered for Jeb Bush's Arizona primary campaign.

- **John**, the editor of a right-leaning student publication often concerned with issues of campus free speech, and the moderator of social media postings for the publication.

- **Caitlin**, a young Republican from the Southwest, who recently completed an internship program with a prominent libertarian-leaning organization in Washington, DC.

These subjects agreed on three particular themes: (1) The media landscape has changed, favoring sensationalist and partisan content; (2) The internet demands information self-reliance; and (3) Partisanship creates vulnerability to disinformation.

The media landscape has changed, favoring sensationalist and partisan content

While the news industry has transformed for all Americans in the last two decades, it has perhaps changed most of all for Republicans. Fox News was founded in 1996, providing conservatives a new form of national voice. However, a partisan 24-hour news cycle has also made disinformation more visible. Michael argues that the sensationalism of TV news "throws red meat and ignores the substance…both on the left and the right." News outlets from each side give airtime to disinformation rather than substantive, complex issues. For example, Michael claims that liberal outlets would rather report on Republican activists supporting the "birther" conspiracy theory (that President Obama was born in Kenya, not Hawaii) than engage with intellectual criticism of Obama's policies. By raising the profile of disinformation efforts (even as objects of attack), conspiracy theories and unfounded smears moved from the fringes of politics into the news consumption of moderates. The result of this race to the bottom has been online "clickbait" that is tenuously factual but brimming with emotion. Anna and Alex both sharply distinguish "spin" from fake news, arguing that even when major outlets might have partisan bias, that is very different from reporting unverified information as fact. Internet outlets, however, often cross that line.

In addition to changes in the content of news itself, social media has changed our interaction with news outlets in other ways that boost the visibility of disinformation. According to Anna, many Arizona Republicans have encountered bots linking to false or inflammatory online articles, and our data bears this out. Alex points out that, while state-sponsored disinformation is an age-old threat, outlets like Russia's RT and Iran's PRESSTV are a new addition to the media environment. The increasing interactivity of social media websites and news sites, such as Twitter's retweet feature and news websites' comment sections, provides fertile grounds for disinformation—Michael says, "a lot of the comments that I get on our pages are the result of disinformation campaigns." John believes that conservatives can wrongly "fall into a smugness"

about online disinformation, because they may believe that social media is not an important news source for them. However, these various facets of the online media ecosystem amplify a long-running and dangerous trend toward the proliferation of disinformation.

John sees friends on both the left and the right sharing information "which is simply not true." Disinformation is described as a bipartisan issue, coming from and affecting both left and right. Alex believes he sees less disinformation now than he did in 2016, perhaps because of social media companies' efforts to reduce bot visibility—or, as Olivia points out, because state and local campaigns have far fewer resources than the actors involved with presidential elections, including the ability to propagate disinformation. Because the new media landscape favors content based on its ability to attract attention rather than its quality of information, disinformation designed to confirm prejudices or inflame emotions will be spread widely among its targets. As Faris et al. (2017) have noted, recent developments in the media landscape have resulted in a separation between liberal news sources and a right-wing ecosystem centered around websites like Breitbart, meaning that moderate conservatives find themselves caught in this opening gap (Faris et al., 2017).

The internet demands information self-reliance

All of our interview subjects actively used online news, and they were all careful to distinguish truth from falsehood. Alex warns of the importance of titles and context, arguing that the title or message that accompanies a link can alert savvy readers to its reputability. Anna agrees with the issue of reputability, and counsels Republicans to "read your local news, watch your local news." In particular, she argues, local news outlets are generally more trustworthy—they have on-the-ground experience, their reporting is less distorted by national partisan agendas, and they rely less on sensationalism for viewers. This localist approach is borne out by public opinion, as Americans believe they can best distinguish fact from opinion on their local news stations (Loker, 2018).

Furthermore, citizens are now more than ever able to research news for themselves. Alex claims that disinformation is "now easier to counter and debunk." Olivia believes in taking time "to get to the sources of information." Michael highlighted the improvements in public research tools compared to his experience in political research before the internet. Caitlin offers the suggestion of trusted information brokers, such as podcasts, whose curated news can both inform the listener and build up the skills required for verifying media information. Both Michael and Alex independently used the phrase "democratizing information" to describe the modern internet; while the internet may have democratized propaganda (Woolley & Guilbeault, 2017), it has also democratized verification.

Partisanship creates vulnerability to disinformation

Anna described the market for disinformation in Arizona forcefully: the fraught Republican primary left a fringe of disaffected Ward and Arpaio partisans "whining about it," ready to believe any information that confirmed their views. Alex concurs, arguing that blind partisan loyalty makes people susceptible to fake news. Confirmation bias can, in these situations, become more powerful than facts—in Alex's words, "I don't blame the platform, I blame the people who want to believe fake news." Disinformation was not seen as an effective strategy, with Anna claiming that "even if not affiliated with but promoting a candidate…it lowers the credibility of that candidate for me." Rather, it takes advantage of politically "immature" news consumers who don't notice if a story seems too good (or too enraging) to be true.

Caitlin points out that even moderate Republicans may now feel excluded from traditional institutions of intellectual debate, believing that they are not welcome to defend their perspectives in academia or news media, and so may turn to highly partisan sources. Michael connects this to the growth of "echo chambers," where partisans segregate themselves on social media and reinforce each other's biases until they are able to believe disinformation that fits their worldview. An example would be the insular network of news sites that has built up on the right of the Republican party, which rarely engages with moderate Republicans except as adversaries (Faris et al., 2017). He believes the growth of echo chambers in general is "one of the biggest challenges we face now as a democracy," and their role in detaching inhabitants from common sense is a major component. John agreed with the issue of filter bubbles, arguing that the best way to avoid them is to check stories with an ideologically opposite news source— as a matter of "personal responsibility." Republicans, then, ought to engage in deeper and more thorough dialogue with each other, healing the party's divisions by escaping bubbles and arriving at shared truths.

methods: twitter analysis

Data collection

Using Twitter's streaming API, two datasets involving centrist Republicans and Arizona politics were collected. In the first, a set of hashtags and handles (Twitter usernames) involving the main participants in the Arizona Republican primary for the US Senate were collected (Table 1). We then streamed tweets using one or more of these terms over 24 hours on August 28, 2018. In total, we collected 101,543 tweets from 59,886 unique users participating in this conversation on Twitter.

To compile the second dataset, our team streamed tweets relating to John McCain's funeral for 36 hours from September 2 to September 3, 2018. Being a topic of national and worldwide importance, there was more Twitter activity around it. We were able to collect 245,500 tweets from 122,491 unique users that used at least one of ten relevant keywords (Table 2).

Table 1. Query keywords for Arizona Republican primary stream.

Account @-mentions	Hashtags
@SenJohnMcCain	#AZSEN
@JeffFlake	#AZPrimary
@kelliward	
@RealSheriffJoe	
@RepMcSally	
@MarthaMcSally	

Table 2. Query keywords for John McCain funeral stream.

Account @-mentions	Hashtags
@SenJohnMcCain	#JohnMcCainRIP
@MeghanMcCain	#RIPJohnMcCain
	#JohnMcCain
	#JohnMcCainAmericanHero
	#McCainFuneral
	#MeghanMcCain
	#McCainMemorial
	#JohnMcCainFuneral

results: twitter analysis

The role of automated accounts

Following the example of studies in recent years, in order to analyze bot behavior in our dataset, we used the open source machine learning classifier Botometer to classify all users in this set as bots or humans (Davis, Varol, Ferrara, Flammini, & Menczer, 2016). While Woolley and Guilbeault (2017) classified a sample of their dataset while analyzing bot participation in the 2016 presidential election, we decided to follow the recent example of Broniatowski et al. (2018) and classified all of the users in our datasets using Botometer.

Botometer's output for a given account is a score between 0 and 1, representing the probability of the input account being a bot. It is incumbent on the researcher to define what probability is appropriate as a cutoff threshold for the task at hand. In this paper, our team also decided to follow the example of Woolley and Guilbeault's (2017) analysis and treat users with a Botometer score of greater than .5 as bots. Put another way, accounts that were classified as having a greater than 50% probability were treated as bots in this analysis.

Using this as a threshold, Woolley and Guilbeault (2017) found that over 10 percent of users participating in conversation around the 2016 US presidential elections were bots. In the two years that have passed since this study, Twitter has made several changes aimed at curbing automation on its platform, including preventing coordinated tweeting across multiple accounts; removing droves of automated accounts from its platform in a "bot purge"; and recently requiring new developers to complete a developer account application to introduce their apps and gain access to Twitter's API (Newcomb, 2018; Roth, 2018; Roth & Johnson, 2018). Despite these changes, our team found nearly the same percentage of users participating in conversations around both the Arizona Republican primary (Table 3, page 7) and John McCain's funeral to be bots (Table 4, page 7) .

As shown in Table 3, 9.53% of accounts participating in conversations about the Arizona Republican primary were found to be bots. Similarly, 9.83% of accounts participating in the conversation about John McCain's funeral were classified as bots (Table 4).

In order to better understand the behavior and content emanating from these accounts, in the following sections, we will proceed to analyze off-platform domains[1] and hashtags shared in these datasets. In both cases, we will analyze domains and hashtags shared in the full dataset and compare with those shared by high-certainty bots in the dataset. We have defined the term *high-certainty bots* as accounts classified with an 80% or greater probability of being a bot.

John McCain's Funeral: tracking the spread of disinformation domains

In this paper, our team followed the methodology of Allcott, Gentzkow and Yu (2018) for compiling our dataset of URLs known to disseminate disinformation in the United States. Allcott et al. (2018) compiled a list of 673 known "fake news" sites[2] to track interactions with these sites over two and a half years from January 2016 to July 2018 (Allcott et al., 2018). These sites were compiled from five separate sources, including two academic papers, several articles from BuzzFeed, and lists compiled by FactCheck.org and PolitiFact (Gillin, 2017; Guess, Nyhan, & Reifler, 2018; Schaedel, 2017; Silverman, 2016; Silverman, Lytvynenko, & Pham, 2017; Silverman & Singer-Vine, 2016). Our team also added

Table 3. Arizona primary Botometer classification results.

Narrative	Bot Score >=90%	>=80%	>=70%	>=60%	>50%
Number of Total Users	404	1,249	2,322	3,739%	5,705
Percent of Total Users	0.67	2.09	3.88	6.24	9.53

Botometer classification results for Twitter users discussing the Republican primary in the state of Arizona on August 28, 2018. Just over 9% of users participating in this discussion were found to be bots.

Table 4. McCain funeral Botometer classification results.

Narrative	Bot Score >=90%	>=80%	>=70%	>=60%	>50%
Number of Total Users	817	2,587	4,881	7,788	12,045
Percent of Total Users	0.67	2.11	3.98	6.36	9.83

Botometer classification results for Twitter users participating in Twitter discussion of John McCain's funeral in Washington, DC, on September 2, 2018. Our team streamed data for 36 hours over the day of the funeral and into September 3. Nearly 10% of users participating in this discussion were found to be bots.

1. In this study, *domains* refer to *external domains:* that is, domains that link to content that is not on Twitter. Links to other content on Twitter, such as retweets or quotations of other tweets, tend to be the top shared URLs in any given dataset on Twitter. For the purposes of analyzing disinformation, we thought it useful to limit our analysis to *external domains.* In both datasets, URLs linking to other content on Twitter were the most numerously cited. We also made the decision to count by *domains* and not by full URLs. For example, the example *URLs my content.com/ story-abcd* and *mycontent.com/story1234* would both be counted as citations of the domain mycontent.com.

2 A comprehensive list of these URLs is available at https://docs.google.com/spreadsheets/d/1OW8qg_ PqOzaclNXeZMVJXfKhx86UzbuCa8jQEEuOqQQ/edit#gid=0

four new disinformation domains to the list,[3] which came from stories that broke after the data collection period for the Allcott et al. study (Allcott et al., 2018; Roose, 2018; Silverman, 2018; Silverman, Feder, Cvetkovska, & Belford, 2018; Toler, 2018). This left us with a total of 677 disinformation domains to use in analysis of our dataset.

We searched the McCain and Arizona primary datasets for occurrences of any of the 677 known disinformation domains. The results are shown in Tables 5 and 6.

As can be seen in the tables below, known disinformation domains were cited much more widely in the conversation around John McCain's funeral than that around the Arizona primary. Overall, 417 citations of 25 unique disinformation domains occurred between both datasets. Eight of the 677 known disinformation domains occurred a total of 17 times in the Arizona primary conversation. In Twitter discussion of John McCain's funeral, 23 known disinformation domains were cited a total of 400 times.

Table 5. Tracking the spread of disinformation domains in McCain dataset.

Disinformation Domain	Citation Count in McCain Dataset
thegatewaypundit.com	179
ilovemyfreedom.org	95
100percentfedup.com	30
truepundit.com	29
dailywire.com	19
zerohedge.com	9
judicialwatch.org	7
inquisitr.com	5
palmerreport.com	5
dailycaller.com	4
crooksandliars.com	3
gotnews.com	2
powderedwigsociety.com	2
mainerepublicemailalert.com	2
beforeitsnews.com	1
theconservativetreehouse.com	1
teaparty.org	1
activistpost.com	1
infowars.com	1
ijr.com	1
iotwreport.com	1
thepoliticalinsider.com	1
stateofthenation2012.com	1

Table 6. Tracking the spread of disinformation domains in AZ primary dataset.

Disinformation Domain	Citation Count in AZ Primary Dataset
dailycaller.com	5
thegatewaypundit.com	3
zerohedge.com	3
truepundit.com	2
democraticunderground.com	1
judicialwatch.org	1
trunews.com	1
gotnews.com	1

3. The only one of the new domains that was cited within these datasets was truepundit.com.

Top shared domains in McCain and Arizona primary datasets

In addition to analyzing citation counts of known disinformation domains in both of our full datasets, we were also interested in the citation counts of all external domains in both datasets.

For each dataset, we analyzed the top 10 most widely cited domains for three subsets of users in the conversation: (1) human accounts; (2) bot accounts; and (3) high-certainty bot accounts. These categories are defined as follows:

> *Human Accounts*: accounts classified with a lower than 50% probability of being a bot.

> *Bot Accounts*: accounts classified with a 50% or greater probability of being a bot.

> *High-Certainty Bot Accounts*: accounts classified with an 80% or greater probability of being a bot.

The goal of this partitioning of the data is to analyze the frequency of disinformation domain citations among these three groups. In particular, focusing in on the high-certainty bot accounts' domain citations lends clarity

into the nature of automated behavior in both of these discussions, as the high threshold of an 80% or higher Botometer yields more certainty about our conclusions on automated behavior.

TOP SHARED DOMAINS IN MCCAIN DATASET

Discussion of John McCain's funeral on Twitter over 36 hours from September 2 to September 3, 2015, involved a greater number of tweets and a higher number of domain citations than in the Arizona primary discussion. The top 10 mostly widely shared domains among human accounts in this dataset can be seen in Table 7.

Two out of the top 10 most widely shared domains in the human accounts set are in the Allcott et al. (2018) set of known disinformation websites (thegatewaypundit.com and ilovemyfreedom.org—shown in bold above). Ian56.blogspot.com is the blog of a prolific Twitter troll known for conspiracies and pro-Russia, anti-neoconservative posts (Whitaker, 2018). Legacy media organizations such as *The Washington Post* and MSNBC are also highly cited in this dataset. And the Russian state-owned media outlet RT is in the top five most widely cited domains in the set (Table 8).

Table 7. Top human-shared domains in McCain dataset.

Domain Shared by Humans in McCain Dataset	Share Count
msnbc.com	710
youtube.com	550
breitbart.com	424
rt.com	324
thegatewaypundit.com	122
washingtonpost.com	97
nytimes.com	94
ilovemyfreedom.org	91
ian56.blogspot.com	72
politicususa.com	64

Table 8. Top bot-shared domains in McCain dataset.

Domain Shared by Bots in McCain Dataset	Share Count
youtube.com	178
breitbart.com	151
msnbc.com	99
thegatewaypundit.com	56
truthfeednews.com	36
rt.com	31
contest.techbriefs.com	29
scbctv.com	28
etsy.me	26
paper.li	20

While bots in the McCain dataset largely show attention to the same number of disinformation domains that humans do, they show a difference in preference for which domains are of interest. While thegatewaypundit.com remains a domain of significant attention, ilovemyfreedom.org is notably not present among the top 10 most bot-shared domains. A new disinformation domain, truthfeednews.com,[4] appears among bots in this conversation (Table 9).

High-certainty bots in the McCain dataset show a similar pattern to bots and humans—disinformation domains are present—but social marketing and spam websites are also present in the set, emphasizing a mixture of general spam content and political content among highly automated accounts in this conversation.

TOP SHARED DOMAINS IN ARIZONA PRIMARY DATASET

Overall, the comparison of most shared domains shows that the citation of disinformation domains is present among both bots and humans in the McCain dataset. While the particular sites of interest differ between the sets, both sets show a roughly equal proportion of citation of disinformation domains (Table 10).

The top 10 most widely shared domains among all humans in the Arizona Primary dataset do not show signs of being overtly linked to disinformation. While the content of many of these sites (such as YouTube and Periscope) can vary in reliability, the list also contains official governmental and local news sources, as well as legacy media outlets such as *Politico* and *The Hill* (Table 11, page 11).

Table 9. Top high-certainty bot-shared domains in McCain dataset.

Domain Shared by High-Certainty Bots in McCain Dataset	Share Count
youtube.com	86
breitbart.com	28
scbctv.com	19
truthfeednews.com	10
thegatewaypundit.com	10
msnbc.com	7
fiverr.com	6
bezqo.com	6
paper.li	4
politicususa.com	3

Table 10. Top human-shared domains in AZ primary dataset

Domain Shared by Humans in AZ Primary Dataset	Share Count
youtube.com	145
pscp.tv	69
phoenixnewtimes.com	60
stripes.com	55
azc.cc	44
azdps.gov	36
politico.com	30
thehill.com	30
recorder.maricopa.gov	28
mediaite.com	25

4. Strictly speaking, the list of disinformation source compiled by Allcot et al. (2018) includes only truthfeed.com, and not "truthfeednews.com". Truthfeed.com redirects to the sites truthfeednews.com, which is why we have found it permissible to consider the two interchangeable.

Bots in this dataset showed a difference in their most widely cited domains. Interestingly, Fiverr.com, a social media marketing website where custom bot programmers offer their services, is the top cited external domain in this set. The presence of Amazon.com in the top shared domains emphasizes the spam and marketing nature of several bots in this conversation. The presence of America-hijacked.com as the eighth most widely cited domain in this set is noteworthy. This website describes itself as a "*blog charting the influence of the powerful Israeli Lobby in American domestic and foreign policy, public life and the election process, and American military interventions overseas since the end of World War II*". The site has existed since 2009 and aggregates anti-Israel content from a variety of sources. All posts on the website appear to be anonymous and are posted under the pseudonym "Patriot".

A look at the domains shared by high-certainty bots in conversation around the Arizona primary lends more insight into the role of automation in this conversation. While America-hijacked.com was the eighth most cited domain among bots in general, it is the second most widely cited domain among high-certainty bots. The fact that accounts with such a high probability of being automated are disseminating political content is noteworthy. Another political site, unz.com, appears in the top 10 most cited domains among this dataset. Unz.com is run by Ron Unz, a contrarian Jewish publisher who provides platforms for controversial writers, and the link shared by these bots was to *The Transparent Cabal*, a book claiming that neoconservatives intentionally destabilized the Middle East in alliance with Israel (Sniegoski, 2008).

Table 11. Top bot-shared domains in AZ primary dataset

Domain Shared by Bots in AZ Primary Dataset	Share Count
fiverr.com	47
youtube.com	30
paper.li	22
amazon.com	17
foxnews.com	16
pscp.tv	14
havasunews.com	10
america-hijacked.com	9
custom.rebrandly.com	8
stripes.com	7

Table 12. Top high-certainty bot-shared domains in AZ primary database

Domain Shared by High-Certainty Bots in AZ Primary Dataset	Share Count
youtube.com	22
america-hijacked.com	9
amazon.com	9
rebrand.ly	8
oscrape.com	5
cut1.cf	5
fiverr.com	5
paper.li	4
pscp.tv	4
unz.com	4

conclusion

Our quantitative exploration of Twitter conversations around the Arizona Republican primary for the US Senate and Senator John McCain's national funeral yielded several insights.

In both discussions, slightly over 9% of users participating in the conversations were found to be bots. The amount of known disinformation domains being shared in both conversations showed more contrast, with more disinformation sources being cited more frequently in the conversation around John McCain's funeral than around the Arizona primary. Twitter discussion of John McCain's online funeral saw 23 known disinformation domains cited a total of 400 times. This may suggest that bots are more likely to spread disinformation on an issue of national or foreign policy relevance (much of the disinformation concerning Senator McCain related to his support for Israel), whereas election bots are more likely to spread talking points or simple advertisement for a candidate.

The difference in bot and human activity in both datasets is also of note. In conversation around John McCain's funeral, disinformation domains were both present in the top 10 most widely cited domains for both humans and bots. The particular domains of interest showed some difference between bots and humans, but the overall proportion of disinformation domains in both sets was roughly equal. On the other hand, while humans in the Arizona primary discussion mainly linked to local news

sources, legacy media, and government websites, bots showed a predilection for anti-Israel websites, most notably America-hijacked.com. High-certainty bots showed an even greater propensity for sharing this genre of content. In this case, the data showed that automated agents appeared to be promoting more divisive and extreme content than humans. As such, it may be wise for policymakers and social media platforms to consider greater transparency or controls on automated activity around elections. Bots have many legitimate uses to spread valuable news, but their abuse may exacerbate issues of polarization and misinformation that currently dog American electoral politics.

As the proportion of tweets from bots is not only consistent across our study but also similar to previous studies, we may conclude that bots are a persistent presence on Republican social media and that organized disinformation campaigns are targeting Republican voters. The recent turmoil and division within the Republican party has created opportunities for disinformation actors, from extremists to profiteers. The result of this worrying trend is likely to depend on the internal dynamics of the Republican party: will conservatives reconcile, or will they grow farther apart?

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