Examining the Alternative Media Ecosystem through the Production of Alternative Narratives of Mass Shooting Events on Twitter

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Abstract

This research explores the alternative media ecosystem through a Twitter lens. Over a ten-month period, we collected tweets related to alternative narratives—e.g. conspiracy theories—of mass shooting events. We utilized tweeted URLs to generate a domain network, connecting domains shared by the same user, then conducted qualitative analysis to understand the nature of different domains and how they connect to each other. Our findings demonstrate how alternative news sites propagate and shape alternative narratives, while mainstream media deny them. We explain how political leanings of alternative news sites do not align well with a U.S. left-right spectrum, but instead feature an anti-globalist (vs. globalist) orientation where U.S. Alt-Right sites look similar to U.S. Alt-Left sites. Our findings describe a subsection of the emerging alternative media ecosystem and provide insight in how websites that promote conspiracy theories and pseudo-science may function to conduct underlying political agendas.

Introduction

In the aftermath of major political disruptions in 2016—in Britain with the Brexit vote and in the United States with the election of Donald Trump to the presidency—there has been widespread attention to and theorizing about the problem of "fake news". But this term is both amorphous and contested. One perspective locates the problem within the emerging ecosystem of alternative media, where the term has been applied to refer to "clickbait" content that uses tabloid-style headlines to attract viewers for financial reasons (Silverman & Alexander 2016) and to describe political propaganda intentionally planted and propagated through online spaces (Timberg 2016). Challenging these definitions, alternative media outlets have appropriated the term to attack "mainstream" media for its perceived economic and political biases and for hosting inaccurate or under-sourced content (e.g. Rappoport 2016). Beneath this rhetoric, we are seeing traditional new providers and emergent alternative media battle not only for economic viability, but over accepted methods of how information is shared and consumed, and, more profoundly, for how narratives around that information are shaped and by whom.

This research seeks to provide a systematic lens for exploring the production of a certain type of "fake news"—*alternative narratives* of man-made crisis events. For three years, our research group has examined online rumoring during crises. Over that time, we noted the presence of very similar rumors across many man-made crisis events—including the 2013 Boston Marathon Bombings, the downing of Malaysia Airlines flight MH17, and several mass shooting events including those at Umpqua Community College in Oregon (October, 2015). For each event, rumors claimed the event had been perpetrated by someone other than the official suspects—that it was instead either a staged event performed by "crisis actors" or a "false flag" orchestrated by someone else. Both explanations claimed that a powerful individual or group was pulling the strings for political reasons. Interestingly, though the arguments and evidence used to support these alternative narratives were somewhat consistent across events, the motives cited were often very different—e.g. from the U.S. government trying to support gun control to coordinated global actors staging violence to motivate military intervention.

For this paper, we utilize this type of conspiracy theory or *alternative narrative* rumor as an entry point for understanding the ecosystem of alternative media. We examine the production of these narratives through Twitter and across the external websites that Twitter users reference as they engage in these narratives. We propose and demonstrate that this lens—Twitter data from mass shooting events and our method for utilizing that data to reveal and explore connections across web domains—provides a systematic approach for shedding light on the emerging phenomena of alternative media and "fake news".

Our contributions include an increased understanding of the underlying nature of this subsection of alternative me-

dia—which hosts conspiratorial content and conducts various anti-globalist political agendas. Noting thematic convergence across domains, we theorize about how alternative media may contribute to conspiratorial thinking by creating a false perception of information diversity.

Background

Alternative Narratives of Man-Made Crisis Events

We define "alternative narrative" as an explanation of the causes of a man-made disaster that runs counter to the mainstream narrative. Examples include 9-11 trutherism, claims the Boston Marathon Bombings were perpetrated by U.S. Navy Seals, and theories the 2012 shootings at the Sandy Hook school were staged to motivate gun control legislation. These narratives can also be thought of as "conspiracy theories" which claim powerful people orchestrate events to exercise and protect that power, and that they conceal their role by framing others (Sunstein & Vermeule 2009). We can also understand the production of these narratives as a form of collective sensemaking (Shibutani, 1966), whereby people attempt to reduce their uncertainty and anxiety and increase their sense of control by providing explanations of the events (van Prooijen 2015)—in this case, explanations that are informed by deep skepticism of official sources and an epistemic orientation that seeks causal, intentional explanations for complex, random events (Popper, 1945; Mandik, 2007).

This perspective surfaces a thorny issue for challenging alternative narratives in that once someone believes in a conspiracy theory of an event, it is extremely hard to dissuade them from this belief (Sunstein & Vermeule 2009). Additionally, belief in one conspiracy theory correlates with an increased likelihood that an individual will believe in another (van Prooijen & Acker, 2015).

Alternative Media and the Crisis in Journalism

Here, we examine the activity of participating in and constructing conspiracy theories online as it intersects with the emerging ecosystem of alternative media websites. Recent political events have catalyzed widespread attention to and theorizing about the "problem" of "fake news" (e.g. Silverman & Alexander 2016; Timberg 2016). Please note we place quotations around these terms, because their meanings are contested and in some cases inverted within the online conversations that we reviewed for this research.

To better understand the role that these new media are playing—and the arguments contesting the fake news framing—we look to the literature on the "crisis in journalism", which describes how traditional news producers are struggling to maintain their audiences and adapt their practices in a changing information space. Journalism scholars have described this as a multi-dimensional problem, which includes technological, economic and socio-political factors (Fuller 2010; Siles & Boczkowski 2012).

While severely reduced advertisement revenues have undermined the economic models of professional journalism, technology advancements—e.g. cheap ways of creating and distributing content—have altered traditional forms of reporting and enabled new forms of information production by everyday citizens (Gillmor 2004). Simultaneous to this rise of citizen journalism has been an erosion of the role professional journalists perform as information mediators or gate-keepers—with the work of gatekeeping shifting to end-users (Bruns, 2003). Empowered by online tools and the emerging information ecosystems, people can now seek out their own information without relying upon journalists to filter, synthesize and edit that content.

As traditional news producers and journalists struggle to adapt to these conditions, new media entities—from Twitter accounts to quirky blogs to slick sites filled with web advertisements—have assumed a role in delivering content. This alternative media ecosystem has challenged the traditional authority of journalists, both directly and indirectly (Gillmor 2004; Siles & Boczkowski, 2012). Its development has been accompanied by a decreased reliance on and an increased distrust of mainstream media, with the latter partially motivated by a perception of widespread ethical violations and corruption within mainstream media (Siles & Boczkowski, 2012). Indeed, many view these alternative news sites as more authentic and truthful than mainstream media, and these effects are compounding—as research has found that exposure to online media correlates with distrust of mainstream media (Tsfati, 2010). On the positive side, this rise of alternative media has led to what Gillmor has called "a democratization of news production" (2004), challenging information control by monolithic and in some places government-controlled media. However, with the loss of commonly-held standards regarding information mediation and the absence of easily decipherable credibility cues, this ecosystem has become vulnerable to the spread of misinformation and propaganda.

In this paper, we discuss these phenomena by exploring a specific subsection of the alternative media ecosystem—one focused on alternative narratives of mass shooting events—to better understand the production of alternative news as its takes place through Twitter and across the online information space.

Methods

Twitter Data Collection

We collected data using the Twitter Streaming API, tracking on the following terms (shooter, shooting, gunman,

gunmen, gunshot, gunshots, shooters, gun shot, gun shots, shootings) for a ten-month period between January 1 and October 5, 2016. This collection resulted in 58M total tweets. We then scoped that data to include only tweets related to alternative narratives of the event—false flag, falseflag, crisis actor, crisisactor, staged, hoax and "1488". The latter term, which has symbolic meaning for white supremacists, appears often in tweets related to false flag narratives. This final *alternative narrative* collection contains 99,474 tweets.

Methods of Analysis

Aligned with previous work on online rumors (Maddock et al. 2015), we employ a mixed-method, interpretivist approach to analyzing this data, blending qualitative, quantitative and visual methods to identify themes and patterns in the data from both macro- and micro-level perspectives.

Mapping a Domain Network from Users' Tweets

To understand how the production of these narratives takes place across different Internet domains, we created a network graph of domains connected through user activity—specifically the URL links shared in their tweets.

In this graph (see Figures 1-3), nodes are domains referenced in the *alternative narrative* collection. To generate the nodes, we first identify every distinct domain that is linked to by a tweet in the set. 77,461 (or ~78%) of tweets in the collection contain a URL, and together they reference 1572 distinct domains. These became the initial nodes for the graph.

To create edges between nodes, we look to the tweet patterns of each user, connecting two nodes if the same user posted tweets referencing both domains. Similarly, the strength of the edge grows proportionally to the number of users who shared tweets referencing both domains. Of 15,150 users who sent at least one tweet with a link, only 1372 sent (over the course to the collection period) tweets citing more than one domain. The graph is therefore generated by these relatively high volume and high source-diversity, alternative narrative tweeters.

Due to their high rates of connectivity to other sites as well as the different meaning encoded in those connections—related to tool use rather than content affinity—we removed all domains associated with social media services (e.g. youtube.com, twitter.com, instagram.com, pinterest.com, facebook.com, reddit.com) and all general link shortener services (e.g. bit.ly). We combined links related to domain-specific shortener services with that domain—e.g. treating nypost.com and nyp.st as the same domain. Finally, we trimmed the graph by removing domains that were linked-to less than five times (total) and removing edges that were created by fewer than three users.

The resulting network graph represents how different domains are connected, through the posting activity of Twitter users, within the alternative narrative discourse surrounding mass shooting events.

Qualitative Content Analysis of Web Domains

We then conducted qualitative content analysis to understand the nature of each domain—i.e. the website hosted on that domain—in the resulting graph. We limited this analysis to the 117 nodes that are connected to the central graph (see Figure 1).

The content for the domain analysis included tweets from our *alternative narrative* collection that referenced that domain and the articles linked-to within those tweets, content on the current front page of the website, and if available the "About" or similar page on the website. Additionally, we used Google and other online resources to try to determine the background of the owners, editors, and writers for the website. We also used Google to search for and retrieve articles within the domain that included certain terms that we identified as related to persistent themes across the sites—e.g. globalism, New World Order (NWO), (George) Soros, Koch (brothers), Rothschilds, vaccines, GMOs, Black Lives Matter, Chemtrails—and marked domains that had a significant number of articles discussing each topic. Finally, we leveraged existing online tools that provide data about domains (e.g. web traffic, location) as additional information sources.

Qualitative Coding

We then classified each account along a number of dimensions. In defining these dimensions and the codes within them, we took a grounded (bottom-up) approach, working to develop a classification scheme to fit our data. This process was highly iterative, involving several rounds of coding for each account before settling on the final codes. All of the classification was done by the first author, who was immersed in this research. In this work, we'll focus on four dimensions:

Account Type: We labeled each account as being Mainstream Media, Alternative Media or Blog, Government Media, or Other.

Narrative Stance Coding: For each domain, we examined all of the tweets in our *alternative narrative* collection that linked to that domain and read all of the linked-to articles to determine how that domain was referenced in the construction (or correction) of alternative narratives. Each domain was coded as supporting the alternative narrative, denying the alternative narrative, or for primarily being cited as evidence of the alternative narrative without directly referring to it. Domains that did not fall into one of these categories were coded as unrelated.

Primary Orientation: Content analysis revealed several common themes among the alternative news domains, including (due to the underlying nature of our data) widespread sharing of conspiracy theories and pseudo-science

claims. For some sites, this content seemed to be shared for entertainment—i.e. driving ad revenue. In others, it seemed to be shaped around or utilized in service of a particular political agenda. We attempted to disentangle the two, coding each domain for its "primary" orientation as communicated through the content on the (current) home page of its website and its About page, or inferred from the publically-available biographical information of its owners and writers. We noted four categories: Traditional News, Clickbait News, Primarily Conspiracy Theorists/Pseudo-Science Evangelists, and sites with a strong Political Agenda.

Political Leaning: Finally, we coded the political leaning of each domain. It is important to note that the first author is a left-leaning individual who receives her news primarily through mainstream sources and who considers the alternative narratives regarding these mass shooting events to be false. This may have affected how the content on these domains was perceived and classified.

Leaning	Description
U.S. Alt Right	U.S. focused, anti-mainstream media, pro-Christian, anti-LGBT, anti-feminist, anti-globalist, climate change denying
U.S. Alt Left	U.S. focused, anti-mainstream media, anti-corporatist, critical of police, pro-prison reform, pro-BlackLivesMatter
International Anti-Globalist	Internationally focused, anti-globalist or anti-New World Order/Cabal, anti-corporatist, conspiracy-focused
White Nationalist and/or Anti-Semitic	primarily white-nationalist or anti-Semitic positions
Muslim Defense	primarily challenges mainstream narratives of terrorist attacks by Muslims
Russian Propaganda	primarily supports Russian interests, anti-globalist

Table 1. Political Leaning of Alternative News Accounts

For mainstream sources, we coded each along a spectrum of left, left-leaning, center, right-leaning, right and as being either U.S.- or Internationally-focused. For alternative media whose political leanings do not align with the U.S. left (liberal) to right (conservative) categories, after considerable iteration, we identified three general categories that could be used to classify most of the accounts and three "other" categories that had a handful of significant accounts each (see Table 1). We elected to adopt the "Alt-Right" term, though we acknowledge that it is a dynamic and amorphous term that has been applied to obscure connections to the white-nationalist movement (Caldwell, 2016). For balance, we also utilize an Alt-Left label, and indeed we identified a handful of accounts in our set that fell into that category. To make these determinations, we employed original content analysis and leveraged existing categorizations from sites such as mediabiasfactcheck.com. Due to considerable thematic convergence across alternative news sites (around political issues as well as views on climate change, vaccines and GMOs), we utilized stances on LGBT issues and Black Lives Matter narratives to distinguish between U.S. Alt-Right and U.S. Alt-Left.

Interpretive Analysis

After coding each domain, we then explored patterns, connections, and anomalies across thematic categories in relation to the network graph using interpretive analysis of domain and tweet content.

Findings

Alternative Narratives through Tweets and Links

We collected tweets related to shooting events for more than ten months in 2016. This time period included several high profile shooting events, including mass shootings with civilian casualties at an Orlando, FL nightclub on June 12, in a shopping district in Munich, Germany on July 22, and at a mall in Burlington, WA on September 23. Each of these events catalyzed considerable discussion online and elsewhere about the details and motives of the attack—including claims of the attack being a "false flag".

More than half of our *alternative narrative* collection (30,361 tweets) relates to the Orlando event, including:

`@ActivistPost: "Was Orlando Shooting A False Flag? Shooter Has Ties To FBI, Regular At Club, Did Not Act Alone? <link[1]>"`

This tweet is typical of an alternative narrative tweet, leveraging uncertainty in the form of a leading question (Starbird et al. 2016) to present its theory. The linked-to article—whose title is the content of this tweet—presents evidence to support the theory, including facts about the case (such as previous contact between the FBI and the shooter) and perceived connections to past events that are similarly claimed to be false flags. The underlying theme here is that the U.S. government perpetrated the shooting with the intention of blaming it on Islamic terrorism. This tweet's author, the ActivistPost, is associated with one of the central nodes in our network graph (see Figures 1-3), referenced in 191 tweets by 153 users and connected (by user activity) to a relatively high number of other domains.

The following tweet, by an account associated with a domain that has a strong edge tie with ActivistPost, forwards a similarly themed alternative narrative:

`@veteranstoday: Orlando nightclub shooting: Yet another false flag? - <link[2]> looks like another PR extravaganza <photo>`

[1] http://www.activistpost.com/2016/06/was-orlando-shooting-a-false-flag-shooter-has-ties-to-fbi-regular-at-club-did-not-act-alone

This article was linked-to 147 times in our data. The tweet and the article feature an image with the title, "Omar Mateen: Patsy or MK Mind-Control Slave". The term *patsy* is often used to label an accused perpetrator who has been framed for the incident by government or other powerful groups. *MK Mind-Control* refers to a CIA project that experimented with mind control in the 1950s. This speculative tweet and related article therefore present two potential explanations of the Orlando shooting event, both building off alternative narratives used in previous events. The underlying claim here is that the named suspect was not responsible for the Orlando shootings, but that the U.S. government was. This claim is extended in the article to apply to other violent acts attributed to Muslim terrorists.

Alternative narratives around the Munich shooting had a similar theme, though blame was pushed onto international geo-political actors:

```
Desperate Zionists Commit Another Fraud with Mu-
nich Shooting Hoax - NODISINFO <link[3]>
```

The above tweet links to an article (tweeted 54 times) within the nodisinfo.com domain, one of the most highly tweeted and highly connected domains in our data. Citing photographic evidence from the scene, the article claims that the shooting was a *drill*, *staged* by *crisis actors*. All of these terms echo other alternative narratives of other events. Diverging from the Orlando narratives, which blame the U.S. government, in this case the accused "real" perpetrators are Zionists—echoing long-active narratives about covert power wielded by Jewish bankers and others. The article offers no evidence to support that connection other than reference to other "staged" events.

The Cascade Mall Shooting in Burlington, Washington referenced a third kind of alternative narrative that has appeared after many U.S.-based shootings, including the Sandy Hook School shooting in 2012 and the Umpqua School shooting in 2015. This narrative claims that these mass shooting events are again *staged* using *crisis actors*, but in this case by the left-leaning U.S. government to provide a political basis for reducing gun rights.

```
Absence Of Footage Of Wounded/Deceased Victims.
Media Were Told Victims Remained In The
Mall #Cascade #FalseFlag <link[4]>
```

This tweet suggests that there were no actual victims of the event. It links to an article on the memoryholeblog.com domain, which also has a relatively high degree in our network graph and was tweeted 125 times. The linked-to article assembles evidence to make a case for the event being a *drill* and describes an outlook that connects several events to this narrative: "Such events are reported on by major news media uncritically, thus supporting the call for strengthened gun control measures. […]"

Interestingly, the second most highly referenced event in our *alternative narrative* collection from 2016 (at 5,914 tweets) is the Sandy Hook shootings, which occurred in 2012. Though a large portion of those tweets contest or deny that alternative narrative, several utilize Sandy Hook "evidence" to support alternative narratives around more recent events. For example:

```
Orlando shooting was a hoax. Just like Sandy
Hook, Boston Bombing, and San Bernandino. Keep
believing Rothschild Zionist news companies.
```

```
More Orlando shooting Hoax — proof - same actors
in Sandy hook & Boston Marathon Fake bombing -
gun take away agenda.
```

These two tweets both connect the Orlando Shooting to claims that Sandy Hook was a hoax. In the first, the author refers to the "Rothschild Zionist news companies", a reference to anti-globalist and anti-media viewpoints that appear as major themes across many alternative news sites. The second tweet connects Orlando to Sandy Hook (and paradoxically the Boston Marathon bombings) as part of an ongoing agenda to reduce gun rights in the U.S.

Taken together, these examples describe a few of what turns out to be a collection of distinct alternative narratives that share several common features. As the above tweets highlight at the micro-level, at the macro-level our domain data demonstrate that different alternative narratives are connected across users and sites—e.g. some users reference both memoryholeblog.com (which assigns blame to U.S. government officials trying to take away gun rights) and veteranstoday.com and/or nodisinfo.com (which theorize that international conspirators set up these events to further their political agendas by falsely blaming Muslim terrorists). Our tweet and domain data suggest that the production of these narratives is a distributed activity where "successful" elements (e.g. drills, crisis actors, Zionist conspirators) of one narrative are combined with others in a mutually reinforcing manner.

Influential Domains in Alternative Narratives

Table 2 lists a selection of the most influential domains, indicating the number of tweets that link to it, the number of distinct users who cite it, and the number of other domains to which it connects in the network graph.

Domain	Degree	# Tweets	# Users
therealstrategy.com	37	7436	1025
infowars.com	1	1742	1671
newsbusters.org	14	1217	1215
washingtonpost.com	18	1121	1074

[2] http://www.veteranstoday.com/2016/06/12/orlando/

[3] http://nodisinfo.com/desperate-zionists-commit-another-fraud-munich-shooting-hoax/

[4] http://memoryholeblog.com/2016/09/24/cascade-mall-shooting-observations-an-active-shooter-drill/

nodisinfo.com	64	779	192
nytimes.com	22	759	594
beforeitsnews.com	55	618	394
veteranstoday.com	58	615	497
foxnews.com	13	300	313
dcclothesline.com	20	286	177
activistpost.com	33	191	153
yournewswire.com	32	163	117

Table 2. Influential Domains in Alternative Narrative Tweets

Interesting, the two most highly tweeted domains were both associated with significant automated account or "bot" activity. The Real Strategy, an alternative news site with a conspiracy theory orientation, is the most tweeted domain in our dataset (by far). The temporal signature of tweets citing this domain reveals a consistent pattern of coordinated bursts of activity at regular intervals generated by 200 accounts that appear to be connected to each other (via following relationships) and coordinated through an external tool. They were occasionally retweeted from outside their group, resulting in many weak connections to other alternative media domains. Though we consider this domain in our research, we removed its node from our network because its bot-driven activity distorts the graph.

The InfoWars domain, an alternative news website that focuses on Alt-Right and conspiracy theory themes, was the second-most tweeted domain, but as (Figure 1) shows it was only tenuously connected to one other node. Examining tweets that referenced this domain, we noted a large number (1609) of similarly-named and -aged accounts that sent a single tweet in our collection. This activity was very likely automated, though not as sophisticated as that from The Real Strategy. We were unable to determine who operated this bot—all of the suspect accounts are currently suspended from Twitter.

The other domains in this list include both mainstream media and alternative media. Though both types of domains are cited in the production of alternative narratives, our analyses show that they are cited in different ways for different purposes.

A View of the Alternative News Ecosystem

Figure 1 shows the domain network graph. In this graph, nodes are sized proportionally to the total number of tweets that linked to the domain, and they are connected when one user wrote different tweets citing each domain. In this first view, we distinguish domains by media type, with mainstream media in Purple, alternative media in Aqua, and government-controlled media (e.g. RT.com) in Red.

80 of 117 accounts in our graph were classified as alternative media or blogs. We borrow the term and the meaning of "alternative" from our analysis of the About pages of several of these domains, which claim the sites were set up as an alternative to "corporate-controlled" media. According to them, their method of operation runs counter to mainstream media, in that they do not intend to serve as traditional information mediators, but instead are here to just present "the facts" and let readers use their "critical thinking skills" to "make up their own minds". This language is repeated across many of these sites, though some of them use slightly different terms such as "independent" or "anti-media" to mark their distinction from mainstream.

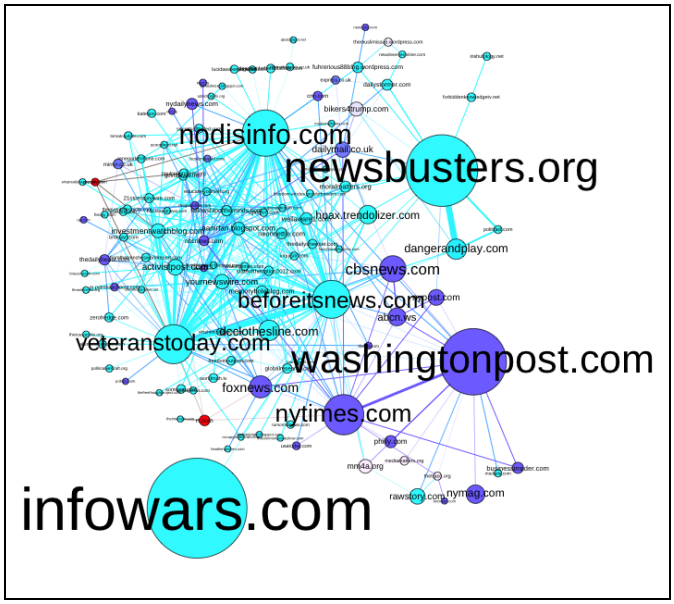

Figure 1. Domain Network Graph, Colored by Media Type
Purple = mainstream media; Aqua = alternative media;
Red = government controlled media

The graph shows a tightly connected cluster of alternative media domains (upper left)—suggesting that many users are citing multiple alternative news sites as they construct alternative narratives. Within that cluster, the three most-highly tweeted and most connected domains are NoDisinfo, VeteransToday and BeforeItsNews. NoDisinfo is a site devoted to providing alternative narratives of terrorist events where the primary suspect is affiliated with an Islamic terror group. VeteransToday is an alternative news site that promotes a U.S. Alt Right, anti-globalist political agenda, including strong anti-Semitic themes. BeforeItsNews acts as an aggregator of many conspiracy theory and pseudo-science articles from other sites. These three sites may have different motivations and goals, but they all promote alternative narratives of mass shooting events, and many of these narratives have very similar elements.

This convergence of themes extends to other sites in this network and to other topics. For example, a majority of the alternative media domains in the graph host various content that is anti-globalist, anti-vaccine, anti-GMO, and anti-climate science (themes that may not seem consistent with

a single worldview). Additionally, in late December 2016, when the topic of "fake news" was trending in the mainstream media, almost all of these domains contained articles claiming that the mainstream news was "fake news" and only alternative media had the true facts.

Underlying this convergence of themes, many of these sites aggregate news so the same articles (and authors) appear across multiple domains. For example, in our data, there are 147 tweets linking to the article about the Orlando shooting on the VeteransToday.com domain. 100 other tweets link to the same article—same text, same author—hosted on different domains. In other cases, articles hosted on one domain synthesize content from external sources, often excerpting long passages. So someone can be citing an article originally posted by ActivistPost synthesizing content from RT through a tweet linking to BeforeItsNews.

There are two highly tweeted alternative media domains that are not tightly connected to the others. The first is InfoWars, discussed above. The other, NewsBusters, is a conservative site with a mission of confronting left-wing bias in media. Though it appears to have a right political agenda, it does not participate in the widespread conspiracy theorizing evident across most of the other alternative media sites. Indeed, it is cited in our data for a tangentially-related "hoax" claim that mainstream media was disingenuously shaping the narrative around police shootings.

Mainstream media are present in the graph, but they are somewhat peripheral and have relatively few connections to the alternative media domains, especially considering the overall number of tweets they receive. The subsequent analyses shed more light on the distinctions and connections between alternative and mainstream media.

Alternative Media Promoting Alternative Narratives

In producing alternative narratives, Twitter users cite content from external domains in a few different ways. In the first way, they cite an article that presents an alternative narrative in ways that support and propagate those claims:

```
Witnesses Describe Multiple Gunmen in Orlando
Shooting False Flag <link>
```

```
<@mention> well there were multiple gunmen, yet
ANOTHER FALSE FLAG ATTACK: <link[5]>
```

The above tweets both reference an article at yournewswire.com that claims the Orlando shooting was a false flag. The first tweet is simply the title of the article, likely generated by a button on the website, while the second tweet contains the same claim in the tweet author's own words with the link cited as evidence to support that claim.

Other tweets link to articles about the event that follow the mainstream narrative, but the tweet text challenges that explanation, often presenting details from those articles as evidence of the conspiracy. The tweet below links to a Toronto Star (mainstream media) article describing the Orlando shooting, and suggests that details of the event (e.g. shooter calling 911) indicate a false flag:

```
#Actor Luis Burbano #Orlando Shooter called 911
three times before the killing <link[6]> #Falseflag
```

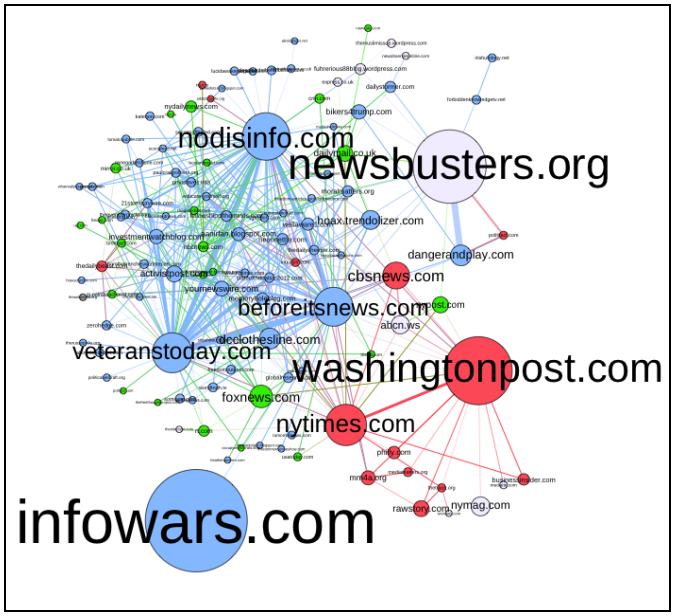

Figure 2. Domain Network Graph, by Narrative Stance
Blue = supports; Red = denies; Green = used as evidence;
White = tweets unrelated

In other cases, conspiracy theorists tweet articles from sites that deny the conspiracy theories, but do so in a confrontational way—often as more evidence of their theory:

```
NEW YORK TIMES playing damage control as more ppl
are becoming aware of #FalseFlag attacks <link[7]>
```

This tweet links to an article from the New York Times that describes and challenges alternative narratives of the Orlando shooting event. The tweet content suggests mainstream media is being employed in this case to help support the conspiracy and mislead the public. There were numerous reactions like this to this article, which explains why the nytimes.com domain has so many connections to alternative media sites in the graph.

Though not at the volume as those promoting the alternative narratives, some Twitter users do challenge these narratives, at times by tweeting or retweeting articles that deny them. Unfortunately, the research suggests that such corrections are likely to backfire (Nyhan & Reifler 2010).

[5] http://yournewswire.com/witnesses-describe-multiple-gunmen-in-orlando-shooting-false-flag/

[6] https://www.thestar.com/news/world/2016/06/13/last-of-49-bodies-of-shooting-victims-removed-from-orlando-gay-nightclub.html

[7] https://www.nytimes.com/2016/06/29/us/after-orlando-shooting-false-flag-and-crisis-actor-conspiracy-theories-surface.html

Not surprisingly, when we look at connections between tweets, accounts, and stance towards an alternative narrative (Figure 2), we see that alternative media sites are generally cited to promote these theories, while mainstream media are A) cited for neutral content as evidence to support these theories; or B) cited for a denial of the alternative narrative to promote and/or counter-attack that denial. 66 of 80 alternative media accounts in our data hosted articles promoting an alternative narrative of a mass shooting. No mainstream media domains had articles supporting any of the alternative narratives of mass shooting events and seven had articles explicitly denying one or more of them.

Political Stances of the Alternative Media Ecosystem

Through in-depth content analysis of the web content hosted there, we determined the primary orientation and political leanings of each domain in our graph. 44 of 80 alternative media domains were coded as primarily forwarding a political agenda. The political leanings of the alternative media domains did not align well to U.S.-based notions of left (liberal) versus right (conservative). Instead, the most salient dimension was around the issue of globalism. Almost all of the alternative media domains contained significant content around anti-globalist themes, though the meaning of globalism seemed to vary somewhat across domains, a finding aligned with research that suggests the term means many different things to the different groups of people who oppose it (Muddle 2004). In our data, anti-globalist sentiment echoes within the stated motivations of many alternative media websites, which claim to challenge the corporate (globalist) controlled narratives of mainstream media. Though few domains explicitly articulated their anti-globalism as nationalism, research suggests that this theme is a strong organizing theme amongst nationalist populist political groups that are gaining power in Europe and elsewhere (Muddle 2004).

Likely due to the nature of our underlying data, many of the alternative media domains in our graph contain considerable material referencing various anti-globalist conspiracy theories, including ones that claim high-powered people (Illuminati, bankers, George Soros, Jews) are manipulating the media and world events for their benefit.

After several rounds of iterative analysis to identify commonalities and distinctions across clusters of accounts, we identified three prominent political agendas: U.S. Alt Right, U.S. Alt-Left, and International Anti-Globalist. We recognize that the Alt-Right term is problematic (Caldwell 2016; Griffiths 2016) as it has been employed to legitimize racist ideologies and appropriated by alternative news sites like Breitbart as a political tool of right-wing populism. In our application, we are both acknowledging those meanings and calling attention to their connection to the content and purpose of alternative media. We applied this term to domains that had content primarily designed for a U.S. audience that were both anti-globalist and socially conservative (e.g. anti-LGBT, anti-feminist, anti-immigrant).

We also found evidence of a non-traditional, U.S. left-leaning political agenda that incorporated anti-globalist themes. Though much of the conspiratorial and political content on these sites was similar to or the same as content on the Alt-Right sites (many articles criticized U.S. President Obama and Hillary Clinton), the U.S. Alt-Left differed in that it had a liberal/progressive view towards social issues (e.g. pro-LGBT, pro-Black Lives Matter).

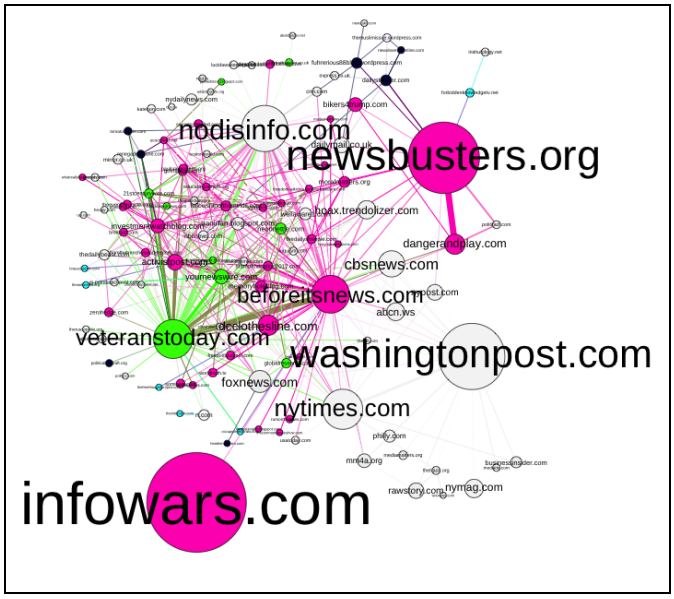

Figure 3. Domain Network Graph, by Political Stance
Pink = U.S. Alt-Right; Aqua = U.S. Alt-Left; Green = Intl. Anti-Globalist; Black = White Nationalist/Anti-Semitic; White = other.

The International Anti-Globalist domains concentrated on geopolitical topics around the world. These sites shared a strong focus on challenging mainstream media and the political agendas of the U.S. and other Western European countries. All contained content that was supportive of recent Russian actions in Syria and defensive of Russia's supposed actions to impact the U.S. election. These pro-Russian themes were also widespread within the U.S. Alt-Right domains, but they were most salient on the International Anti-Globalist sites.

Of the 44 alternative media domains coded as primarily forwarding a political agenda, 22 were U.S. Alt-Right, seven were International Anti-Globalists, and four were U.S. Alt-Left. Figure 3 shows how those agendas were distributed across our domain network graph. In addition to these, our data also featured six domains that were primarily promoting White Nationalism and/or Anti-Semitism, two that were primarily defenders of Islam and Muslims (including NoDisinfo.com), and two that were clearly Russian Propaganda. There were also two Russian Government Media, not counted among the alternative new sites.

One question that we had going into this research involved how integrated or separated Alt-Left and Alt-Right ideologies were. During our qualitative coding we identified a total of seven Alt-Left sites, including three that were cited in tweets for articles supporting the alternative narrative of a mass shooting. In other words, the alternative narratives are spreading among domains from both sides of the U.S. left-right political spectrum. However, though content analysis of the websites showed some convergence in themes among Alt-Left and Alt-Right domains, the Alt-Left domains in our graph were not heavily cited in the production of alternative narratives on Twitter, nor were they highly connected (via user tweets) to Alt-Right domains. They are hardly visible in the graph and are positioned almost entirely around the periphery.

Discussion/Conclusion

In this work, we take a systematic approach to the examination of the "fake news" phenomenon, using interpretive analysis of a network graph to guide qualitative analysis of tweet and web content. Our method of generating the graph provides insight into the structure of alternative narrative production (and confrontation)—exposing how active users in the alternative narrative discourse cite different web domains as they assemble and discuss these narratives. The work reveals a subsection of the alternative media ecosystem—one focused on conspiracy theories—but also looks beyond a single story to try to understand some of the dynamics within this emerging alternative information space.

Conspiracy Theories & Political Agendas

Not surprisingly, we found the conversation around alternative narratives of mass shooting events to be largely fueled by content on alternative (as opposed to mainstream) media. Twitter users who engaged in conspiracy theorizing cited articles from dozens of alternative media domains to support their theories. Occasionally, they cited mainstream media as well, either to use details from articles about the event as evidence for their theories or to directly challenge the mainstream narrative.

Many of the domains we analyzed were broadly conspiratorial in nature, hosting not one, but many different conspiracy theories. We also detected strong political agendas underlying many of these stories and the domains that hosted them, coding more than half of the alternative media sites as primarily motivated by a political agenda—with the conspiracy theories serving a secondary purpose of attracting an audience and reflecting or forwarding that agenda. Important for our understanding of the intersection between alternative media and global political dynamics, though much of the content on the domains we analyzed was focused around U.S. politics and designed for a U.S. audience, the agendas did not align to commonly-held notions of left (liberal) vs. right (conservative) in U.S. politics. Instead, almost all focused on anti-globalist themes, highly critical of the U.S. and other Western governments and their role around the world. Additionally, content supporting Russian government interests was present across a majority of these domains. We hope to provide a more detailed analysis of the role of Russian government propaganda within this network in future work.

Another theme we noted across the majority of domains was the appropriation of the "fake news" argument to attack mainstream media. The websites hosted on many of these domains intentionally position their content as an alternative to mainstream media, which they claim is biased in various ways. Combating the "fake news" attack on their product, many of them responded with a counter-attack, underscoring the contentious nature of information and narrative in the current information ecosystem.

Domain Diversity, Theme Convergence & Conspiratorial Thinking

An important finding here is the convergence within the alternative media domains around a number of "conspiracy" themes. In addition to anti-globalist and anti-media views, we found content that was anti-vaccine, anti-GMO, and anti-climate science. Most alternative media domains contained accusations about the activities of George Soros and the Rothschilds, and almost all hosted articles referencing "pedophile rings" of high-powered people around the world. We found the same stories on multiple domains, sometimes as exact copies, but also in different forms. This means that an individual using these sites is likely seeing the same messages in different forms and in different places, which may distort their perception of this information as it gives the false appearance of source diversity.

Sunstein & Vermeule (2009) write that contrary to popular framings, belief in conspiracy theories does not imply mental illness, but is instead indicative of a "crippled epistemology" due in part to a limited number of information sources. Our research suggests this crippled epistemology may be exacerbated by the false perception of having a seemingly diverse information diet that is instead drawn from a limited number of sources. This understanding of the dynamics of alternative media, where the same content appears on different sites in different forms, combined with what we know about how believing in one conspiracy theory makes a person more likely to believe another (van Prooijen & Acker, 2015), suggests that alternative media domains may be acting as a breeding ground for the transmission of conspiratorial ideas. In this way, a "critically thinking" citizen seeking more information to confirm their views about the danger of vaccines may find themselves exposed to and eventually infected by other conspiracy

theories with geopolitical themes, with one conspiracy theory acting as a gateway to others. Future work, perhaps examining user information-sharing patterns over time, will be needed to evaluate the strength of this claim.

From another perspective, these findings on the structure and dynamics of the alternative media ecosystem provide some evidence of intentional disinformation tactics (Pomerantsev & Weiss, 2014) designed not to spread a specific ideology but to undermine trust in information generally. Pomerantsev and Weiss (2014) describe this type of disinformation as an extension of Leninist information tactics, which aimed to spread confusion and "muddled thinking"—like the crippled epistemologies described above—as a way of controlling a society. Future work will be needed to determine the extent to which the properties of this ecosystem are orchestrated in this way and which are merely emergent—i.e. driven by a multitude of distinct actors with different motivations and interests.

Limitations

In this research, we utilized a systematic approach to map the alternative media ecosystem, deriving the network from tweets about alternative narratives. However, this approach has several potential limitations, as the resulting network is defined by a relatively small number of users (1372), likely shaped by the activity of automated Twitter accounts, and biased towards conspiracy theory domains due to the underlying theme of the tweet data (alternative narratives about mass shooting events). The network analyzed here therefore does not represent all of alternative media, but a particular subset of that ecosystem.

Though our analysis focused on the broader content of the sites (where alternative narratives of shooting events only played a small role), the underlying data likely affected how we saw the dominant political agendas—by focusing our analysis on a particular subset of sites. In future work, we plan to do similar analysis of other types of conversations to better understand the constitution and contours of the broader alternative media ecosystem.

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