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Lethal, viral, global: The role of mobile media and the growing international scourge of fake news

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Lethal, viral, global: Mobile media and the growing international scourge of fake news

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Abstract

The rising ubiquity of mobile-enabled devices has greatly accelerated the spread of online disinformation. Media production and dissemination capabilities are within easy reach of consumers, who may become key nodes in sharing fabricated information. Social media platforms' advertisement-driven revenue models have encouraged the proliferation of viral and inflammatory content, where journalistic best practices are de-emphasized. Furthermore, opaque algorithms favour fake stories that elicit greater emotional responses from users. Increased deregulation has given mobile media companies considerable freedom over content moderation policies. Finally, emerging mobile technologies have enabled more sophisticated and richer forms of fabricated content to be circulated among a global audience.

Introduction

The rising ubiquity of mobile phones and other mobile-enabled devices, even among the bottom-of-pyramid users, has greatly accelerated the spread of online disinformation. Whereas news was previously shared via a one-to-many broadcast model where incumbent news providers played a gatekeeping role and tried to adhere to journalistic standards, media production and dissemination capabilities are now within easy reach of everyday consumers. We have thus transitioned to an era of many-to-many communication, where news is no longer the preserve of established media companies but can be produced and widely shared by media consumers themselves. This democratisation of media production and dissemination has also contributed to the surge in online disinformation because consumers may become key nodes in sharing fabricated information that is calculated to be eye-catching, sensationalist or titillating. This chapter will analyse the spread of fake news and the role that mobile media has played in exacerbating this pernicious trend in a globalised media landscape.

We examine the architecture of social media platforms built upon user engagement and sharing of content where advertisement-driven revenue models have encouraged the proliferation of viral and inflammatory content, with journalistic best practices like fact-checking and source verification being de-emphasized. We also explain the role of human factors and cognitive biases in spreading fake news, even as content production is within easier reach of everyday media consumers. Finally, we explore the role of emerging technologies such as social media bots and 'deep fake' videos that facilitate the spread of fake news at much faster speeds to an ever-growing global audience.

Surveillance capitalism and the rise of social media

Contemporary capitalism has spawned a new breed of high-technology companies with entirely different business models. Technology titans like Facebook, Google and Twitter serve users globally by offering complimentary services that are supported by advertising, through which they capture user data that can be monetized in multiple ways. Zuboff (2019) calls this "surveillance capitalism", where technology is used to surveil users and to commodify them as profit-making objects by monitoring and influencing their online behaviour.

Social media firms in particular generate lucrative advertising revenue by 'monetizing' attention through motivating users to stay longer and interact more intensively with their platforms. Social media platforms increase user engagement by using proprietary algorithms to personalize news (and advertising) content. These algorithms sort and organize content based on relevancy rather than chronological order and employ complex statistical models to track and aggregate voluminous amounts of user data to infer and predict user preferences and behaviours. Information is then algorithmically curated to deliver customized content that captures user attention. The emergence of the always-on, always connected multi-function smartphone gave social media a real shot in the arm (Westlund, 2014). With people increasingly tethered to their smartphones, their usage of social media increased both in quantity and in form, further invigorated by the rise of location-based services (Katz & Lai, 2014) that enables an even more precise delivery of personalized content.

One frequently cited example is Facebook's news feed function. It is powered by sophisticated algorithms where "nearly every interaction with content on Facebook informs

the algorithm to accommodate accordingly" (Wiggins, 2017: 19). Algorithms actively predict the information that users want to see by harvesting and analysing data from their digital trail: users' profiles, the profiles of their friends, browsing and search histories, their locations and virtually every trackable online activity within legally permissible limits. Trending stories are tailored to each user's preferences as determined by the algorithms. Content is refreshed and displayed in real-time according to popularity, as measured by user engagement metrics such as "likes", "clicks" and "shares".

It is in precisely such a user-driven and commercially oriented architecture that falsehoods have thrived. Notably, Vosoughi, Roy and Aral (2018) show that false stories are more captivating and spread faster than real news. Individuals react more to content that elicits stronger emotional responses like shock, amazement, fear and disgust. Therefore, fake news is intentionally crafted to trigger emotional responses by being sensational, to ensure that it is liberally shared and widely circulated. Social media algorithms that heavily prioritise user engagement thus actively promote inflammatory content to users and those in their network. The act of sharing by users gives further traction to fake news because it confers implicit endorsement that makes the message appear compelling and plausible. As more people turn to social media as their main source of news (Shearer, 2018), these platforms have become the prime conduits for ill-intentioned actors seeking to disseminate falsehoods.

Human agents and cognitive bias

Clearly, the digital infrastructures that enable the spread of fake news require the support of human agents to consume, comment and share before traction mounts and virality is attained. Indeed, the human factor is crucial when examining the role of algorithms in perpetuating and diffusing fake news. Cognitive bias can influence our online behaviour, which in turn modifies how these algorithms function (Borges & Gambarato, 2019). The effect of discourse in polarizing behaviour is well-studied in communication research. The theory of selective exposure (Stroud, 2017) describes how we are motivated to seek out information that parallels our beliefs and values. Such behaviour is rooted in confirmation bias, where we are more persuaded by messages that are consistent with our existing opinions, and discount or ignore discordant information. Although the Internet can facilitate both the search for like-minded individuals and exposure to diverse viewpoints,

the inherent design of social media (and its business model) have gravitated towards the former. After all, our social media networks consist of friends, family and co-workers who share similar interests and beliefs (Gaines & Mondak, 2009). Social media algorithms organize and filter information to customize the content delivery experience. This involves simultaneously selecting and prioritizing content that fits the user's cognitive preferences and screening out dissonant information by downgrading their prominence in the newsfeed. When a user clicks on a fake news link, the algorithm will respond accordingly to offer similar content that may be biased or fake under a continuous feedback loop. Social media essentially uses software code to supercharge selective exposure on a global scale (Waldrop, 2017).

The individualization of social media content has led to "filter bubbles" (Pariser, 2011) where users are exposed to homogeneous content that mirrors and reinforces their existing beliefs. "Filter bubbles" are akin to digital "echo chambers" (Zimmer, Scheibe, Stock, & Stock, 2019). The user becomes more entrenched in his or her current beliefs, which are further reinforced by continuous exposure to concordant content under a contagion effect that allows misinformation to quickly diffuse (Törnberg, 2018). Del Vicario et al. (2016) find evidence of segregated and polarized clusters of users within which biased stories circulate rapidly. Human "trolls" also play a contributing factor in sowing online discord and disrupting the norms of Internet discourse. Trolls deliberately make controversial and inflammatory speech online to provoke emotional responses from unsuspecting readers that end up in bitter arguments and creating divisiveness among users. Indeed, Internet platforms have become the primary conduits, where these cognitive biases are exploited by malicious agents for monetary, political and other nefarious purposes.

Democratization of content production

The Internet—and mobile media—have significantly lowered entry barriers for content production. All it takes is a mobile-enabled device and an Internet connection to send a tweet and post on TikTok, or to create a phony news website that mimics the professional appearance of established news sources like the New York Times. In a discernible shift towards 'produsing', users are no longer just passive consumers of content

but have been co-opted as producers (creating and disseminating content) and evaluators (reviewing and sharing the content of others). The disintermediation of news production aided by the Internet and ubiquity of social media has connected content producers to consumers directly, bypassing long-standing institutional gatekeepers like newspapers that counter misinformation (Lazer et al., 2018).

While the production and consumption of information have been democratized, this egalitarian approach has resulted in an explosion of digital content that is continuously produced by a global pool of users. When virtually anyone can become a content producer, this makes it difficult to assess the accuracy and credibility of information. At the same time, this new system of decentralized information production has meant that editorialisation norms, news gathering ethics and other journalistic standards are largely absent, especially in the rush to create more eye-catching content to attract higher readership and boost advertising revenues.

News making has thus become more amateur in its globalized transformation, turning into a lucrative business enterprise that is often geographically and politically detached from the subject being covered. Writers may be roped in from different parts of the world to churn out misleading articles that are targeted at overseas audiences. For instance, the small city of Veles in Macedonia has become infamous for its fledgling industry of fake news production, where residents make a living by writing articles and hosting websites that are either wholly fabricated or based on distortions of actual events. Sensational headlines function as advertising "clickbait", tricking users into following links to articles that present a warped worldview and reinforce existing prejudices. Those articles were meant to fuel disharmony among readers in the US and capitalize on the country's growing political divisiveness, especially leading up to the 2016 US Presidential election. With news production and consumption plugging into an internationalised juggernaut that defies and subverts geographical boundaries, fake news is indeed an intriguing by-product of media globalisation.

Emerging technological twists: bots and 'deep fakes'

Just as the media landscape evolves ceaselessly, new technological innovations emerge constantly. Social media bots in particular compound the fake news scourge, playing

a central role in the diffusion of misinformation (Shao et al., 2018a, 2018b). Social bots are fake accounts that impersonate real human users. Sporting human avatars on their account profiles, they can interact with other bots and human users autonomously. Bots expand their networks by connecting with influential, legitimate users with a large follower base to amplify their reach, so that they can target misinformation at those who are most susceptible to believing false narratives. They can create new posts, share content, follow or reply to other users, all with the aim of influencing or manipulating public opinion. Bots are essentially algorithms that automate online tasks, generating content repetitively at much faster speeds than typical human users, making them highly efficient tools for spreading misinformation. It is estimated that between 9 – 15% of active Twitter accounts were run by bots in 2017 (Varol, Ferrara, Menczer, & Flammini, 2017), demonstrating their embeddedness in social media.

Despite their prominence, a Pew Research Centre survey shows that most people are not confident of identifying social bots (Stocking & Sumida, 2018). By simulating human interaction, bots exploit our curiosity about popular trending topics, and our proclivity to be more trusting towards information from our social contacts (Turcotte, York, Irving, Scholl, & Pingree, 2015). Therefore, as Shao et al. (2018b) posit, bots and human users work in conjunction to spread false content, where the resharing of low-credibility information from bots is mostly performed by users who are unwittingly drawn into becoming active agents of fake news dissemination.

Besides bots, advancements in artificial intelligence have made it possible for newer and more sophisticated modalities of fake news dissemination to emerge. Of particular concern is “deep fake” technology. A portmanteau of "deep learning" and "fake", this technology makes use of artificial intelligence and machine learning algorithms trained to insert faces and voices into video and audio recordings of actual people. Richer media content that appears more convincing and credible is easily produced, with hyper-realistic, digitized impersonations making it appear as if a person said or did something.

The sophistication of “deep fake” technology belies its easy accessibility; such technology has already begun to diffuse through society via tools that are freely available online. A free desktop application called Fake App allows amateur users to create “deep

fake" videos that are highly realistic without requiring much technical knowledge or skills. The sheer computing power in mobile devices allows the speedy production of realistic face-swapping videos with minimal input required. A Chinese app, Zao, requires just one photograph to superimpose a person's face onto TV and movie scenes. The uncanny realism of the output has made the app go viral, becoming the most downloaded app on the Chinese iOS app store[1].

Such easy access to sophisticated "deep fake" technology has led to homemade production of increasingly convincing audio and video impersonations that are becoming more difficult to detect and debunk. While such algorithmically driven "deep fake" videos may be entertaining, they can also be deployed for nefarious purposes. In 2018, a viral video showed former US President Obama cursing and calling President Trump names. It later emerged that the video was derived from digitally manipulated public footage of Obama and deliberately made to warn against the dangers of easily produced "deep fake" videos in exacerbating fake news and worsening political divisions.

Fundamentally, users favour novel and emotionally stirring content and thus circulate falsehoods more widely than real news (Vosoughi et al., 2018). This gives digitally fabricated videos the perfect opportunity to infiltrate the news ecosystem to sow confusion and destabilize society, by deepening social divisions, undermining institutions of authority and interfering with elections (Chesney & Citron, 2018). "Deep fake" videos inject richer performative elements to make false stories seem more credible. The interplay between our cognitive biases and revolutionary technological developments within a social media-focused news environment forebodes emerging threats in the burgeoning fake news problem.

Growing reach and heightening hostility

In 2016, a man drove from his home in North Carolina to the Comet Ping Pong pizza joint in Washington D.C. Heavily armed, he was there on a rescue mission. The man had read conspiracy theories online that suggested kidnapped children from an underground paedophile ring were being hidden by Hillary Clinton in tunnels below the pizzeria.

[1] https://www.theverge.com/2019/9/2/20844338/zao-deepfake-app-movie-tv-show-face-replace-privacy-policy-concerns

Interestingly, those conspiracy theories were widely retweeted by bots originating from Cyprus, Czech Republic and Vietnam (Fisher, Cox, & Hermann, 2016). Fortunately, no one was hurt in this "Pizzagate" incident and the man eventually surrendered to the police. However, other incidents have ended in grisly violence and bloodshed. Both the gunmen involved in the El Paso, Texas and Christchurch, New Zealand mass shootings had published manifestos that were inspired by the Great Replacement, a conspiracy theory originating in France. The Great Replacement warns of white genocide because of displacement by immigrants, particularly Muslims, fomenting racism and anti-immigrant attitudes that culminated in the two tragedies. These incidents show how false stories can originate in one place and lead to negative consequences in another in our inter-connected world. Indeed, the unprecedented and unfettered circulation of misinformation in cyberspace has allowed the undesirable outcomes of fake news to unfold on a national, regional and global scale.

Social messaging apps have also been used to propagate falsehoods. In India for example, there was a spike in the number of deaths resulting from lynchings arising from the viral spread of unfounded rumours about child kidnappings that circulated like wildfire on WhatsApp. The rumours stoked considerable public fear and anxiety that was further fuelled by the local media's irresponsible sharing of these uncorroborated claims. Innocent victims have lost their lives in the waves of senseless mob violence that have seen random passers-by and individuals from marginalized groups such as the mentally challenged and the differently-abled being disproportionately targeted by community vigilantes.

Beyond these fake news related crises that unfold organically are those that result from deliberate orchestration, namely hostile information campaigns. While state-sponsored or state enacted fake news campaigns go as far back as Rameses the Great, circa 13th century B.C.E. (Dorman & Faulkner, 2019), today the Internet and social media have become modern catalysts to transmute fake news from what might be nuggets of humour with a limited reach, to a virulent plague able to threaten immense swathes of modern economic, social and political life (Tandoc, Lim, & Ling, 2018). In a global context where we are experiencing the rapid democratization of news, media consumption fragmentation and a decline in trust of media and state institutions, fake news disseminated via social media is a clear and present danger magnified by the echo chambers that social media enables

(Colleoni, Rozza, & Arvidsson, 2014; Jebril, Stetka & Loveless, 2013). It does not help that political partisanship and social schisms are increasingly the norm across the developed world. This dividedness is very often fuelled by consuming news from one-sided and biased media outlets that do more to harden perspectives than to facilitate healthy, civil discourse.

A good example would be US President Donald J. Trump, who skilfully exploits partisan media consumption with many of his pronouncements and tweets. President Trump's statements on Twitter often stray from the norms of previous presidential tweets. Impeached by Congress in December 2019, President Trump's party members have repeated Russian disinformation in a partisan effort to defend Trump. This has the chilling effect of giving state-sponsored disinformation airtime and efficacy when it is politically expedient (in defence of Trump) and when this happens, it fulfils the objectives the disinformation campaign was designed for (Zengerle & Freifeld, 2019). Finally, the COVID-19 pandemic of 2020 has uncovered Trump's use of disinformation for political gain by ignoring evidencebased best medical practice to mitigate the spread of the virus and even touting unproven remedies. This egregious tactic exacerbated the US's disastrous response to the disease, further politicising a medical issue and dividing the nation on simple and efficacious strategies like mask wearing (Breuninger, 2020; Evelyn, 2020).

Accelerating this discord and making antagonistic publics even more hostile to each other, nations have weaponized fake news to fight low-cost, effective information wars by waging hostile information campaigns. Hostile information campaigns are the bane of free and fair elections. They attack the roots of many of our hallowed democratic values and systems, specifically measured discourse and reasoned, respectful debate that fake news has transformed into opinion-based diatribes and passion-based polemical monologues. Russia is often named as a key sponsor of such campaigns to poison elections, sow uncertainty and in some cases, induce government paralysis through fractured legislative houses like the US Congress. Numerous intelligence reports have presented credible evidence that Russia coordinated elaborate disinformation campaigns across multiple social media platforms to interfere in the political affairs of other countries, such as influencing important political events like the Brexit referendum and 2016 US Presidential election (McKew, 2018; Mueller, B., 2019; Mueller, R., 2019). There is also evidence that Russia is

supporting the far-right political parties that have sprung up across Europe and the surge of nationalism globally in the last few years (Becker, 2019).

Oxford Internet Institute researchers have revealed that other countries besides Russia have also used disinformation to interfere in foreign affairs (Bradshaw & Howard, 2019). The researchers highlighted that about 70 countries have mounted disinformation campaigns to quell political dissent and advance domestic agendas, using an array of communication strategies such as creating false information, manipulating the media, and conducting state-sponsored trolling. This suggests a prevalence in the weaponisation of disinformation, where fake news is deployed as a valuable political tool to further agendas both domestically and abroad. Ultimately, the palpable effects may be local, but the roots of interference are global.

Fighting fake news

To tackle this growing scourge, governments worldwide have thus taken a variety of responses to fake news. These span the spectrum of draconian legislation and even jail terms, which opponents have accused of being used to target dissent; to a light touch neoliberalist response that hardly seems to make a dent. The Poynter Institute has an interactive tracking tool that keeps abreast of developments all over the world in terms of how different countries' governments have dealt with and are dealing with fake news (Funke & Flamini, 2019). We will review the experiences of the US and Singapore to contrast two radically different responses to tackling fake news.

Facebook founder Mark Zuckerberg's refusal to police political advertisements in the run-up to the US 2020 Presidential Elections on the widely used platform is a clear signal that the neoliberalist philosophy of letting businesses police themselves is not an effective strategy. Ideally, the state should hold enterprise accountable, especially when it concerns democracy itself (Milman, 2019). However, proposed legislation to combat fake news has reached a stalemate because of a divided Congress. For instance, federal law S.1989 – Honest Ads Act, a proposed law that would require social media firms like Google and Facebook to maintain copies of political advertisements and allow public access to important disclosure information like the ad sponsors' identities, has been stalled in the US Senate since 2017. Other legislation relating directly to election security have also been

stalled by US Senate majority leader Mitch McConnell (West & Gambhir, 2019). It would seem that partisanship and clinging on to power are more important than honouring and respecting the idea of the co-equal branches of government enshrined in the US constitution.

With its multi-ethnic and multi-religious makeup, Singapore regards itself as being especially susceptible to disinformation and misinformation campaigns. The tiny nation's much-celebrated religious and racial tolerance is also its Achilles heel; an adversary can potentially use social media to sow discord and spark discontent among the different ethnic groups. Singapore has approached the tackling of fake news from many directions. This multi-pronged approach is to ensure that all the bases are covered with the principal legislative response being the controversial Protection from Online Falsehoods and Manipulation Act (POFMA), involving fines as high as S$1 million (US$0.74 million). While critics have characterised POFMA as a heavy-handed law that threatens free speech and privacy, supporters have argued that it provides the establishment of essential fact-checking and news correction mechanisms (Daskal, 2019; Kamil, 2019).

Singapore's community-based response focuses on raising awareness of fake news among religious and community groups. One aspect involves training that helps people to understand what fake news is and its impact on national security and society (Lee, 2019). The salience of defending the country against the insidious effects of online falsehoods has been underscored by the addition of a "Digital Defence" component to Singapore's Total Defence strategy. A national effort to protect and defend citizens and the country against various threats, Total Defence also encompasses the five original areas of military, civil, economic, social, and psychological defence (Singapore Ministry of Defence, 2019). Finally, a media literacy campaign was rolled out to teach youth to spot false news stories (Choo, 2019).

Besides individual state efforts, other actors such as scholars and intergovernmental organizations play important roles in combating fake news, such as developing sustainable and effective measures to inoculate publics from future misinformation campaigns. Amazeen and Bucy's (2019) study on facilitating resistance to fake news via inoculation with procedural news knowledge showed that there are viable tools to dealing with fake news. Another effective yet simple strategy may be to directly inform people of the fact that

scientific consensus supports a particular view. Communicating experts' consensus is protective against fake news and this work on mitigating misinformation with regards to climate change offers us a viable model to deal with organised disinformation campaigns (van der Linden, Leiserowitz, Rosenthal, & Maibach, 2017). Roozenbeek and van der Linden's 2019 study showed that playing an educational game, which simulated the creation of a fake news article, had protective and inoculative aspects against fake news among high school students. Cook, Lewandowsky and Ecker's (2017) work determined inoculation messages that were effective against the negative aspects of misinformation. The United Nations, through its United Nations Educational, Scientific, and Cultural Organization (UNESCO) division has also rolled out an online publication, "Journalism, 'Fake News' and Disinformation: A Handbook for Journalism Education and Training", whose core strategy is aimed at building resilience to fake news via media and information literacy training targeting journalists and those who train journalists (Ireton & Posetti, 2019).

Conclusion

Clearly, social media has heralded rich and complex permutations in one-to-one, one-to-many, many-to-one and many-to-many communications in our interconnected world.

Invigorated by the rising ubiquity and growing functionality of mobile media, social media has been a key conduit in the spread of fake news. The adverse effects of fake news are therefore more wide-ranging and globalised than before and developing remedies to this wicked problem is more challenging than ever. It is still early days in the struggle against this highly contagious information disease, but stamping it out requires the coordinated efforts of academics, politicians, media professionals, ordinary citizens and of course, big technology companies. To this end, we must accelerate efforts on three critical fronts.

The first is to empower media consumers with media literacy competencies that can inure them to the adverse effects of fake news. This will involve public education efforts that sensitise consumers to the motivations, business models, typical strategies of fake news purveyors, and to make them conscious of inherent cognitive biases that heighten their susceptibility to fake news.

The second front is to fortify research on diverse aspects of fake news, including the political economy surrounding its production and dissemination, the design and deployment of digital infrastructures that support its spread, and its effects on consumers and communities at large. Such research is vital for refining our societal response in the realms of education, regulation and innovation to combat the wide-ranging effects of fake news.

The third front relates to a more strategic collaboration with big technology companies that create and sustain the digital arteries that oxygenate the flow of fake news. Whereas companies such as Facebook, Twitter and Weibo have made piecemeal efforts at moderating the spread of fake news, these measures have been feeble at best. Greater state intervention must be undertaken to take these companies to task and secure more systematic and comprehensive compliance with regulations designed to construct a healthier and more robust digital information infrastructure. Ideally, with these big technology companies investing more heavily in digital solutions, fake news and its spread should be contained at source. Anti-trust regulations must also be initiated and enforced to prevent power concentration and the domination of the information landscape by a digital oligopoly. Political will is essential for tackling fake news on these three fronts, failing which we will continue on our current trajectory that will make fake news even more lethal, viral and global than it already is.

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