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Farewell to truth? Conspiracy theories and fake news on social media

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Introduction

In March 2016, former Hillary Clinton campaign chairman John Podesta's email account was compromised and many of his emails were later released by WikiLeaks. One of Podesta's email contacts - a Washington pizza restaurant called Comet Ping Pong owned by Democratic Party supporter James Alefantis - caught the attention of an anonymous online message board user. Other users then began trawling Alefantis' Instagram account and swiftly concocted a bogus story about a paedophile ring led by Hillary Clinton and other powerful Democrats. By the time of the November 2016 presidential election, over 1,000,000 tweets had been sent using the hashtag #pizzagate. In November 2016, marketing company owner Eric Tucker (a man with only 40 Twitter followers) posted a tweet about people being bussed into Austin Texas and paid to protest against Donald Trump's presidential campaign. By the time Mr Tucker admitted that the information was false, the post had already been shared 16,000 times on Twitter and more than 35,000 times on Facebook. Even Donald Trump himself promoted the tweet.

"Pizzagate" and the case of the alleged paid Trump protesters are just two examples of how *fake news* is plaguing modern political communication. Fake news involves the

deliberate publication of fictitious information, hoaxes and propaganda on social media. It uses the reach and speed of social media to spread information designed to mislead people for financial, political, or other gain. We are said to be living in an age of post-truth politics, where facts are less important than emotions and personal beliefs. Indeed, due to a massive spike in the use of the term “post-truth” in 2016 in the context of the EU referendum in the United Kingdom and the presidential election in the United States, the Oxford Dictionaries named it as the international word of the year.

In the nebulous world of unregulated websites, blogs and social media, people cannot necessarily separate fact from fiction, and credible from non-credible sources, and in particular, fake news has become one way in which *conspiracy theories* are shared and spread through digital channels. In this article, we consider the impact of conspiracy theories propagated in fake news stories on what people might think and do, and consider how modern technology could actually be able to help people reclaim the truth.

Conspiracy theories and the people who believe them

Conspiracy theories are defined as proposed plots by powerful groups, hatched in secret to achieve some sinister objective. For example, one conspiracy theory supposes that Princess Diana was murdered by elements within the British establishment. Another alleges that the 9/11 terrorist strikes were a false flag attack orchestrated by the American government to justify the war on terror. Yet another supposes that the American government are hiding evidence of the existence of aliens. Conspiracy theories are typically - although not exclusively - associated with events of significant social or political importance. They weave complex narratives of mystery and intrigue, compared to the typically straightforward and linear narratives promoted by officialdom. Of course conspiracies do happen, but most conspiracy *theories* have no evidence to support them, and are often unfalsifiable. They are,

therefore, the perfect material for fake news stories that are designed to manipulate people and stir up social or political unrest [[Bilewicz, Cichocka & Soral, 2015](#)].

Understanding why conspiracy theories resonate with so many people is a growing area of academic research. Psychologists in particular have made significant progress in understanding the factors that predict belief in conspiracy theories. For example, people are likely to believe in one conspiracy theory if they also believe in others, even if the conspiracy theories contradict each other [[Wood, Douglas & Sutton, 2012](#)]. People also believe conspiracy theories to the extent that they feel they would also conspire themselves [[Douglas & Sutton, 2011](#)]. Cognitive biases such as the tendency to perceive intentionality and agency everywhere in the environment and belief in the paranormal are also associated with conspiracy belief [[Douglas, Sutton, Callan, Dawtry & Harvey, 2016](#)]. A range of personality and social factors such as powerlessness, authoritarianism, uncertainty, political cynicism and distrust predict the extent to which people entertain a variety of conspiracy theories [[Abalakina-Paap, Stephan, Craig & Gregory, 1999](#)]. Also, people are generally uncomfortable feeling that they are “sheep”, dutifully following the orders of officialdom, and like to feel that they can uncover the truth about events that affect their lives. Conspiracy theories provide interesting explanations for these important events, which are proportional to the events themselves. Although there is much still to learn, psychologists have made good ground in understanding why conspiracy theories are appealing to so many people.

Understanding why people are motivated to communicate about conspiracy theories is now also a growing area of academic interest. For example, scholars have argued that people communicate conspiracy theories to open up debate about political controversies in an attempt to make governments more transparent in their future actions [[Clarke, 2002](#)].

Psychologists have found that people also communicate about conspiracy theories as a result of their own personal needs and concerns, such as the desire to make sense of events that

challenge their worldviews, or to make sure that their personal values are known to others [[Franks, Bangerter & Bauer, 2013](#); [Raab, Ortlieb, Auer, Gunthmann & Carbon, 2013](#)]. Other research suggests that people sometimes communicate conspiracy theories for more politically-motivated reasons, such as to incite fear and distrust of other social groups [[Lee, 2016](#)]. One example is the case of conspiracy theories accusing all Muslims in the United Kingdom of working together to establish a global Islamist order. Is it possible, therefore, that conspiracy theories ever do more good than harm?

Are conspiracy theories harmful?

Many conspiracy theories are relatively trivial and harmless. After all, what impact on society would there be if a small handful of people believed that Elvis was helped to fake his own death so he could live a quiet life? People also often poke fun at conspiracy theories and “conspiracy theorists”, dismissing conspiracy claims and ridiculing believers’ opinions.

However, conspiracy belief is much more widespread than is often assumed. A recent survey showed that approximately half of the American population believes at least one conspiracy theory [[Oliver & Wood, 2014](#)]. That is, the majority of “normal” people entertain at least one of these supposedly ridiculous ideas. Once it has taken root, misinformation also appears difficult to correct [[Lewandowsky, Ecker, Seifert, Schwarz & Cook, 2012](#)].

Therefore, if conspiracy theories are mainstream, “sticky”, and readily available to people reading fake news stories online, we argue that it is important to think about what their consequences could be.

Conspiracy theories could have some positive consequences, such as providing people with the opportunity to question dominance hierarchies and making governments and powerful others more accountable for their actions. They might allow people to regain a sense of power because they feel that they are in possession of the “truth”. Recently however, psychologists have begun to consider some of the negative consequences of

conspiracy theorising. Earlier, we mentioned the case of conspiracy theories about Muslims in the United Kingdom. These conspiracy theories may help people to justify their radical and exclusionary political views. Other recent research suggests that conspiracy theories about politics appear to discourage people from voting or even participating in politics altogether [[Jolley & Douglas, 2014a](#)]. Further studies have linked climate change conspiracy theories with reduced intentions to engage in climate friendly behaviour [[Jolley & Douglas, 2014a](#)], anti-vaccine conspiracy theories with reduced vaccination intentions [[Jolley & Douglas, 2014b](#)], and conspiracy theories in the workplace with reduced intentions to stay in one's job [[Douglas & Leite, in press](#)]. Conspiracy theories could also be a catalyst for radicalised and extremist behaviour [[van Prooijen, Krowel & Pollett, 2015](#)], encouraging people to act against a system that they perceive to be conspiring against them. Indeed, investigating “pizzagate” was given as the motive by a man who attacked the Comet Ping Pong pizza restaurant with an assault rifle in December 2016. Based on these recent findings, we argue that conspiracy theories should be taken seriously and never more so than in this digital age.

Why are conspiracy theories a problem now?

The pervasiveness of social media has brought unprecedented ease of access to a wide range of information, from world politics to personal stories, creating a direct pathway from producers to consumers of content. The mediators of traditional media, such as journalists and editors, have been largely eliminated in this new era of direct sharing of information.

This has not only changed the way people communicate with each other, but also has a significant impact on how people are informed and hence form their opinions and direct their actions. These novel forms and channels of communication can sometimes lead to confusion about causation, and thus encourage speculation, conspiracy theories, and other types of fake news. The technological ease with which the information can be shared on a large scale

makes the unintentional as well as intentional spreading of false information possible and potentially very harmful to individual and societal well-being.

Also, while social media contains a great diversity of views by its nature as a decentralised medium, it is unclear to what degree people generally take advantage of this diversity as opposed to simply finding like-minded others with whom to communicate. The former is generally seen as positive, while the latter is not. In this respect, social media can be an especially problematic venue for communication and discussion, given the tendency for like-minded people to agree on a particular point and polarise to a more extreme position after discussing it with one another. The creation of such “echo chambers” is facilitated by the new modes of online communication and social networking and could intensify group polarisation effects through an enforced homogeneity of opinion [[Warner & Neville-Shepard, 2014](#)]. This in turn could allow conspiracy theories and fake news to spread more easily within and sometimes beyond the “echo chamber”, further reinforcing political beliefs and intentions.

In addition, social media can also be taken over by “bots”, which are pieces of code that can automatically post and spread news items in the online social networks. Twitter, for instance, explicitly encourages developers to create bots which can automatically reply to other tweets, as a way of improving the user experience. For example, a company can use a bot to automatically reply to their customers’ questions. Although Twitter has terms and conditions on the use of bots to prevent abuse, the technology which allows for user experience enhancing bots can also be used to spread fake news items in the social network.

Currently, major technology companies rely on user reports to combat fake news and conspiracy theories. Facebook, Twitter and Google each have a feature which allows users to report offensive or inappropriate posts/tweets/websites. On Facebook, which currently has

more than 1.3 billion active users, a team of employees are trained to respond to these user reports, which include spams, pornography, hate speech and more recently fake news.

Similar technologies for detecting unwanted messages currently exist in form of spam filters. However, detecting problematic Facebook messages in a culturally diverse environment will require in-depth understanding of cultural nuances which are beyond the reach of current artificial intelligence technology. Also, current technology may not be able to deal with the complexities of the psychological and political contexts in which (and beyond which) people communicate. Furthermore, it might not even be culturally accepted to have artificial intelligence filtering posts, as Facebook is keen to stress that all user reports are acted upon by a human being, instead of an algorithm.

Reclaiming the truth: Technology to the rescue

Although psychologists understand some of the factors that draw people toward conspiracy theories, why they communicate them, and what some of their consequences are, they know less about what, if anything, can be done about them. Online fake news as a way of proliferating conspiracy theories is almost completely new. However, there are some options for psychologists and information technology experts to attempt to address conspiracy theories and fake news. First, encouraging analytic thinking can be effective in reducing people's reliance on false information, arming people with the cognitive tools to think critically about the information they receive. Counter-arguments offering alternative perspectives could be effective in reducing reliance on conspiracy theories, and this is a technique that has been used successfully in social influence research for many years.

Alternatively, some people argue that conspiracy theories are best fought from within - by infiltrating conspiracy groups with people who argue against conspiracy claims. But this latter approach may be unethical and arguably with so much of the conspiracy communication occurring in unregulated digital channels, any such approach would be

difficult to execute on a large scale. Teaching analytical or critical thinking, for example, will take time and detailed tests before large-scale interventions can be rolled out. Presenting people with counter-arguments to influence their attitudes could mean that the conspiracy information needs to be addressed at the time people encounter it.

We argue instead that although technology may be part of the problem, it could also be part of the solution. Facebook and Twitter have been called upon recently to combat the spread of conspiracy theories and fake news, and CEO of Facebook Mark Zuckerberg has recently promised that his company will soon roll out mechanisms to fight misinformation online. What might some of these mechanisms be?

One way forward could be to reclaim the power of social media in detecting and warning against false and misleading information and their sources. People from all political persuasions, cultures, ages, education levels and religions use social media to share information, and a wealth of feedback on this information is therefore available. Harnessing this “people power” may be one solution to dealing with fake news and conspiracy theories. For example, technology has been used effectively in crowd-sourced projects such as Wikipedia to ensure trustworthy and high-quality accumulation of knowledge. A similar approach could be effective if the truth and reliability of items of information could be moderated by anyone who would care to do so. The “crowd” will then be able to amplify any signals that indicate traces of falsehood and the post ranking algorithm will then take into account such information to eventually reduce the presence of fake news items in users’ pages. Such a community-driven approach is currently being investigated by Facebook where users can flag false content to correct the newsfeed algorithm [[Del Vicario et al., 2016](#)].

An alternative approach would be to use automated techniques using machine learning and artificial intelligence to spot tell-tale patterns of misinformation and conspiracy theories

in people's communications. Such a system would need to be trained using data from previous examples and cases of conspiracy theories and misinformation, and the patterns of their genesis and distribution online. Such an algorithm-driven approach has been proposed by Google [[Dong et al., 2015](#)]. A way forward would be to design hybrid systems where machine learning can help suggest suspect material for closer examination by humans in the loop.

Detection and notification of false content on social media is necessary but not always sufficient. It is also important to educate users to make use of such notifications and detect the "smell" of falsehood so that they do not further propagate it through careless "sharing". Here, education could play an important role. Serious (computer) games have emerged in recent years as an important technology for social influence. Such games could be developed to help train users of social networks and other channels of news and information sharing to develop a sense for truth and a suspicion of possible falsehoods posing as tantalising morsels ripe for sharing. However, as we mentioned earlier, education and training interventions such as this take a great deal of time and energy. This would be a longer-term solution to conspiracy theories and fake news more generally, rather than an immediate "fix" for a particular conspiracy theory or fake news story that is currently in circulation.

It is also important to consider that while such technological approaches have the potential to reduce the impact of misinformation on social networks they could also have some adverse effects in suffocating the legitimate communication of interesting and important but nevertheless unlikely and improbable events. There may be benefits to conspiracy theorising for individuals, groups and society - as we highlighted earlier - and interventions will hinder these positive effects. A careful balance needs to be struck in the design of such systems, and in the way people are trained to use them, to avoid throwing out

the “baby” of truth with the “bathwater” of all that is dubious, not to mention restraining people from exercising their right to free speech.

Conclusions

Conspiracy theories are rife in social media and prominently feature in what has become known as fake news. Recent psychological research suggests that conspiracy theories are persuasive and sometimes harmful. A challenge for psychologists is to understand more about why conspiracy theories are so popular and persuasive and how they are used in social media to influence social and political outcomes. A challenge for information technology professionals is to understand how - if and when appropriate - the spreading of conspiracy theories and fake news can be curtailed.

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