Digital Journalism ›
Volume 6, 2018 - Issue 2: Trust, Credibility, Fake News

Free access

Listen

Original Articles

Fake News and The Economy of Emotions

Problems, causes, solutions

Vian Bakir & Andrew McStay

Pages 154-175 | Published online: 20 Jul 2017

Cite this article https://doi.org/10.1080/21670811.2017.1345645 Check for updates

Abstra

This pap problems with, cau To achieve this, we and panels with tech alytics firms and acad -South West, in he cont d emotion "empathic media". we recomm causing, and com ar-horizon variant

KEYWOR

digital advertising emotion empathic media Facebook fake news Trump election

Introduction

We analyse the contemporary fake news phenomenon that emerged during the 2016 US presidential election campaign battle between Donald Trump and Hillary Clinton, as pro-Trump fake news stories spread across Facebook. Definitions of fake news abound, including “propaganda entertainment” (Khaldarova and Pantti 2016, 893); “using satire to discuss public affairs” (Marchi 2012, 253); and content that “blurs lines between nonfiction and fiction” (Berkowitz and Schwartz 2016, 4). More comprehensively, Wardle (2017) deconstructs fake news into seven categories: false connection (where headlines, visuals or captions do not support the content); false context (genuine content shared with false contextual information); manipulated content (genuine imagery/information manipulated to deceive); misleading content (misleading use of information to frame an issue or individual); imposter content (genuine sources are impersonated); fabricated content (100 per cent false, designed to deceive and harm); and satire/parody (with potential to fool but no intention to cause harm) (Wardle 2017). Distilling Wardle’s (2017) typology, we define fake news as either wholly false or containi or context. A core fe ne (Bouneg provenance or accur

We begi fake news, and proc We argue that, specifically, how converts to advertis ves to produce eling”, or group er nderstand feelings, asing through cord and

range of technologies for a number of purposes. Technologies include facial coding, voice analytics, virtual reality, augmented reality, wearables, biosensors and sentiment analysis. By making emotions machine-readable these can be employed to enhance peoples' relationships with devices and content, but there is also increased capacity to influence (McStay 2016b, 2017, forthcoming). Of greatest relevance to the fake news issue is analysis of emotions in words and images (sentiment analysis). We suggest that the potential to manipulate public sentiment via empathically optimised automated fake news is a near-horizon problem that could rapidly dwarf the contemporary fake news problem. We conclude that more attention should be paid to the role of digital advertising, both in causing and combating contemporary and near-horizon fake news phenomena.

Methods

Our case study is the contemporary fake news phenomenon that emerged during the 2016 US presidential election campaign. Its seeds were laid in 2010 when Facebook introduced its newsfeed algorithm, Edgerank. This has since evolved into a machine-learning algorithm that prioritises and presents content to users based on factors including what they have engaged with (likes/reactions, comments, shares, views, clicks ar ebook is currentl spread across F ews stories (Silverm have influenc munications platform anisations to find solu lture, Media and S ons.[1] In April 2017 lion if social media n content. As such, thi mplications for dem

Trump's , but analytics n's

analysis, we glean insights into the content that engaged Facebook users, using this to help us diagnose what is socially and democratically problematic about contemporary fake news. We focus on captioned images popular on the Facebook page of far-right American news, opinion and commentary website, Breitbart. These are significant to examine for various reasons. Firstly, analysis from EzyInsights of social media engagement for the nine months prior to the US presidential election (February to October 2016) shows that for almost this entire period, Trump generated much more Facebook engagement than Clinton. EzyInsights shows that the Facebook engagement resulted from Trump's campaign emphasising video and captioned images at specific moments when their audience was ready to engage (El-Sharawy 2016). Secondly, according to EzyInsights, Breitbart generated high user engagement on Facebook—as much as the Huffington Post—with Breitbart's captioned images generating the most engagement across August to October 2016 (El-Sharawy 2017). EzyInsights' study, however, does not delve into their content.

Addressing this gap, our sample comprises all Breitbart-captioned images archived in Breitbart's Facebook Timeline Photos in the five weeks prior to the US presidential election (1 October to 7 November 2016)—a total of 75 images.[2] Using a data-first approach (Miles, Huberman, and Saldana 2014), we thematically code each image to identify its key message, noting the caption, visual image and Breitbart's accompanying comment and hashtag on Facebook. We found that the emergent themes
a, the voters
and poli
lve into
their rich
e
summar
ccurring
themes
ere
particula
iscourse;
and (2) s
ussed in a
later

TABL
Timel
Downlo

Article contents | Related research

We enrich our case study with conversations with technologists, journalists, editors and analytics firms conducted across seven days in March during the Interactive portion of the 2017 South-by-South West (SXSW) event. This globally renowned, annual technology conference, trade fair and festival presents cutting-edge practices and ideas capable of transforming the future of entertainment, culture and technology. Through 17 hour-long interactive panel and solo sessions from journalism, marketing, government and the technology industry, we asked questions, debated and ascertained current thinking and practice among a wide range of interested parties to the contemporary fake news phenomenon (see Table 2).

TABLE 2 Organisations discussing fake news phenomenon at SXSW (2017)

Download CSV Display Table

Fake News: Historical and Contemporary Context

Today's fake news furore must be seen against the backdrop of long-standing, systematic, political and commercial efforts in liberal democracies to persuade and influenc olic relations (PR) (Mo nd Dinan 2008). N ven their professi ality and objectivi onfers credibilit s have seen PR firms ients (Miller and D gain, fake news aders. Howeve nsified the scale of nomenon is a logical decline of legacy n f misinfor ndists; the

people financially capitalising on algorithms used by social media platforms and internet search engines.

Firstly, journalism has suffered from declining paying audiences, and hence revenue, for over a decade. Audiences have become disloyal to legacy news brands, and less willing to pay for news given the proliferation of free news online (Reuters Institute 2016). Shrinking paying news audiences reduces revenue from cover prices and from advertisers. While total digital advertising spending has grown in recent years, legacy news organisations have not benefited. Rather, most digital advertising revenue (65 per cent in 2015) goes to five technology companies—four of which (Facebook, Google, Yahoo and Twitter) integrate news into their offerings (Pew Research Center 2016). As legacy news outlets have struggled to profit across the past decade, they have been closing and reducing staff (Pew Research Center 2016; McStay 2016a).

The second feature of digital media culture favouring fake news is the drive for immediacy: the 24-hour news cycle is better phrased the 1440-minute news cycle (Gillmor 2009) given the advent of social media outlets like Twitter (which since 2016, self-branded as a breaking news platform). These factors mean that scarce journalistic resources are spread thinner, mitigating against time-consuming, fact-checking journalism. This increases the press' susceptibility to using unchecked PR material, and "editorial subsidies" where PR practitioners go beyond providing information subsidies (facts, st nd Moloney 2016).

A third f
misinfor nformation
(delibera rculating via
user-ger attention to
fake ne
news
misinfor

A fourth sed
(Richard ng
anonym hibition
effect"). ws contexts

(such as filter bubbles in the form of Facebook news feeds) that elicit affective reactions.

A fifth feature of the contemporary digital media ecology is the growing number of people profiting from online behavioural advertising. For them, fake news acts as clickbait, namely Web content designed to generate attention and online advertising revenue at the expense of quality or accuracy, relying on sensationalist headlines or eye-catching pictures to attract click-throughs and shares. Journalists traced a significant amount of the fake news upsurge on Facebook during the 2016 US presidential election campaign to computer science undergraduates and teenagers in Veles, Macedonia who launched multiple US politics websites (estimates range from dozens to 140) with American-sounding domain names like USADailyPolitics.com, WorldPoliticus.com and DonaldTrumpNews.co (Kirby 2016; Silverman and Alexander 2016; Gillin 2017). The fake news stories generated large, engaged audiences, earning some students thousands of euros daily through digital advertising (Kirby 2016). Most of the Veles locals created fake news stories for money rather than propaganda (Tynan 2016): their experiments with left-leaning content simply under-performed compared to pro-Trump content on Facebook. Other profit-oriented fake news genres also proliferate, including health and well-being sites (Silverman and Alexander 2016); and sites where US celebrities praise a small, US town for its helpful people and promising blockbusters filming nearby, apparently micro-targeting these town residents to gain advertising clicks (G

Conte

The fake fronts: (1) its produ y informed in ec e affective and pro illustrated by our a (see Table 1).

Wrongl

That fak ng given

may have influenced the 2016 US presidential election's outcome. For instance, in the election campaign's final three months, the most engaged-with story was "Pope Francis Shocks World, Endorses Donald Trump for President, Releases Statement", this 100 per cent fabricated story amassing 960,000 Facebook shares, likes and comments (Price 2016; Silverman 2016). Although one study concludes that, for fake news to have changed the election's outcome, a single fake article would need to have been as persuasive as 36 television campaign advertisements (Allcott and Gentzkow 2017), such was the level of public concern that, two days after the election, Facebook's Chief Executive Officer (CEO), Mark Zuckerberg, felt compelled to publically rebut the charge that fake news on Facebook influenced the election. However, his position rapidly changed, as we show later.

Even if fake news did not influence the election, widespread recirculation of falsehoods posing as news does not bode well for the factual foundations on which citizens form opinions, and the nation's consequent democratic health. While some fake news stories are recognisable as satire (Berkowitz and Schwartz 2016), others are variants of well-known news brands, and more difficult to recognise as fake. For those who think they can always recognise fake news, it would be instructive to play human computation game Factitious[3] (Game Lab, Jolt), which challenges players to quickly identify true or false articles from news, advertising, opinion or fake (Datu et al. 2017). Certainly, a study by Stanford History Education Group (2016, 4) of 7800 responses from US middle school, h ormation sources

Our anal r to the US election uent theme is that H (see Table 1). One va orga d-shoulder shot inton approve vestors in the deal sh" (Breitba s Breitbart's charges rating group Charity undation

(2015) book, Clinton Cash (cited in the poster), listing numerous examples of Clinton Foundation donations that were followed by State Department actions favourable to the donor, Obama's US Justice Department concluded there were no grounds for a formal investigation.

Echo Chambers: Staying Wrongly Informed

The second social and democratic problem with fake news is that it goes uncorrected, leading citizens to stay wrongly informed. This happens because the false information is fed into self-reinforcing algorithmic and cognitive systems, or digital "echo chambers". Echo chambers exist where information, ideas or beliefs are amplified and reinforced by communication and repetition inside a defined system where competing views are underrepresented (Sunstein 2001). Algorithmically created echo chambers, or "filter bubbles", arise when algorithms applied to online content selectively gauge what information a user wants to see based on information about the user, their connections, browsing history, purchases, and what they post and search. This results in users becoming separated from exposure to wider information that disagrees with their views (Pariser 2011). A closely related psychological phenomenon is "confirmation bias", or people's tendency to search for, interpret, notice, recall and believe information that confirms their pre-existing beliefs (Wason 1960). Empirically demonstrated consequences of algorithmically created filter bubbles and human confirmation bias are limited e people's viewpoi ithout people e are largely unaware rithms (Google eliver personal

El-Sha ment in the 2016 two opposing ht-wing versus n n analysis of Breitbar red mainstre e, "Establis by "#rigge ws brand on

these themes encourage readers to disbelieve mainstream media and remain in their Breitbart filter bubble.

It was not just US citizens experiencing filter bubbles, but also journalists. As El-Sharawy (2017) describes: “In the run up to the US presidential election, we said right-wing sites were doing well. We told people to look at it, but mainstream media weren’t keen.” One reason he posits for lack of interest is mainstream journalists’ own filter bubble. For instance, journalists favour using Twitter over Facebook (Reuters Institute 2016), but in the run-up to the 2016 election, EzyInsights found that fake news and right-wing websites had a much smaller reach, and hence visibility, on Twitter than on Facebook (El-Sharawy 2017).

Affective Content

The third social and democratic problem with fake news is that it is often deliberately affective. As El-Sharawy (2017) states, “Facebook favours emotional content that hits people whether or not it is true”. Our analysis of Breitbart’s Facebook Timeline Photos confirms their affective content designed to provoke voter outrage. This is directly evident in the themes about voters (see Table 1). One theme is that Clinton thinks that Trump voters are “deplorable” (five images)—a rehash of Clinton’s September 2016 use of the phrase “basket of deplorables” to describe half of Trump’s supporters. For instance, one image portrays an old man in a US Marines T-shirt, holding a Trump/Pence poster, t… inks you’re stupid” (… s to vote. For insta… s Trump speaking…

Looking … ges, rather than foc… s’ pers… ooked and corrup… . Where policies … tance, Trump’s … at the podium, …

If fake n… doctrinated to disbel… ; and if that

Habermas' archetypal democratic ideal of a public sphere that ultimately seeks consensus through enabling all to speak rationally, through listening to others' viewpoints and agreeing the best way forward (Habermas 1984). Even if one rejects such idealism, adopting a position closer to Mouffe's (2005) framework of agonistic pluralism, with winners and losers in a potentially emotional, identity-based political struggle and debate, if losers lose based on what they perceive to be the winners' false claims, then ensuing social discontent with the democratic outcome and process is likely. The logical end result is highly polarised societies, losers' decreased confidence in government's legitimacy, and inappropriate democratic decisions taken based on affective misinformation and disinformation.

Proposed Solutions

As The Guardian noted on 11 November 2016, the initial reaction of Facebook's CEO, Mark Zuckerberg, to the fake news furore was to declare Facebook's impact on the presidential election as minimal, also rejecting the idea of filter bubbles on Facebook users' news feeds as "most users have friends who have different political views to their own". For Zuckerberg, Facebook's core problem was getting people to engage with the diverse content available to them: lack of engagement was problematic because the less ld surface it. What ourselves", because de of letting people s ead, Faceboo is most meaning ential election, ct was mini vealed featu icles" in the news fe technical detectio els on stories f disrupting fake new elow.

Elevate

In response to a question at SXSW about whether Facebook should reshuffle its algorithm to reduce filter bubbles, El-Sharawy (2017) states: “Facebook should take total responsibility—it is their problem—but I don’t know what they should do.” Prior to the fake news furore, earlier in 2016 Facebook was criticised by conservatives for using human editors to suppress conservative news stories in its Trending Topics. Initiating wider debates about Facebook’s role in news distribution, journalists condemned Facebook for its absence of public mission in its commercial focus on giving users only what they found pleasing (Carlson 2017). Facebook’s difficulty is that it needs to acknowledge that it is more than just a neutral pipes platform, but as explained earlier, it does not want to be accused of censorship. Nonetheless, since mid-December 2016, Facebook has been testing its algorithms to see if it can make fake news stories appear lower in its News Feed. Similarly, to combat the problem of Google ranking false news stories more highly than fact-checked true stories, as of March 2017 Google over-indexes fact-checked pieces to raise them artificially in the news feed (Bridges et al. 2017).

Third-party Verification by Fact-checking Organisations and Stronger Technical Detection of Misinformation

The fact-checking process finds claims that can be fact-checked; checks them (determining the best source to verify the fact); and rates them (evaluating whether evidence

rore,

Faceboo

s agency

Associat

ms

potentia

s to a

proprieta

ner content

flagged

k (for

instance

as

“disp

rvin (Social

Medi

ers feel

embarra

ecking also

write a c

Experim

tion

accelera

nd type for

fact-che

ant as

news (Bounegru et al. 2017, 46). For instance, UK-based fact-checking organisation, Full Fact, is building statistics that finds patterns of claims, thereby producing data that can be used to train machine learning (Babakar and Moy 2016). In another experiment explained by Bill Adair (Knight Professor of Journalism and Public Policy, Duke University), Duke University's Share the Fact widget (developed with Google and JigSaw) identifies the person being fact-checked, the statement, conclusion and name of fact-checker, and visually creates a widget that goes in the fact-checking article and can be shared. This allows Google to recognise and highlight fact-checked articles while also creating a database of fact checks and a structure that can be used for voice search engines such as Amazon Echo (Adair et al. 2017).

While a promising avenue, fact-checking has problems. According to Alexios Mantzarlis (Director, International Fact-Checking Network/Poynter Institute), of the approximately 120 fact-checking organisations worldwide, most are charitable and face financial challenges, typically running on less than $100,000 per year. Automated fact-checking faces numerous obstacles. Mantzarlis points out that claims can be very nuanced, making them hard for a machine to evaluate. Mevan Babakar (Digital Products Manager, Full Fact) notes that the quality of open data can be problematic, as statistics change over time and between countries due to political and statistical reporting factors. Automated fact-checking also faces issues of biased human coders training the machines (Adair et al. 2017). A final, and perhaps most intractable, problem with fact-checking

Warnin
eporting of Fake N

Other st
flagged as
false
lity to
recognis
ility from the
fundame
s and the
propaga

Even if u
re three
psychol
le hear

something a lot, they perceive it as true, even for facts that contradict prior knowledge (Fazio et al. 2015). Thus, as Lisa Fazio (Vanderbilt University) explains:

> a second reading of something (for instance, a falsity) makes us more likely to think it is true. This makes it difficult when trying to dispute these false stories, as you don't want to repeat the false story to make it appear as true in people's heads. (Bridges et al. 2017)

Secondly, people often forget the source of presented facts, including that they came from an unreliable source (Henkel and Mattson 2011). Fazio explains the consequences of this for flagging: "if a headline is marked false, we may remember the headline but not the false tag" (Bridges et al. 2017). A third problem is that prior beliefs influence how people remember corrected facts. This was demonstrated in the 2003 Iraq War, in studies on whether people remembered the wrong information or the correct information in inaccurate news that was subsequently corrected (Lewandowsky et al. 2005). Thus, flagging stories as false may not improve people's stock of correct knowledge (Bridges et al. 2017).

Listen to Advice from the News Industry

A further strategy proposed by Facebook is to listen to advice from the news industry, from which four types of innovation have been forthcoming.

Firstly, jo k people out of th nally choose, or that w ebsite has a feature t s would not have rea g people out of their f fuse to engag

Second ir sources (John Bri notes the problem that social media ra tion is increase pacity of sources -blowing).

A third innovation is to give people more direct interactions with their political representatives, to recalibrate what information they trust. For instance, the US app Countable breaks down news and legislative bills into simple English, and enables people to immediately communicate their position on any bill or issue with their lawmaker. Andrea Seabrook (Managing Editor, Countable) explains:

> If we can get people to often and easily engage, then at the end of the political cycle, we will have decoupled people from the narrative that politicians will tell them what is the truth about the election. People will be able to see for themselves, by the time they next vote in 2018. (Seabrook and MacLaggan 2017)

However, such solutions, while potentially impactful in rebuilding engagement between politicians and voters, are nascent experiments. While they may encourage reporting on only what is actionable, there is no guarantee that this new format will be successful among users brought up on a fake news diet.

A fourth journalistic innovation is collaborative journalism to reduce the costs of fact-checking. Responding to concerns about upcoming French elections in April and May 2017, First Draft created collaborative journalism project Cross Check, where French newsrooms check each other's accuracy. Running from February to May 2017, it allowed at least 17 French regional and international media companies to power a website for Cross Check's ted by different tform through n process and kee tion (Bridges et al. 20 his sort of initiativ e. Whether initia be seen. This wou al and commer ments.

Disrup

A little-d onomics. Since th y to spoof

organisations (Mosseri 2016). However, we suggest that closer attention should also be paid to digital advertising. Perhaps unsurprisingly given its business model, Facebook has said little on this solution, and it was barely addressed at SXSW in 2017, despite multiple industry panels on fake news. It is to this solution that we now turn.

Media Economics and Digital Advertising: A Solution Lies Within the Problem

Rather than simply relying on social networking sites to find the “right” algorithm while negotiating censorship accusations; on Facebook users to exercise rational judgement in recognising, flagging and sharing fake news; and on resource-poor journalists to experiment with breaking people out of their filter bubbles while committing to fact-checking; we suggest that the role of digital advertisers in proliferating fake news also needs scrutiny. After all, many of the fake news websites of the 2016 US presidential election were ultimately created not for propaganda, but for money.

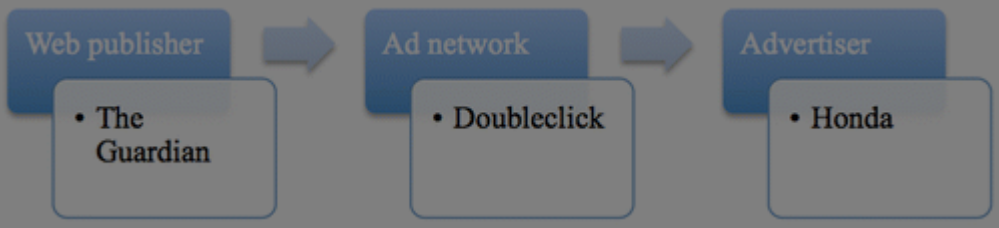
Digital Advertising Enables Fake News Sites to Profit

There is a longstanding relationship between the press and its need for advertising revenue. Underpinning this is the fiscal value of audience attention, as the rates that publishe ence they can deliv gital media, and its e ersely, the new eco

It is the s sites. Whereas refully choose ht damage a bran e of online behavio ews publishe is the practice ents on the basis of hat it targets t ng spaces are ultim and rented

to entities called “ad networks” (namely businesses that sit between Web publishers and organisations wishing to advertise) (see Figure 1).

FIGURE 1 Advertising networks’ place in the business chain



Display full size

Ad networks (such as Doubleclick) are thus able to offer advertisers a massive range of websites to exhibit their advertisements, allowing them to reach potentially large, but also profiled, audiences. For sense of scale, Google’s Doubleclick ad network spans over two million websites that reach over 90 per cent of people on the internet. Small and large publishers alike benefit because ad networks give publishers a way to profit from their advertising spaces without having to go to the effort of selling individual slots to advertisers.

On top of this, programmatic techniques (called “programmatic” by the advertising industry) allow additional data to be used to further target the advertising. Programmatic allows advertisers to target consumers automatically based on certain metrics in that it draws on udiences (such as t potential audience (as well as target) a lise the design o

Critic y ad netw er a desirabl dvertising is displaye advertisers having l n. Indeed, adverts ewis, Disney, and the slamic State

advertising profiles the person rather than the website they are looking at. Similarly, if the user looks at a fake news site, the adverts will appear there.

Follow the Money: Engage Digital Advertising Industry to Identify Fake News Publishers

However, advertisers—even the most disreputable—are unlikely to want their advertising associated with content that, by its very nature (that is, fake news), cannot be trusted. The issue of brand safety is an ongoing one within the digital advertising industry, and the contemporary issue of online fake news adds political and public impetus to resolve this. Advertising firms are well placed to identify suspected fake news publishers. Several ad networks and programmatic companies already promise that they can deliver brand-safe adverts. Rubicon, for example, claims it can identify undesirable publishers before the advertisements are released, and can track activity during and after the campaign to see who clicked on which advertisements and where. The Wall Street Journal reported on 14 November 2016 that Google Adsense had already begun blocking sites. However, to be effective, all the ad networks need to be involved to prevent fake news sites that have been ejected from one ad network from simply moving to another, as currently happens (Bounegru et al. 2017; Silverman et al. 2017).

As such, to tackle the fake news problem at its economic heart, we recommend that governm
advertis
Advertis
pressuri
advertis
advertis
advertis
scop
them. Fo
Ghostery
consider
from Goo
Draper F
which is
nternational
ents can
and (2)
lly
ks and
, there is
rks that host
h the
6 Both
tal backing
such as
g Alliance
s. In general,

these ad networks are not outliers, but seek to lead, and be part of, the mainstream advertising community. Pressure can be applied on these to be more discriminating.

There is merit in the point of Silverman et al. (2017) that if fake news sites are rejected by mainstream ad networks, they will eventually gravitate to less discriminating ones. However, we posit that with greater transparency in the system for advertisers, non-fake news publishers and advertisers are likely (or can be encouraged) to stop using the less discriminating ad network. This would eventually leave less discriminating ad networks with mostly low-quality advertisers (of Viagra, for example) who may only care about the likelihood of click-throughs. Furthermore, the very presence of such advertised products would help citizens identify the site as fake and untrustworthy. Also, given that ad networks benefit from economies of scale, the departure of reputable advertisers and publishers would be harmful and possibly terminal to that ad network.

Next, if modern programmatic advertising promises greater control over the campaign management process, we recommend that the advertising industry be tested on this, starting with fake news websites. Again, this may be overseen and reviewed by a working group of trade associations and a dedicated governmental committee, with minutes and outcomes published for the press and interested citizens. To conclude, we do not suggest that targeting behavioural advertising is a silver bullet solution, but rather th

The N n of Fellow

Given th blem, it is impor this includes the a stinct possibili having financial adlines to resonate ar and relativel on via the languag namely news be

Understanding and Knowing How to Manipulate Public Moods

Fake news creators are already “feeling-into”, and profiting from, collectives from afar. For instance, Macedonian fake news providers exploit the beliefs, desires and concerns of specific US audiences. They can do this because online social media communities (such as on Facebook) already encourage echo chambers to form, be this via filter bubbles, confirmation bias or both. Earlier, we noted the rise of “empathic media” (McStay 2016b)—namely technologies that gauge emotions, intentions and life contexts to maximise appropriateness of feedback and content. Of most relevance to our concerns with fake news is analysis of emotions in words and images. Such sentiment analysis is widely used to search and cross-reference social media data and news articles for insights into social feeling towards a given issue that would be valuable to a client organisation (such as marketers).

The next step from understanding public moods is knowing how to manipulate them. A well-known example is the 2014 Facebook study on emotional contagion. Without participant consent, researchers secretly optimised 689,003 people’s news feeds: they found that when exposed to stimuli with positive or negative emotional content, people within social networks tend to replicate this in their own posting behaviour. The study’s authors conclude that this provides “experimental evidence for massive-scale contagion via social networks” (Kramer, Guillory, and Hancock 2014, 8788). In other words, t nically sort and mar

The Mo

Faceboo ype of affective lects the emotion f news-base mplifies an affect ge, but automat

Automat news agencies ot require (expensi sm is typically estment

companies such as IBM Watson and Narrative Science. In 2016, The Washington Post experimented with software bots to generate more insightful stories with a stronger editorial voice on stories about election wins and electoral trends. These work by editors creating narrative templates and stock key phrases that account for various potential outcomes which the software bot then matches and merges with structured data—in the case of the US election, via data clearinghouse VoteSmart.org, but also "Associated Press data, historic data and polling" (Andrews et al. 2017). Given how simple fake news storylines are compared to election coverage, there is no reason why fake news stories could not be generated by algo-journalism.

Automated Insights also create automated journalism, although algorithmically rather than template-based. Joe Procopio (Chief Innovation Officer, Automated Insights) explains that algorithms "determine the tone [our emphasis]. It gives us insights as to what the most important part of the story is … We do all this algorithmically to get the reader the most important things they need from that story" (Andrews et al. 2017). Other users of algo-journalism are the Norwegian News Agency. While currently using it to deliver coverage of local sports fixtures that otherwise would go unreported, the news agency envisions that it would use algo-journalism for any repetitive stories that use regularly updated data. According to Helen Vogt (Director of Product Development, Norwegian News Agency), algo-journalism can automatically use data to tailor the story for local audiences (Andrews et al. 2017). Thus, the ability to automatically enable tone-opt hat fake news cre

As well a rial voice, tone-opt be used to widely s at the fake news is s that most peop 2016). This is not achusetts special e d smear their opp e news (Ratkiew

The Po rs

Contemporary fake news already operates in the context of “feeling-into” online collectives, filter bubbles, confirmation bias and echo chambers. The opportunity for computer-generated fake news, weaponised and optimised to resonate with social media users, seems entirely feasible given the current state of sentiment analysis and automated journalism, as well as the affective tenor of the Trump presidential campaign. The process would be to: understand key trigger words and images among target groups; create fake news and measure its engagement (via click-throughs, shares, likes and effectiveness of message elements); and then have machines learn in an evolutionary capacity from this experience to create stories with more potency to increase engagement and thereafter advertising revenue. The feedback process also has implications for use of aggressive propaganda and information wars (at the time of writing, US journalism and US senate intelligence inquiries were concerned about Russia’s attempts to influence elections abroad, including the United States and Europe). We suggest that the commercial and political phenomenon of empathically optimised automated fake news is on the near-horizon.

Conclusion

Fake news is not a new phenomenon, but the 2016 US presidential election showed us a new it While a laudable ematic contemp cific obstacle cognise the need for igital advertis t. As such, we sugg sult with inter ad networks and p a self-interest st disreput be trusted (fake ne st the near-horizon ge driver of the fake his, governm e growing

Narrative Science, to discuss the growth of micro-targeted empathically optimised automated fake news. With diverse international political actors waging information war, an educated and strong economic counter-attack may be the best defence.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

FUNDING

This work was supported by the United Kingdom's Arts and Humanities Research Council [grant number AH/M006654/1].

Notes

1. While the calling of a UK General Election for June 2017 meant that the Fake News Inquiry closed before synthesising and making recommendations on its 78 written submiss reaching the sam

2. Availa tab=albu

3. See h

4. Faceb https cedocument/ culture-r

5. See h

6. See h

References

1. Ackerman, Spencer. 2017. “Russian Deception Influenced Election due to Trump’s Support, Senators Hear.” The Guardian, March 30. https://www.theguardian.com/us-news/2017/mar/30/trump-russia-fake-news-senate-intelligence-committee
.
Google Scholar

2. Adair, Bill, Mevan Babakar, Chengkai Li, and Alexios Mantzarlis. 2017. “How Bots Are Automating Fact-Checking.” Panel at SXSW Interactive, Austin, Texas, March 10–16.
Google Scholar

3. Bessi, Alessandro, Fabiana Zollo, Michela Del Vicario, Michelangelo Puliga, Antonio Scala, and Guido Caldarelli. 2016. “Users Polarization on Facebook and Youtube.” PLoS ONE 11 (8): e0159641. doi:10.1371/journal.pone.0159641.
PubMed | Web of Science ® | Google Scholar

4. Allcott, Hunt and Matthew Gentzkow. 2017. “Social Media and Fake News in the 2016 Election.” https://web.stanford.edu/~gentzkow/research/fakenews.pdf.
Google Scholar

5. Andre ture of Autom Austin, Texas,
Goog

6. Baba ng.” Full Fa https:/ the_st
.
Goog

7. Bakir, of

https://www.meccsa.org.uk/news/three-d-issue-28-combatting-fake-news-analysis-of-submissions-to-the-fake-news-inquiry/

.

Google Scholar

8. Berkowitz, Dan, and David A. Schwartz. 2016. “Miley, CNN and the Onion.” Journalism Practice 10 (1): 1–17. doi:10.1080/17512786.2015.1006933.

Web of Science ® | Google Scholar

9. Bounegru, Liliana, Jonathan Gray, Tommaso Venturini, and Michele Mauri. 2017. “A Field Guide to Fake News.” Public Data Lab. https://fakenews.publicdatalab.org/download/SAMPLE-field-guide-to-fake-news.pdf.

Google Scholar

10. Breitbart. 2016a. Facebook Timeline Photos, October 10. https://www.facebook.com/Breitbart/photos/a.10152968700630354.1073741830.95475020353/10157873843625354/?type=3&theater

.

Google Scholar

11. Breitbart. 2016b. Facebook Timeline Photos, October 16. https:/ 741830.954 75020

.

Goog

12. Breitb https:/ 741830.954 750

.

Goog

13. Breitb https:/ 741830.954 75020

.

14. Breitbart. 2016e. Facebook Timeline Photos, October 28. https://www.facebook.com/Breitbart/photos/a.10152968700630354.1073741830.95475020353/10157981281375354/?type=3&theater .
Google Scholar

15. Bridges, John, Eric Carvin, Lisa Fazio, and Claire Wardle. 2017. “A Post-Truth World? Nope—We Can Fight Fake News.” Panel at SXSW Interactive, Austin, Texas, March 10–16.
Google Scholar

16. Carlson, Matt. 2017. “Facebook in the News.” Digital Journalism. doi:10.1080/21670811.2017.1298044.
Web of Science ® | Google Scholar

17. Charity Watch. 2016. “Clinton Foundation.” https://www.charitywatch.org/ratings-and-metrics/bill-hillary-chelsea-clinton-foundation/478 .
Google Scholar

18. Cultur liament. https:/ ns-select/ uiry2/ .
Goog

19. Datu, eered Co Texas, Ma
Goog

20. El-Sha EzyInsights, Nover https:/ k-facebook/.

21. El-Sharawy, Steve. 2017. “With Extreme Bias: Consuming Media in the Trump Era.” Paper presented at SXSW Interactive, Austin, Texas, March 10–16.
Google Scholar

22. Fazio, Lisa K., Nadia M. Brashier, B.Keith Payne, and Elizabeth J. Marsh. 2015. “Knowledge Does Not Protect against Illusory Truth.” Journal of Experimental Psychology 144 (5): 993–1002. doi:10.1037/xge0000098.
Google Scholar

23. Gillin, Joshua. 2017. “Fact-Checking Fake News Reveals How Hard It is to Kill Pervasive ‘Nasty Weed’ Online.” Punditfact, January 27. https://www.politifact.com/punditfact/article/2017/jan/27/fact-checking-fake-news-reveals-how-hard-it-kill-p/?
.
Google Scholar

24. Gillmor, Dan. 2009. “Toward a Slow-News Movement.” Mediactive. https://mediactive.com/2009/11/08/toward-a-slow-news-movement/.
Google Scholar

25. Haber Reason and the Ra A: Beacon Press.
Goog

26. Henke ruth Effect and S
doi

27. Jacksc m and Power Relati
doi:10

28. Jowett, Garth S., and Victoria J. O'Donnell. 2012. Propaganda and Persuasion. 5th ed. London: Sage.
Google Scholar

29. Khaldarova, Irina, and Mervi Pantti. 2016. "Fake News." Journalism Practice 10 (7): 891–901. doi:10.1080/17512786.2016.1163237.
Web of Science ® | Google Scholar

30. Kirby, Emma Jane. 2016. "The City Getting Rich from Fake News." BBC News, December 5. https://www.bbc.co.uk/news/magazine-38168281.
Google Scholar

31. Kramer, Adam D. I., Jamie E. Guillory, and Jeffrey T. Hancock. 2014. "Experimental Evidence of Massive-scale Emotional Contagion through Social Networks." Proceedings of the National Academy of Sciences of the United States of America 111 (24): 8788–8790. doi:10.1073/pnas.1320040111.
PubMed | Web of Science ® | Google Scholar

32. Leveson Inquiry. 2012. "Report into the Culture, Practices and Ethics of the Press." Department for Culture, Media and Sport.
https:/ he-culture-practi
.
Goog

33. Lewar el Morales. 2005.
Psy 802.x.

34. March ct
Journa 62.
doi:10

35. McStay, Andrew. 2016a. Digital Advertising. 2nd ed. London: Palgrave-Macmillan.
Google Scholar

36. McStay, Andrew. 2016b. “Empathic Media and Advertising: Industry, Policy, Legal and Citizen Perspectives (the Case for Intimacy).” Big Data & Society 3 (2): 1–11. doi:10.1177/2053951716666868.
Web of Science ® | Google Scholar

37. McStay, Andrew. 2017. Privacy and the Media. London: Sage.
Google Scholar

38. McStay, Andrew. forthcoming. Emotion AI: The Rise of Empathic Media. London: Sage.
Google Scholar

39. Metaxas, Panagiotis T., and Eni Mustafaraj. 2012. “Social Media and the Elections.” Science 338 (6106): 472–473. doi:10.1126/science.1230456.
PubMed | Web of Science ® | Google Scholar

40. Miles, Matthew B., A. Michael Huberman, and Johnny Saldana. 2014. Qualitative Data Analysis. London: Sage.
Goog

41. Miller, ations
Becan
Goog

42. Molon edge.

43. Mosse .” Facebook,
Decen
https: -and-fake-news/
.

44. Mouffe, Chantal. 2005. On the Political. London: Routledge.
Google Scholar

45. Pariser, Eli. 2011. The Filter Bubble: What the Internet is Hiding from You. New York: Penguin Press.
Google Scholar

46. Pew Research Center. 2016. “State of the News Media 2016.” https://www.journalism.org/2016/06/15/state-of-the-news-media-2016/.
Google Scholar

47. Powers, Elia. 2017. “My News Feed is Filtered?” Digital Journalism. doi:10.1080/21670811.2017.1286943.
Google Scholar

48. Price, Rob. 2016. “A Report That Fake News ‘Outperformed’ Real News on Facebook Suggests the Problem is Wildly out of Control.” Business Insider, 17 November. https://uk.businessinsider.com/fake-news-outperformed-real-news-on-facebook-before-us-election-report-2016-11?r=DE&IR=T
.
Goog

49. Quatt Chambers on Fac d=2795110.
Goog

50. Ratkie ssandro Fla use in Social Me a, 297–304.
https:/
Goog

51. Reute
https: port-2016.

Google Scholar

52. Richards, Barry. 2007. Emotional Governance: Politics, Media and Terror. Houndsmill: Palgrave MacMillan.10.1057/9780230592346
Google Scholar

53. Scammell, Margaret. 2014. Consumer Democracy: The Marketing of Politics. New York: Cambridge University Press.
Google Scholar

54. Schweizer, Peter. 2015. Clinton Cash. New York: Harper.
Google Scholar

55. Seabrook, Andrea and Corrie MacLaggan. 2017. “Making News Actionable.” Panel at SXSW Interactive, Austin, Texas, March 10–16.
Google Scholar

56. Silverman, Craig. 2016. “This Analysis Shows How Viral Fake Election News Stories Outperformed Real News on Facebook.” BuzzFeed News, November 16. https://www.buzzfeed.com/craigsilverman/viral-fake-election-news-outperformed-real-news-
.
Goog

57. Silver ns Are Dupin https: bal-hub-for-pro-tr
.
Goog

58. Silver f the Crack Networks.” BuzzF https:

59. Stanford History Education Group. 2016. “Evaluating Information: The Cornerstone of Civic Online Reasoning.” https://sheg.stanford.edu/upload/V3LessonPlans/Executive%20Summary%2011.21.16.pdf .
Google Scholar

60. Suler, John. 2016. Psychology of the Digital Age: Humans Become Electric. New York: Cambridge University Press.10.1017/CBO9781316424070
Google Scholar

61. Sunstein, Cass. 2001. Echo Chambers: Bush Vs. Gore, Impeachment, and beyond. Princeton, N.J: Princeton University Press.
Google Scholar

62. Tynan, Dan. 2016. “How Facebook Powers Money Machines for Obscure Political ‘News’ Sites.” The Guardian, August 24. https://www.theguardian.com/technology/2016/aug/24/facebook-clickbait-political-news-sites-us-election-trump .
Google Scholar

63. Wardl
https:/
Goog

64. Wason al Task.”
Quart
do

65. Wilson d before 2016
https: news-filter-bubble

Google Scholar

66. Zuckerberg, Mark. 2016a. “Mark Zuckerberg.” Facebook, November 13. https://www.facebook.com/zuck/posts/10103253901916271.
Google Scholar

67. Zuckerberg, Mark. 2016b. “Mark Zuckerberg.” Facebook, November 19. https://www.facebook.com/zuck/posts/10103269806149061.
Google Scholar