

Falling for Fake News: Investigating the Consumption of News via Social Media

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ABSTRACT

In the so called ‘post-truth’ era, characterized by a loss of public trust in various institutions, and the rise of ‘fake news’ disseminated via the internet and social media, individuals may face uncertainty about the veracity of information available, whether it be satire or malicious hoax. We investigate attitudes to news delivered by social media, and subsequent verification strategies applied, or not applied, by individuals. A survey reveals that two thirds of respondents regularly consumed news via Facebook, and that one third had at some point come across fake news that they initially believed to be true. An analysis task involving news presented via Facebook reveals a diverse range of judgement forming strategies, with participants relying on personal judgements as to plausibility and scepticism around sources and journalistic style. This reflects a shift away from traditional methods of accessing the news, and highlights the difficulties in combating the spread of fake news.

Author Keywords

Post-truth; fake news; social media; verification; Facebook; trust;

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

INTRODUCTION

The Oxford Dictionary recently announced ‘post-truth’ as their Word of the Year for 2016 [12], defining it as “circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief”. In relation to the current political context this appears to mean that the ‘post-truth’ age is one where the perceived value of objective facts is depreciating in favour of other belief systems and opinions, the views of experts are being rejected, and this is accompanied or even encouraged by changes in the way that (purportedly) factual information –

or news – is accessed and consumed. The younger generation are turning away from traditional, curated mechanisms of accessing news such as printed news or daily news programmes, in favour of social media platforms that expose them to a serving of a broader range of opinions and information about the issues of the day.

The changes in the ways that individuals might perceive ‘truth’ and in which they access information and news has opened a Pandora’s box of so-called ‘fake news’ emerging from a variety of online sources, and ranging from humorous fakes, to large-scale hoaxes and serious fabrication [27]. Fake news is used to entertain, promote agendas or, stoked on mass by large numbers of bots or sock puppets, attempt to sway public opinion [5]. So prevalent has the notion of fake news become that the term is often used as a pejorative to call into question the validity of a traditional source [1].

This paper explores how social media such as Facebook plays a role in users’ exposure to fake news in the face of a gradual decline of trust in traditional ‘hard’ news sources. It is not yet known to what extent news consumers are in fact concerned about the seemingly prevalent fake news in circulation on social media. Are there particular features in the way that the information is presented on social media that leads audiences to believe that information is fake? How are conclusions drawn? The growth of social media has not only meant that individuals are exposed to a wealth of information, but it has also increased the speed of news consumption, suggesting that social media users may make very quick, face-value judgements about the information consumed. How might such fast-paced news consumption via social media impact on judgements formed? What are common user behaviours and issues that could be addressed through policy or future tools for social media platforms?

We describe the results of a survey of Internet users to understand to what extent they consume news through social media, and, in particular, to explore their perceptions of whether fake news is present in their spaces of news consumption. We present the results of a study in which participants were presented with a Facebook news feed and tasked with “finding the fake news” while thinking aloud. We describe the combination of interpretive and argumentative strategies used to determine whether a Facebook news post is real or fake, participants’ own reflections, and reflect on the implications of our findings on

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what ‘news’ means in the social media era both socially and technologically.

RELATED WORK

Fake news has previously been defined as ‘entertainment TV shows that parody news, using satire to discuss public affairs’ [2], and indeed there is a long history of political parody across the globe. It is however suggested [27] that the prevalence of fake news requires a broader definition that encompasses multiple forms and alternative motives: humorous fakes in the form of news satire; large scale hoaxes, where audiences are deliberately deceived about a news story; and serious fabrication, where events are sensationalized, a method allegedly used by many tabloids. While phrases such as ‘fake news’ may have specific local connotations – particularly in the United States – they also flow globally in the digital age. In the UK and Europe ‘fake news’ is a phrase that has been imported, but one routinely used to interchangeably describe the above. It is also used to include news that a person does not agree with or finds uncomfortable, or issues of political bias [10].

These different forms of fake news, especially when disconnected from their original sources and contexts, for example with exaggerated or misleading headlines or extraneous text, may have a variety of damaging consequences, where circulation of false information causes confusion and distress. For example, in October 2008, a (false) rumour that Steve Jobs was reported to have had a heart attack and was receiving treatment in hospital was circulated on Twitter, and was subsequently retweeted many times [26]. Moreover fake news across the spectrum, even the most innocuous satire, has arguably [3,14,15] also led to increasingly blurred lines between what is seen as real news and what is seen as fake, resulting in a gradual decline of trust in traditional real, or ‘hard’ news sources [16]. Those having high exposure to ‘fake news’ in the form of political televisual satire, combined with low exposure to ‘hard’ news, lend more credibility to ‘fake news’ than those with high levels of exposure to both ‘fake’ and ‘hard’ news [2].

Social Media as News Provider

The growth of Social Media has changed how people deliberately and *incidentally* consume and are exposed to a variety of news. Of UK residents, 66% are estimated to use social media, for example Facebook or Twitter [24]. It was further reported that although young adults make up a significant proportion of social media users, 23% of adults aged 65 and over had used the Internet for social networking in the last 3 months, indicating that the population of users is diversifying. In the US, while the majority may not intentionally turn to Facebook to look for news, it was found that two thirds of Facebook users do actually get their news from there, accounting for 44% of the American population [21]. In the UK, 29% say they read or shared news on Facebook in the last week [10]. Globally a 42% increase year-on-year in referrals from Facebook to the top 20 global news organisations shows the increasing reliance of social

media for news consumption [10]. Furthermore, the amount of time spent on Facebook is correlated to the amount of time spent consuming news there.

This shift potentially opens a gateway for the distribution for fake news. Presented in the social media context, real news shares a ‘stage’ with everyday social activities, with satire and humorous hoaxes shared by friends, but also with the serious fabrications of fake news; overall, the context to news consumption via social media thus differs very significantly from the carefully curated and edited context of the traditional media. Social media users may experience their access to news via social media as something that allows them to see a more ‘authentic’ version of news that is perceived by them to be less influenced by a media outlet or a politician’s agenda. It may also allow users to ‘let their guard down’ and interact with news in a way that is not as tightly scripted as in other news fora, such as television news. Indeed, teenagers reveal their beliefs that blogs and other forms of social media presented new stories in a more ‘truthful’ way, ‘not being afraid to tell it like it is’. They have also been found to gravitate toward fake news because the associated, and often alternative, positions are perceived as more objective, substantive and informative interpretations of news than those reported in more traditional channels [18].

Information Literacy and Echo Chambers

The neologism “truthiness” has been defined as something *felt* to be true, but not backed up by facts; in contemporary society and the digital age; this feeling is frequently seen to matter more than actual, verifiable truth of the content transmitted [23]. This is compounded by the rise of algorithmic content filtering, such as that populating Facebook users’ feeds or seen in the news dissemination system ‘WhatsUp’ [6], that can create *echo chambers* which trap users by only exposing them to opinions and beliefs they are already in agreement with [19,23].

With an increase in information availability, a challenge then is to consider what responsibility and ability there is for both consumers and platforms to act as news verifiers [19,22], especially given that it may be difficult for users to exercise their judgement on the credibility of digital news articles without real world cues [8]. Teaching critical evaluation of news within the context of a person’s own beliefs, and what they know or believe to be true, can enable them to recognize bias even when it supports their own beliefs [20]. In fact, simply being aware of the possibility that a news article may not be authentic can increase new media literacy [28].

The speed and volume at which news appears makes it difficult to scale manual fact-checking processes, and drives a need for automated support in verifying content [7,22,25]. Algorithms can help automatically identify and surface the criteria users need to make judgements, and the typical cue is a final decision in the form of a simple flag. One proposition is to enrich the algorithmic feedback with the inclusion of both supporting and opposing views to avoid simply being ignored by users [32]. This directly supports the

notion that technology should augment rather than replace human judgement [11,31]. Furthermore, tools that are opaque in their implementation risk introducing another layer of trust disruption and perceived bias. This creates an interesting challenge as to how best inform users of the workings of an algorithm alongside their recommendations. This required transparency and need to inform users might further reconfigure the news creator-consumer relationship [7,9].

SURVEYING SOCIAL MEDIA NEWS CONSUMPTION

We began by designing a descriptive online survey, to gather information about contemporary news consumption via social media. We also explored to what extent respondents believed that they paid attention to news delivered to them in this fashion, whether and how they reflected on the veracity of such news, whether they had encountered purportedly fake news and, if so, how they had reacted to it.

The survey was advertised via an online survey tool, and snowballed from institutional mailing lists. There were 309 respondents who completed the survey in May 2017. 41.1% male, 55.7% female, and respondents' ages ranged from 18-25 to over 66, however the majority were in the 18-25 bracket (70.4%). Respondents predominantly identified themselves as being students (71%). All were from the UK.

Initially the survey asked respondents about what they considered to be news, and the channels by which they tended to access it. 34% of respondents accessed news on the television at least once a day, with 80% accessing online news sources. Notably 65% of respondents reported accessing news via their Facebook feeds (i.e. shared by friends, subscriptions to news agencies, suggested automatically by Facebook) at least once a day; however only 20% obtained 'most' of their news via Facebook. This suggests that the consumption of news via social media is prolific but also perceived to be to an extent coincidental.

We next asked about the *kind* of news that was accessed via social media. Here the most popular were breaking news (69%), politics (45%), international (42%) and entertainment (40%). When asked to describe factors that were used to determine whether a post, article or link seen on social media was *news* or not, respondents referred to information coming from a source that they considered to be 'reputable', many including the BBC, and others referencing 'mainstream TV news channels or broadsheet newspapers' including The Guardian, Reuters and CNN. In addition, 46% of respondents highlighted 'new information' referring to a current event as an important factor, while 20% referred to news being 'factual', 'accurate' or 'something of interest'. Asked to give examples of a news story encountered through social media, popular responses included stories covering recent terror attacks, the activities of Donald Trump, Brexit, and a passenger violently removed from a United Airlines flight. However, only 61% of respondents went through to read the full story, with the remainder commenting that they did not have the time or interest to devote to it, or notably

that sufficient information was given in the headline presented in the social media feed. Of those who did read the article either in full or in part, only 55% believed that the headline accurately matched the content.

Finally we asked about fake news, however to accommodate multiple interpretations of the phrase and in line with the definition of fake news given in [27], the questions asked for instances where respondents had had cause to reflect on the 'truth' of a story. 37% of respondents had *come across a news story, believed it to be true, then later realized that it was either exaggerated, inaccurate or blatantly false*. Common examples were celebrity news, American news, and again issues related to Brexit and Donald Trump. Here respondents stated that they identified the piece of news in question as fake predominantly by fact-checking against other sources, or using their own reasoning that something either could not be true or seemed implausible. Conversely, 46% had *come across a news item they immediately identified as fake*, principally based on knowledge of the source as satire – 'The Onion', 'Daily Mash', or being known to exaggerate – 'because it was the Daily Mail', or again through their own reasoning and judgements of plausibility.

Our survey results suggest that social media users are not only incidentally consuming news via sites such as Facebook, but they are aware of – and encountering – fake news, some of which is taken at face value. Respondents appear to draw on a number of different strategies in reasoning about the validity of news, including prior assumptions about source reputation, determinations of plausibility, headlines and sometimes the full text.

METHODOLOGY

Our main study builds upon the findings of our survey, that social media users are aware of and actively encountering what can be characterised as fake news, to further investigate how these users make judgements as to the validity or truthfulness of news populating social media feeds. Our aim was to prompt participants to draw upon and elucidate their everyday practices when engaging with news in this manner.

We constructed a fictitious Facebook account belonging to 'Leo Porter' to mirror the sort of news feed that users might encounter day to day whilst using their own Facebook account. We populated the Facebook account with a variety of news posts, which were interspersed with other posts relating to Leo's day to day activities, travel and life plans. 13 news posts were manually selected from among those reported in the survey as stories encountered by participants on social media. They were chosen to provide a mixture of real and fake news, including obviously mundane but also implausible real news, and fake news from a number of sources again following Rubin's [27] typology of satire, exaggeration and hoax, from the mundane to the unusual:

Fake: "Donald Trump's health deteriorates", "Donald Trump threatens Russia over ban on Jehovah's Witnesses", "Crayola to retire dandelion coloured crayon", "We can't

afford to take refugee children”, “Camembert to be stopped after Brexit”, “Nightclub is banning Baywatch theme song”.

True: “Texas man sues date for texting”, “UK House Prices fall”, “Rosemary can boost exam grades”, “Schools urged to install metal detectors”, “Zoe Saldana claims Hollywood bullied Trump”, “Farmers secretly feeding cows skittles”.

One news story was presented both from a trustworthy and from a tabloid source. Each linked to the originating external news source including the BBC, CNN, the Daily Mail, News Thump and NY Post. The posts appeared in the same visual format as if they had been posted or shared by a normal user, as shown in figure 1, displaying an image, headline and sub headline, and source.

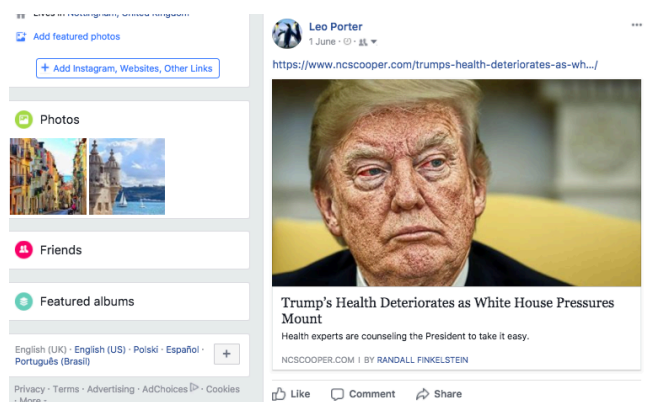


Figure 1: Leo’s Facebook feed showing a “fake news” post

Participants were asked to take part in an activity in which they were asked to browse the Facebook page, and they were tasked to “*look through the page and find the fake news*”. Whilst scrolling through the page, each participant was asked to ‘think aloud’ by stating initial thoughts, judgements, feelings and comments that might spring to mind when reading the information. A researcher prompted participants by following up on responses, asking further questions or inviting discussion on any related issue that cropped up during the exercise, for example asking “*what made you want to explore/examine this post further*”, or “*what makes you not pay any particular attention to this?*”. Once the activity was completed, each participant was invited to take part in a further interview, with semi-structured interview questions being directed to all participants including asking what their understanding of the concept of fake news was. Each session was audio recorded and subsequently transcribed, with a screen recording capturing scrolling and mouse movements, and page navigation. A single researcher performed an initial analysis by coding transcriptions of each participant’s activities, identifying key points in which the participants differed. These were discussed and broken up into themes, before a second researcher performed a second run of the data focusing on these themes and themes and highlighting evidence of their emergence.

Nine participants, five female and four male, took part in the study, recruited locally via social media. The participants

were aged between 19 and 40 (mean 27), education ranging from vocational training to post-graduate degree, professions including administrative, engineering and teaching, however from broadly similar socio-economic backgrounds.

FINDINGS

The thematic analysis of the qualitative data collected from the think aloud study lead to the identification of a variety of individual sense-making and argumentative strategies employed by the participants. Here we present participants’ behaviours and approaches in detail.

Veracity based on source reliability

When determining whether to believe a news story, participants showed distinct approaches which varied primarily in one aspect: the attention they gave to the source of the story. Three categories of behaviours emerged. First, some instances showed participants to fully rely on the authority of the source to make judgments on whether the story is true. These participants tended to look first at the source before clicking the link in the post, or at the web address bar afterwards. They vocalized trust or lack thereof of the indicated website when reasoning about truthfulness:

“I’d say it’s real. [Researcher: Can you tell me why?] Because of the source.” P9

This participant made explicit reference to the fact that they based their judgment on the source of the article. This explicit referencing came in different forms. Above, the participant was reading an article from the BBC, which they deemed to be trustworthy enough. In other instances, a website was recognised as being satirical and judged accordingly. Where the source was not recognized at all, the resulting judgment was of mistrust. For example, when looking at a blog post they did not recognize:

“Supermarkets confirm they no longer stock Camembert due to Brexit. Rubbish. (...) It’s not from a credible site.” P3

In these examples, the participant based their decision on whether or not a news story was trustworthy primarily on the source, as presented in the Facebook post. In a second set of instances, participants expressed their belief in the article before acknowledging or looking at the source, but later looked at and vocalized the source to justify their assessment. In other words, they formulated their belief based on their own personal assessment of the believability of the news story, and then later utilized the source to support this belief.

One participant, not aware that the website they are looking at is a satirical news site, made their judgment based on the content of the headline alone, before going on to add that as they did not have prior knowledge of the source and that this would add to the likelihood of the news being fake:

“Oh that’s fake. (...) Well because the government wouldn’t say that. And also it’s the website NewsThump. I’ve never heard of that before.” P8

This sometimes went the other way, and acknowledgement of the source made them question their original assessment, resulting in qualifying the original belief or completely changing it. A somewhat incredulous participant passed judgement on a story on CNN about a man suing his date for texting during a film prior to referencing the source. Once the source was recognized however, the assessment was altered based on CNN's perceived reliability.

"Initial thoughts is that it must be a joke, but then looking, it's not impossible (...) It says it's CNN. CNN are generally respectable. (...) So I'm likely to think this could be true." P7

A further element of the source probed in the subsequent interview was the person that might have posted or shared a particular story, and participants indeed highlighted the value they see in reading news stories shared by those they respect.

"If it's somebody I know well, then I'll be tempted to click on it. (...) Actually I think I base it a lot on who's posted it, whether I like the person or not and respect their views." P3

It is further emphasized that stories shared by respected friends were not only more likely to be interesting, but also more likely to be trusted as being true.

"I suppose they have quite a lot of influence because if they're somebody that you get on well with and you respect their views, you kind of expect that they're not going to be posting stuff that's fake." P3

The third observed behaviour was when participants relied purely on their own assessment while either completely ignoring the source or acknowledging whether or not it was reliable and choosing not to take that into account. In these instances, the fact that a source was a reputable newspaper or an openly satirical website did little to alter their own assessment of the validity of a news story, often made based on its believability to the participant and given their own predispositions. One participant, while trying to judge the "Trump's Health Deteriorates" story shown in Figure 2, went clicking on different stories on the same website to determine what sort of news site it was. The site was of course satirical, which the participant recognized.

"(Browsing a satirical news site) Well this is clearly fake news. (...) It's irrelevant, it's just a joke. (Clicks on a different story on the same site) Yeah again, fake. That's just silly. (Returns to the Trump story) I mean with this one, it could well be. There's probably an element, quite a big element of truth in it. It's difficult to tell. (...) The picture is poking fun, I don't think the article is actually." P7

Thus, having established that he was browsing a satirical site, the participant decided that one story on it was likely true because it was believable to him. Notably the story need not be either entirely true or entirely false - here the participant recognized that there may be some false elements to the story (an altered photo), but that overall the content was truthful.

Veracity based on the content

Some of our participants appeared to pay less attention to the apparent source of the news stories they were reading as appearing on each Facebook post, and instead focused on the content of the story itself, making no mention of source in their assessment. They simply described their belief in terms of the credibility of the article itself by supporting it with, for instance, their own prior knowledge. A news story about house prices falling in the UK had already become familiar to some participants: *"I know that's true. Because I've read that or a similar article."* P1

When the story was deemed particularly incredible, that was sometimes enough to simply dismiss it without the need for further verification. The story of Camembert cheese no longer being available to British markets was deemed obviously untrue: *"It's not real. It's definitely not real."* P9

To our participants the story was deemed truthful or not based entirely on its own merits. Naturally, funny or humorous content was likely to leave participants doubting the truth of a story. Many participants have gotten used to the idea of parody news sites, and to them particularly funny headlines were immediate signs of a fake story.

"It is funny. That's the thing. I find if you can instantly laugh at a headline of that sort then often my head just goes straight to spoof sort of news article." P4

"I've heard of [the Camembert story] going around. It's like when they said Prosecco was running out." P8

Participants however did not always separate humour from truth. Truthful articles did not need to be serious, as one participant pointed out while reading a spoof article. The story on a nightclub banning music from the film Baywatch amused the participants, but that did not mean it was fake: *"It could be real, but I think that the article is written for a laugh."* P9

The fact that a story was "written for a laugh" did not negate its validity as a proper news story, and the participant was willing to take some of its content as valid. Our participants did not suggest that they believed there was an absolute link between the truth and believability of an article. Participants looked for grains of truth in all places and often chose to accept parts of a story that they felt happy to believe regardless of how incredible or humorous the story was.

Finally, in addition to the believability of the content, the style of reporting as well as information about the author and date of an article were sometimes relied on. For example, when looking at a story from CNN, one participant was not satisfied with the source of a story being reliable, and went further to investigate the provenance of the article itself:

"It's telling me the date of when it was published, it's got the reporter and it's got a picture of them. (...) Can see whether it's a real reporter, and yeah, it looks legitimate." P6

In addition, informal writing style was seen as a mark of fictitious news, regardless of the source. One participant acknowledged New York Post as a reliable source, but doubted the story because of its journalistic style:

“Using words like ‘legit’; if it is actually the New York Post you would have thought they wouldn’t use that shortened slangy speak.” P7

Interest in ‘this kind of news’

The participants’ apparent level of interest in, or personal orientation to the news stories showed up often in our observations. Firstly, when a story seemed of little significance to the user, whether it was true or not became irrelevant. Several participants found it difficult to engage with stories that mattered little to them despite repeated prompting. When the topic of the story was not seen as personally relevant, there was little interest in figuring out whether or not it was true. One participant paused at the story about actress Zoe Saldana condemning Hollywood’s treatment of Donald Trump, then quickly realized she has no interest in making an assessment either way.

“Celebrities don’t interest me. [pause] I don’t know what to make of it” P9

Another participant paid even less attention to that story and just scrolled past it, despite having been given the task of working out which stories are real and which aren’t.

“[Researcher: I noticed you almost scrolled straight past it.] Yeah. Straight past it. Doesn’t bother me. I’ve got absolutely no interest in it whatsoever. I don’t really know Zoe Saldana so it’s not something I’d even entertain more than a second on.” P7

In contrast, participants suggested that they were more willing to invest time in finding the truth of something if they it has a personal or professional interest to them.

“It doesn’t really interest me, but saying that someone writes an article about wind power releasing more CO2 than burning coal then I probably would look that up and research that more (...) because my interest would be peaked, because it’s something that I care about.” P7

Thus the level of interest in a story, solely from its Facebook post, was a strong indicator of how likely a participant was to make a judgement as to its veracity. The reverse was also true – the apparent veracity of a news story was often a determining factor in whether or not a story was interesting. Participants indicated interest in stories that were clearly false, with some participants deliberately seeking out those fake stories in their own Facebook feeds.

“I tend to be more interested in the stuff that is definitely not true, like the more kind of The Daily Mash and Newsthump and those kinds of articles which are sort of based on facts but are definitely not true if you know what I mean.” P1

This in contrast to participants only interested in news that they could rely on, and who had little time for anything else.

“Doesn’t interest me (...) blatantly not going to be true.” P8

The lack of interest in a story that is seen as false was in this case a hindrance: as the story itself was true (a story about cows being fed Skittles candy), but the participant did not deem it worthy of investigation because it didn’t seem likely.

Reflections on Fake News

When asked to describe in their own words what they understood “fake news” to mean, the responses varied with some defining the term based only on the truthfulness of the story. They described different ways a story might be fake, with the most straightforward being that a fake story was one that is based on something true, but containing falsehoods.

“It’s based around somebody obviously that’s real but the situation that it’s in is just fake.” P3

A second group of participants however took the lack of truth in the article as being secondary to the definition of fake news, with the primary element being the intent behind it. To some, fake news was written by playful or bored individuals with no intent to cause harm, while others were warier of the people behind fake news and described them at best as attempts to appeal to a specific audience.

“Stuff that people have made up either for a laugh or because they got nothing better to do.” P5

“To make the story more appealing to whoever they want to appeal to.” P1

At worst, they were seen as false stories written to shape the views of unsuspecting readers by stirring up opinions or influencing their decision-making.

“... made up to influence the way people see things or make them buy or just do something they wouldn’t normally.” P8

To several of these participants, fake news seemed a cause for various degrees of concern. There was the obvious concern that fake news may influence people’s opinions.

“It will influence people’s political decisions or the way they go about their lives.” P9

Others worried that fake news will make it more and more difficult to find the truth, especially when appearing incidentally alongside the other traffic of a social media feed.

“probably could be quite detrimental because there are some serious issues that need reporting and if you have to trawl through all the fake news to find the truth, it’s not easy.” P7

The incidental delivery of news through social media was believed to have had an effect on the behaviour of a number of our participants, including being aware of not thinking about the truthfulness of a story.

“Sometimes you might see a video on Facebook and not be able to tell if it’s been staged or if it’s real (...) I’d just keep going and not bother checking if I’m right or not, or, I might see in the comments and look to see if anybody else has remarked on whether it’s real or not.” P9

Ultimately, this is believed to have led to the undermining the usefulness of social media as a delivery tool in general.

“I don't use Facebook as much anymore (...) most of it's false or whatever whether it's like that tower fire, Trump or whatever, it's all, you get the one sided stuff (...)” P8

Solutions to Fake News

When asked to reflect on their ability to detect fake news, the result was an overall weak level of confidence. Answers showed varying degrees of uncertainty ranging from “Average probably at best” (P7) to “Pretty good” (P5). As such we asked them to speculate on a tool that would help determine whether news being read was fake or real.

Participants were in general dubious about the utility of such a tool. Only one positive response came from a participant who said, “It would probably be quite good for me.” (P7) For others, they doubted whether such a tool would be of value to them. One participant said, “It's quite interesting, but I'm not sure,” (P8) whereas another was fairly confident about his own ability to detect fake news, simply stated, “I don't think that it will make any difference for me.” (P5) Other participants were even less keen. Their concerns about such a tool were determined by whether they saw it using crowd-based verification of news or whether it was authoritative or algorithmic flagging of fake news. In the case of crowdsourced news verification, one participant worried that the crowd might just not be able to separate their own opinions from the question of whether news is fake:

“You could come under this whole issue of actual creditable reporting is being branded as fake because someone just doesn't agree with its opinion.” P6

Participants who saw such a tool as being an authoritative filter had stronger feelings towards it. One questioned how that would even work as only a handful of news items are fully verifiable and questions where one would draw the line.

“A lot of news doesn't come from reliable sources. (...) Well you couldn't have any news then that hadn't come from a research paper or hadn't been verified in some way. So then it makes all news a little bit un-credible (laughs). I don't know because where would you draw the line?” P3

To others it was doubtful whether they trusted anyone enough to delegate that responsibility to.

“I don't think so because how do I know? How can I trust the person that's alerting me?” P1

DISCUSSION

In this section, we examine the implications of our findings regarding the behaviour of news consumers on social media, but also the broader implications for producing news in an increasingly dominant social media age.

Mechanics of judgement and consumption

The empirically strongest claims to emerge from our studies relate to the variety of interpretative and argumentative positions which our participants were seen to take when

faced with a piece of news presented in a Facebook feed, and the diversity of strategies employed when consuming and arriving at a subsequent judgement on each news article.

It becomes clear that there is no single strategy that an individual reader employs consistently across all news articles while inspecting them, and the process by which judgements are made is highly variable. Participants appeared to initially draw conclusions based on what we may term *formal* characteristics, such as considering the generally deemed reliability of a source URL, but also criteria that were more *substantive* insofar as they sought to judge content per se. A further confounding factor that drives the length to which a participant would take their investigation is their level of personal interest in the story itself.

The extent to which these factors are drawn upon is also variable. In some instances, conclusions are drawn purely from the information presented in the Facebook feed, and a judgement immediately made solely on headline, indicated source and image, presenting a challenge for those concerned with the rise of so-called ‘click-bait’. In others, a judgement is made having clicked the article but before making any attempt to analyse the content or source in detail. The length of this process is primarily driven by reported personal interest – veracity is seemingly irrelevant regardless as to whether it is clearly satire, exaggeration or in fact true.

The apparent, formal, source of an article is an important part of the verification process. Lack of knowledge of a source is seen as an indicator of fakeness, although can lead to further attempts to form an opinion on the general tenor of the source based on layout, writing style and other articles. Notably our participants took the reported source of the news articles, in this case as presented in the Facebook news feed, at face value. In this regard, the source was seen as the entity that was either truthful or not, and there was little consideration of the fact that the news could be re-reported several times from multiple sources with different editorial slants. Here there may be opportunities for extending notions of ‘source’ into a more detailed display of the digital provenance of a piece of news, both in terms of media but also social source.

Challenging Established Hierarchies of Trustworthiness

Our data raises intriguing issues about what one may term established, but now increasingly questioned, *hierarchies of perceived reliability and trustworthiness* of publicly circulating information. As a broader issue, this far pre-dates recent concerns and polemical polarizations over ‘fake news’. It can indeed be linked to what was described as a growing ‘incredulity’ towards long-established ‘meta-narratives’ and claims or ‘regimes’ of truth [17]. Lyotard identified such incredulity – or widening disenchantment with previously taken-for-granted sources of authority and knowledge – as a defining part of *The Postmodern Condition*. Underpinning debates about ‘fake news’ are similar contests over what counts as reliable information and as to which authorities – in this case also including the ‘social networks’ – are entrusted with channelling such information.

Seen in this context, debates around fake news in general, and our participants in particular, seem to be aware of and grappling with an ever-widening uncertainty as to what counts or can be presented as trustworthy information. More narrowly, the different sense-making positions employed pose the following questions for future research: how widely adhered to are long-established and at least until recently widely accepted hierarchies of reliable information-providers (i.e. traditionally associated with the ‘quality’, broadsheet press and public broadcasting associations) as opposed to more clearly politically positioned or out-rightly partisan news-sources (e.g. the tabloid press)? How are such hierarchies of perceived trustworthiness variously embraced, (re)negotiated, contested or employed as social actors make sense of a rapidly growing and accelerating flow of news or information heading their way? Here also was a distinct lack of trust in any proposed introduction of institutional fact checking of news when presented via social media. The aforementioned ‘scoring’ of the veracity of news articles would seemingly suffer from a similar uncertainty.

Some of our participants clearly still uphold hierarchical distinctions between less and more trustworthy sources of news, at times granting them the final authority in deciding on the perceived reliability of a news item. In other cases, such hierarchies appear to have lost their former traction almost altogether. And an in-between position appears to see individuals reference such hierarchies strategically: i.e. if it serves their rhetorical purposes. These issues appear to be exacerbated by the indiscriminate mixing of a multitude of pieces of information in an ‘average’ social media feed.

The Politics of Social News Consumption

The second set of questions emerging from our work pertains to what *motivates* particular social actors to make the *inevitable selections* from the vast amount of constantly multiplying information surrounding all of us and defining life in *the information age* [29]. This is especially pertinent given the apparent prevalence of social media usage indicated by our survey and study – if users are indeed turning to sites such as Facebook to fulfil their news requirements, then they must inevitably self-select from the variety of articles passing by on a daily basis.

Here again our data highlights sense-making strategies that point in two conflicting directions. Firstly, one may consider repeated invocations of what ‘interests’ a reader as a determinant of their online news selection. The ‘interest’ invoked appears highly individualized and (superficially) apolitical, thereby roughly corresponding to some bleak but influential sociological accounts of the contemporary era as a time of hyper-individualism and depoliticizing, uncritical consumerism (see, for example, [30][4]). Such broad theoretical propositions depict post or *liquid modernity* as a time in which consumer choices – in this case consumption through social media – have become the primary mode of social life and as anathema to participation in a public

domain of active citizenship, critical debate and engagement with shared concerns.

Secondly, but conversely, another sense-making strategy also revealed by our data is incrementally drawing upon and looking for signs of reliability in source and content. This awareness of fake news can be described as much less ‘consumerist’ but as oriented towards concerns with public debate and the challenge of disentangling rational and pervasive claims from ideological distortions and self-interested misrepresentations [13]. The notion among our participants that the truth is being lost amidst a stream of falsehoods and opinions parading as fact highlights a real concern for the wellbeing of public discourse.

Fake News and Echo Chambers

Our survey respondents and study participants were all able to speak to what they considered to be the *type* of news they consumed via social media and what they tended to like, dislike and value. Where participants had little or no interest in the topic at hand, they would not even entertain the story.

A key concept associated with the fake news debate, the ‘echo chamber’, is purportedly inhabited by growing numbers of ideologically blinkered consumers of news. The idea of an echo chamber insinuates that social actors select only those bits of information they consider politically (or otherwise) palatable, whilst ignoring challenging counter-claims and thereby avoiding engagement with alternative positions, interpretations and world-views. There is a historical question to be asked here, namely if digital echo chambers of the early 21st century are any more solidly ‘sealed’ from one another and thus inhibiting real public discussion *across* political divides, than political camps of previous eras would have been, with their usually separate newspapers, civil society associations etc.

Our current discussion however is not about whether echo chambers are real or new, nor is it about how to address them. Indeed, by scrolling past articles that had little relevance to them, our participants showed that even if they were to be confronted with news from outside their bubble, they were unlikely to engage with it. This hints at the problem of echo chambers being a sociological one that needs to be addressed through improved public education and media literacy rather than improved algorithms and content filters. Instead we are interested in how fake news might have exacerbated the effects of those chambers and what can be done to mitigate that. Fake news that supports a certain narrative often stands unchallenged within the echo chamber since evidence of its falsities would not find its way into the bubble.

Our study has highlighted a lack of viable solutions that may address this. Crowdsourced tools that would flag news stories as being true or false are susceptible to the same echo chamber effect as the news stories themselves, where individuals would reinforce truths that fit their narratives and shed doubt on those that do not, regardless of their veracity. We believe that a solution to this issue does not lie in

providing users with answers about what's right and what's wrong, which has been shown to risk simply being ignored by users [32], but rather in empowering them to make this decision for themselves with as much support as possible. Ideally, a tool to fight fake news would not simply label news as trustworthy or not, but would offer the news consumer with links to alternate or perhaps further reading on a story they are currently viewing. Additional context from more reliable or authoritative sources may shed light on what parts of the story if any are true and what parts are not. This is in line with the position that, when it comes to fake news, technology should augment rather than replace human judgement [11,31]. In addition, such a tool would protect the right for one to decide for oneself what is real and what is not, a notion that our participants placed value in.

Limitations of our study

It is important to note that there are several limitations to our study, specifically in terms of sample size, locality and realism of the scenario, and as such we are careful not to attempt to draw broad generalisations on how the public at large may consume news online. Instead our discussion is a reflection upon detailed accounts of our participants' news consumption strategies. The themes that have emerged highlight the wide variety of methods and resources drawn upon to engage in the task even given the limited sample size.

The innovative design of our methodology that asked participants to think aloud while examining a Facebook feed successfully elicited reflections on news consumption practices, however the explicit nature of the task is inevitably a step removed from more naturalistic settings. Participants were not browsing their own Facebook account, and instead were given a profile that had been created specifically for the exercise. While similar in presentation, this obviously lacked the familiar context provided by an individual's normal social media circles. Alongside the challenges of articulating thoughts and providing justifications for their behaviours, some participants pointed out that they were used to consuming information on their social media very quickly. The exercise required them to go through the posts to find the fake news, so the nature of the activity meant that participants appeared to go through the posts at a slower pace than they may normally adopt when browsing their usual social media. While "fake news" may be thought of as a primarily US-centric concern our survey results show that the term is also interpreted by our UK respondents as speaking to similar issues of truthfulness and trustworthiness of news, and as also highlighted by Reuters [10]. However, future research is needed to capture and examine consumption and sense-making strategies in wider and more naturalistic settings, ideally through forms of audience ethnographies tailored to the information age.

CONCLUSION

This paper has shown, through an online survey and study, that social media users are aware of and encountering what can be characterised as "fake news." A think aloud study has

subsequently revealed various interpretative and argumentative strategies used by readers when asked to make judgements on the truthfulness of news presented in a social media feed. Our participants' behaviour suggests that they assess news differently when it is presented via social media, including drawing upon a variety of formal and judgement based characteristics, potentially challenging traditionally hierarchical information provision, and demonstrating that perceived levels of interest in topics is a key factor when considering solutions to echo chambers and fake news.

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REFERENCES

1. @realDonaldTrump. 2017. @realDonaldTrump. Heading back to Washington after working hard and watching some of the worst and most dishonest Fake News reporting I have ever seen! Twitter. Retrieved September 11, 2017 from <https://twitter.com/realdonaldtrump/status/899411254061694979>
2. Meital Balmas. 2014. When Fake News Becomes Real: Combined Exposure to Multiple News Sources and Political Attitudes of Inefficacy, Alienation, and Cynicism. *Communication Research* 41, 3: 430–454. <https://doi.org/10.1177/0093650212453600>
3. Geoffrey Baym and Jeffrey P. Jones. 2012. News Parody in Global Perspective: Politics, Power, and Resistance. *Popular Communication* 10, 1–2: 2–13. <https://doi.org/10.1080/15405702.2012.638566>
4. Peter Beilharz and Zygmunt Bauman. 2001. Liquid Modernity. *Contemporary Sociology* 30, 4: 420. <https://doi.org/10.2307/3089803>
5. Alessandro Bessi and Emilio Ferrara. 2016. Social bots distort the 2016 U.S. Presidential election online discussion. *First Monday* 21, 11. <https://doi.org/10.5210/fm.v21i11.7090>
6. Antoine Boutet, Davide Frey, Rachid Guerraoui, Arnaud Jégou, and Anne Marie Kermarrec. 2013. WhatsUp: A decentralized instant news recommender. In *Proceedings - IEEE 27th International Parallel and Distributed Processing Symposium, IPDPS 2013*, 741–752. <https://doi.org/10.1109/IPDPS.2013.47>
7. Matt Carlson. 2017. Automating judgment? Algorithmic judgment, news knowledge, and journalistic professionalism. *New Media & Society*: 146144481770668. <https://doi.org/10.1177/1461444817706684>
8. Carlos Castillo, Marcelo Mendoza, and Barbara Poblete. 2011. Information credibility on twitter. In *Proceedings of the 20th international conference on World wide web - WWW '11*, 675. <https://doi.org/10.1145/1963405.1963500>

9. Yimin Chen, Niall J. Conroy, and Victoria L. Rubin. 2015. Misleading Online Content: Recognizing Clickbait as “False News.” In *Proceedings of the 2015 ACM on Workshop on Multimodal Deception Detection*. ACM., NOVEMBER: 15–19. <https://doi.org/10.1145/2823465.2823467>
10. John Cokley. 2013. The Reuters Institute’s Digital News Report 2012. *Digital Journalism* 1, 2: 286–287. <https://doi.org/10.1080/21670811.2012.744561>
11. Niall J. Conroy, Victoria L. Rubin, and Yimin Chen. 2015. Automatic deception detection: Methods for finding fake news. *Proceedings of the Association for Information Science and Technology* 52, 1: 1–4.
12. Alison Flood. 2016. “Post-truth” named word of the year by Oxford Dictionaries. *The Guardian*. Retrieved from <https://www.theguardian.com/books/2016/nov/15/post-truth-named-word-of-the-year-by-oxford-dictionaries>
13. J Habermas. 1984. *The theory of communicative action, volume I*. Boston: Beacon.
14. Stephen Harrington. 2012. From the “Little Aussie Bleeder” to Newstopia: (Really) Fake News in Australia. *Popular Communication* 10, 1–2: 27–39. <https://doi.org/10.1080/15405702.2012.638571>
15. R. Lance Holbert, Jennifer L. Lambe, Anthony D. Dudo, and Kristin A. Carlton. 2007. Primacy Effects of The Daily Show and National TV News Viewing: Young Viewers, Political Gratifications, and Internal Political Self-Efficacy. *Journal of Broadcasting & Electronic Media* 51, 1: 20–38. <https://doi.org/10.1080/08838150701308002>
16. Anikó Imre. 2012. The Witty Seven: Late Socialist-Capitalist Satire in Hungary. *Popular Communication* 10, 1–2: 131–144. <https://doi.org/10.1080/15405702.2012.638567>
17. J.-F. Lyotard. 1990. *The Postmodern Condition. Culture and Society*. Contemporary Debates.
18. Regina Marchi. 2012. With Facebook, blogs, and fake news, teens reject journalistic “objectivity.” *Journal of Communication Inquiry* 36, 3: 246–262. <https://doi.org/10.1177/0196859912458700>
19. Nora Martin. 2007. Journalism, the Pressures of Verification and Notions of Post-Truth in Civi...: EBSCOhost. *Cosmopolitan Civil Societies: An Interdisciplinary Journal* 9, 2: 41–56.
20. Claudia McGivney, Kathleen Kasten, Dana Haugh, and Jennifer A. DeVito. 2017. Fake News & Information Literacy: Designing information literacy to empower students. *Interdisciplinary Perspectives on Equality and Diversity* 3-1.
21. Amy Mitchell and Dana Page. 2013. The role of news on facebook. *Pew Research Journalism Project*: 1–24.
22. Vishwajeet Narwal, Mohamed Hashim Salih, Jose Angel Lopez, Angel Ortega, John O’Donovan, Tobias Höllerer, and Saiph Savage. 2017. Automated Assistants to Identify and Prompt Action on Visual News Bias. *arXiv preprint arXiv*: <https://doi.org/10.1145/3027063.3053227>
23. Casey O’Donnell. 2011. The Nintendo entertainment system and the 10NES chip: Carving the video game industry in silicon. *Games and Culture* 6, 1: 83–100. <https://doi.org/10.1177/1555412010377319>
24. Office for National Statistics. 2016. Internet users in the UK : 2016. *Statistical Bulletin*: 1–9.
25. A. V. Parvathi and S. Karthika. 2017. Designing prototype for accessing Veracity using social sensors - Big data perspective. *Proceedings of the 3rd IEEE International Conference on Advances in Electrical and Electronics, Information, Communication and Bio-Informatics, AEEICB 2017*: 198–201. <https://doi.org/10.1109/AEEICB.2017.7972411>
26. Victoria L Rubin. 2017. Deception Detection and Rumor Debunking for Social Media DECEPTION DETECTION AND RUMOR DEBUNKING. In *The SAGE Handbook of Social Media Research Methods*. 342–363.
27. Victoria L. Rubin, Yimin Chen, and Niall J. Conroy. 2015. Deception detection for news: Three types of fakes. *Proceedings of the Association for Information Science and Technology* 52, 1: 1–4. <https://doi.org/10.1002/pra2.2015.145052010083>
28. Victoria L Rubin, Niall J Conroy, Victoria L Rubin, Niall J Conroy, and Yimin Chen. 2015. Towards News Verification : Deception Detection Methods for News Discourse Towards News Verification : Deception Detection Methods for News Discourse. <https://doi.org/10.13140/2.1.4822.8166>
29. Peter A. Schneider and Manuel Castells. 1997. *The Information Age: Economy, Society and Culture Volume I: The Rise of the Network Society*. <https://doi.org/10.2307/1252090>
30. Jeremy Valentine. 2003. The Individualized Society. *Contemporary Political Theory* 2, 2: 245–246. <https://doi.org/10.1057/palgrave.cpt.9300058>
31. Svitlana Volkova, Kyle Shaffer, Jin Yea Jang, and Nathan Hodas. 2017. Separating Facts from Fiction: Linguistic Models to Classify Suspicious and Trusted News Posts on Twitter. *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*: 647–653.
32. Arkaitz Zubiaga, Ahmet Aker, Kalina Bontcheva, Maria Liakata, and Rob Procter. 2017. Detection and Resolution of Rumours in Social Media: A Survey. *arXiv preprint arXiv*: Retrieved from <http://arxiv.org/abs/1704.00656>