European Parliament

Technology as Enabler of Fake News and a Potential Tool to Combat It

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Abstract

This paper investigates the role of technology in the circulation of the so-called fake news. Technology is a major tool for the dissemination of fake news but also offers methods to analyse their real impacts and tools with which fake news can be argued against and even, more or less democratically, stopped.

This document was prepared for Policy Department A at the request of the Internal Market and Consumer Protection Committee.

CONTENTS

LIST OF ABBREVIATIONS

AI	Artificial Intelligence
CD	Compact Disc
DNS	Domain Name Service
DVD	Domain Name Service

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EXECUTIVE SUMMARY

Background

The internet has dramatically changed how information and ideas are circulated. In general, these changes are for the better – more content is created, consumers have more choice and there is easier access – to information, education and other people.

The change also caused problems. On the internet, traditional gateways that quality-controlled and fact-checked the content before publishing are gone. This results not only in a freer exchange of ideas but also in the circulation of ideas that may be wrong and even harmful – the so-called fake news or disinformation.

The most influential technology to disseminate ideas and information is social media technology, with services such as Facebook, YouTube and Twitter. They disseminate not only "good" but also "bad" ideas and have so far made little effort to make a distinction.

Technology can also be used to improve the information that is circulating. A combination of artificial intelligence and human effort can re-create the effects of editing and quality control known in the traditional media.

Conventions on human rights regarding freedom of expression should restrict technical solutions interfering with "the freedom to receive and impart ideas and information".

1. INTRODUCTION

KEY FINDINGS

- The term "fake news" was invented just before the U.S. elections of 2016 and has been abused since then.

- The European Commission's High Level Group on Fake News chooses to use the term "disinformation".

- It defined it as "all forms of false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm, or for profit".

Since the decision on Brexit, the election of Donald Trump and the success of some so-called populist parties in Europe, there has been a growing belief that "fake news" is to blame. In this section, the term itself is defined and the foundation is laid for the discussion concerning the broader changes in the media and communication landscape that will be the topic of the next chapters.

1.1. Fake News

In December 2016, just before the elections, the term FAKE NEWS was used in a Buzzfeed article[1] reporting on websites that were publishing false (and mostly) pro-Trump articles that were shared a lot on social media. Only four days later, Donald Trump picked up the term and started to use it [2]to label reporting he – basically – did not like. It is his use of the term that brought it popularity.

In 2017, dictionary publisher Collins named "fake news" the word of the year[3]. The dictionary defined fake news as **"false, often sensational information disseminated under the guise of news"** [4]. Since its invention, it has been used and abused to an extent that it stopped meaning much.

In late 2017, the European Commission, encouraged by the work of the European Parliament s[5] started a public consultation and set up a High Level Expert Group on Fake News and Online Disinformation. Its goal was to "advise the Commission on scoping the phenomenon of fake news, defining the roles and responsibilities of relevant stakeholders, grasping the international dimension, taking stock of the

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[1]   BuzzFeed. "How Teens in The Balkans Are Duping Trump Supporters with Fake News." BuzzFeed. n.d. Web. 10 Apr. 2018. https://www.buzzfeed.com/craigsilverman/how-macedonia-became-a-global-hub-for-pro-trump-misinfo

[2]   Twitter. "Donald J. Trump on Twitter." Twitter. n.d. Web. 10 Apr. 2018. https://twitter.com/realDonaldTrump/status/807588632877998081

[3]   N.a. "Collins - The Collins Word of the Year 2017 is...." Collinsdictionary.com. n.d. Web. 10 Apr. 2018. https://www.collinsdictionary.com/woty

[4]   N.a. "Fake news definition and meaning | Collins English Dictionary." Collinsdictionary.com. 7 Apr. 2018. Web. 10 Apr. 2018. https://www.collinsdictionary.com/dictionary/english/fake-news

[5]   N.a. "Fighting Fake News: transparency, responsibility and Internet literacy needed | News | European Parliament." EU. n.d. Web. 10 Apr. 2018.   http://www.europarl.europa.eu/news/en/press-room/20171123IPR88715/fighting-fake-news-transparency-responsibility-and-internet-literacy-needed

positions at stake and formulating recommendations" [6]. The author of this report is a member of this group. The group published its report in March 2018[7].

1.2. Disinformation

For the reasons discussed above, the group chose to drop the term "fake news" and used the term "disinformation". It defined it as **"all forms of false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm or for profit"**. This includes "some forms of automated accounts used for astroturfing, networks of fake followers, fabricated or manipulated videos, targeted advertising, organized trolling, visual memes, and much more. It can also involve a whole array of digital behaviour that is more about circulation of disinformation than about production of disinformation, spanning from posting, commenting, sharing, tweeting and re-tweeting etc." The group was aware that in the near future "[disinformation] will increasingly involve communication via private messaging applications, chat bots, and voice-operated systems, as well as augmented reality and virtual reality and content generated or manipulated by AI".

As we can see, the object of concern is a rather wide array of phenomena which are not considered problematic per se but only if they are abused to "intentionally cause public harm or for profit".

We shall return to this definition towards the end when we will discuss technical possibilities to tackle fake news with the legal constraints and problems arising from the difficulty of defining "public harm".

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[6]   N.a. "Experts appointed to the High-Level Group on Fake News and online disinformation." Digital Single Market. n.d. Web. 10 Apr. 2018. https://ec.europa.eu/digital-single-market/en/news/experts-appointed-high-level-group-fake-news-and-online-disinformation
[7]   N.a. "Final report of the High Level Expert Group on Fake News and Online Disinformation." Digital Single Market. n.d. Web. 10 Apr. 2018. https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-fake-news-and-online-disinformation

2. THE CIRCULATION OF INFORMATION

KEY FINDINGS

• The news process consists of creating, editing, publishing, amplifying and consuming news.

• The traditional news process had quality assurance, gatekeepers and even censors around the edit-publish-amplify stage. Most content was created by professionals.

• The internet news process has no such easy quality assurance points. The majority of it is not quality-controlled. A minority of content is created by professionals.

• There have never been so many opportunities to learn, be informed and discuss ideas with others as now. This is due to the internet as well.

In this section, a semi-formal model of the circulation of news, information and ideas is presented so that the differences that technology brought us could be examined. The term "news process" will be used; however, the same is valid for any kind of circulation of ideas including the production of sound, video, movies, scientific information exchange, publishing of books, etc.

2.1. Traditional news process
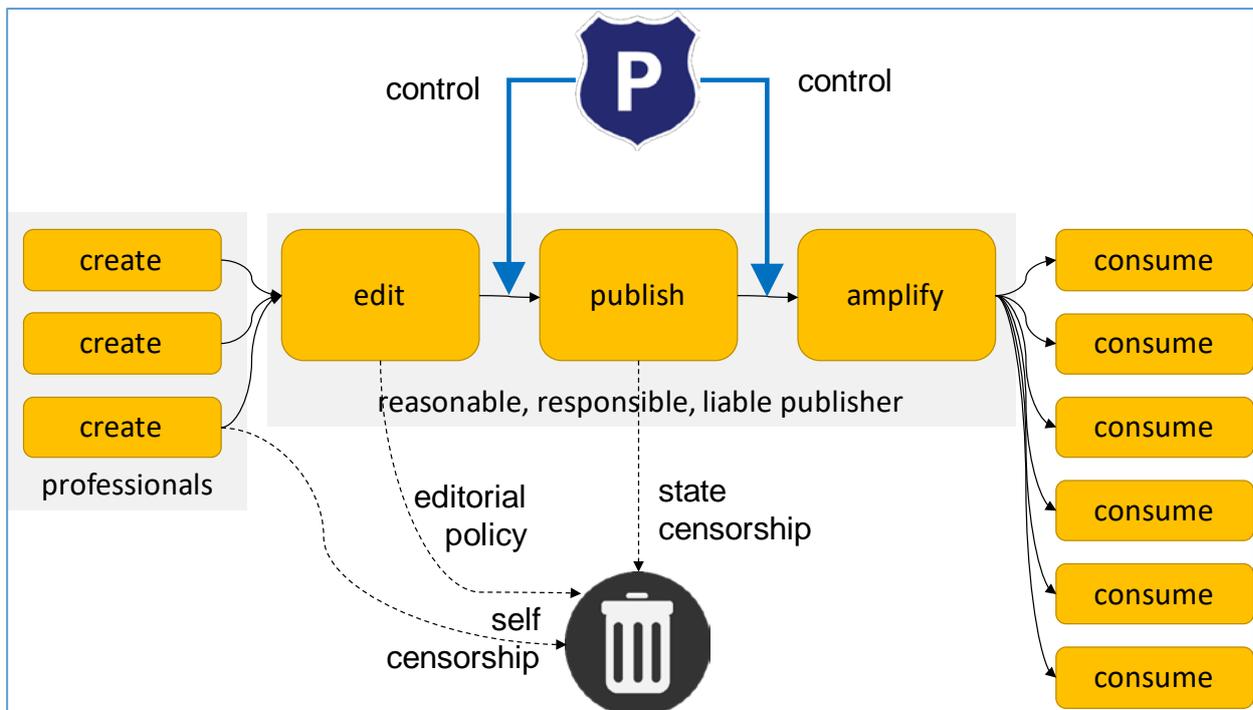
Figure 1 shows the traditional news process.

Figure 1: Traditional news process.

By "traditional news process" we understand the process that has been usual in newspaper, magazine and book publishing, radio, television, tapes, CDs and DVDs.

In the traditional news process, a professional **creates** the content. This is then **edited** for content and language by editors in the media. Content matching the required quality is then **published**, for example, printed in a newspaper or aired on TV. The publisher may choose to amplify the content – push some of it stronger towards consumers than other news – for example, by putting it on the front page of a newspaper, first few minutes of an evening news on TV or advertise it on newsstands. Finally, the content is consumed by the citizens.

This process has a very well-formed bottleneck or gateway. Very few people control the editing, publication and amplification stages. Should there be a desire to police them, this can be done by controlling the edit, publish and amplify stages. Even without external influence, reasonable editors are keeping the standards of what is published and may eventually be liable for it.

2.2. Internet news process

The internet, particularly the World Wide Web, provided several technologies to publish information, ideas and news. Its evolution went through three phases:

1. In the 1990s, websites and web pages started to appear. Publication was technically demanding as the author or publisher had to set up a server on the internet.
2. During the previous decade, services appeared that allowed people without technical skills to publish on the internet. WordPress and Blogger offered a platform for texts, services like 500px and Flickr for photos, YouTube and Vimeo for videos, and Soundcloud and Spotify for audio.
3. Over the last decade, these services evolved from offering just publication space for content into platforms that would socially connect creators and consumers and allow interaction among them and with the content. An extreme example of these are social media services such as Facebook and Twitter. The primary function of social media is not so much publication of original content but sharing, recommending and commenting on content that resides outside of those platforms.
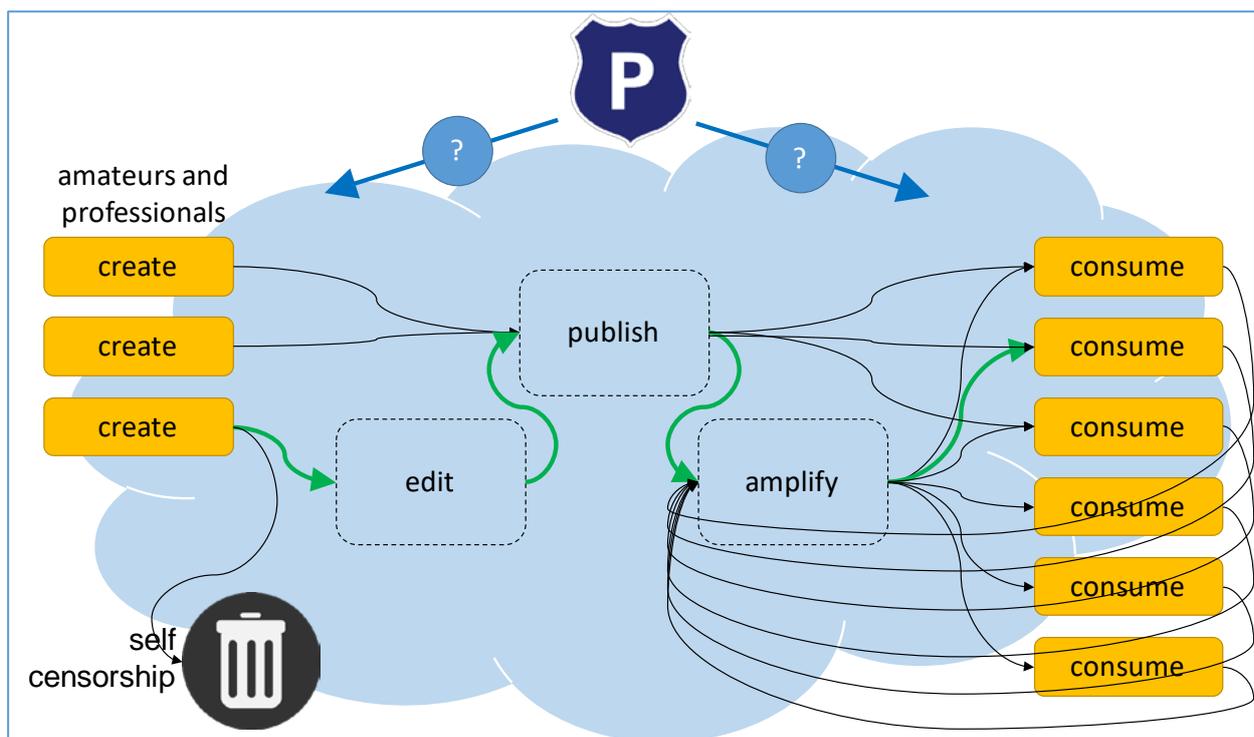

Figure 2: News process in the age of the internet

The internet replaced manual editing, publication and amplification with technology. Anyone, not just professionals, can create content. Authors do (or don't do) their own editing and other quality checks. The internet is providing a vast array of services where content can be published, from rudimentary web servers, via hosting services, to social networks where content is connecting creators and consumers. Both, but mostly consumers, also amplify the information.

Unlike the traditional process, there is not a single point where content exchanged could be policed, controlled or quality-assured. Instead of relying on a few professionals, people are their own gatekeepers. However, since the editing, publication and amplification steps take place on a platform like Facebook, these platforms are in a powerful position to influence this process.

The main differences between the two processes are summarized in the Table below (1).

Phase	Traditional	Internet
Create	Content is mostly created by professionals. Authorship is known.	Creativity explodes. The number of people who can write, record music and film videos has increased enormously. Authors can easily be anonymous.
Edit	Media employ professional editors and proofreaders. Editors are liable for content published. They are choosing what is published or not.	Some digital outlets copy the traditional editorial policy. But in principle, the editors are gone. Authors are their own editors.
Publish	Publication space and time is scarce. Only a selection can find space on paper or time to be aired on TV and radio.	Publication space is virtually unlimited. Attention is scarce. Increasingly, content is not published on independent websites but on platforms.
Amplify	Editors and publishers decide what is on the front page. Limited "word of mouth" recommendations may happen too.	Consumers play a vital role in recommending content and deciding what other consumers consume.
Consume	Since the number of outlets is relatively small, attention is guaranteed.	With the unlimited number of outlets, the challenge is to decide what to dedicate attention to.

Source: Author's analysis.

In both processes, both real and fake news can circulate. Technology suits fake and real news equally well. As we shall see in the following chapters, it is the people who tend to make a difference.

3. TECHNOLOGY FOR THE DISSEMINATION OF FAKE NEWS

KEY FINDINGS

- Social media, particularly Facebook, are the main drivers of traffic to "fake news" sites and are responsible for about 4/10 of their traffic.

- Fake news is discussed as much on social media as real news. However, they are read about ten times less.

- Some social media, particularly Facebook, determine what information users are more likely to see.

- What people see can be hacked by social bots – software pretending to be human beings.

The internet became an important source of news, but it is hardly the only one, as shown in the Figure below. Television was the most important source for more than half of the audience. The internet was the most important source for a little less than a third of Americans and social media for 14%.
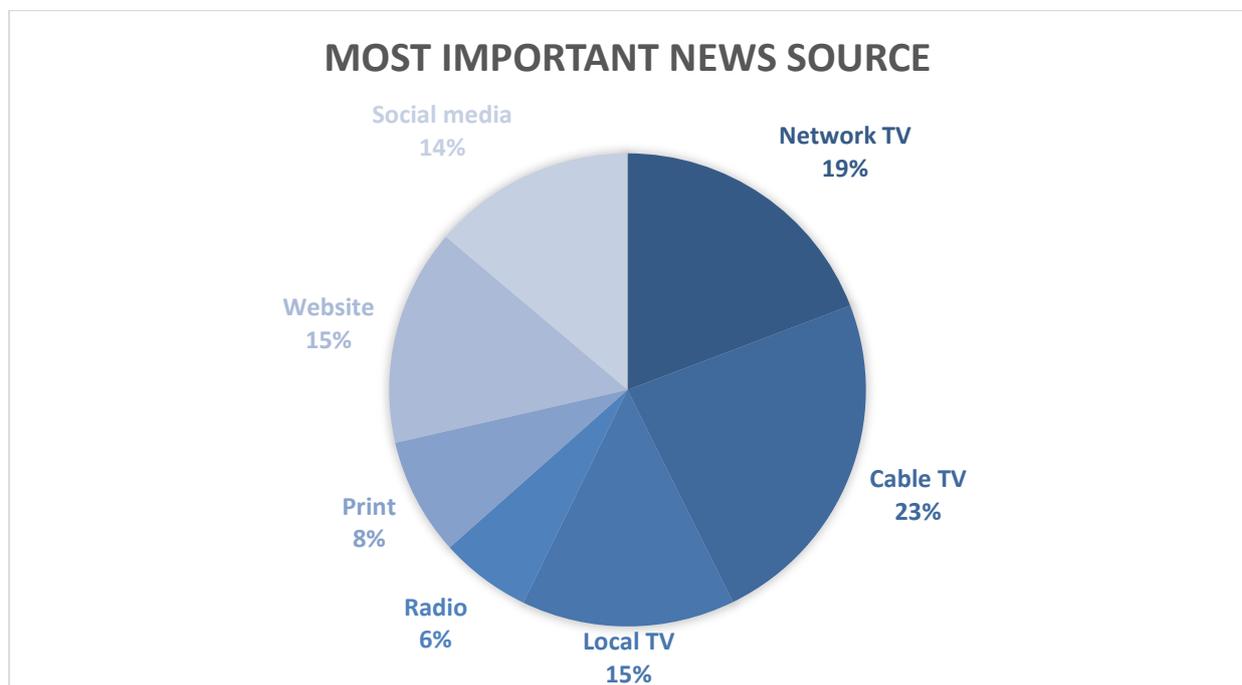
Figure 3: Most important source of 2016 election news. Adapted from Allcott & Gentzkow [8]

Another statistic[9] reports, however, that 64% percent of US adults are on Facebook and 30% of adults get news via Facebook. Also influential for news dissemination are YouTube and Twitter. See Table 2 below.

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[8]   Hunt Allcott & Matthew Gentzkow, 2017. "Social Media and Fake News in the 2016 Election." Journal of Economic Perspectives, vol. 31(2), pages 211-236.
[9]   Felix Richter. "Infographic: 30% of U.S. Adults Get News on Facebook." Statista Infographics. 20 Mar. 2018. Web. 12 Apr. 2018. https://www.statista.com/chart/2069/news-consumption-on-social-networks/

3.1.   Role of Social Media

In the context of fake news, social media got a bad reputation because it has been a major driver for fake news consumption. Figure 4 below shows how readers came to consume real and fake news sites. Forty-two percent of the visits to fake news sites was through social media and 22% through search engines. On the other hand, established media had only 10% of the visits from social media and 30% from search engines. It is logical that top news sites got more traffic directly (almost 50%). Users would have them bookmarked or access the sites directly by typing in the address.
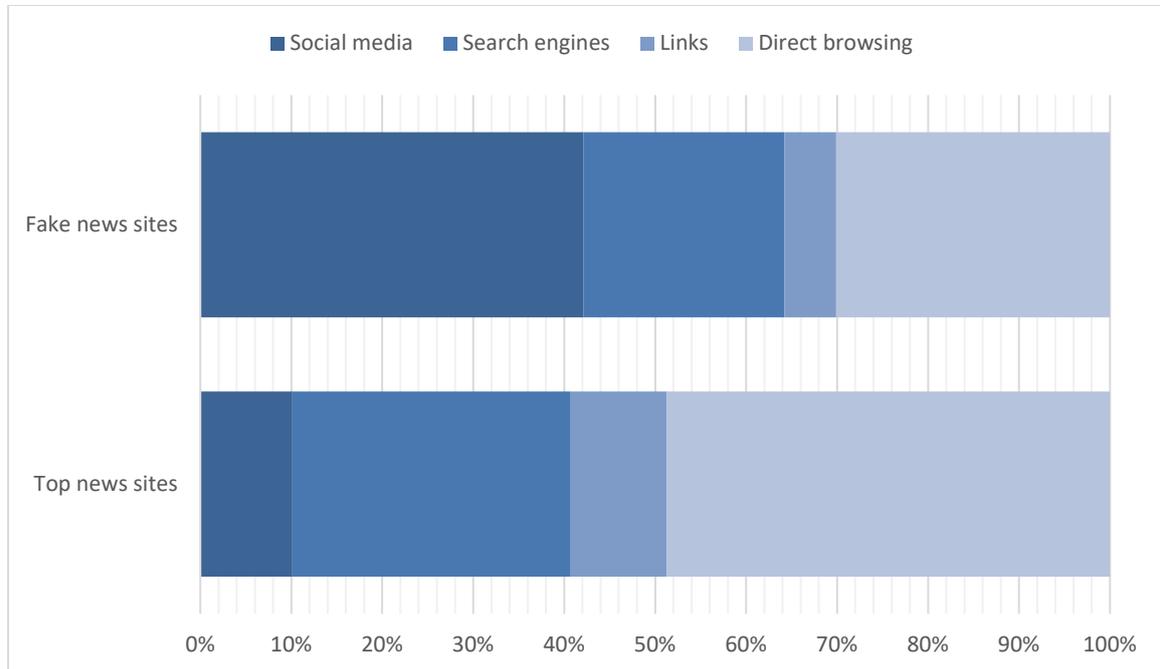
Figure 4: Traffic drivers to real and fake news. Adapted from Allcott & Gentzkow[8].

However, this figure needs to be put into perspective. Fletcher et al. [10] and Nelson[11] have reported that, in absolute numbers, fake news sites got about 10% of the visits or attention of the real news sites.

In other words, the entire traffic of fake news sites is as big as 10% of the traffic that reaches top news sites via social media (Figure 6).

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[10]   Richard Fletcher, Alessio Cornia, Lucas Graves, and Rasmus Kleis Nielsen, 2018. Measuring the reach of "fake news" and online disinformation in Europe, Global Initiative, Ideas@global-initiative.com. "Measuring the reach of 'fake news' and online disinformation in Europe | Reuters Institute for the Study of Journalism." Reutersinstitute.politics.ox.ac.uk. n.d. Web. 13 Apr. 2018. https://reutersinstitute.politics.ox.ac.uk/our-research/measuring-reach-fake-news-and-online-disinformation-europe .

[11]   Jacob L. Nelson. "Is 'fake news' a fake problem?" Columbia Journalism Review. n.d. Web. 13 Apr. 2018. https://www.cjr.org/analysis/fake-news-facebook-audience-drudge-breitbart-study.php .
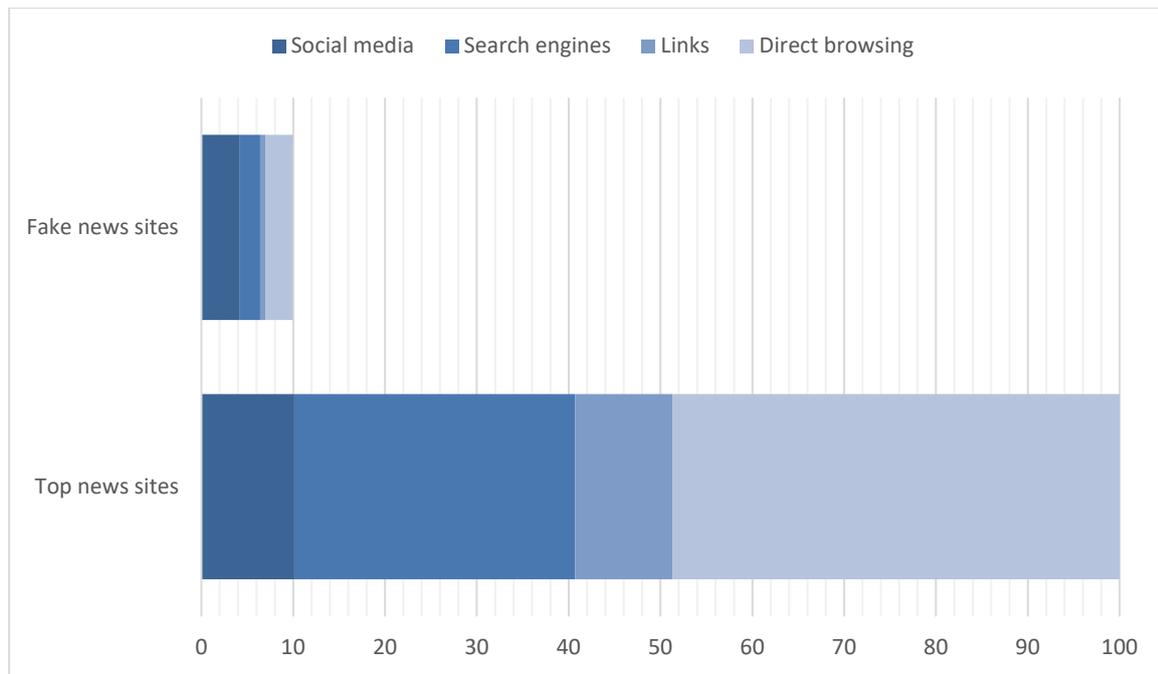
Figure 5: Traffic drivers to real and fake news. Author's analysis, based on 8,10,11

The big influence of social media on fake news is clearer if we examine what is discussed on social networks. On social media, fake news is discussed and engaged in about as much as real news[12] in spite of the fact that it is read ten times less.

There is a healthy difference between the US and Europe. According to a study[13],users in Michigan, prior to US elections, tweeted as much about real and fake news. This concurs with the equal engagement figures. However, during the German presidential elections of 2017, real news was shared six times as much as the fake news. This could lead to a conclusion that European societies are more resilient to fake news or have learned from the US elections.

Among the social network platforms, by far the largest driver of visitors to fake news sites is Facebook. The notorious Pizzagate fake-news story was shared on Facebook almost ten times as much as on all other social media sites combined[14].

We cited Richter[9] above who wrote that the three major social networks for news are Facebook, YouTube and Google. How influential they are is shown in Table 2.

Among the social network platforms, by far the largest driver of visitors to fake news sites is Facebook. The notorious Pizzagate fake-news story was shared on Facebook almost ten times as much as on all other social media sites combined[15].

[12] Timothy B. Lee. "The top 20 fake news stories outperformed real news at the end of the 2016 campaign." Vox. 16 Nov. 2016. Web. 12 Apr. 2018. https://www.vox.com/new-money/2016/11/16/13659840/facebook-fake-news-chart.

[13] Philip N. Howard, Gillian Bolsover, Bence Kollanyi, Samantha Bradshaw, and Lisa-Maria Neudert. "Junk News and Bots during the U.S. Election: What Were Michigan Voters Sharing Over Twitter?" Data Memo 2017.1. Oxford, UK: Project on Computational Propaganda. www.politicalbots.org.

[14] Jared Holt. "How Facebook's Fake News Ecosystem Empowers Total Lies". Media Matters for America. 21 Dec. 2016. Web. 12 Apr. 2018. https://www.mediamatters.org/blog/2016/12/21/how-facebook-s-fake-news-ecosystem-empowers-total-lies/214860

[15] Jared Holt. "How Facebook's Fake News Ecosystem Empowers Total Lies". Media Matters for America. 21 Dec. 2016. Web. 12 Apr. 2018. https://www.mediamatters.org/blog/2016/12/21/how-facebook-s-fake-news-ecosystem-empowers-total-lies/214860

We cited Richter[9] above who wrote that the three major social networks for news are Facebook, YouTube and Google. How influential they are is shown in Table 2.

Table 2: Usage of social media for news

Platform	% of US adults using it	% of US adults using it for news
Facebook	64	30
YouTube	51	10
Twitter	16	8

Source: 9

It is these three platforms that have an influence on what news we consume – they are the publishers, editors and amplifiers. And it is the amplification part where they can make a difference and where their policies and algorithms differ.

3.2. Amplification of News

On the platforms, by amplification we mean the activities by which the platforms are favouring some news and are pushing them more towards the users and not favouring others. Also relevant is the different editorial treatment of content, for example, limiting the distribution of adult content, preventing copyright infringement, taking down illegal hate speech and preventing monetization.

While all platforms take similar measures when it comes to potentially illegal content (copyright issues, adult material), there is a difference in approaches to amplification.

On Facebook, users usually see less than 10% of everything that they are subscribed to by being friends or following people and organizations[16.] Facebook encourages users to display their feed not in chronological order but by priority as defined by the Facebook algorithm. An extreme illustration is a post by "Diamond and Silk". They have 1.5 million followers on Facebook and in six hours their post only reached six people[17].

It is a Facebook algorithm that decides what people see and what they do not see. The motivation behind the algorithm is to improve user experience, to show information users would find interesting and attractive, to keep them using the site and to maximize their interaction with the service. Because these services are advertiser-supported, the goal is also to maximize the relevance and number of advertisements shown.

The algorithm is to some extent known[18]. Positive impact on a post's visibility have users' interest in a page, the post's performance, past page (or friend) performance, type of content and its recency.

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[16] Dave Nevue. "How Many People See Your Facebook Posts? – Revised 2017." Nevue Fine Art and Marketing. 22 Sept. 2015. Web. 13 Apr. 2018. https://www.nevuefineartmarketing.com/how-many-people-see-your-facebook-posts/

[17] Twitter. "Diamond and Silk on Twitter." Twitter. 12 Apr. 2018. Web. 13 Apr. 2018. https://twitter.com/DiamondandSilk/status/984648704291418112

[18] Marie Page. "A new definition of Facebook's News Feed algorithm | LinkedIn." Linkedin.com. 22 Oct. 2016. Web. 13 Apr. 2018. https://www.linkedin.com/pulse/new-definition-facebooks-news-feed-algorithm-marie-page/

Visibility of the post is therefore determined by three types of people, more precisely actors, since not all may be human:

- **The users, with their past activities on Facebook,** past interactions and likes, and also past visits to content on the internet that Facebook can track. Note that improves the more Facebook knows about its users.
- **Other users of Facebook** determine how popular the post is with the user's friends and in general on Facebook. Note that this can be hacked by social bots and other activities that artificially boost the popularity of some posts.
- **Facebook's evaluation** of the type of content, etc. Neither the detailed workings of the above nor the influence of the type of content are known. There have been complaints that Facebook has been treating liberal content better than conservative content[19].

The situation is different with Twitter and YouTube. On Twitter, users are normally exposed to a chronological order of tweets of users that they follow. Only recently, Twitter introduced functionality such as "in case you missed it" and "show me best tweets first" where it is probably using a similar procedure as Facebook. On Twitter, fake accounts and (ro)bot accounts operated by machines, not humans, are easier to set up. Boosting tweets up the "best" or "missed" list is easier.

It is believed that this happened during the 2016 US election. Scientists have found evidence that "bots play a disproportionate role in spreading and repeating misinformation"[20]. However, "Contrary to conventional wisdom, robots accelerated the spread of true and false news at the same rate, implying that false news spreads more than the truth because humans, not robots, are more likely to spread it".[21] It was humans who were so interested in fake news that they pushed fake news around a little bit more.

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[19] George Upper. "Confirmed: Facebook's Recent Algorithm Change Is Crushing Conservative Sites, Boosting Liberals." The Western Journal. 13 Mar. 2018. Web. 13 Apr. 2018. https://www.westernjournal.com/confirmed-facebooks-recent-algorithm-change-is-crushing-conservative-voices-boosting-liberals/

[20] Chengcheng Shao, Giovanni Luca Ciampaglia, Onur Varol, Alessandro Flammini, and Filippo Menczer. 2017."The spread of misinformation by social bots." arXiv preprint arXiv:1707.07592.

[21] Soroush Vosoughi, Deb Roy, and Sinan Aral. "The spread of true and false news online." Science 359, no. 6380 (2018): 1146-1151.

4. TECHNOLOGY TO STOP FAKE NEWS

KEY FINDINGS

- Technology exists that can stop fake news at all stages of the news process: creation, editing, publication, amplification and consumption.

- The hardest step in this process is speedy detection of fake news. Most promising are the methods that rely on the provenance and social footprint of a news item.

- Platforms and social networks are in a powerful position to stop the circulation of fake news and other harmful ideas. However, for the same reason, they are in a position to push ideas in the interest of their owners or employees.

- Technology also exists that puts full control over the quality and reliability of consumer's news diet to the consumer without imposing a central authority for the filtering or prioritization of news.

In Figure 2 we have shown that stopping unwanted news on the internet is harder than in a traditional news process, but it is not impossible. It can be done by the authors, editors, publishers, amplifiers and consumers. The possibilities will be discussed in the subsequent subsections. That something is technically possible, however, does not mean it should or may be done. This will be discussed in the next section.

4.1. Stopping fake news at authoring

Fake news has an author. Authors' motives may be different. One motive could be making money. Consumers may find fake news attractive, they would visit the page with fake news and the author will be rewarded for the advertising that is shown on that page.

Almost all advertising on the internet is placed on pages by a few services[22].. The biggest is Google's Ad-Sense. These services are doing their best to match the reader with the ad. Few authors directly deal with businesses that advertise or even with the advertising agencies. If some of the biggest advertisers choose not to run ads on fake news sites, this would demotivate the authors. This approach is called "follow the money" or demonetization.

YouTube, for example, inserts ads before or into the videos shown. It can, and did, choose not to do so with certain content. Since there is simply too much content uploaded to be manually screened, platforms rely on algorithms and complaints of viewers. If too many viewers complain about some content, it becomes demonetized. The method can easily be abused. Current practice suggests that instead of arguing against ideas expressed in some videos, people who do not like them attempt to demonetize them or have them removed. Note that this means discouraging or even removing content that is not illegal. Instead of a clash of ideas, we get a clash of complaints.

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[22]   Stream SEO. "10 Best Google Adsense Alternatives (2018 Edition)." Stream SEO. 17 Aug. 2012. Web. 13 Apr. 2018. https://stream-seo.com/best-google-adsense-alternatives/

More drastic measures include banning certain kinds of speech and sending people to prison for sharing wrong ideas. This is still happening in undemocratic regimes for things said on the internet. Expanding the scope of illegal speech, however, is a legal, not a technical measure.

4.2.   Stopping fake news at publishing

In this context, publishing means putting content so that it is available on the internet. For that, one needs a server that will display the content, an internet connection to that server, and the server must be listed in a kind of directory technically known as DNS[23].

Few people have servers in their basements. Instead, they rent space at server farms. These farms serve many different sites and may choose not to serve content they find offensive. For example, after the Charlottesville incident, many such sites declined to host the website of a neo-Nazi group[24]. Not that the content would be found illegal, but it sufficed that it was reprehensible.

Facebook, Twitter and YouTube regularly deny hosting of content they see as incompatible with their "community standards". Given their enormous power, being denied publication of videos on YouTube or columns on Facebook effectively censors speech. Not according to law, but according to private "community standards".

Countries like China[25] or Iran[26] are denying internet connectivity to a number of servers where "bad" content may be published. In 2003, Slovenia tried to block access to a website that published a list of communist secret police collaborators. In 2017, Spain tweaked its internet directory to disable access to websites promoting Catalan independence.[27]

4.3.   Stopping fake news at editing and amplification – at platforms

As discussed in Section 2, platforms such as Facebook, Twitter and YouTube are the closest matches to the traditional roles of editor and amplifier. As stated in Section 2, 40% of the traffic into fake news sites comes from social media and a further 25% from search engines. They are a natural candidate for controlling fake news dissemination.

In Section 3, we explained that the opacity of the algorithms gives a fairly free hand to the platforms to choose what kind of news they will promote and what kind of news they will suppress. They can do that arbitrarily. A method called downranking is being blamed by some publishers for reduction of their traffic[28]. The algorithms that do that are opaque.

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[23]   Wikipedia Contributors. "Domain Name System." Wikipedia, the Free Encyclopedia. Wikipedia Foundation, n.d. Web. 13 Apr. 2018. https://en.wikipedia.org/wiki/Domain_Name_System

[24]   Avi Selk. "A running list of companies that no longer want the Daily Stormer's business." Washington Post. 16 Aug. 2017. Web. 13 Apr. 2018. https://www.washingtonpost.com/news/the-switch/wp/2017/08/16/how-the-alt-right-got-kicked-offline-after-charlottesville-from-uber-to-google/

[25]   Bloomberg.com. "The Great Firewall of China." Bloomberg.com. 13 Oct. 2017. Web. 13 Apr. 2018. https://www.bloomberg.com/quicktake/great-firewall-of-china

[26]   Center for Human Rights in Iran. "Iran's Severely Disrupted Internet During Protests: 'Websites Hardly Open'". Center for Human Rights in Iran. 2 Jan. 2018. Web. 13 Apr. 2018. https://www.iranhumanrights.org/2018/01/irans-severely-disrupted-internet-during-protests-websites-hardly-open/

[27]   Lydia Smith. "Spain blocks Catalan independence websites in bid to prevent referendum." The Independent. 28 Sept. 2017. Web. 13 Apr. 2018. http://www.independent.co.uk/news/world/europe/catalan-independence-referendum-spain-websites-blocked-spanish-constitution-votes-a7971751.html

[28]   Reuters Editorial. "Russia says Google down-ranking Sputnik, RT would be censorship." U.S. n.d. Web. 13 Apr. 2018. https://www.reuters.com/article/us-alphabet-russia/russia-says-google-down-ranking-sputnik-rt-would-be-censorship-idUSKBN1DN1IU

There have been calls for Facebook and Google to disclose how they choose what to display on top. Others have argued that this would make tricking the platform to display something on top easier for malicious actors. We are led to believe we should somehow trust that the platforms interfere in the exchange of information in a fair and impartial way.
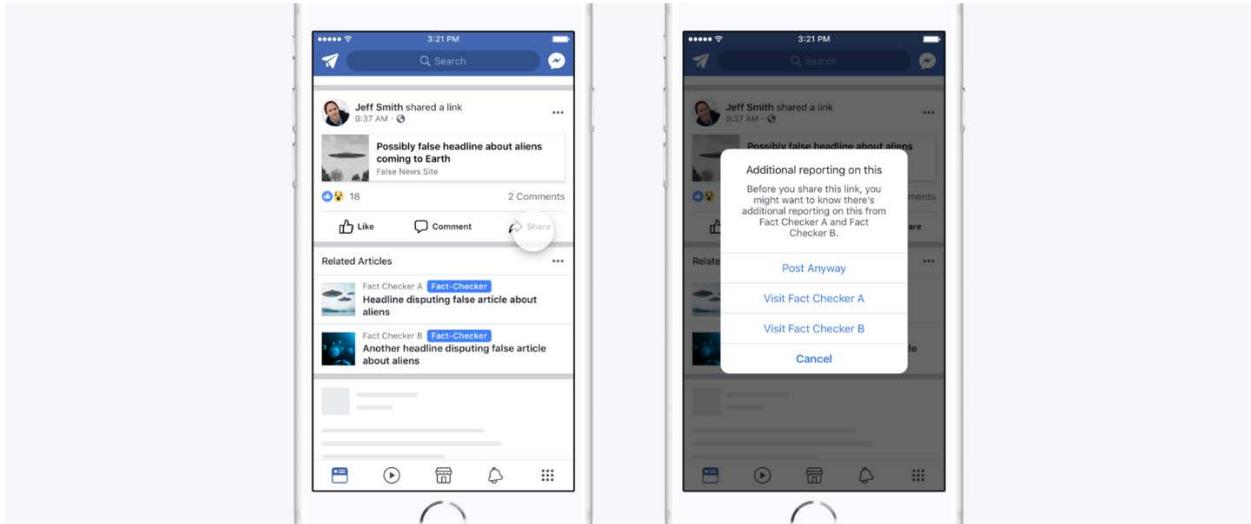

Figure 6: Facebook telling readers a story is disputed and offering alternatives (left) and warning user before sharing (right). Source: Facebook[29].

A very elegant technique to reduce the propagation of fake news is labelling. In this case, Facebook (or some other platform) adds information about the credibility of a story and warns before a user wants to share a fake story (Figure 6).

Figure 7 displays labelled results of a Google search. Each search result has a mark that displays the trustworthiness of the link. The first and last links are all right, while the second displays a warning. There is a third, red level, but the author was unable to find such a link with Google. This proves that Google has removed the most problematic results already.
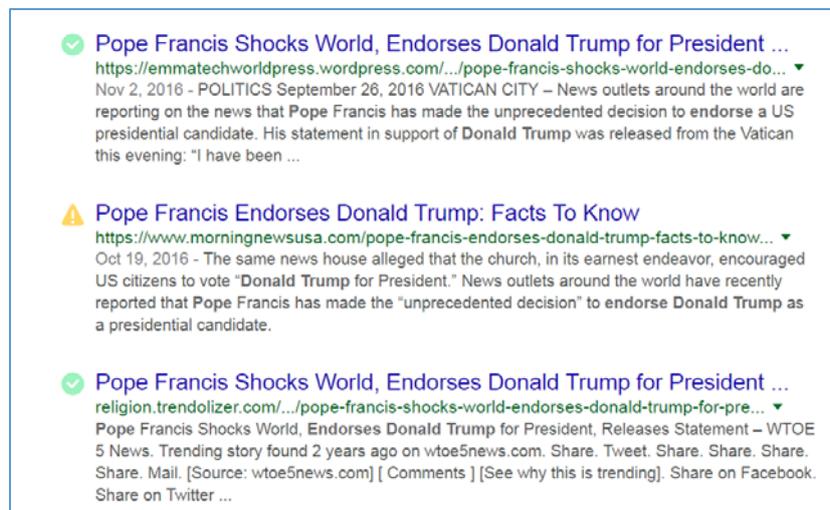

Figure 7: Search results augmented with credibility information. The second result contains a warning.

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29   Jeff Smith. "Designing Against Misinformation – Facebook Design – Medium." Medium. 20 Dec. 2017. Web. 13 Apr. 2018.
     https://medium.com/facebook-design/designing-against-misinformation-e5846b3aa1e2

The reliability information can be generated by the platform itself or it may be based on a third-party opinion. Services are popping up on the internet that specialize in fact-checking. Platforms are starting to use them.

An important element in fake news augmentation are the bots – accounts that seem like real persons to people and particularly to the platform's algorithms that determine the popularity of the news. In fact, these are just programs that simulate a person using Facebook or Twitter; a large number of persons actually.

Stopping bots is easy and unproblematic. Platforms need to enforce the "real identity" of their users. Here, Facebook's policy is most strict. The policy is that there should be a real person behind each account and that each person should have only one account on Facebook. Twitter and YouTube are much more liberal. However, Twitter has an interesting option – verified accounts. Unfortunately, their meaning is not "verified account" but "celebrity account" so that one knows, for example, who is the Cristiano Ronaldo on Twitter.

4.4.   Identifying fake news

The key ingredient in many methods listed above for stopping fake news is, of course, how to identify what is fake news. Fact-checking services do that and platforms do that in-house. The problem is hard for many reasons because it is difficult to define fake news or disinformation in the first place. We have seen in Section 1 that even an abstract definition has problems. Even more difficult is deciding whether a particular piece of news is fake or not.

There are several strategies for identifying fake news. Humans could do it, artificial intelligence could do it and then there is human machine teamwork. The latter works best. AI does the impossible task of scanning through huge volumes of content and then leaves a tiny part that AI is unable to decide for the humans.

There are two strategies for automatic identification of fake news. The first looks at the content, the second at the social context[30].

Content methods try to figure out if the content of news is correct. Content analysis is hard not only because natural language is hard to understand by AI, but because many fake news is about politics. As George Orwell said[31], "political language […] is designed to make lies sound truthful and murder respectable, and to give an appearance of solidity to pure wind."

Social Context methods look at what the source of the news is and how the news is propagated. Fake news comes from a few sites that specialize in fake news and the origin of the news is a very good gauge of its trustworthiness. However, if a reputable site by mistake picks a fake news story, there is a problem. Fake news also tends to be propagated by a few very influential accounts that may be boosted by bots. Analysis of this network can provide a very reliable way to discover disinformation, particularly the kind that is organized by state actors. In fact, warning systems like that are in place, for example, the European Union's East Stratcom Task Force's Disinformation Review[32].

It would be wrong to assume, however, that fake news could be discovered by AI and computer algorithms in an objective and impartial way. "Computer did it" is a fallacy. AI is trained on a given data

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[30]   Kai Shu, Amy Sliva, Suhang Wang, Jiliang Tang, and Huan Liu. "Fake news detection on social media: A data mining perspective." ACM SIGKDD Explorations Newsletter 19, no. 1 (2017): 22-36.

[31]   George Orwell. "Politics and the English Language", First published: Horizon. — GB, London. — April 1946

[32]   https://euvsdisinfo.eu/

set selected by humans. Algorithms are created by humans. Interferences in the circulation of human ideas should not be left to robots.

4.5. Stopping fake news at consumption

The problem of all methods that deliberately interfere with the information a user sees is that people may not want someone else to choose and filter news for them. One could easily imagine that this is done in an ideologically or politically biased way. If platforms are free to do this, it gives them an enormous power to nudge public opinion. Governments and politicians – non-democratic ones - may be encouraging them to do so.

Alternatively, **the tools to stop fake news could be placed into the hands of the end users** and not on the platforms. Platforms could allow more influence over what is given priority to the users. As we discussed in Section 1, people may have different opinions on what is fake and what is not. They may trust different fact checkers, and Facebook could allow them to pick the ones they like.

Browser extensions are coming to the market that allow the user to select fact-checking or quality-ranking[33] services. In fact, Figure 7 was created using such a service.

There are also non-technical ways for a consumer to stop fake news or at least not to believe it. It is called common sense, and it is called media literacy. Citizens need to become aware that the internet is a different media environment than TV and newspapers. There are no editors and no gatekeepers. Citizens need to be vigilant and alert so that they do not fall for every piece of fake news. **On the internet, every day is April Fool's Day**. Every day, one needs to consume content critically.

And people are not doing it so badly. A study8 among Americans asked – regarding a number of news stories – if people (a) remember the news and (b) they believe the news was true. The news was from four categories: (1) headline real news, (2) small real news, (3) fake news and (4) placebo news. Placebo news was totally made up by the scientists just for this experiment.

Seventy percent of headline news was recalled and a little over 60% believed. Small news was recalled about 27% and 18% believed. Fifteen percent recalled seeing the fake stories and 8% both recalled seeing the story and believed it. This is similar to placebo news. Fourteen percent "saw" placebo stories and 8% percent "believed" it. The authors estimate that "fake headlines were 1.2 percentage points more likely to be seen and recalled than the average placebo headline".

In other words, people remember and believe fake news about as much as news that did not exist at all. This and other analyses led those researchers to believe that "if one fake news article were about as persuasive as one TV campaign ad, the **fake news (…) would have changed vote shares by an amount on the order of hundredths of a percentage point"**.

The impact of fake news on elections may be much smaller than feared. Common sense goes a long way, media literacy is important and technology can be a big help.

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[33]   N.a. "ZenMate SafeSearch - Fake News Detector." Zenmate.com. 12 Apr. 2018. Web. 13 Apr. 2018.
       https://zenmate.com/products/safesearch/

5.   DISCUSSION AND RECOMMENDATIONS

KEY FINDINGS

- •Governments should not be interfering in the circulation of information and ideas.

- Government could, however, support cyber security systems that would identify malicious foreign propaganda and support independent private fact-checking services.

- Platforms and internet browsing software should empower the consumers to make use of the information created at the previous point.

In Section 4, several technical possibilities to stop fake news were listed. Some are even in place today – in countries the European Union does not see as role models for civil liberties.

Technically, we can stop fake news, but the question remains whether we should (is it important) and may we (is it allowed)? The questions need to be approached from the perspective of human rights.

5.1.   Freedom to receive and impart information

Freedom of speech has been enshrined in several charters and documents, among others, in the 1st Amendment to the US Constitution, Art. 10 of the European Convention of Human Rights and (most recently) Article 11 of the **Charter of Fundamental Rights of the European Union**. It reads:

1. Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers.

2. The freedom and pluralism of the media shall be respected.

The message of all the documents is the same: freedom of speech is a cornerstone of democracy, and those with power should not abuse that power to favor one or the other side of the debate.

The documents protect all speech; they do not protect real news against fake news. Moreover, the US Supreme Court wrote: "Under the First Amendment there is no such thing as a false idea. However pernicious an opinion may seem, we depend for its correction not on the conscience of judges and juries but on the competition of other ideas." [34]

The European Court of Human Rights wrote:[35] "Freedom of expression … it is applicable not only to 'information' or 'ideas' that are favorably received or regarded as inoffensive or as a matter of indifference, but also to those that offend, shock or disturb the State or any sector of the population. Such are the demands of that pluralism, tolerance and broadmindedness without which there is no 'democratic society'".

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[34]   US Supreme Court, Gertz v. Welch, 418 U.S. 323 (1974)

[35]   European Court of Human Rights. "Handyside v. United Kingdom".
http://cmiskp.echr.coe.int/tkp197/view.asp?action=html&documentId=695376&portal=hbkm&source=externalbydocnumber&table=F69A27FD8FB86142BF01C1166DEA398649

5.2. Times have changed

The cited documents were **worded in the context of a very different communication and media landscape** – the one shown in Figure 1. Then – before the internet - there was, on the one hand, a danger that the state would choke the edit-publish-amplify parts of the process and suppress or control speech. It would have been easy, and it had to be prevented at the constitutional level. On the other hand, one could expect relatively reasonable people editing and publishing content, thus voluntarily maintaining quality control and taking responsibility. Figure 2 is so different that it could **be inviting the lawmakers and high courts to rethink the interpretation of freedom of expression.**

Three changes are particularly important and need to be addressed in law and policies:

1. Then the powerful were the states. "Old" declarations were concerned with the state abusing its power to prevent the clash of ideas. Now the issue is also the powerful private actors who can deny distribution of particular ideas on their platforms (the process known as de-platforming) or can direct attention to some content and deny it to others (algorithms on social platforms could do that). There is an increased private control of public spaces. **It would not be against fundamental principles for new regulation to address the interference of private actors.**

2. Then they were not concerned with cross border flows of information and information interference from abroad because they hardly existed. Now we are witnessing organized information warfare from external state and non-state actors. **It would not be against fundamental principles for new regulation to address the interference of foreign state actors.**

3. Then media was edited by editors and personal communication was slow and oral. Gatekeepers could maintain the quality level of the public debate. The reach of rude, insulting, impolite, hateful speech was limited by (i) the very nature of communication technology, (ii) by the gatekeepers, and (iii) their legal liability. With the gatekeepers as much as gone, it **would be proper to create mechanisms to make all participants in the digital public space more responsible and more liable for their activities.** This should improve the quality of the exchange of ideas without interference with the "freedom to hold opinions and to receive and impart information and ideas".

5.3. Bringing principles and technology together

There are several possibilities to technically stop the dissemination of fake news. The hard part is how to do it so that governments do not interfere with the free circulation of ideas. A good rule of thumb is to ask the following questions about a proposed measure:

- Does it treat fake news differently than real news?
- Does it treat harmful news differently than harmless news?
- Does it imply a "ministry of truth" or "higher being" to decide what is fake or harmful?

If the answer is yes, the measure could lead to interference with the "freedom to receive and impart information" and would run into the difficulty of defining fake or harmful news.

On the other hand, a yes to the questions below leads to an improvement of the communication space:

- Does the measure improve the competition of ideas?
- Does it improve the quality of the ideas in circulation?
- Does it improve the uptake and understanding of ideas by the citizens?

- Does it offer information about the provenance of news?
- Does it offer consumers control of what they see?
- Does it offer consumers a choice of who to trust on filtering news?

5.4.   Final recommendations

There are several non-technological ways to limit the harmful impacts of fake news. They include media literacy, support of quality journalism, pluralistic media landscape and many others, as suggested by the High Level Expert Group report[7].

In the opinion of the author, **the best technological approaches** include:

- **Cyber Warfare systems** that can rapidly detect and flag fake news and propaganda sponsored by foreign governments or foreign non-governmental actors. They could be organized as a part of European and/or National cyber-defence systems.
- **Fact-checking services** that evaluate news, flag or quality-rank content on the internet. Additionally, they could use data gathered by the cyber security systems above. It is important, however, that several competing services exist and that users are free to choose one.
- **Empowering platform users**: so that they have more control over the personalization of platforms. Users should have the possibility to select a fact-checker or quality-ranking service they trust and have an impact on the algorithm that determines their news feed.
- **Empowering internet users** in general: by making sure Web browsers have a solid "do not track" feature to protect users' privacy. They should feature a selection of extensions that can augment any web page and any link on it with information on reliability and trustworthiness.

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