DISINFORMATION AS WARFARE IN THE DIGITAL AGE: DIMENSIONS, DILEMMAS, AND SOLUTIONS

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INTRODUCTION: AGE-OLD WEAPONRY DIGITIZED

The vast majority of conflicts today are not fought by nation states and their armies; increasingly, they are fought not with conventional weapons but with words. A specific sort of weaponry—"fake news" and viral disinformation—has been at the center of policy discussions, public debates, and academic analyses in recent years. Some suggest that the turning point for the current global epidemic of disinformation started with a physical armed conflict between Russia and Ukraine in 2014 (e.g., Khaldarova & Pantti, 2016). Others note that unverified reporting by the *New York Times* during the Iraq War qualifies as fake news, and that, in fact, Octavian's propaganda campaign against Mark Anthony, in 44 BC, is an example of the same broad phenomenon (Posetti & Matthews, 2018, July 23). To be sure, in the world of communication and media content, fake news and propaganda are nothing new.

Yet the developments of the past few years seem to have surprised and shocked journalists, politicians, policymakers, technologists, scholars, and audiences alike. This may simply be a result of so-called "techno-utopian" thinking, which predicted that the internet would create new kinds of democratic practices, including networked publics and deliberative processes (e.g., Erickson & Aslama, 2010), even in the global public sphere (Castells, 2008). However, this turned out not be the case.

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One of the few dissidents of the techno-optimist era, Evgeny Morozov, foresaw today's challenges in his book, *The Net Delusion: The Dark Side of Internet Freedom* (2011), in which he points out that technology, including digital communications tools and networks, is neutral; the very same tools that enable connections and participation can be used for misinformation and surveillance. Morozov may not, however, have quite imagined the extent of the problems of today's media and communication landscape. It is telling that the very term "fake news" is being used both as a description of a phenomenon and as a political propaganda tool. In addition, what has been called the "emerging information arms race" (Posetti & Matthews, 2018, July 23) is plaguing mature and emerging democracies alike.

As it is with "traditional" war and warfare, so it is with communication weaponry: things are messy, and there is no one reason for the disorder and no one frontier on which battles are waged. Not every weapon is equally powerful, not everyone is equally vulnerable, and no single act can diffuse the war. This article seeks to summarize the complex contexts, definitions, and manifestations of the current disinformation landscape. It suggests an analytical framework, the "circuits of power" (Clegg, 1989), to illustrate how information wars impact those most vulnerable, to showcase some suggested solutions, and, ultimately, to highlight the responsibility of multiple levels of participants in a democracy.

FROM ARRESTED WARS TO SURVEILLANCE CAPITALISM TO CIRCUITS OF POWER: DIMENSIONS OF DISINFORMATION

What makes today's context particularly challenging is that old forms of propaganda, including editorial decisions, are now combined with human influencers and opinion makers, viral online sharing, and the automated content creation of disinformation (Nedeva, Horsley, & Thompson, 2018). On one hand, digital communication has created a new landscape of "Arrested War" (O'Loughlin & Hoskins, 2015, January 14). The current situation can be seen as a continuum in the relationship between wars and media coverage. For instance, the broadcast era was defined by agenda-setting and gatekeeping by large national news organizations. The following phase featured citizen journalists and networked communication for dispersed understandings of war. Today, the battle over meanings and representations is back and, hence, a heightened need for, and creation of, disinformation:

> It is not just that media has enclosed war within its infrastructure. Media arrests war. It stops war escaping—escaping unintelligibility, escaping mainstream coverage, escaping the control of military commanders. To arrest is to seize, or to stop or check. To arrest is also to attract the attention of. Those protagonists we would expect to be operating in hard-to-reach places—such as IS—seek the attention of the most open and popular channels and spaces. They are drawn to the mainstream media ecology because it has re-asserted its function as primary channel of the world's affairs. (O'Loughlin & Hoskins, 2015, January 14)

On the other hand, disinformation can be seen as a byproduct of a different kind of war, one that is fought in an attention economy (e.g., Wu, 2016), under the conditions of so-called "surveillance capitalism" (Zuboff, 2015). Here, search engines and social media platforms make money de facto by selling predictions based on the data they collect.

These two phenomena, as separate as they may seem, are both the cause and the manifestations of the same societal trends. In general, there are several interconnected broad developments: As societies, and individuals, we have witnessed a shift in our relationship with knowledge; that is, common ideas of objectivity and "truth" are not prominent in public debates. This is coupled with a cultural shift that is marked by distrust in elites and institutions, whether political, journalistic, or scientific. More broadly, cases of deep dissatisfaction in existing political actors, systems, and structures are continuously emerging. The economic conditions of the media and communication markets are marked by fierce competition. Technological advances have fostered fragmentation among media publics and created information habits based on algorithms, micro-segmenting, and viral content sharing, usually among peers and closed groups (McNair, 2018).

Still, the question of disinformation in today's media landscape cannot be easily grouped into neat empirical categories, for analytical analysis, or for concrete policy actions to curb fake news. Several high-level, multi-country, multi-stakeholder efforts, as well as numerous academic and applied research projects, have attempted to address these multiple phenomena that are related to disinformation and its dissemination, from a variety of angles, including intent, action, and type of content. The thinking and definitions around the various dimensions of these complex challenges reflect the authors' expertise and concerns.

For instance, the way Facebook defines the phenomena of fake news is threefold (Derakhshan & Wardle, 2017). First, there are "Information (or Influence) Operations," which are actions taken by governments or organized non-state actors to distort domestic or foreign political sentiment, most frequently to achieve a strategic and/or geopolitical outcome. These operations can use a combination of methods. There is also "False News," or news articles that purport to be factual but contain intentional misstatements of fact to arouse passions, attract viewership,

or deceive readers. Finally, one can identify "False Amplifiers," meaning coordinated activity by inauthentic accounts that has the intent of manipulating the political discussion.

A policy brief by the London School of Economics (Tambini, 2017) discusses several content categories: alleged foreign interference in domestic elections through fake news; new advertisement models that open new opportunities for people to make money through the peddling of fake news; parody and satire; bad journalism; news that is ideologically opposed; and news that challenges orthodox authority. A report for the Council of Europe (Wardle & Derakhshan, 2017) targeted at researchers and policymakers discusses an "information disorder framework." This model includes (1) types of information disorder based on intent, ranging from unintentional false content to disinformation (i.e., false or manipulated content and context, or a broader social use with false content and the intent to harm). In this framework, one can also distinguish (2) the phases of information disorder (i.e., creation, production, and distribution). Finally, one can distinguish (3) the elements, meaning the agents (i.e., who created the message and why?), the message (i.e., what was the content?), and the interpretation (i.e., how was it interpreted?).

The European Union (EU) multi-stakeholder High-Level Expert Group (HLEG) on Fake News and Online Disinformation (European Commission, 2018) discusses in its report three main aspects of current disinformation landscape beyond false news. It first addresses the problem of fabricated information blended with facts and practices that go well beyond anything resembling news. This category includes automated accounts with networks of fake followers; fabricated or manipulated videos; targeted advertising; organized trolling; and visual memes. The report also addresses an array of digital behavior that is more about the circulation of disinformation than it is about the production of disinformation, including posting, commenting, sharing, tweeting, and retweeting. Finally, the dimension of stakeholders is discussed, which includes state or non-state political actors, for-profit actors, citizens individually or in groups, and infrastructures of circulation and amplification (including news media, platforms and underlying networks, and protocols and algorithms).

The above examples illustrate the variety of approaches that a study by the European Commission Joint Research Centre (Martens, Aguiar, Gomez-Herrera, & Mueller-Langer, 2018) summarizes as follows: The narrow approach focuses on verifiably false information. Fact-checking can expose false news items and identify the sources of these articles. This form is easy to identify and can be countered by, for example, hiring fact-checkers, tagging suspicious postings, and removing false news posts. The broad approach, in contrast, pertains to deliberate attempts at the distortion of news to promote ideologies, confuse, and create polarization, as well as disinformation for the purpose of earning money but not necessarily of causing harm. While much of this can be politically motivated, these attempts can take a form of clickbait practices and the intentional filtering of news for commercial purposes, to attract particular audiences. This approach is harder to empirically study and verify, and it pertains to the economic models of news markets and variations in the quality of news. One could label the more limited phenomenon as "disinformation" and the broader understanding as "information disorder," which has multiple causes and manifestations (e.g., Wardle & Derakhshan, 2017).

Yet another approach, applied in the present article, is to view the vast issues and dimensions related to disinformation and information disorder as being manifested in different levels of the "circuits of power" (Clegg, 1989). In its original form, the theory of circuits of power is about the context in which power is being used and in which it potentially appears. The first circuit is the overt, or macro-level, one of (political) decision-making power. The second is the systemic-economic circuit of power that contextualizes policy-making decisions, including the power of institutions. The third, social, circuit describes cultural meanings

created by individuals and groups—elements that also provide context to the macro-level circuit.

This framework, used to look at disinformation and information disorder, could be seen self-evident. Within media and communication studies, especially within its critical strands, the creation, dissemination, and interpretation of information and representations have, for decades, been associated with power—whether the question is about the role of the media and media institutions in societies (e.g., Curran, 2002), or about the use of language for power in mediated contexts (Fairclough, 1995). It is often expressed as an ideological struggle over meanings. In other words, in both Clegg's analytical framework, and critical media studies, power is relational and always in flux, contested, and perhaps especially poignantly in this case. As an obvious example, the micro-level circuit level, even if made vulnerable by structures and certain platforms, also uses the power to create and share disinformation extremely effectively. A prime example of this power struggle is the concept of fake news, its meanings ranging from weaponized political rhetoric, to an analytical definition of the phenomenon, to value-laden political rhetoric.

As applied in the case of disinformation and information disorder, the circuits of power can function as an analytical framework as follows:

- A macro-level concern about societal structures, power interests, and the governance of power, including media and communications policy-making;
- A meso-level modality of legacy media institutions and different (more or less institutionalized) digital hubs and platforms for the distribution and sharing of content; and
- A micro-level activity in which disinformation is seen as actions (i.e., creation, interpretation, and sharing) by people as individuals or collectives.

IMPACT: VULNERABILITIES AND FAKE NEWS

Circuits of power as an analytical model is especially useful when assessing the positions of, and impact upon, those who are the most powerless and vulnerable; vulnerability in an individual (at the micro level) is reflected in—and, many would argue, very often produced by—societal structures and failures of institutions.

Macro Level: Vulnerable Societies

Information disorder seems to impact most nations. Famously, research has confirmed the impact of targeted political advertising as well as disinformation during the 2016 United States (US) elections, although the impact of disinformation upon the actual election results seems much weaker than public speculation has suggested (Alcott & Gentzkow, 2017; Guess, Nyhan, & Reifler, 2016.) Similarly, in the United Kingdom (UK), the parliamentary committee investigating fake news raised concerns of voter targeting in the Brexit referendum (Pegg & Duncan, 2018, April 16), and there have been fears of interference in several European elections.

However, a multi-country study on Asia (Kaijimoto & Stanley, 2018) showcases how different contexts create conditions for different manifestations and with different scales of impact. For example, while in Japan most problematic information seems to stay within certain communities and rarely gains traction and in South Korea fake news is not a business, in India both political and other types of disinformation runs rampant, especially on WhatsApp, the main gateway for most Indians to the internet. Indonesia, too, features successful professional fake news and hate speech producers, who create made-to-order divisive and sectarian content. In the Philippines, threats and intimidation from government and nongovernment sources alike create a fertile ground for severe information disorder and mistrust in institutions.

Unsurprisingly, then, the more volatile and divided a society is in political and social aspects, the more vulnerable it is to disinformation. This is clear in

the case of Central and Eastern Europe, where some nations, after building democratic regimes, are now bordering on or have become full-fledged "illiberal democracies," that is, democratically elected governments that are ignoring the constitutional limitations of their reach and, often, limiting rights of the citizens (Zakaria, 1997, p. 22). These countries are also vulnerable to foreign influence: The European Journalism Observatory notes that especially the Baltic States and Ukraine continue to be the targets of permanent Russian disinformation attacks (Russ-Mohl, 2018, April 19).

As observed by many others after Morozov, the digital weapons of democracy can equally be used for dictatorial purposes. It has been argued that the Arab Spring is a case that highlights this particularly well: dissidents and their allies may have been skillful in organizing and mobilizing actions via the internet (and especially social media), but the same tools were used by authorities to crack down on dissident action (Maréchal, 2018, November 16).

Meso Level: Vulnerable Institutions

Following Zuboff's (2015) idea of surveillance capitalism, one could claim that media institutions, especially social media platforms, are thriving only on their ability to target audiences. At the same time, they seem to have been—perhaps naively, perhaps not—ignorant of the potential dangers they could pose.

Facebook is probably the most blatant and the most well-documented case. Research by Guess, Nyhan, and Reifler (2016) indicates that Facebook played an important role in directing people to fake news websites during the 2016 US elections. They found that heavy Facebook users were likely to consume fake news, which was often immediately preceded by a visit to Facebook. Facebook is also the central player in the viral spread of disinformation and hate speech in Myanmar (e.g., McLauglin, 2018, July 6) and Sri Lanka (e.g., Taub & Fisher, 2018). In Brazil, both Facebook and WhatsApp are part of information disorder (e.g., Phillips, 2018, October 10).

Facebook's attempts to curb viral falsehoods, ranging from setting up fact-checking operations to collaborating with academics (Lyons, 2018, June 21) do not seem to have been very effective thus far. Ironically, it has been revealed that in 2018, Facebook started a public relations (PR) war against its own critics. One of the main targets was the billionaire George Soros. This occurred after Soros had criticized Facebook in early 2018 and noted that Google and Facebook exploit the social environment by being de facto monopolies and by reaching out to markets in countries that might not adhere to the democratic use of the media: "people without the freedom of mind can be easily manipulated" (Soros, 2018, January 25). Unfortunately, the PR retaliation by Facebook fueled, perhaps unintentionally, the spread of anti-Semitic disinformation about Soros (e.g., Bowles & Wichter, 2018, November 22).

One could perhaps conclude that, if the intention of platforms such as Facebook is indeed to foster democratic communication, their technological structures and business models—under the conditions of surveillance capitalism that they themselves created—make them the vulnerable, unwilling middle-men of information disorder. The other alternative, the prioritization of revenue over human rights and security, is an unfortunately dark scenario.

However, the institutions that are truly vulnerable in this situation are legacy media organizations. They are increasingly dependent on the same platforms that spread digital disinformation. A recent study by the Pew Research Center indicates that approximately one third of news audiences in the global North and global South visit social media daily to get their news (Poushter, 2018, October 25). It is no surprise that the new digital attention economy has changed the journalism business, a process that Franklin (2014) has called the crises of "Financial Viability" and "Civic Adequacy." The conditions of the media landscape have prompted battles for audiences that, in turn, have resulted in increasingly polarizing coverage and clickbait intended to drive traffic to their online and mobile portals. Journalism paywalls

have begun pay off to some big players, such as the *New York Times* (Lee & Molla, 2018), but such paywalls may keep some news consumers out. Recent research indicates that because news companies rely on Facebook for their audience, they continue to be trapped in the attention economy; if they were to abandon social media platforms, they would lose traffic even if they would not lose revenue (Myllylahti, 2018). Further, current information disorder has had a ripple effect, resulting in many people having very little trust in the media, even if such a view is undeserved. The *Reuters Institute Digital News Report 2018* (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2018) highlights this shrinking trust in online media. Another study notes that, although trust in traditional journalism seems to be on the rise globally, two thirds of all news audiences believe media institutions are more interested in big ratings, more views, and more website visits than they are in reporting (Southern, 2018, January 25).

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Finally, national legacy news media are sometimes vulnerable because they are more easily controlled than are online media. A prime case is that of legacy news media in Hungary. As Freedom House (2018) reports, "While private, opposition-aligned media outlets exist, national, regional, and local media are increasingly dominated by pro-government outlets, which are frequently used to smear political opponents." This case is not unique, as it is also occurring in Central and Eastern Europe (e.g., Knight, 2018, November 23) and elsewhere.

Micro Level: Vulnerable Audiences

To be sure, fake news and related phenomena are a real concern for audiences everywhere. The Eurobarometer of March 2018 (Eurobarometer, 2018) reveals that almost 40 percent of Europeans come across fake news every day or almost every day. More than 80 percent of the respondents perceive fake news to be a problem in their

country and a problem for democracy in general. According to the survey of the *Reuters Institute Digital News Report 2018* (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2018), which included 37 countries, more than half of the surveyed news audiences agree or strongly agree that they are concerned about what is real and fake on the internet.

Yet it is those who are the most deprived and vulnerable—whether in terms of social standing, access, and/or media literacy—who may suffer the most from disinformation and information disorder. There are numerous recent, well-documented cases to illustrate this. Perhaps the most well-known is the case of the atrocities against the Rohingya Muslim minority in Myanmar and the role of Facebook in facilitating it. Facebook was already used several years ago to fuel conflicts between Buddhist and Muslim groups, but it seemed that the company was more interested in the country as a business opportunity and did relatively little to address the situation (McLaughlin, 2018). The vast spread of hate speech and disinformation became clear in 2017 when the violence by the military against Rohingya Muslims intensified. Facebook was then harnessed, as it was the platform unifying citizens in a country where a democratic media system was being built. Because Facebook is technically merely a platform for user-generated content and is used by the government to disseminate information to the public, it was thus an easily weaponizable tool. The United Nations (UN) rapporteurs on human rights in Myanmar put it bluntly:

> [Social media] has . . . substantively contributed to the level of acrimony and dissension and conflict, if you will, within the public. Hate speech is certainly of course a part of that. As far as the Myanmar situation is concerned, social media is Facebook, and Facebook is social media. (Miles, 2018, March 12)

Facebook has since commissioned an independent review of the situation and notes that it cannot be responsible for the structural challenges of the nation (Warofka, 2018, November 5). However, whether the platform is responsible or not, very similar conflicts between the Buddhist majority and Muslim minority also occurred in Sri Lanka, also fueled by rumors and disinformation. An investigative journalism report concludes the following:

> Time and again, communal hatreds overrun the newsfeed—the primary portal for news and information for many users—unchecked as local media are displaced by Facebook and governments find themselves with little leverage over the company. Some users, energized by hate speech and misinformation, plot real-world attacks. (Taub & Fisher, 2018)

In a vulnerable country on the way to democracy, those with a minority standing are an easy target. However, vulnerability also comes from limited access to a diversity of media and sources; hence, those that are prevalent can have an even more significant impact. A lack of opportunities to learn critical media literacy skills adds to vulnerability. Another aspect of vulnerability could be seen as geopolitical: in the reviewed cases, those affected, even at the country level, may not be considered important enough or may not have a loud enough voice in global public deliberations for platforms to really care and respond in the most efficient way.

Finally, as studies about the 2016 US election, perhaps unsurprisingly, point out, influencers (i.e., those with a strong social–political standing and media-online presence in any specific country or context) are key to the spread of viral disinformation (e.g., Lewis, 2018, November 20). Those who are being heard in the information overflow are powerful; those whose voices do not bear weight will be left vulnerable, unable to counter disinformation.

RESPONSES: MULTITUDE OF WEAPONS, MULTI-LEVEL SOLUTIONS

How do you solve a disorder that is both global and national; that relates to both big money and inflammatory politics; that involves three distinct but interconnected vulnerabilities? There are numerous, ongoing attempts being made to address policies (at the structural level), media organizations (at the institutional level), and media audiences (at the consumer level).

Macro Level: "Soft" Media and Communications Policies

Information disorder has been recognized to be a problem by international policy-making bodies. *The Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression*, given to the UN General Assembly, Human Rights Council, recognized this multi-level problem:

> Although the Internet remains history's greatest tool for global access to information, such online evangelism is hard to find today. The public sees hate, abuse and disinformation in the content users generate. Governments see terrorist recruitment or discomfiting dissent and opposition. Civil society organizations see the outsourcing of public functions, like protection of freedom of expression, to unaccountable private actors. . . . The United Nations, regional organizations and treaty bodies have affirmed that offline rights apply equally online, but it is not always clear that the companies protect the rights of their users or that States give companies legal incentives to do so. (United Nations Human Rights Office of the High Commissioner, 2018, p. 3)

Numerous inter-governmental bodies have begun to give policy statements on global disinformation and information disorder. For instance, a *Joint Declaration on Freedom of Expression and "Fake News", Disinformation and Propaganda* [Organization for Security and Co-operation in Europe (OSCE), 2017] was produced by the UN Special Rapporteur on Freedom of Opinion and

Expression, the Organization for Security and Co-operation in Europe Representative on Freedom of the Media, the Organization of American States Special Rapporteur on Freedom of Expression, and the African Commission on Human and Peoples' Rights Special Rapporteur on Freedom of Expression and Access to Information. The Nordic Council of Ministers convened its own high-level group of key experts and launched a booklet to start a discussion about how to counter fakes and build trust in words and facts (Lundgren, Bjerregård, Mogens, Hanson, & Starum, 2017).

Perhaps the most proactive stance has been taken by the EU, with its aforementioned HLEG on Fake News and Online Disinformation (European Commission, 2018). This multi-stakeholder group has come up with five core actions: (1) enhancing the transparency of online news; (2) promoting media and information literacy to counter disinformation; (3) developing tools for empowering users and journalists; (4) tackling disinformation and fostering positive engagement with fast-evolving information technologies; and (5) safeguarding the diversity and sustainability of the European news media ecosystem. In addition, it is important to promote continued research on the impact of disinformation in Europe, to evaluate the measures that have been thus far taken.

At the same time, given the global and local contexts, today's situation is seen by many as a watershed for media and communication policies and regulation: Can policies reframe media audiences and communication technology users as citizens with rights? Can they help to restore citizens' trust in media and the potential of free speech? There is a great fear of overreaching in policy-making, which would open doors to censorship, or, at the minimum, diminish journalistic integrity and autonomy. Strong journalistic self-governance codes exist, and consequently, some fear also exists that pan-European efforts, such as the Code of Conduct suggested in the EU HLEG report, are potentially harmful: "An EU-sponsored 'Code of Codes' for the whole media universe is not only unnecessary and in large parts redundant, at best, but can

distract attention away from the real causes of the problem, while putting additional burden on those who are already fighting it" (Reporters without Borders [RwB], 2018a, March 12).

Many citizens, however, seem to expect governments to implement some governance measures. The responsibility for information disorder, according to most respondents surveyed in the *Reuters Institute Digital News Report 2018* (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2018), rests with both publishers and platforms. This demonstrates that there is some public appetite for government intervention to stop fake news, especially in Europe and Asia. Those with higher levels of news literacy tend to prefer newspaper brands over television networks, and use social media for news very differently than does the wider population. They are also more cautious about interventions by governments to deal with misinformation. Similar views emerge from the recent Eurobarometer (2018). In respondents' views, journalists, national authorities, and press and broadcasting management should be the ones mainly responsible for stopping the spread of disinformation.

International and intra-governmental "soft policy" solutions, rather than new national laws and regulatory measures, may indeed be the best remedy. National laws pertaining to fake news can be a double-edged sword. In Germany, the law against online hate speech—the Net Enforcement Law (NetzDG)—has caused confusion because the very concepts of hate speech and disinformation are difficult to apply in practice (The Economist, 2018, January 13). In Egypt, a law seemingly punishing creators of fake news has been used to stifle dissent (Michaelson, 2018, July 27).

However, some specific "soft policy" ideas, if not measures, remain in the works. The Council of Europe is currently (as of November 2018) working on its report and policy statement on the role of public service broadcasting (PSB) in tackling disinformation and information disorder. Its foci are not only fact-checking but also the ideal of quality journalism, media literacy, and

universal reach, via innovations and multi-platform presence—in essence, features that are included in the EU HLEG recommendations. Similar kinds of solutions are envisioned in the recent policy brief by the European Broadcasting Union (EBU, 2018) and in other countries, such as Canada (McGuire & Cormier, 2017, February 9).

Meso Level: Public Media and Collaborations

Both the Council of Europe (Aslama Horowitz, 2018) and the EBU (EBU, 2018) suggest that PSB and its multi-platform version, public service media (PSM), offer one institutional, meso-level remedy. This solution to "internet-gone-wrong" may not be that far-fetched: as Curran (2012) pointed out, American and, later, European counter-cultural ideals, as well as a European public service ideology, significantly impacted internet development. Further, as a recent Pew Research Journalism & Media study (Mitchell et al., 2018, May 14) documents, in Europe, where the public media tradition is the strongest, the most trusted media, from television to online content, are those run by PSB organizations.

It has been frequently noted that PSB and media are, as institutions, part of the media policy toolkits that can counter market-driven challenges such as the concentration of ownership, increased competition, diminishing content diversity, and inequalities in access to media (Bajomi-Lazar, 2017). Information disorder, many scholars argue, is the perfect storm of commercialization, globalization, and political interference (e.g., Martens, Aguiar, Gomez-Herrera, & Mueller-Langer, 2018)—and the original premise of PSB being non-commercial, nation-based, and independent is an antidote. Many proponents of PSM note that it is needed now more than ever. Emily Bell, the director of the Tow Center for Digital Journalism at Columbia University, posits the following:

> Everyone in public service journalism comes to work every day with a mission to inform the citizens of their country, and to try and reach everybody. Even people who can't pay, even people who don't necessarily think they

need the news, or people who are left out of decision-making because they don't fit the socio-demographic profile that means they would normally be included. To me, right now, there is almost nothing more important than having robust public service media available to citizens. (. . .)

> Existing political systems and public service broadcasters need to be free to imagine the kinds of information ecosystems that they'd want at the nation/state level and then real freedom to experiment with and find new paths to deliver that. And also to think about themselves oriented in a world where it could well be that large-scale technology platforms—designed, built, operated in America—will be taking over much of what your information ecosystem looks like over the next decade. (as cited in Hofseth, 2018, April 2)

The case of disinformation and information disorder may also highlight, better than any other case, the role of PSB/PSM as a key partner in solving global challenges of the media landscape in a more localized, contextual manner, in collaboration with other trusted partners. Collaborations for effective and comprehensive fact-checking have perhaps been the most visible response by public broadcasters to false content. They have engaged in different collaborative fact-checking efforts, sometimes with their (otherwise) competitors.

In Austria, for instance, the public service known as the Austrian Broadcasting Corporation (ORF) has joined the effort of a variety of partners in raising awareness about fake news, through the Austrian Press Agency (APA), of which it and most daily newspapers are shareholders.[1] In Norway, Faktisk.no is an independent fact-checking organization, owned by the media companies VG, Dagbladet, TV 2, and the public broadcaster NRK.[2] Following this model, the public services Swedish Television (SVT) and Swedish Radio (SR), as well as the two largest daily newspapers, *Dagens Nyheter* and *Svenska Dagbladet*, have

started a project to collaborate on fact-checking methods and news-spreading during the electoral movement. The stakeholders have conducted a joint training program for journalists in which participants collaborate on fact-checking using methods is based on the guidelines from the International Fact Checking Network (IFCN).

Perhaps the most well-known multi-stakeholder collaboration is First Draft News, which is hosted at Harvard University. The project has more than 40 members, including commercial and public service media, around the world (e.g., the British Broadcasting Corporation [BBC], France Télévisions, Zweites Deutsches Fernsehen [ZDF], Deutsche Welle, and Eurovision), not-for-profit and de facto public media organizations such as Global Voices and ProPublica, and platforms such as Facebook and Twitter.[3]

Micro Level: Media and Information Literacy

How can individuals be protected from information disorder? A report by the Columbia Journalism Review notes that "Media literacy works, and it just might save humanity," but adds that old tools are not enough "when a hacker in Macedonia can easily create a website that looks legitimate, then quickly make thousands of dollars from advertising as bogus stories circulate" (Rosenwald, 2017, Fall). In the US, there are hundreds, if not thousands, of projects that have been set up, or reinvigorated, by the surge of disinformation around and after the 2016 US elections (e.g., Sullivan & Bajarin, 2018, August 23). As a result, legislators are on the alert. For example, California has passed a law to boost media literacy education in schools (Minichiello, 2018, September 3).

In Europe, media education is often explicitly or implicitly mandated, not only for schools but also for PSBs. Many have taken on the task. For instance, France Télévisions Education has a collection of videos about the phenomenon of

disinformation,[4] and the Swiss Schweizer Radio und Fernsehen (SRF) "My School" has published an educational teaching module specifically about fake news.[5] Some PSM organizations focus on the nature of quality journalism, fact-finding, and trust, with a comprehensive approach to media and information literacy. The BBC, for example, has offered mentoring from BBC journalists, in person, online, or at group events, to a thousand schools. All schools have free access to online materials, including classroom activities, video tutorials, and an interactive game called BBC iReporter. The game gives the player the chance to take on the role of a journalist in the BBC newsroom and addresses issues related quality reporting and disinformation.[6] In addition, a Reality Check Roadshow toured the country in the UK in Spring 2018, and local schools were able to nominate their own students to attend one of a dozen regional events.[7]

Children and young people, even though they are now digital natives, are still vulnerable populations, so it is understandable that many activities concentrate on media literacy that keeps them safe. Fact-checking efforts could also be seen as a form of media and information literacy, and the aforementioned First Draft News, for instance, has engaged audiences directly in a project related to the French elections.[8] Media development projects and activities by international organizations are addressing contexts in which the structural and organizational vulnerabilities are great; as an example, the United Nations Educational, Scientific, and Cultural Organization UNESCO supports media and information literacy in Myanmar to address the inter-cultural challenge of hate speech [United Nations Educational, Scientific, and Cultural Organization (UNESCO), 2018, May 31].

CONCLUSION: INFORMATIONAL WARFARE AND MEDIA FREEDOM

For several decades, we have feared cybersecurity and cyberwars in the form of attacks on computers to affect central infrastructures, such as energy production. Now, however, information warfare has become the most prevalent and complex cyber weapon. A feature in *Foreign Policy* in 2018 put it succinctly:

> The nature of cyberwarfare is that it is asymmetric. Single combatants can find and exploit small holes in the massive defenses of countries and country-sized companies. It won't be cutting-edge cyberattacks that cause the much-feared cyber-Pearl Harbor in the United States or elsewhere. Instead, it will likely be mundane strikes against industrial control systems, transportation networks, and health care providers— because their infrastructure is out of date, poorly maintained, ill-understood, and often un-patchable. Worse will be the invisible manipulation of public opinion and election outcomes using digital tools such as targeted advertising and deep fakes—recordings and videos that can realistically be made via artificial intelligence to sound like any world leader. (Wheeler, 2018, September 12)

While "conventional" cyberwars seek infrastructural weaknesses, information wars benefit from social, economic, and cultural vulnerabilities. Cyberwars and information disorder are being manifested in many frontiers and for numerous reasons, including monetary gain and political power. However, to create disinformation and information disorder, one does not necessarily need to be a skilled hacker. An individual's frustrations about social and economic conditions can turn into the fear, hatred, and vitriol that prompt simple acts of digital violence, such as creating, commenting on, and sharing rumors, falsehoods, and hate speech. Hence, information wars have many more soldiers than do cyberwars.

This article outlined some macro-, meso-, and micro-level vulnerabilities that create fertile conditions for rampant disinformation and information disorder. It posited that the challenge is both global and regional/national, both economic and socio-political. There have been some policy ideas and implementations, institutional activities, and attempts to empower individuals to battle information disorder. As is the case in terms of the causes, so it is in terms of the solutions: everything is interconnected.

However, it seems that two basic—but often forgotten—factors determine the resilience against fake news. The 2018 Media Literacy Index, (Dimitrov, 2018, March 30) compiled in European countries by the Open Society Institute, recognizes that the media literacy and overall level of (and accessibility to) quality education is key, but so is the level of media freedom in a country. These two factors correlate with one another and bring together the macro, meso, and micro aspects of vulnerabilities. The challenge is, as also documented by RwB, that despite the freedom offered by the internet, media freedom is shrinking all around the world, and "more and more democratically-elected leaders no longer see the media as part of democracy's essential underpinning, but as an adversary to which they openly display their aversion" [Reporters without Borders (RwB), 2018b].

Disinformation as warfare in the digital age may not be so different than any other type of warfare; wars are fought for power, and some benefit economically while the vulnerable suffer the most. As Felice (2008) posited in his article, "Moral Responsibility in a Time of War," we often get distracted by the problem of "many hands"—that is, the causes and solutions are many and complex, so the responsibility is not clear. This is clearly true with information disorder. However, what makes this case special is everyone who is active on digital platforms can be responsible in the simplest of ways: not lashing out, not commenting, not sharing.

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