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Towards a Disinformation Resilient Society? The Experience of the Czech Republic

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Abstract

Disinformation is currently an important threat to modern democratic societies and has a critical impact on the quality of public life. This article presents an organic approach to understanding of the issue of disinformation that is derived from the context of the Czech Republic. The approach builds on the various similarities with virology where disinformation is compared to a hostile virus that is spread in a certain environment and may penetrate the human body. Contribution is providing Czech experience in eight areas related to creation and spread of disinformation and analyzing obstacles for building disinformation resilience.

Keywords

Disinformation, Propaganda, Fake News, Information Warfare, Hybrid Warfare, Resilience, Czech Republic

Introduction

Since the early history of humanity, information and warfare have been connected. Every conflict between states, nations, groups, people or even animals may be understood in the terms of information. Decisions and actions of any subject entering into interactions are based on information. Controlling the flow of information and its character may represent an important power in shaping relations or influencing the attitudes of the targeted subject. In other words, information may be used as a weapon helping to pursue specific interests or even domination.

The main aim of this article is to present an 'organic approach' to public resilience *vis-à-vis* information warfare and present several proposals contributing to resilience which is simply understood as the mental capacity and ability of citizens to recognize and work more efficiently with manipulative information. The approach and proposals were derived from the context of the Czech Republic. The presentation of an organic approach may contribute to a better understanding of the environment in which information warfare takes place and identify key areas for supporting resilience. In this sense, the contribution may serve to stimulate discussion about preventing propagation of disinformation that may be considered as one of the elements of information warfare. Only a democratic information warfare resilient society may prevent political, economic and potentially also military damage.

The main claim of this article is that disinformation can be understood by using the organic approach which offers perspectives for intervention in order to create a more resilient society and undermine the environment in which propaganda thrives. There are two principal research questions: First, how might virology be useful in providing an analytical framework for information warfare? Second, what measures should be adopted to make society more resilient to disinformation? The research questions presented aim to identify key determinants for resilience and answering them is necessary for developing measures for strengthening the resilience of the society.

From the methodological perspective, this article can be considered a theoretical case study dealing in a general way with the environment in which information warfare takes place and disinformation occurs. However, it is not aimed at the description or application of a theory, but rather at theorizing the context of disinformation and deriving key principles and lines of actions to counter disinformation so as to build a society more resilient to information warfare. The central issue of the article is the disinformation that might be recognized only in the context of truth. Nevertheless, the definition of truth and its manifestation is problematic in itself. Despite the empirical and analytical approach used, the author of this study presumes that the truth has a non-consensual nature and operates out of binary system (true or false). The truth may be relative but shall be always in line with empirically verifiable facts. Anyway, the relation between truth, knowledge and belief is always problematic (see conditions based on Plato's *Meno* and *Theaetetus* and its discussion in Gettier 1963, pp. 175-177).

There are various definitions and overlapping concepts which may significantly vary due to different contexts. For this purpose it is worth defining what is meant by 'disinformation' and related terms. At least in the Czech context the word 'disinformation' is used much more often than, for example 'fake news'. The Czech Ministry of Interior distinguishes between disinformation, understood as a '*systematic and intentional spread of false information mainly by state actors or its affiliates against foreign state or media with the aim to influence decision-making or opinions of those, who adopt decisions*' and misinformation which refers to '*incorrect or misleading information, which is not spread systematically nor with the intention to influence decision-making or the opinions of those who adopt decisions*' (Ministry of Interior 2019). In this sense, both might be part of propaganda, which can be generally defined as the intentional and systematic spread of information and thoughts with the aim to enforce or support political objectives.

In comparison, the notion 'fake news' is much more complex. Similar to disinformation, fake news is endemic to the information society (Marshall 2017, p. 1) and can be defined in both a positive and negative way. Regarding the first approach, Hunt Allcott and Matthew Gentzkow (2017) defined fake news as '*news articles that are intentionally and verifiably false, and could mislead readers*' (Allcott and Gentzkow 2017, p. 213). From the negative perspective, it is possible to define what fake news is not. According to Shu et al. (2017) fake news is not (1) satiric news with proper content without intent to mislead or deceive consumers and with little probability of being misperceived as factual; (2) rumours that did not originate from news events; (3) conspiracy theories; (4) misinformation that is created unintentionally; and (5) hoaxes that are only motivated by fun or to scam target individuals (Shu et al. 2017, p. 25). However, in many cases the five exceptions listed above do not work as they might be part of the disinformation programme. Rumours might well be transformed into disinformation, behind many individual disinformation cases there may be some sort of conspiracy that is then developed into a more or less established conspiracy theory, misinformation may be part of a more complex disinformation scheme and the line between hoaxes and disinformation or misinformation may be very blurred. With respect to the above set of positive and negative criteria the reality in the Czech Republic suggests, that the form and content might be much vaguer. In reality, fake news might be not be related only to news articles as it may have a form of falsified or wrongly translated documents, edited pictures, videos or evidence intentionally shared by e-mails or published on blogs and vlogs. Manipulation of the content may vary from intentional omission of some truthful aspects to mixing false information with reliable facts put into a fully truthful and trustworthy context. Disinformation in fake news may be logically organized and be supported by empirically verifiable facts with some indication of easy to believe conspiracy. Some disinformation within fake news in order to be better consumed by more critical readers may involve intentional flaws which ought to be discovered and as an effect lead the consumer in the desired direction. An example could be when set of information is composed of empirical facts that are both truthful and unknown to the target but at the same time there is obviously false information which is easy to recognize. As a result the target may reject the whole set of information as a false.

Citizens may be simply manipulated to make decisions which are against their own interest[1] and the interest of the state and thus cause damage. Typical examples can be seen in the Brexit referendum in the UK or the US presidential elections, which changed the geo-political situation (see Timmer, 2017; Lexmann, 2017; Naumescu, 2017 or Inkster, 2016). In both cases, fake news and disinformation played an important role. For example as noted by the marketing company 89up, Russian bots delivered over 10 million potential Twitter impressions during the referendum and articles published by Kremlin-owned channels had thirteen times more impressions for all content shared by the Leave.EU website (89up, 2018). Moreover, information is not easily evaluated and, at least in the case of the EU referendum, to understand the issue requires a more complex knowledge not to fall into the trap of the Dunning-Kruger Effect (see Kruger & Dunning 1999).

However, next to disinformation, misinformation and fake news there are also other terms such as 'information warfare' that involves all the previously mentioned manipulations on a larger scale. As noted by Stephen Blank, information warfare may be understood as a new means to conduct large-scale political warfare in order to reshape the thinking of the entire political community (Blank, 2013). For example according to Nichiporuk (1999), from a military perspective, information warfare is the process of '*protecting one's own sources of battlefield information, and at the same time, seeking to deny, degrade, corrupt, or destroy the enemy's source of battlefield information*'. Information warfare is composed of 'six pre-existing sub-areas', which are: '*operational security, electronic warfare (EW), psychological operations (PSYOPs), deception, physical attack on information processes, and information attack on informational processes*' (Nichiporuk 1999, p. 188). As pointed by Tomáš Čižik (2017) this definition underestimates the civilian perspective, as information warfare also involves the manipulation of information on the internet, social networks, media or manipulation of information in propaganda, which according to him creates a huge part of today's information warfare. In other words, contemporary information warfare is conducted mainly in the social arena, where the main targets are civilians and their capability of differentiating between correct and incorrect information with the intention of confusing them. In other words, a single hashtag may be more destructive than a bomb dropped from a plane[2]. Moreover, information warfare has a significant individual effect as it is undermining confidence in one's knowledge and thus has implications for individual security (see Buzan 2009, p. 50). In other words, information warfare may serve the purpose of influencing one individual political decision such as voting in a referendum but may lead also to more complex irreversible changes in the information environment, political culture and cause changes in identities with a direct impact on societal security.

Information warfare is a sub-part of hybrid warfare, where hybrid warfare can be defined as a use of conventional and unconventional measures in conducting military operations. According to Andrew Monaghan who assessed the Russian hybrid warfare in terms of the Gerasimov Doctrine (2016, p. 67), hybrid warfare is '*tantamount to a range of*

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[1] This situation is different from advertising as deceptive/false advertising is, in many states, considered an illegal practice and falls under consumer protection law.

[2] For example, Facebook played an important role during the Arab Spring and in fuelling Rohingya genocide (Al-Jazeera 2018).

hostile actions of which military force is only a small part, or measures short of war that seek to deceive, undermine, subvert, influence and destabilize societies, to coerce or replace sovereign governments and to disrupt or alter an existing regional order'. A different definition of hybrid warfare is offered by the International Institute for Strategic Studies (2015), which describes hybrid warfare as '*sophisticated campaigns that combine low-level conventional and special operations; offensive cyber and space actions; and psychological operations that use social and traditional media to influence popular perception and international opinion'* (International Institute for Strategic Studies 2015). NATO Allied Command Transformation defines a hybrid threat as – '*those posed by adversaries, with the ability to simultaneously employ conventional and non-conventional means adaptively in pursuit of their objectives'* (NATO 2011). As the NATO definition continues, it describes the hybrid threat as an 'umbrella term', which encompasses '*a wide variety of existing adverse circumstances and actions, such as terrorism, migration, piracy, corruption, ethnic conflict etc.*' (NATO 2011). As evident from the nature of these threats, hybrid warfare is considered an important part of military doctrines in the 21st century (see Bachmann & Gunneriusson, 2015). However, many experts argue that hybrid warfare cannot be considered a new concept, because all conflicts in human history have combined conventional and non-conventional measures. Basically, hybrid warfare exploits the strengths of the first state (or the other actor) and weaknesses of the other state (or the other actor) to achieve maximal gains and strategic goals. The very same logic and tactics was described by Sun Tzu in his *Art of War* many centuries ago: '*Hence to fight and conquer in all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting'* (Sun Tzu 2000, p. 8). However, it is necessary to state that the recent security environment – information era, globalisation, development of the internet and social media – has equipped state and non-state actors with a whole set of new tools, which they can use in their favour. Hybrid warfare was always present, what has changed are the tools of hybrid warfare and the context.

The Czech context to disinformation

The Czech Republic has become a 'Laboratory of Russian Hybrid Warfare'. The Czech intelligence service (BIS) warns in its annual report (BIS 2017), that the country is the target of Russian information warfare and that Russia is conducting influence operations, mainly via pro-Russian disinformation webs. However, these webs are covered by 'a smoke screen' as '*the vast majority of disinformation webs are in the Czech language and are operated by Czechs, who are ideologically motivated and persuaded about the harmfulness of NATO, EU, USA, liberal democracy or citizens, who are not supporting Russian interests. These citizens use their laws and freedoms to spread what they believe is the truth ... their web projects are used and misused by Russia to spread propaganda and disinformation in support for other components of the hybrid strategy'* (BIS 2017, p. 8). Due to the Czech language and operation of disinformation webs by Czech citizens who spread disinformation and propaganda on an ideological basis, propaganda and disinformation is well adapted to the Czech political, economical and social context. In this sense, the Czech Republic is not an exception.

However, there are other factors in the Czech Republic that help to spread disinformation and propaganda including an underestimation in the area of media literacy education and education in civil affairs and a lack of critical historical reflection in historical classes. As a result, the pro-Russian interpretation of history inherited from communist times is being taught at schools (see BIS 2017) and history teachers are more likely to focus on medieval history, rather than events following the Second World War. When teaching about the communist era, they prefer to emphasize the dates and pure facts instead of providing the full context and links. In other words, students leave school with a rather incomplete perspective on history. This is mainly caused by the fact that history classes are not considered the most important among teachers and there are many requirements regarding the scope of topics covered compared to the time allocated for teaching. Nevertheless, among many Czech historians and politicians there is an increasing tendency for revisionism to relativize past events (ČTK 2019).

Media literacy education is almost absent at high schools and when it is present teachers do not know how to teach. A Czech NGO People in Need made a survey among 280 teachers who were dealing with media education in the Czech Republic. Some 72 % of them never completed media-education training. According to the majority opinion, media education requires too many competences and knowledge (81%) or media education is not considered as an important topic (80%). It is also alarming that 8% of those teachers are using information from disinformation 'alternative webs' such as *Parlamentní listy* (Parliamentary Letters) or *Aeronet* and 27% of teachers 'tend to trust' or 'fully trust' such media. Moreover 26% of teachers 'do not know' what media to trust (Břeštan 2018). This data implies that teachers are sometimes 'part of the problem' and have to rely on their intuition that might be strongly influenced by personal political preferences. As a result, about 50% of students are unable to distinguish between commercial advertisements and news and 43 % of students believe that the disinformation web Parliamentary letters are regulated under Public broadcasting Act (Čápová 2018). The Public survey agency STEM published information that 25.5% of Czechs believe the disinformation broadcast and 24.5% believe in disinformation media more than the traditional media; for example 50.2% of Czechs believe that the USA is behind the influx of migrants from Syria to Europe (Ministry of Interior 2016). To sum up, the disinformation media has a great influence in the Czech Republic and this has important implications for the quality of democracy.

The impact of disinformation in the Czech Republic started to increase in 2008 when the Bush administration planned to place part of its anti-ballistic missile defence in the Eastern Europe: radar into the Czech Republic and anti-ballistic missiles into Poland (Gregor, Vejvodová & Zvolsi info 2018). Since then the method and tools developed but until the annexation of the Crimea, Russian hybrid warfare was not considered a major threat in the Czech Republic (see Daniel & Eberle 2018, p. 913). The peak of disinformation activities might be considered the Presidential elections of 2018 when in the second round there was competition between two candidates: the incumbent clearly pro-Russian and anti-liberal president Miloš Zeman and pro-Western and more liberal candidate, former head of the Czech Academy of Sciences professor Jiří Drahoš. According to analysis published by the

Centre for Risk Prevention in Virtual Communication of the Palacký University in Olomouc the ratio of disinformation present in public space was 30:1 against Drahoš (Czech Radio 2018).

During the 2018 presidential campaign, supporters of current president Miloš Zeman were spreading disinformation and misinformation targeting opposition candidate Jiří Drahoš which in the end created an environment in which supporters of Miloš Zeman were assured that Jiří Drahoš is the wrong choice. It is very hard to find out how supporters of Miloš Zeman reacted on disinformation about him due to the already mentioned large disproportion of disinformation. However, similar US based research by Craig A. Harper and Thom Baguley discovered that US liberals and conservatives are equally susceptible to fake news, however for different reasons (see Kaufman 2019). However, 'equal suspicion' may vary in the society with different media culture and varying media literacy among segments. The experience from the Czech Republic seems to be that supporters of Miloš Zeman were almost immune to disinformation and misinformation spread about their own candidate. On the contrary, attacks on their candidate made them more persuaded about the correctness of their choice. For example one disinformation claimed that 72 year old Zeman would soon die because he had cancer. Nevertheless, his voters generally accepted that his health is not in a good condition. This was expressed on social networks as '*it is better one year with Zeman than five years with Drahoš*'. Generally, disinformation favoured Zeman and showed Drahoš in a negative light. Chain e-mails played a very important role in this regard. The content from disinformation webs was spread in the form of chain e-mails in order to increase the trustworthiness of the message as e-mails are spread mainly among family members and friends.

According to analysis, up to 90% of Czechs over 65 years of age receive emails containing hoaxes and disinformation. According to researchers from Palacký University in Olomouc, e-mails containing warning (migration, Islam etc.) are spread by 35% of people between 55 and 64 and 47% of people older than 65 years. The last group of people are forwarding disinformation six times more often than younger groups[3]. Moreover, the study revealed that among university educated pensioners only 25% of them do not verify the truthfulness of the content while among high school educated or pensioners with practical education it is about 50% (Kopecký, Szotkowski, Kožíšek, Kasáčková 2018). As a result, the majority of Czech pensioners are attacked daily by disinformation which changes their perception of reality. A tragic example of this campaign is the 'First Czech Terrorist' – a pensioner who cut two trees down on to a railway in order to cause an accident[4]. After the attack, he spread around leaflets indicating that the attack was made by Islamist terrorists. The aim of the pensioner was to blame Islamists for the attack and 'wake up' the Czech nation to take decisive action against Islam and the 'invasion of immigrants'. Tragically, there are only a few moderate and well-integrated Muslims in the Czech Republic (approx. 20,000 in a country with 10.5 million inhabitants) and this country is reluctant to accept any

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[3]The majority of chain e-mails are adapted to seniors: written in big letters, using colours and highlights. Moreover, seniors have a lower level of digital and media literacy.

[4] Despite the label 'First Czech Terrorist' he was not the first one in the Czech Republic as in 2014 there was Zbyněk Průša, an unemployed drunk man, who was found guilty of threats to blow up the government.

refugees, for which it is often being criticized by other EU partners. It is thus a paradox that the first terrorist sentenced in the country was not a radical Islamist but rather an Islamophobic pensioner influenced by disinformation and performing disinformation.

Nonetheless, this particular example illustrates the complexity of the issue. The disinformation webs help to spread fear that is exploited by populist, nationalistic or even extremist parties which are against membership of the EU, NATO and a liberal democracy as such. Due to the geographic position of the Czech Republic and its past, 'less Europe' automatically means 'more Russia' which is dissatisfied with its position within the international system and seeks any advantage to increase its influence in the parts of its former empire. In this sense the politics of fear is in line with Russian national interests and is well utilized in Russian disinformation with the aim of creating the desired emotional response in the target countries, which might be effectively translated at the political level to support subjects critical towards opponents and friendly to Russian foreign policy goals (e.g. to accept the annexation of the Crimea, ease sanctions etc). Moreover, attitudes against Russia are not helping Russian economic interests in the Czech Republic such as winning the bid over finishing the nuclear power plant in Dukovany or Temelín: an investment worth billions dollars and shifting power dependency of the country closer to Russia. From this perspective, information warfare has its inherent geopolitical dimension.

Towards the organic model of information warfare

At first sight it seems that human communication is different and much more developed when compared to animals, insect, vegetation or microorganisms. However, basic principles often remain and the natural world may bring us some inspiration to analyse and fight information warfare. Penetration of natural sciences concepts into the social sciences and topics is not rare. For example, Olsen points out that the concept of virology has been used and developed to create models for analysing Europeanization that also deals with the spread of information or values among citizens in a certain environment or area (Olsen 2002). Moreover, virology provided a great source of inspiration for meme theory and memetics, which focus on memes as a viral phenomenon (See Dawkins 1989; Lynch 1996; Brodie 1996; Blackmore 1999 and others). Despite the fact that this article does not use the meme theory context, it asks a legitimate research question, how might virology be useful in providing an analytical framework for information warfare?

From this perspective virology may be an inspiration also to dealing with information disinformation and basic premises from virology (see Dimmock et al. 2015) may be used to develop an 'organic model' for analysing disinformation as there are some parallels summed up in table 1.

Table 1: Parallels between virus and information

Premises	Content
1	Similar to viruses, disinformation and misinformation occur naturally or intentionally in the environment. Disinformation and misinformation are somehow created and remain in the environment. Moreover, like viruses, disinformation and misinformation may mutate.
2	Similar to viruses, disinformation and misinformation are also spread in the environment by carriers. In the case of viruses, we can talk about human-human transmission, animal-human transition etc. In the case of information carriers, carriers are citizens, public media or politicians.
3	Similar to viruses, information is also spread within a certain environment which might enable or disable the transmission. The virus may spread or disappear similar to information. In the case of a virus, the environment is characterized for example by temperature, humidity, light etc. Similarly, information has a different impact in different societies, which are characterized by the level of education, income, historic experience etc.
4	In defence against a virus, immunity is important, which might be natural (e. g. genetic predisposition) or artificially created (for example by vaccination). In the case of information, the vast majority of people[5] are not naturally immune to disinformation, however immunity may be created by education, experience and so on, which act like a vaccination.
5	There are many kinds of viruses: some of them are persistent in the environment, easily transmissible and very aggressive. So are some kinds of disinformation. Every virus or disinformation has some inherent properties creating an individual character. Some viruses are more persistent than others, some are good at hiding, some are easy to be transferred or easy to be defeated etc.
6	For effective transmission, there are other important factors, such as the time of exposure. Increased exposure to a virus increases the chance of infection. Similarly, exposure to disinformation may increase the likelihood of infection. Thus, the level of exposure, timing etc. may play an important role in its effect.
7	Similar to viruses, some disinformation may not be harmful and practically have no impact. On the other side, there are viruses with significant impact depending on the organ within the body hit. Similarly, some disinformation is more harmful than others due to the political, economic or social target. For example, disinformation about gender issues, homosexuality and transgender issues will be more effective in a more conservative environment than in a liberal one. Some disinformation may be directly targeted at individual targets: politicians, experts and academia, public broadcasting, the judiciary etc.
8	Viruses may cause changes in the body that are observable even after a successful cure. Similarly, disinformation leaves a footprint, which might be clearly observable even when the disinformation has been debunked. It is one of the golden rules of communication that every communication is unique and not repeatable. Viruses may leave increased levels of an antibody. Similarly, disinformation may leave changed values, opinions or attitudes. Similar to a virus, disinformation changes people's behaviour making their actions more or less effective and this has social consequences.

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[5] There might be some exemptions such as people with very low IQ or mental diseases who are immune due to inability to work with the information content in the complex way.

In the following sections of the paper, the premises are further developed in the Czech context from which recommendations are derived. The above premises create a complex system in which information (virus) plays an important role. The above premises are linked to other topics related to the fight against the spread of disinformation and misinformation.

1. The creation of disinformation and misinformation

Disinformation and misinformation are present in every society, however their significance varies. Most civilized countries have adopted laws regulating behaviour connected with disinformation and misinformation in order to protect victims and punish attackers. Finding the right balance within liberal democracies is not easy as there is on the one hand freedom of speech and freedom of expression and protection of personal rights on the other. Censorship is not acceptable in liberal democracies[6], but on the other hand there is a law aimed at the protection of individuals.

Unfortunately, the Czech legal system does not recognize the term 'disinformation' or 'propaganda' and thus the facts of the crime are not defined. The act may be punished under the Criminal Code – Chapter II (criminal offences against freedom, personal and privacy rights and confidentiality of correspondence) only in the case of§ 181 Infringement of the Rights of Another, § 184 Defamation, § 345 False Accusation, § 355 Defamation of nation, Race, Ethnic or other Group of People, § 356 Instigation of Hatred towards a Group of People or of Suppression of their Rights and Freedoms, §357 Spread of Alarming News, § 364 Incitement to Criminal Offence, § 365 Approval of Criminal Offence or § 404 Expressing sympathies for Movements Seeking to Suppress Human Rights and Freedoms according to Act no. 40/2009 Coll. from 8 January 2009 (Criminal Code).

The paragraphs mentioned above provide legal protection against the most important effects of disinformation or misinformation, but do not address the real substance of disinformation or misinformation. In reality, misinformation is hard to punish as the content is not considered too harmful or, matching criteria for crime as defined within Criminal Code, misinformation has an unclear origin and is spread by a large number of persons. Moreover, a considerable amount of misinformation targets political representatives or political institutions where a certain degree of criticism is welcome or even vital for democracy and politicians as public persons can expect greater interference in their personal life than normal citizens. The situation has been quite strictly solved by Malaysia which passed a bill that allows the punishment of persons spreading fake news (defined widely as: '*news, information, data and reports, which is or are wholly or partly false*') with a prison sentence of 6 years or a fine up to US$123,000 (Liao 2018). Nevertheless, similar laws may severely limit public discussion and be used for the suppression of freedom as it raises the issue of an evaluation process which might be simply misused by government to suppress criticism.

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[6] This does not mean that it cannot be limited in order to protect the rights of minorities, human rights etc. In many countries, it is not acceptable to deny the Holocaust or to agitate for movements and political parties suppressing human rights and freedoms. As stated, there is a guaranteed freedom of speech, but not freedom after the speech.

2. The Issue of Vectors

The creation of disinformation and misinformation is closely related to its vectors. In some cases, authors might act as vectors. From this perspective, we can distinguish between primary vectors, among whom information originates, and those who are secondary and only share the information previously communicated to them. However, similar to a virus vector, there might be several types of them, some types more dangerous than others. Like the spread of the disease, the most important for effectiveness is the role of the vector and its reach in the community. In this sense, we can distinguish mainly between citizens, media and politicians (or other publicly known people who have better access to the media). Thus, the behaviour of each set of actors shall be the subject of different regulation. The behaviour of citizens shall be the subject of public law, the role of media shall also fall under legal regulation and the role of politicians in democratic societies shall be regulated in some aspects by legal norms and social instruments such as morality. In other words, the well-balanced regulation of the environments relevant for communicating information is the key. In a well-functioning state, politics is controlled by journalists and by the public in the terms of accountability and responsibility.

Unfortunately, lies have always been part of politics and so is disinformation. Media in the Czech Republic are under increasing pressure from illiberal parts of the society. Czech TV, regulated under the Public Broadcasting law, has to be, according to law, objective in terms of providing balanced views. Despite an attempt to fulfil the law, the broadcaster faces strong public criticism that it is not providing enough space for people and politicians with 'alternative opinions' (including also disinformation or misinformation). As a result, there is a call to change the law to pay compulsory Fee for Public Broadcasting[7] as some citizens have the impression that Czech TV favours only certain groups of people supportive of a liberal democracy. Due to pressure Czech TV on the one hand tries to invite well recognised experts and on the other to balance it with people who are considered 'experts' by dissatisfied citizens. As a result, a paradoxical situation occurred: in a live interview, there was an internationally distinguished professor and US foreign policy expert Igor Lukeš from Boston University together with Ladislav Jakl, who is a controversial politician who has presented a very simplifying (disinformation) contribution about the US foreign policy and one which has helped spread disinformation (Czech TV 2019). As an obviously offended Lukeš pointed out, '*giving 4 minutes to truth and 4 minutes to lies*' during an interview is not the way to guide viewers to create their opinions.

The case of expert Lukeš is an illustrative example of how Czech TV was trying to approach critical citizens who are desperate to watch programmes which confirm their views. Some TV stations (regulated under private law) like TV Prima or TV Barrandov use this advantage and focus on this segment of society by providing space for anti-liberal politicians

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[7] Concessionary fees for public service broadcasting are compulsory for all owners of a radio or TV. It is later used as a financial resource to cover expenses of subjects regulated under the Public Broadcasting Act establishing a strict control mechanism of independence. However, these subjects are increasingly attacked by illiberal groups as not being objective and thus not worth financing from public money.

and controversial politicians who verifiably use lies much more often[8]. Then the evaluation process goes political. In other words, there is some form of alliance between this anti-liberal media: offering visibility to controversial politicians to present their often disinformation opinions (often without real counter-argumentation) in exchange for higher ratings. The effect is multiplied by airing purposely emotional news very critical towards refugees or the European Union. As an example, a leaked record from TV Prima showed one of the managers appealing to employees to respect the opinion of the employer and report about refugees in a negative light (HlídacíPes.org, 2016). With the agenda setting and the spreading of fear these media influence public opinion and provide an advantage to the parties who address the topics raised by these media. Despite the fact that private TV channels are required to comply with the law and ensure objective and balanced news reporting (§ 31 of the Act 231/2001 Coll.), in this case the controlling body, the Council for Radio and Television Broadcasting, did not find any violation.

There is a similar situation with on-line websites providing news. While some disinformation websites are at first sight very alternative and,due to the presence of many conspiracies, not trust worthy, others try to adopt an image of the serious well-established media; however regardless of the presentation, they give space for disinformation and propaganda and as such are listed on the official list of the Ministry of Interior which identifies approx. 40 disinformation webs among them also AC24, Lajkit, New World Order Opposition, Aeronet, Parliamentary Letters and their sub portals. Some provide news and a presentation platform for 'alternative' opinions and presentations of critical, anti-liberal or even radical politicians and the voice that we can label as 'uncivil civil society'[9]. The official list of state authorities is a good source for orientation in media. However, it it is naive to expect that people with low media literacy read the official reports of the ministries. Moreover, due to the dissatisfaction with democracy they often see state institutions as a part of the conspiracy trying to keep the real truth from the people and present their preferred disinformation on websites.

3. The Environment

As mentioned earlier in the previous section, it is evident that disinformation spreads more easily among older people and people with no or minimal media education (Kopecký, Szotkowski, Kožíšek, Kasáčková 2018; Břešťan 2018). Education matters also in the selection of a TV channel. For example the share of viewers with a university degree watching the news channel of the Czech TV – ČT 24 (regulated under Public Broadcasting Law) is 16%, while those watching the privately owned TV Barrandov[10] is about 9%.

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[8] There is an excellent project in the Czech Republic called Demagog: a team of media analysts who fact-check all statements made by politicians and count the number of truthful statements, lies and unverifiable statements (demagog.cz 2018).

[9] As defined by Rumford, the uncivil society is *'a catch-all term for a wide range of disruptive, unwelcome, and threatening elements deemed to have emerged in the spaces between the individual and the state'* (Rumford 2001).

[10] A private TV channel which is mainly associated with Czech business man and media magnate Jaromír Soukup. On his TV channel, he provided considerable space for interviews with people with illiberal positions. He personally moderates several TV shows, including: My News, Week of Jaromír Soukup, Instincts of Jaromír Soukup, Arena of Jaromír Soukup, Issues of Jaromír Soukup, Week with the President, Duel J. S., Jaromír

Similarly, the share of people with high school education watching ČT24 is 40% while TV Barrandov has a share of 31% (Kartáková 2011). In other words, people with lower education tend to watch TV Barrandov rather more than more serious ČT 24.

As noted by Czech journalist Erik Tabery in his book, society is divided into two nations: while the first part takes advantage of travelling, is educated, publicly active, enjoys freedom and has quite a good standard of living, the second part is living rather on the periphery, has a lower level of education and has more material needs. Each of the group appreciates different values. While the first group is in favour of freedom, the second group favours security and certainty. This is not only about the conflict between the centre and the periphery, but also about generational conflict crosscutting families (Tabery 2017, p. 176). However, both aspects played an important role in politics as it was very visible during the last elections to Parliament in 2017 and the Presidential elections of 2018 (Lebeda & Lysek 2018). While the first group supported mainly parties affiliated to liberal democracy, the second favoured rather illiberal forces, including populists, nationalists or communists (Czech Statistical Office 2018).

These divisions in society are also visible in a civic dimension. While for people showing support for a liberal democracy, the issue of human rights, showing solidarity with refugees or helping NGOs are labelled by illiberal groups the 'Prague coffee house' (*Pražská kavárna*)[11] or *Havloids*,[12] 'Sunny people' (*Sluníčkáři*),[13] *Lepšolidi*[14] or simply 'Refugee Welcomers' (*Vítači*), the second camp is associated with anti-liberal tendencies, anti-immigration, Islamophobia and people from the village pubs – sometimes labelled simply as '*Islamophobes*' or '*Horšolidi*'[15]. Academia and intellectuals are considered the 'Prague coffee house' and generally labelled as indoctrinated by a 'neo-Marxist multicultural propaganda'[16]. From a broader perspective, this may be considered one of the effects of the post-truth age and decreasing respectability for experts *vis-à-vis* alternative information available to all. The division of society including that in the media and political arena plays an important role in the spread of disinformation due to the socialization effect. As put by Sloman and Fernbach: '*much of our decision-making stems not from individual rationality*

Soukup LIVE and 'That's how we live here' TV show. It is not surprising, that contemporary Czech president Miloš Zeman agreed to a weekly interview on this medium and TV Barrandov was one of the preferred TV stations for his pre-electoral communication.

[11] The label matches the stereotype of capital-based liberals with higher education and income, posh behaviour, people associated with NGOs, pro-Western foreign policy and uncritical thinking about the helping of refugees.

[12] Followers of the political and humanist line as presented by the former president Václav Havel.

[13] With the very negative connotation referring to very naive people who are endangering the survival of the Czech nation with multiculturalism and an open attitude to refugees while totally underestimating (and not understanding) the security implications of migration.

[14] *Lepšolidi* refers to '*Better people*' – a group of people who consider themselves better than others. The term, however, has a very ironic connotation and has entered public discourse after the 'Christmas speech' of President Miloš Zeman, who use the term *lepšolidi* to label his (mainly liberal) opponents.

[15] *Horšolidi* (Worse people) was created as a counter-term to *Lepšolidi*.

[16] This is an exaggerated simplification: NGOs, Multiculturalism, Human Rights or solidarity (e.g. with refugees) are in reality uncritically associated as leftist values and thus generally and very simply labelled as 'neo-Marxist' without any assessment of what the term means. The label 'neo-Marxist' in this sense has nothing to do with Czech history or the Communist era except some intuitive presence of internationalist dimension.

but from shared group-level narratives' (Sloman & Fernbach, 2017). In other words, there are 'trenches' in Czech society separating both groups.

In this sense, the media (social networks, printed, broadcast or on-line) has adapted to the existing segments of society and continues to keep the segments divided. Opponents may suggest that this opposition exists in every type of democratic regime. However, disinformation gives an advantage that is on the side of the critics and attackers. As shown by the MIT scientists, truth cannot compete with lies as the lie is spread on the social networks on average six times faster than the truth (mainly due to its romantic or emotional character) and has much greater reach (see Vasoughi, Roy & Aral 2018, p. 1146-1151). As put by former Czech President and Philosopher Václav Havel: '*It is a natural disadvantage of a democracy that it ties the hands of those who wish it well, and opens unlimited possibilities for those who do not take it seriously*' (Havel 1971).

The scope of the problem of division within Czech society may be present also in other related attitudes towards mainstream media and democracy itself. As the Globsec analysis (2017) discovered, 49% of Czechs do not trust the mainstream media. The Czech Sociological Institute published a survey (2016) that showed 16% of the respondents are persuaded that the best solution is to get rid of parliament and elections and to have a strong and effective ruler (CVVM 2016, p. 3). In other words, approximately half of Czechs do not believe in mainstream media, and every sixth person is, in principal, in opposition to democracy. Combined with the low media literacy, this contributes to the vital environment of disinformation and propaganda. It is however hard to define what is behind the distrust as the distrust may be present among both segments of Czech society. While the segment associated with liberal democracy may distrust public media due to the amount of space it provides for too many illiberal ideas, the illiberal segment may simply distrust public media due to the presentation of too many liberal ideas, and thus find it not objective. However, media literacy is generally a positive ability.

4. Fostering Immunity

As with vaccination, immunity of citizens might be fostered by the development of media education, critical thinking or promoting interest in civic affairs (see Pinto, Portelli 2009). Civic education involving education in areas such as human rights is, however almost totally missing in the Czech Republic. Media-education is only a 'crosscutting topic' in Czech education and at high schools, it is mainly taught only four hours per year. However, half of the schools do not verify whether media education was taught, approximately 65% of teachers lack any qualification to teach media education, and most of them (90%) prepare their own materials (Kaderka 2018, p. 15). Media education is an issue for the Ministry of Education, the National Institute for Education and for the Council for Radio and Television Broadcasting; however there is no coordination and there is uncertainty of who has responsibility in this area. A similar issue concerns digital education. On the one hand, there is a Strategy on Digital Literacy for 2015-2020 (SDG) aimed at the adult population and a Strategy on Digital Education until 2020 (SDV) developed by the Ministry of Education, but

the implementation is far behind expectations (Kaderka 2018, p. 13). Moreover, Strategy on Digital Education is getting old and does not address actual needs.

On the other hand, the gap is slowly being filled by NGOs and individuals who provide textbooks (often on a commercial basis), and materials and information on how to teach media education. Lecturers and universities provide assistance or volunteers (initiative Zvolsi.info) and the NGO People in Need organizes the Week of Media Education. Some webs contribute to the field with the fact checking of political speeches (Demagog.cz), and are aimed at debunking political disinformation (Manipulatori.cz) or hoaxes (Hoax.cz). In recent years, there have also been valuable books written by experts on disinformation and propaganda, which are not fully academic but have a popular style in order to reach a larger audience. In this way, the role of civil society and active individuals play an important role in the fight against disinformation and propaganda as they help to reveal and debunk the disinformation and contribute to media literacy at least within the selected segments. Moreover, approximately since 2018 there are 'Czech Elves' present on the social networks who fight 'Russian Trolls'. As pointed out by Elven anonymous speakers: '*we know that they are dividing our society and that support of extremes is intentional, backed by foreign interests. Activities are made by variously motivated enemies of our values ... we are not indifferent to the division of our society, that is why we want to defend our state and fight against Russian propaganda*' (Aktulne.cz 2018). However, the Czech environment is different from that of the Baltic States where people are more aware of Russian influence. For example while Elves in Latvia have approximately a five year long tradition and Elves are counted in hundreds, in the Czech Republic society is divided and there are just dozens of Elves (Aktualne.cz 2018). It is too early to evaluate the presence of Czech Elves on the internet as the real effects remain hidden. The presence has been notified also by its critics who consider Elves as the agents on the side of the censors as they help to fight disinformation.

The Czech environment is also different in another aspect. Due to the direct experience of older people with Communism, these groups think they are more immune to modern propaganda and they are indifferent to accepting advice on the issue. For example during the lectures about propaganda for retired people they quite often say: '*We know what propaganda is and we are able to recognize it. It is because we were used to reading the Red Law (Rudé právo)[17]. We knew that truth was somewhere else... That is why we learned to read in between the lines and search for the truth somewhere else*'. Their experience is correct but naturally drives them to depart from the mainstream media and seek some additional information which is easier to understand or which better matches their views. (In this respect, they are more prone to certain information, as some bodies are more prone to certain viruses.) Moreover, such desired information is then often present on disinformation webs. It gives the readers the good feeling of finally discovering more truthful and interesting sources of information. Finding such information reinforces what they initially thought, which is more pleasant than recognizing that they were wrong or than adapting their opinion in line with the information that they originally received. As pointed out by Baum, Lazer and

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[17]A censored daily newspaper in Communist Czechoslovakia.

Mele: '*Individuals tend to accept new information uncritically when a source is perceived as credible or the information confirms prior views. And when information is unfamiliar or comes from an opposition source, it may be ignored*' (Baum, Lazer & Mele 2017). In other words, contemporary propaganda is using techniques that it is almost impossible to detect and even experts may sometimes fall into the trap when thinking they can detect it and demarcate it. However, media education and critical thinking may foster immunity to less complex disinformation and decrease the likelihood of becoming a full victim of propaganda. The internet has created a challenging environment, as it is easy to run your own disinformation webpage adapted to the demands of users. Thus, the disinformation media adapted according to the readers, and the readers have available to them media matching their opinions which enables critical reflection and adjustment of opinions according to a factual basis.

Some scholars such as Gleb Tsipursky and Zachary Morford (2018) proposed the establishment of a Pro-Truth Pledge (PTP) in order to address the behaviour that leads to the sharing of fake news, which is generally vital to limit the spread. At the ProTruthPledge.org users may agree to abide by the twelve practices in working with information (Tsipursky & Morford 2018). Unfortunately, people creating and spreading disinformation or misinformation are often persuaded, that they 'share, honour and encourage' truth and many disinformation webs label themselves as the most trustworthy and objective; this does not help to solve the issue.

5. Inherent properties

There are some inherent properties of viruses and disinformation as well. Usually, the disinformation is well prepared for consumption, to a certain degree it is prepared to be more attractive for the consumer. Usually, it has some good potential to be spread due to its interesting content. However some disinformation is prepared by accompanying text which adds to the importance and urgency of the communication often with some degree of conspiracy: '*Please quickly forward to all your friends before they delete it*' or '*...and (mainstream) media is silent about this*'. However, this strategy does not work on all groups as they are less likely to be forwarded by younger age groups and university educated persons (Kopecký, Szotkowski, Kožíšek, Kasáčková 2018). Very aggressive disinformation is simply hidden in between a truthful factual context and mixed with truth and facts. Typical examples are the so called 'Euromyths' which are spread by disinformation servers and generally believed in society. Here, they make use of already existing beliefs that have been politically active and reliably effective in attracting attention. All of them may be labelled anti-EU propaganda based on the misinterpreted aims of EU regulations or activities (see Filipec & Hurtíková 2014). In general, people are critical towards the EU due to already established beliefs and thus are less cautious about critical news and comments towards the EU as it matches their own personal attitude. As knowledge about the EU and its structure is minimal in the Czech Republic, people simply believe what they read, regardless of the correctness of its content when linked to the negative discourse related with the EU. In other words, they lack the basis to verify the truthfulness of the information, their basic knowledge is already built on disinformation or the basic knowledge may be inaccurate or the disinformation exaggerates it. Moreover, in the case of a very complicated issue such as the EU and its

policies, it is easier to do so. This automatically leads to the rejection of positive communications about the EU which is simply associated only with the dominating negatives (migration crises, crises in Eurozone, dictates from Brussels, stupid regulations of bureaucrats etc.) while the broader context of the common market, prosperity, peace and stability is missing or secondary.

Unfortunately, only a little can be done with the inherent properties of disinformation as it is spread by different means of communication, such as new technologies and state of the art of modern propaganda and to try and cut technology or limit it are often seen as very controversial moves. To give an example: currently there is an ongoing discussion in the Czech Republic about the law that will not technically allow the deletion of shared posts and comments from Facebook. It is a paradox that mainly illiberal parties and politicians support the act. This is because Facebook often blocks their profiles due to the sharing of problematic content or spreading fake news and in this sense giving them 'ammunition' against censorship[18]. Passing the law prohibiting censorship on Facebook may untie their hands and increase the impact of disinformation.

6. Exposition

The long term exposure to a virus without being immune increases the probability of being infected or becoming a carrier. Similarly, being exposed long term to disinformation may cause changes in perception. Some exposed people who have fallen victim to disinformation and propaganda are hard to cure. The reasons are merely psychological and political. First, it is harder to persuade someone to accept that they are wrong or have made a mistake than to persuade someone who is just slightly mistaken; and second, and what is more important, is that the issue of disinformation and propaganda is very politicized in the Czech Republic. As noted by Petra Vejvodová, a Czech political scientist, the debate in the Czech Republic on disinformation started in relation to Russia after the annexation of the Crimea and the war in Ukraine and disinformation and propaganda linked to Russia leave the doors closed to the target group (which may have a positive attitude to Russia). In her opinion, the way to fight disinformation and propaganda is to depoliticize the issue (Vejvodová 2018). This is, however, a very demanding undertaking in liberal society, which provides individuals with enough space to remain in their 'entrenched positions'.

The example given above of the 'First Czech Terrorist', Jaromír Balda, is a good example on how exposure to disinformation increases the level of radicalization which may result in violent behaviour. At the beginning, he changed his behaviour and for months every evening spent time on his computer, browsing disinformation webs. Balda was scared of immigration[19] and became a sympathiser of the Czech nationalist, anti-immigration and very populist Party, SPD (*Freedom and Direct Democracy*). The party is known mainly for its

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[18] It is part of the so called paradox of tolerance as developed by Karl Popper. Society cannot tolerate those without tolerance because if they would get power the tolerance in the society would disappear. Popper points out, that the paradox may be resolved by the limited toleration of those not tolerant (Popper 1966, p. 266).

[19] As noted by President of the Judiciary Senate, Balda had nightmares about immigrants and, from a certain point of view, was a victim of manipulation made by the people who spread extremist ideas in the society (ČTK 2019).

uncompromising negative attitude towards migration, warnings on the 'Islamization of the Czech Republic' and hard censorship[20] on social networks in order to keep its sympathisers disinformed and supportive. Balda later became a very active supporter of SPD and started to act. His attack against two trains was well planned and prepared (Svobodová 2019). One example of course does not prove that increasing exposure to disinformation leads to radicalization, but certainly changes the information basis on which the opinions and positions are built. Disinformation webs thus change and enforce the preferences of voters who search for political parties and leaders addressing the issues. It is thus not surprising that the SPD party has paid 7.4 million crowns (US$350,000) to Play Net agency for its electoral campaign. The Play Net agency is personally linked to TV Barrandov and two disinformation webs: Parliamentary Letters and First News (Sattler 2018). The case of SPD opens a debate about possible alliance between anti-liberal parties and disinformation webs.

7. Impact

The impact may be measured by the scope of infection (epidemic, pandemic etc.) or the importance of infected bodies. In relation to disinformation, we can measure it online. In conducting such an analysis, it is important to work with very large data volumes. František Vrabel has made a very valuable contribution, a large data analyst and co-founder of the Semantic Vision Company, which analyses 90% of www content worldwide. His company analyses more than 1 million articles posted per day, out of which approximately 25% is dedicated to politics. According to the analysis of the Czech environment, there is 8-10% of content which is part of the enemy disinformation campaign or propaganda. This content is increasing by 2 to 3 % per year (Vrabel 2018). In the Czech environment, there is a relatively small number of disinformation webs, estimated between 20 and 30. In total 22 of such webs are responsible for 60% of the propaganda targeted against the state. Moreover, as Vrabel claims, it is easy to find their ties to Russia (Vrabel 2018; see also Kundra 2016). This content is later adopted by social networks which act as multipliers and allows adaptation (see Gross 2017). Scores of Russian agents[21] are distributing content and manage activities. Moreover, there are hundreds of Czech citizens who are variously motivated to spread the content (Vrabel 2018).

Unfortunately, Russian disinformation and propaganda is much more complex and targets areas that may also indirectly support national interests. The main aim is to create an emotional reaction in the target countries, which is transformed into political unhappiness exploited by anti-liberal, nationalist or radical parties having an uncritically pro-Russian attitude. Promoting unhappiness and frustration among the target population is thus indirectly supportive to the Russian national interest. Good examples are fuelling the debate about

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[20] People posting factual information on their Facebook wall in order to debunk disinformation are banned. As a result they create their own group on Facebook where they publish the reasons why they got banned. As of February 2019 the group having a thousand members is blocked by Facebook.

[21] The Russian Embassy in the Czech Republic is permanently overstaffed and provides cover to agents. At the Russian Embassy in Prague, there are 140 employees, 53 of them having diplomatic status (for Comparison at the US Embassy there are just 70 people). As pointed out by the Czech Intelligence Service (BIS), Russian intelligence has a high quality network of influence contacts and is using Czechs for the mining of sensitive information. Up to 2/3 of people employed at the Russian Embassy are said to be engaged in espionage (Lidové noviny 2016).

'transgender issues', or promoting the conspiracy regarding health issues (vaccination may cause mental disabilities; you can cure your cancer with swimming pool cleaners etc.). Russian trolls are present on the internet fora for mothers where they act as 'good sisters' providing 'advice' to mothers taking part in the discussion (Alvarová 2017). Some propaganda is targeted at the energy sector with the aim of criticizing renewables, which decreases energy dependence on Russian fossil fuels. A good target is the EU, NATO or the West as such, or public authorities and universities (because they develop critical thinking). Experts presenting information on the radical impacts (such as leaving the EU where approximately 85% Czech export flows) are attacked and propaganda calls for 'common sense' (in the meaning of simple thinking) which is unfortunately not the best approach on how to deal with very complex issues. Educated people in general are targeted as trolls often with the claim that the 'university of life' is a much better form of education than that of a formal education[22].

For this reason, education reform in the Czech Republic is one of the most sensitive topics. Is it not surprising that illiberal leaders and political parties, in line with pro-Russian propaganda, call for the limiting of social sciences or humanities (for example gender studies in the Czech Republic is under unprecedented criticism) and are supportive of technical education. This is rational, as people educated in social sciences, legal studies or humanities in general have a better predisposition to understand international politics, history, civics, the role of law in society. As a result, the level of education and type of education is also one of the factors resulting in the polarization and division of Czech society as noted earlier.

8. Leaving a footprint

Like viruses when healed disinformation also leaves changes or at least marks of their former presence. This is most visible in the electronic footprint, as articles published on the web usually remain present after the campaigns are over, chain-emails are stored on servers and broadcasts archived. Especially in cyberspace, it is possible to track the origins of disinformation and users who spread them. For example Elves focusing on chain-mails observed a higher intensity of forwarded e-mails during presidential elections and are persuaded that there are scores of people who are able to send e-mails on a mass basis. These people found some way to be heard and increase their impact. After the analysis of language, Elves discovered that some of them are using Russianisms in the Czech language (Aktualne.cz 2018). In other words, it is possible to track e-mails back to their source.

For example, due to the significant increase in the number of disinformation chain-emails, Czech journalist, Jan Novák discovered one of the creators, Oldřich Lukáš. He created dozens of disinformation e-mails and forwarded them to retired people usually as a power point presentation or a word document. E-mails were adapted for an older population: letters written in bigger size fonts are highlighted with colours and there are many exclamations in the text. Mr. Lukáš, when confronted with the facts, defended himself saying

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[22] Referred to in the Czech context as *selský rozum'* (farmer's logic), this highlights the need to trust in basic, conservative logic and basic assumptions over too complicated issues which are seen as unclear, unreliable or too risky to follow.

that he has thousands of resources from various countries, but unfortunately yesterday someone went into his computer and deleted all the reliable resources proving that he is right (Czech TV 2018). Nonetheless, people like Oldřich Lukáš are rather problematic activists who are using information from disinformation webs to create their own misinformation and disinformation and unfortunately, on the same side as Russian propaganda. Czech history and the feeling of some citizens for the communist past creates an almost inexhaustible reservoir of potential supporters for Russian national interests in the Czech Republic. Although there is evidence and links have been revealed, the issue of disinformation is politicized in the divided society. The division is reflected also in the medial and political level that prevents effective measures dealing with disinformation.

Conclusions

The main aim of this article is to present an 'organic approach' to public resilience *vis-à-vis* to information warfare and present several proposals contributing to improving resilience to it. The approach and proposals were derived from the context of the Czech Republic, which is targeted by Russian disinformation and propaganda. The presentation of the organic approach may contribute to a better understanding of the environment in which information warfare takes place and identify key areas for supporting resilience to it. However, instead of providing a complex explanatory model the organic approach may serve as a framework for enabling the presentation of the state of play in several domains attributed to disinformation.

In this sense, virology may be useful for structuring the environment and thinking about disinformation. This article focussed on eight parallels between a virus and disinformation in the Czech context. As presented in the article the Czech Republic has in its Penal Code definitions of various offences related to disinformation and propaganda. However, selected crimes are do not touch the essence of the problem. The situation is more complicated as society is divided into two large segments structured by level of education, income and age. This dichotomy also has implications for politics and the media landscape. There seems to be an alliance between the disinformation media and political parties critical of liberal democracy and the pro-western orientation of the country.

Disinformation is easy to spread in the Czech Republic and has been increasing over time. This has been caused by the critically low level of media and digital literacy. It is a paradox that civil society, which is often under attack from the side of the disinformation media, is filling the gap in media and digital literacy by providing materials and courses for students or teachers in order to enhance the level of their media literacy. On a state level, clear responsibility, cooperation among key actors and comprehensive strategy are still lacking. Moreover, some attempts aimed at improving the situation (such as the removal of the non-factual pro-Russian interpretation of historical events from history classes) is being politicized, similar to disinformation.

Nevertheless, increasing digital literacy among seniors and media literacy among all groups within the population seems to be the right sort of medicine, continuing the virus metaphor. Data from the Czech Republic shows that education plans need to be better balanced and adjusted to contemporary issues. Moreover, it is necessary to equip teachers

with the appropriate knowledge and skills related to disinformation instead of leaving them with a free hand, which may turn them into part of the problem and reinforce the use problematic media. The issue of education is much more complex, and calls for an increase in the support of technical fields and practical education at the expense of social sciences, history or civic education may serve as a vital element in the spread of disinformation and pro-Russian propaganda.

Because disinformation in the Czech Republic is linked to Russian hybrid warfare it is a politicized issue. Attempts to solve the problem naturally alienate citizens who have feelings for the communist past and pro-Russian attitudes. Approximately half of the Czech population does not trust mainstream media and every sixth person is in favour of a regime change to some undemocratic form. These settings limit the manoeuvring space in the political arena and, as a result, also the adoption of effective measures to address the issue of disinformation because the opponents of regulation will always protect themselves with the argument of freedom of speech and stress that censorship is not allowed. In other words, they will use the advantage of a liberal democracy to spread anti-liberal opinions and disinformation.

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