

## The science between the infodemic and other post-truth narratives: challenges during the pandemic

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**Abstract** *This essay proposes a reflection on the social phenomenon that involves communication and construction of facts and narratives around science and the pandemic. We divide the text into four parts. It begins with a rapid overview on the disinformation over health in the context of the global digital integration: in the sequence, we argue about how this phenomenon is characteristic of the post-factual era in which we live, and then critically situate the denial of science in the pandemic context. Finally, the text discusses some propositions on the legal and institutional field commenting on recent advances in the United States and Europe. Our intention is to contribute to an initial reflection that can reposition science in health governance.*

**Key words** *Health communication, Democracy, Pandemic*

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## Introduction

Rumors and lies have always existed throughout human history. In public life, since the oldest empires, leaders and politicians have lied about their enemies, economic success, and great achievements. World War II happened decades before the creation of the internet, and the propaganda industries in Germany or Russia are well known. However, in the age of social media, the dynamics and rules by which the so-called fake news, in specific, and all types of information, in general, operate and spread have changed dramatically. Any user can be a creator of various types of content and share it with millions of people connected around the world. Despite the democratization of opinions and the safeguarding of freedom of expression that the Internet has provided us with, digital interdependence and rapid interconnectivity has unleashed new processes and ruptures in the social fabric that span from political structures to family relationships.

The unfolding in democratic life and electoral demands of excess of inaccurate information, which is disseminated quickly and in a disorderly manner, especially with false content, began to be the object of reflection some time ago. However, today, the society affected by the pandemic and its ruptures is faced with real risks and damages to human life caused by disinformation and deception.

In this essay, we propose a reflection on the social phenomenon that involves communication and the construction of facts and narratives around science and the pandemic. The text is divided into four parts. We start from a quick overview of health disinformation in a context of digital globalization. Next, we argue about how this phenomenon is characteristic of the post-factual era, and then we situate the denial of science within the pandemic context. Finally, we bring propositions in the legal and institutional field commenting on recent advances in the United States and Europe. We intend to contribute to an initial reflection that can reposition science in health governance, in addition to stimulate the debate on how this phenomenon affects the right to safe health information in a democratic society.

### **The infodemic and disinformation during the pandemic**

The term *fake news* encompasses variations in the concept and there is no consensus about

its definition. In any case, the lack of authenticity and the assumed purpose of deception are characteristic traits of fake news<sup>1</sup>. A typology to classify and define fake news was proposed by Tandoc et al.<sup>2</sup>, which encompass: satire, parody, fabrication, manipulation, propaganda, and advertising. A similar proposal by Waszak et al.<sup>3</sup> treats manufactured and manipulated news as a single category, but they add “irrelevant news” to capture the co-optation of health terms and topics to support unrelated arguments<sup>4</sup>. This new category, for example, is appropriate to better reflect about some phenomena in the field of communication during the pandemic. For example, when “arguments” disconnected from the scientific context (although linked to the ideological tribalisms of social networks) are added to scientific facts.

The complexity increases, because we can still find differences between certain “brazen falsehoods”, as they are called by Hartley & Khuog Vu<sup>4</sup>, and fake news. Falsehood needs complete public deception. In this sense, it requires the co-construction of content (as opposed to content constructed by professional journalism and science). Therefore, this complete falsehood depends on the public perceiving and believing the false to be real<sup>2</sup>. In this case, the person producing the content and the public (or audience) of this content producer believe that the fake is real. There is a complicity and agreement between the worldviews of both sides.

A categorization of information disorder aimed at distinguishing motivations and intentions through a legal framework was carried out by the Council of Europe<sup>5</sup>. According to this report, we have at least three less broad subcategories:

*Misinformation*: The type of information that is false but not intended to cause harm. Or truthful information that is misinterpreted or taken out of the context in which it was produced and where it made sense. In other words, misinformation is a misunderstanding, which, however, can take on great proportions. What differentiates it from other categories would be the intention. That is, the content may be false, but it has not been intentionally manufactured or taken out of context with the purpose of impairing thinking. There are false connections. Memes are a possible example: users sharing them are not always aware of the true nature of the content (and here, specifically, we could include certain satire about vaccines).

*Disinformation*: False content with a deliberate intention to harm and cause damage. In

this category, we have content made or taken out of context to deceive. We can list countless contents related to the origin of the new coronavirus, many of them imbued with conspiracy theories, or even speeches by specialists removed from their original context to generate confusion and undermine the credibility of the institutions.

*Mal-information:* Content that is based on facts but may be distorted, being intentionally used to harm individuals, groups or minorities. It may include data leakage. Classified as extremely harmful, we have hate and racist speeches as examples.

These categories formulated by the Council of Europe help, but they are not sufficient to understand the phenomenon itself. The broader phenomenon we will explore in this essay includes disinformation and misinformation (and covers all three definitions provided by the Council of Europe Report). In addition, we will also discuss the reality of the infodemic. Furthermore, we are interested in understanding how deceptive content gains legitimacy in front of the masses, how facts are shaped to suit beliefs and ideologies, and how truth is no longer an objective fact. We consider that these are complementary and simultaneous phenomena that shake science, professional journalism, and other official institutions in a democratic society under the rule of law and that, during this pandemic moment, they hurt the right of access to safe health information.

Disinformation increased with the advent of the internet and what we have seen as the outcome of this situation is that it has caused problems in the real world. In fact, there is so much content on the internet that sometimes it is difficult for users to distinguish trustworthy information from dubious or malicious content. This seems to have been highlighted during the COVID-19 pandemic in such a way that we have become as concerned with the phenomenon of the spread of deceptive and malicious content as we are with the spread of the new coronavirus. This phenomenon has been called infodemic, and refers more closely to the rapid and large-scale dissemination of varied information and untrue content, causing a profound misinformation<sup>6</sup>. In a society marked by network connections and information, the phenomenon is amplified by social networks and the media<sup>7-9</sup>.

The process accelerated exponentially during the pandemic when millions of people started searching the web for information about the new coronavirus. According to the Pan American Health Organization, in April 2020, 361 million

videos were uploaded to YouTube in 30 days with “COVID-19” and “COVID 19” content ratings. In March 2020, about 550 million tweets contained the terms coronavirus, COVID-19 or pandemic. In general, the searches involved data on the epidemic across the world, social measures adopted by governments, number of deaths, effective interventions, people’s opinions on social networks, among other issues<sup>10</sup>. However, in the face of the information epidemic, a very small number of publications are clear and secure<sup>3</sup>. The vast majority of the content is false and misleading, especially concerning the origin of the virus, ways of contamination, and means of treatment. Many false stories are easily created, and there is no fact checking for most of them. Among all this information, it can be very difficult to distinguish true and reliable information from lies.

### **The dispute of public opinion in the post truth era**

The phenomenon of fake news in this period of the pandemic and the proliferation of misinformation is also deeply linked to modern communication processes and the sphere of public opinion. We refer to a phenomenon that provokes a rupture and destabilizes the place that the media, the journalistic discourse, and science used to dominate and give legitimacy to the sayings about the real and the factual truth.

Problematizing these issues leads us to reflect that, in contemporaneity, the communicational dynamics expanded to the same extent that destabilized the status of the voices once authorized to say. Thus, the standards and criteria by which credibility is attributed to what influences the formation of opinion and adherence or not to the narratives produced are no longer the same.

With the intensification of the process of fragmentation of the social fabric and the rupture of the space of legitimacy over ‘who is authorized to speak and who has the legitimacy to speak’, a reconfiguration that expresses a multiplicity of spheres of legitimacy was provoked, putting institutions, discursive apparatuses, and science itself in check. In times of ‘post-truth’ or ‘self-truth’ the traditional media (professional journalism) has been losing its referentiality. The press, traditionally responsible for checking the facts and building narratives based on reality, has faced obstacles such as the loss of credibility in the face of disputed narratives in the space of social networks. We can say that we live in a post-press and post-fact time. One of the effects

of this 'new time' is what some scholars have been calling the 'post-truth' era, a notion that has been used to try to understand the phenomena associated with the behaviors on social networks and the fissure they have caused in the image of traditional media. Keyes<sup>11</sup> argues that, in the post-truth era, the boundaries between truth and lies, fiction and nonfiction are blurred; there is a break with the binary right or wrong, which is replaced by fluid evaluations.

This reflection can be related to this time in which parallel realities are manufactured. These realities legitimize certain discourses within bubbles of opinions - mediated by algorithms<sup>12</sup> - as we witness a process of delegitimization of institutions and discrediting of science.

At this time, new devices and communication platforms and applications - such as social media - are powerful tools for the dissemination of information<sup>12</sup>. The effects of this technification on citizens' everyday life directly impact the expansion and transformation of what is understood as the public sphere - a key concept in the democratic theory of Jürgen Habermas<sup>13</sup>. In Habermas, we start from the idea that the public sphere has to do with the social space in which citizens have the possibility to criticize, defend their ideas, reflect their position on the world, debate convictions, and formulate points of view that influence the understanding and decision-making in life in society. Thus, we think of the communicational processes as intimately related to the constitution of a public sphere, which, in turn, refers to the concept of public opinion, a notion that differs from the mass - understood as a vast passive and undifferentiated sea of individuals.

Public opinion is taken as the product of a communication process within the masses, who symbolically construct identification references, and must manifest repercussions in the sphere outside them. In this line, the media field takes upon itself the responsibility of forming public opinion; and it is through its discourse that plausible versions of reality are constructed<sup>13</sup>. Thompson<sup>14</sup> and Rodrigues<sup>15</sup> assert that the media has become responsible for the reorganization of the means by which information and symbolic content are produced and exchanged in the social world since modernity. Therefore, it can be said that the media has taken the place of traditional institutions in the formation of public opinion, mediating and interfering in real events. In this sense, the media plays a central role in the formation of public opinion. It interferes in the way individuals can think about social reality, and, to

some extent, it can create and cause changes and transformations in the behavior and worldview of social groups.

However, in the era of the so-called post-truth, the formation of public opinion is subject to the destabilization of the legitimacy of this field - the media -, which is now confronted with the post-press. Narratives are constructed under a logic of misinformation and distortion of information. With the advancement of technology and the establishment of a networked society<sup>16</sup>, the public sphere gains new devices and new contours. We have an information society composed of production, power, and experience networks, whose expansion gradually absorbs previous social forms. The dispute for the hegemony of narratives brings to the center stage what was previously in the 'supporting' position - the audience, that is, the public consumer of information assumes the protagonist role in this new era where the boundaries between truth and lies are tenuous, volatile, and guide discursive disputes.

Thus, platforms favor the replication of rumors, lies, and fake news. For example, in the case of the pandemic, websites that disseminate false content are created in order to demonstrate alleged efficacy of drugs for the so-called "early treatments". It mimics an academic article through a visual format and narrative that resembles the mode of scientific communication. Using English, suggesting the adoption of a method (meta-analysis, for example), and employing a technical vocabulary, the information from articles (of high and low quality) published in scientific journals is mixed with various other manufactured contents<sup>17</sup>.

Nevertheless, this gains greater proportions because a large part of the factoids is shared by acquaintances who users trust, which increases the appearance of legitimacy of the stories. The algorithms employed make users tend to receive information that corroborates their points of view, creating bubbles that isolate the narratives<sup>12</sup>. One of the premises of the amplification of the process is anchored in the fact that emotions and personal convictions are more important than objective facts, especially due to the influence of information sharing through networks of affections and ideologies<sup>18</sup>. These comfort narratives that bring users together emerge from the expansion of collaborative social media and the hyper-interactivity resulting from the evolution of the internet.

Thus, a false equivalence between all narratives is established: convictions matter more than

facts, and emotions, beliefs, and ideologies overrule truth. In the era of media culture, there is a process of media hybridism. Communication has gone from massive to individual, affecting both the production and circulation of content. Thus, factoids are created by mixing misinformation and disinformation. During the pandemic, using a drug without proven scientific efficacy becomes unquestionable practice due to political convictions; one equates the opinion that COVID-19 is a “little flu”<sup>19</sup> with the evidence from epidemiological bulletins. These demonstrations of narratives parallel to science - based on ideological tribalism - find in the social dynamics of post-truth a favorable environment for their dissemination. Therefore, as alternative facts take precedence over reality, the foundations of democracy are at risk, as well as the right to safe health information and the right to life itself in times of a pandemic.

#### **Disputed perspectives: the negationist movement**

The growth of the COVID-19 pandemic was accompanied by infodemic. That is, by a corresponding increase in the production of and interest in news and information that could provide points of reference and understanding about this new and disturbing situation, which shook both the economic and healthcare systems and the daily lives of millions of people.

Indeed, as social psychologist Serge Moscovici argues<sup>20</sup>, when we come into contact with an idea, object or phenomenon that we do not know yet, or that we know insufficiently, and that intrigues us, we feel the need to understand it, to place it in a familiar context. This hitherto strange reality is, in this way, represented according to our previous systems of references - ideas, beliefs, and ways of communicating.

The information, opinions, and interpretations that were elaborated and communicated regarding the COVID-19 pandemic were quite numerous, diversified, and even contradictory to each other, involving both specialist audiences (researchers in the field of health, communication, social scientists, among others), as well as lay audiences. In addition, they covered different aspects of the pandemic, such as the origin of Sars-CoV-2, COVID-19 treatments, and appropriate public health measures to limit the spread of the disease.

The referred variety of interpretations that circulated about the pandemic can be portrayed,

for analytical purposes, through a continuum of positions that are located between two ends: on the one hand, the scientific pole and, on the other, the negationist pole.

On the scientific side, we have perspectives based on knowledge, which tend to be characterized by a certain internal consensus within the scientific community and by an authority with regard to information sources. In this framework, we have a body of knowledge that follows the principles of publicity, reproducibility, and controllability<sup>21</sup>.

In this sense, in general, from the research conducted so far, COVID-19 is known and reported as a disease with a clinical spectrum ranging from asymptomatic infections to severe respiratory conditions and pneumonia; highly transmissible, either through droplets of saliva, sneeze, cough, and phlegm, or due to direct contact with infected people, contaminated surfaces and by aerosol. A disease for which, to date, there are no specific drugs (nor early treatment). However, the development of safe and effective vaccines has progressed significantly. Prevention of COVID-19 infection requires adoption of non-pharmacological measures such as the use of masks, hand hygiene, and physical distancing<sup>22</sup>. The success of these measures depends on the adherence and behavioral change of individuals and societies.

Perspectives that lie on the negationist spectrum, in turn, are usually linked to a belief in untrue information and conspiracy theories. They are perspectives marked, to a greater or lesser extent, by a counter position or rejection of arguments, in general, accepted in the scientific field. In this context, COVID-19 is roughly compared to influenza (flu), which would not require measures such as wearing masks, restricting the movement of people or reducing certain social and/or economic activities. In addition, the indiscriminate use of specific drugs for a so-called “early treatment” of COVID is emphasized in this negationist narrative.

The negationist perspectives on COVID-19 lie within a broader anti-scientific and anti-historical current within which we can also find, for example, the Flat Earth movement, the anti-vaccine movement, and those that reject the holocaust<sup>23</sup>. The dissemination of these discourses characterizes a cultural phenomenon that is not new and has psychological, social, and political roots.

The background that allows us to understand the dissemination of the negationist discourses

and the untruthful contents that support them is characterized by a crisis of confidence in the authority and legitimacy of the official systems of production and dissemination of information and knowledge, named<sup>24</sup> expert systems by Giddens. The disbelief in these institutions, then, has the valorization of knowledge from alternative sources as a counterpart.

In this context, certain discourses and contents that dispute space with the official ones gain relevance. The new social media plays an important role in the dissemination of these alternative contents, as it allows them to be shared in a simple, fast, and comprehensive way.

The characteristics of social media that allow the easy circulation of untrue information are varied. As we have already mentioned, they enable, for example, anyone to become a producer and/or disseminator of content, without any control over the quality of what is shared. In addition, as previously stressed, these contents tend to circulate in affinity groups characterized by strong relationships of trust, managing to awaken feelings and adapt to previous beliefs and values. On this last point, Bruno and Roque<sup>25</sup> state that the engagement in the transmission of messages *may be less linked to the veracity of their content than to their relevance to a set of collective convictions* (p. 21, our translation).

Thus, the operating characteristics of the new social media, coupled with the crisis of confidence in the official institutions of production and dissemination of information and knowledge, form a fertile ground for the dissemination of untrue news and conspiracy theses that largely support the negationist perspectives on the COVID-19 pandemic.

Thus, in some countries, as it is the case of Brazil, different and antagonistic discourses about the current pandemic dispute space in the public debate. This misalignment between the various perspectives certainly compromises the confrontation of the health crisis, to the extent that the population starts to receive different guidelines and models on the appropriate behavior in the face of the situation.

This scenario can become even more worrisome when disbelief in science and other institutions marks the discourses and actions of some political representatives. One example is the case of the current president Jair Bolsonaro and other political authorities of his government who have repeatedly denied the severity of COVID-19 and criticized the pandemic mitigation measures adopted by mayors and governors. As we know, the

legitimacy and authority that these political representatives possess is surely a convincing factor for the population. Thus, certain discourses may be followed by part of society not because they convey a credible image about the pandemic, but because they align with previous political and ideological positions.

In fact, if the representation about the health crisis depends partly on value and ideological orientations - to the detriment of factual content from authorized sources - there is an incoordination of measures and the absolute lack of governance of the crisis in its different dimensions.

In the following sections, we will look at some initiatives being implemented in several countries to address the problem of dissemination of false content.

### Regulatory policies for digital platforms

As we have seen, the term fake news comprises several essentially different phenomena. Because of the recent problems resulting from the dissemination of misleading information in the pandemic, as well as due to its direct relationship with democratic processes, there is an increasing need to understand the phenomenon in its particularities so that effective solutions can be created for each case. As Rini<sup>26</sup> asserts, the problem *will not be solved by focusing on individual epistemic virtue. Rather, we must treat fake news as a tragedy of the epistemic commons, and its solution as a coordination problem* (p. 44).

As shown in the Council of Europe<sup>5</sup> report, numerous factors must be taken into account in order to understand the phenomenon and how to address it. We cannot treat in the same way someone who made a tweet without much thought or intention of causing harm and a racist criminal organization that wants to inflame the tempers of followers on the internet. Although many features are raised in the Report, for a better understanding of how misinformation, disinformation, and mal-information are produced and spread, we will deal with just a few of the most important ones.

First, are the actors official or unofficial? When official entities are involved in the elaboration and dissemination of disinformation, the process has numerous advantages, such as legal support and a large financial contribution. An unofficial actor will not have these advantages in most cases, so their scope is much more restricted<sup>5</sup>.

Secondly, there are the motivations. Disinformation may have been designed to incite pro-

tests against health measures or to delegitimize a health organization. In these cases, whether with political or economic motivations, there is the use of political resources. Another reason for the intentional production of misleading information comes from the desire of websites to profit from the advertising industry, which leads to the creation of dubious sensationalist headlines to attract clicks. Finally, we have the powerful social/psychological motivation engendered in the logic of social networks tribalism. Political groups produce misleading information based on reality and embed the news with great emotional charge, with the ultimate goal of maintaining their support<sup>4,18</sup>.

Last but not least, on how automated this process has become. Computers may not be that good at creating fake news, but they are extremely efficient at spreading it<sup>18</sup>.

From a legal point of view, without a precise definition of fake news, the term becomes very broad and subject to different interpretations depending on who manufactures the information, the target, the scope, etc. This makes it a great weapon for attacking legitimate sources and scientific knowledge or for delegitimizing true information. Thus, with the new dynamics and proportions that the phenomenon has taken in the last few years, the laws have proven to be obsolete as they fail to identify and punish those responsible. We will look at efforts being taken globally by governments and companies to address online misinformation.

### **Jurisdictions and efforts to control disinformation**

Many of the laws in force today take TV, radio, and newspapers as the means of communication, leaving the Internet out. The problem is that, in the pre-internet era, all content that was going to be published to a large number of people necessarily passed through a central actor who could moderate and, consequently, take responsibility for it. With the advent of the internet, in addition to the great freedom of speech granted to users, came the decentralization and breaking of the monopoly of some companies on communication. This in itself makes moderating content quite difficult. A large website, such as Facebook, for example, cannot be entirely responsible for everything that is published, since it has no control over it. However, it cannot be exempted from its responsibility either. At this point, we already begin to see how outdated the current legislation

is. Let us take the United States as an example. Section 230 of the Communications Decency Act of 1996, the first law to attempt to regulate content published on the Internet, stipulates that *[n]o provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider*<sup>27</sup>. This takes the responsibility away from both the user who retweets a lie and the Twitter platform itself. Moreover, the said country is probably the place of greatest freedom of speech, regardless of what it is, mainly due to the first amendment to the constitution, which states that *[c]ongress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; [...]*. The fundamental problem with that text is in the lack of distinction between disinformation, done intentionally to mislead and cause harm, and freedom of speech itself.

While other countries may not have such a broad guarantee of the right to freedom of speech, they all have difficulties formulating and regulating this distinction. This is mainly because they do not take into account the factors already mentioned, such as intention, motivation, actors, etc.

Germany, for its part, was one of the first countries to start regulating fake news online<sup>28</sup>. Due to the sharp increase of online hate speech, the country passed a bill to combat it - which is often related to disinformation. The rules apply to any digital platform with more than 2 million users and state that they must remove content within 24 hours of it being reported or discovered. Otherwise, platforms have to pay a fine.

### **Controlling disinformation online**

In Europe, in a quest to combat online disinformation, 2018 saw the development of the EU Code of Practice on Disinformation<sup>29</sup>, whose signatories include members of the advertising industry, leaders of digital platforms such as Facebook, Google, and Mozilla, among others. The document proposes good practices that the signatories commit to follow in a joint effort to control the creation and dissemination of fake news online.

Some of the measures taken include: working multilaterally on a major initiative to not financially support sites that consciously share false, sensationalist or conspiratorial news through a more careful choice of where and what ads will be displayed; control inauthentic accounts, such as bots and those that disseminate misleading in-

formation, and establish rules on how bots can be used on the platform; guarantee the maximum possible transparency to users, making it clear that certain content is a political advertisement and why it was shown to them; provide the users with tools that allow them to access authentic content, indicating the quality of the source, and browse new sources with points of view different from their own (Section I of the Code of Practice on Disinformation)<sup>29</sup>.

The points mentioned are extremely important as they are directly linked to issues such as freedom of speech and democracy. Much discussion has been had about the duties and limits of digital platforms in deciding what is or what is not misleading content. In fact, this is a very sensitive topic, and it has to be treated as such. For this reason, the Code of Practice avoids proposing and does not recommend the arbitrary removal of potentially misleading content, unless it constitutes hate speech or has clear evidence that it violates the law or that it was produced with the intent to deceive<sup>29</sup>. A platform cannot arbitrarily remove content just because their algorithms think it is fake. However, it can take indirect measures that minimize its consequences, such as: improving the clarity regarding the display of political ads, provide tools that give users the access to content from other points of view, prioritize relevant content, in accordance with human rights and their principles, and attack the profits of sites that spread known false news.

In addition, one can note that the control of inauthentic accounts must follow objective principles of the European convention on human rights, and the principles of anonymity and proportionality (not treating large organizations and individual agents as equal, for example).

In fact, the issue of freedom of choice is one of the most discussed points when it comes to disinformation, since there is a wide margin of interpretation for content on the internet. Therefore, there is an effort to establish objective criteria regarding definitions and procedures to be taken, leaving little room for subjectivity.

The Platform Accountability and Consumer Transparency (PACT)<sup>30</sup> Act, on the other hand, has the potential to bring significant advances in legal procedures for removing false content from the internet, stipulating objective criteria and determinations that leave no room for individual interpretation. This law:

Establishes deadlines for removing harmful content “*from the moment the digital platform be-*

*comes aware*” of it, whether by automatic or manual moderation tools, or by reports;

Determines the creation of a system for complaints “*following objective definitions and rules*”, such as operating time, response time, transparency regarding the reasons for the removal of content, and forms of contact in which users can both make complaints and follow the process of deciding illegality/non-compliance with the platform’s terms of use, and contest the removal of posted content, thus ensuring the right of reply;

Stipulates that the rules for use of the platforms must be clear and displayed in a way that is visible to the user;

Determines that platforms should make quaternary transparency reports, in which they publish information such as the number of inauthentic accounts banned, content reported due to human or automated moderation and by complaints, total measures taken regarding these reports, how many of these decisions were contested, and several other measures that would allow external observers to analyze the digital platform’s commitment and effectiveness on this issue.

An important feature of the law is precisely the different treatment for large and small companies (less than 1 million accesses per month for the last 24 months or gross revenue below 25 million dollars in the last year), which alters some aspects, such as deadlines and flexibility to deal with complaints. Finally, the law<sup>30</sup> suggests an amendment to section 230 of the Communications Decency Act<sup>27</sup>. The proposal would remove the protection of intermediaries regarding the content on their platforms if they become aware of illegal content - either through moderation or notification - and do not remove it from the air.

In Brazil, since the 2018 electoral process, the phenomenon of fake news has been amplified, assuming great proportions in the scenario of the COVID-19 pandemic. However, despite gaining space on the political agenda and in the press, robust initiatives are still non-existent. The draft law 2.630/2020 called Brazilian Law of Freedom, Responsibility and Transparency on the Internet *establishes standards, guidelines and transparency mechanisms for providers of social networks and private messaging services in order to ensure safety, ample freedom of speech, communication and manifestation of thought* (Our translation) was approved in 2020 in the Senate but it still has to be voted in the House of Representatives<sup>31</sup>.



## Final considerations

Excessive inaccurate information and false content offer real risks when it comes to pro-health behaviours, prevention, and health protection. In the pandemic, in particular, disinformation leads people to adopt risky behaviors, increases the tension caused by the social and health crisis in the population, and causes discordant narratives. Thus, it generates resistance to health campaigns because it discredits science.

The complexity of this scenario made us reflect about the influence and risks inherent to the dissemination of untrue information and conspiracy theories about the COVID-19 pandemic. This aspect helps us to reflect how negationism

sticks to ideological narratives that interfere with the cognitive processes of information.

The dispute for spaces of credibility and legitimacy between other narratives and science have become concrete challenges for governments in facing the health crisis installed by the pandemic. Public governance, therefore, must be guided by science and ensure that it reaches all citizens.

The discussion on the dissemination of fake news in specific and misleading information in general is extremely recent and of great relevance, and the modernization of the current legislation is urgent. Far from offering answers, we propose a debate on the regulation of the topic, and we understand that the discussion is still in its initial stages.

## Collaborations

RCF Giordani and JPG Donasolo acted in the conception and analysis design, literature review, writing the article and reviewing the final version to be published. VDB Ames and RL Giordani acted in the literature review, article writing and review of the final version to be published.

## References

1. Shu K, Sliva A, Wang S, Tang J, Liu H. Fake News Detection on Social Media. *ACM SIGKDD Explor Newsl* 2017; 1.
2. Tandoc EC, Lim ZW, Ling R. Defining “Fake News”: A typology of scholarly definitions. *Digital Journalism* 2018; 6(2):137-153.
3. Waszak PM, Kasprzycka-Waszak W, Kubanek A. The spread of medical fake news in social media - The pilot quantitative study. *Heal Policy Technol* 2018; 7(2): 115-118.
4. Hartley K, Vu MK. Fighting fake news in the COVID-19 era: policy insights from an equilibrium model. *Policy Sci* 2020; 53:735-758.
5. Wardle C, Derakhshan H. *Information Disorder: Toward an interdisciplinary framework*; 2017.
6. Zarocostas J. How to fight an infodemic. *Lancet* (London, England) 2020; 395: 676.
7. Hua J, Shaw R. Corona virus (Covid-19) “infodemic” and emerging issues through a data lens: The case of china. *Int J Environ Res Public Health* 2020; 17(7):2309.
8. Medford RJ, Saleh SN, Sumarsono A, Perl TM, Lehmann CU. An “Infodemic”: Leveraging high-volume twitter data to understand early public sentiment for the Coronavirus disease 2019 outbreak. *Open Forum Infect Dis* [Internet]. [cited 2020 Dez 15]. 2020; 7(7). Available from: doi: <https://doi.org/10.1093/ofid/ofaa25810.1093/ofid/ofaa258>
9. Pulido CM, Villarejo-Carballido B, Redondo-Sama G, Gómez A. COVID-19 infodemic: More retweets for science-based information on coronavirus than for false information. *Int Sociol* 2020; 35(4):377-392.
10. Organização Pan Americana de Saúde (OPAS). *Entenda a infodemia e a desinformação na luta contra a COVID-19* [Internet]; 2020. [acessado 2020 dez 15]. Disponível em: <https://iris.paho.org/handle/10665.2/52054>
11. Keyes R. *The Post-Truth Era: Dishonesty and Deception in Contemporary Life*. New York: St. Martin's Press; 2004.
12. Cinelli M, Quattrociochi W, Galeazzi A, Valensise CM, Brugnoli E, Schmidt AL, Zola P, Zollo F, Scala A. The COVID-19 social media infodemic. *Sci Rep* 2020;10.
13. Habermas J. *Mudança estrutural da esfera pública: investigações quanto a uma categoria da sociedade burguesa*. Rio de Janeiro: Tempo Brasileiro; 2003.
14. Thompson JB. *A mídia e a modernidade*. Rio de Janeiro: Vozes; 1998.
15. Rodrigues AD. *Estratégias da Comunicação*. Lisboa: Presença; 1990.
16. Castells M. *A Sociedade em rede*. São Paulo: Paz e Terra; 2000.
17. Tessler L. *c19study não é fonte confiável!* [Internet]. Unicamp. 2021. [acessado 2020 dez 15]. Disponível em: <https://www.unicamp.br/unicamp/tv/2021/02/01/c19study-nao-e-fonte-confiavel>
18. Vosoughi S, Roy D, Aral S. The spread of true and false news online. *Science* 2018; 359(6380):1146-1151.
19. BBC News. *2 momentos em que Bolsonaro chamou covid-19 de “gripezinha”, o que agora nega*. [Internet]. [acessado 2020 dez 15]. Disponível em: <https://www.bbc.com/portuguese/brasil-55107536>
20. Moscovici S. *Representações sociais: investigações em psicologia social*. Petrópolis: Vozes; 2015.
21. Statera G. *Logica dell'indagine scientifico-sociale*. Milano: Franco Angeli; 2007.
22. World Health Organization (WHO). *Coronavirus disease (COVID-19) pandemic* [Internet]. [cited 2020 Dez 15]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
23. Morel APM. Negacionismo da Covid-19 e educação popular em saúde: para além da necropolítica. *Trab Educ e Saude* [Internet]. [acessado 2020 Dez 15]. 2021; 19. Disponível em: <https://doi.org/10.1590/1981-7746-sol00315>
24. Giddens A. *As consequências da modernidade*. São Paulo: Unesp; 1991.
25. Bruno Fernanda, Roque T. A ponta de um iceberg de desconfiança. In: Barbosa M. *Pós-verdade e fake news: reflexões sobre a guerra de narrativa*. Rio de Janeiro: Cobogó; 2019. p. 13-23.
26. Rini R. Fake news and partisan epistemology. *Kennedy Inst Ethics J* 2017; 27(2S):E-43-E-64.
27. U.S. Congress. *Communications Decency Act* [Internet] 1996. [cited 2020 Dez 15]. Available from: <http://www.columbia.edu/~mr2651/e-commerce3/2nd/statutes/CommunicationsDecencyAct.pdf>
28. The New York Times. Delete hate speech or pay up, Germany tells social media companies. *The New York Times* [Internet]. 2017; [cited 2020 Dez 15]. Available from: <https://www.nytimes.com/2017/06/30/business/germany-facebook-google-twitter.html>
29. European Commission. *Code of Practice on Disinformation* [Internet]. 2018. [cited 2020 Dez 15]. Available from: <https://ec.europa.eu/digital-single-market/en/news/code-practice-disinformation>
30. U. S. Congress. *Platform accountability and consumer transparency act*. 2020.
31. Brasil. *Projeto de Lei 2.630/2020 denominada Lei Brasileira de Liberdade, Responsabilidade e Transparência na Internet “estabelece normas, diretrizes e mecanismos de transparência para provedores de redes sociais e de serviços de mensageria privada a fim de garantir segurança, ampla liberdade de expressão, comunicação e manifestação do pensamento*. [acessado 2020 dez 15]. Disponível em <https://www25.senado.leg.br/web/atividade/materias/-/materia/141944>

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