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## **Beyond disinformation: disputes on meaning over information from an emotion-based framework**

### **Abstract:**

Scientific disinformation has been one of the greatest concerns in the world. Despite a global agenda on fighting disinformation, built mainly from the lens of intentionality or the legitimacy of epistemic authorities, there is still no consensus on disinformation. This article proposes the construction of a framework bringing emotions as an analysis matrix since the circulation of disinformation is mediated by consolidated belief systems. Finally, recommendations that actions to confront disinformation should be based on the emotions of the public to cause effective responses in reflection on belief systems.

**Keywords:** Disinformation; Emotion; Meaning; framework

### **Agenda:**

<b>Introduction</b>	<b>2</b>
<b>Putting order in disorder: the search for meaning in disputed concepts</b>	<b>2</b>
The search for intentionality in inquisitorial societies	2
The epistemic legitimation	3
A complex field of meaning disputes on disinformation	3
<b>An analytical framework on emotions and disinformation</b>	<b>4</b>
For an emotional framework on disputes over information	4
<b>Final remarks</b>	<b>7</b>

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## Introduction

On February 15, 2020, the World Health Organization (WHO) announced that we were experiencing not only a pandemic, but also an infodemic, which represents a major problem for public health, as people require guidance and information to know which actions must be taken to protect themselves and others and to help mitigate the impact of a disease (WHO, 2020). According to the WHO, this infodemic is characterized as an overabundance of information, which is not always accurate and correct, making it difficult for people to find reliable sources and guidance when they need them, which may pose a risk for the population's health. In this informational superabundance, scientific institutions, scientists and science disseminators, politicians, governmental and non-governmental organizations and a set of stakeholders that often go against scientific knowledge, vie for the digital space in the dissemination of narratives about science. In these discourses, there is a proliferation of conspiracy theories, the political instrumentalization of scientific information, and appropriations and subversion of scientific discourses, making the process of confronting disinformation more complex.

This has been a great challenge, particularly because the issue is marked not by a lack of information, but rather a set of consolidated beliefs and emotions that go against established values around scientific institutions as a space for the production of reliable information and evidence for the decision-making process. Also, according to the WHO report published in April this year, although the infodemic brings difficulties in overcoming the pandemic, it is an opportunity to identify and adopt new preparation and response tools. Nevertheless, the challenges to producing effective responses to this profusion of information require a great deal of multidisciplinary work alongside various sectors of society. A broad understanding of the topic is crucial for the understanding of disputes that are inherent in the circulation of information related to science and the social, cultural, political and legal implications in confronting disinformation. Therefore, it is essential to define conceptual frameworks on disputes in relation to scientific information.

## Putting order in disorder: the search for meaning in disputed concepts

One of the main challenges we currently face is the circulation of disinformation. In recent years, there has been a recurrent concern in the public and political debate on topics such as "post-truth," "alternative facts," and "fake news," both in the media and in academic discussions (Lubchenco, 2017; Vosoughi et al., 2018). In the pandemic, we saw how scientific information was appropriated, subverted and disputed both on social media (Garcia, Cunha & Oliveira, 2021; Chou, Gaysynsky & Vanderpool, 2021) and by political leaders (Monari, Santos, & Sacramento, 2020), as well as in journalistic and media framings that emphasized a political and institutional crisis, as opposed to a health crisis (Crabu et al., 2021).

### The search for intentionality in inquisitorial societies

Although it is an agenda that has attracted global attention, there is no consensus on definitions of concepts in relation to fake news and disinformation. Much of the scientific literature tends to associate disinformation with a set of fixed components to identify it based on certain types. This is the case of Fallis (2015), who defines it based on prototypical instances designed to promote deceit. Wardle & Derakshan (2017) propose a concept of informational disorder based on a set of three semantic structures: misinformation, disinformation, and malinformation, in which intentionality regarding deception is present in the three distinctions. They start from the principle of an ordering of informational circulation, based on matrices that rely on the production, type of message, and reception. With that being said, how to prove the intent to deceive, without harming the democratic regime, in a society based on an inquisitorial tradition (Kant de Lima, 1995)? In inquisitorial societies, in which the presupposition of guilt is greater than that of innocence, this perspective of informational disorder sets precedents for the establishment of coercive instruments as a "legitimate way of producing a

reliable judicial truth, with the revelation not only of the acts committed by the accused, but mainly, their intentions in committing them" (Kant de Lima, Mouzinho, 2018, p. 253).

### **The epistemic legitimation**

The analytical framework on the order is addressed by Lance Bennett & Steven Livingston (2018), who proposed the concept of disinformation order, as a mechanism for disturbing the democratic order. They argue that such a disruption of order stems from a decline in citizens' trust in institutions, which then undermines the credibility of official information on the news and opens the public to alternative sources of information. Despite agreeing with part of the argument on the growing disbelief regarding epistemic institutions, as addressed by a number of researchers (Moisés, 2005; Van de Walle, Six, 2014; Dahlgren, 2018; Albuquerque, Quinan, 2019; Oliveira, et al., 2020; Oliveira, 2020), the way in which the authors' argument is built is based on the legitimation of official news sources – i.e., journalism – and accuses exogenous stakeholders (i.e., the other who is not a journalist, the other who is not democratic, the other who is not fellow countryman, especially the "Russians") as the cause of the rupture of an informational order. This is a mechanism used as a rhetorical strategy to legitimize oneself as an epistemic authority to speak the truth, at the expense of and to delegitimize the other, who is considered untrustworthy, such as external, foreign, anti-democratic or anti-institutional forces (Jamieson, 2018; Boyd-Barrett, 2019).

### **A complex field of meaning disputes on disinformation**

Other studies tend to anchor their assessments in the production order as an analytical matrix to establish formats and languages that are related to deception, such as the search for textual patterns, as is the case with sensationalist headlines and absence of sources, among others. Nevertheless, concealment and appropriation of signs of epistemic institutions that are used to validate a message – a phenomenon that has been described as Fake Science (Oliveira et al., 2020) – are not simple structures to be identified, as noted by Rietjens (2019), who states that, in this process, masking makes reality invisible, repackaging hides and disguises reality, changing its appearance, and dazzling reduces the certainty regarding the nature of the object.

Rietjens puts forward discussions from the field of psychology and addresses the concept of "deception" to discuss the nuances surrounding the concept of disinformation. According to the author, deception operations can be structured in two ways: dissimulation and simulation of reality. The first tends to hide and disguise reality through three mechanisms: (1) masking (making reality invisible); (2) repackaging (hiding reality by disguising it and changing its appearance); or (3) confusion through "dazzlement" (reducing certainty on the real nature of anything). The second, simulation, tends to reinforce and highlight false information, based on three mechanisms: (1) imitation (copying some aspects to represent an acceptable imitation); (2) invention (showing another reality); and (3) entrapment (distracting attention). According to the author, while simulation consists of proposing a false version of reality, dissimulation retains part of the target's reality. Therefore, perceiving the nuances of masking, appropriation, disguise and dissimulation is extremely important for a better definition of deceit and disinformation beyond a construction that is based on the intentionality or legitimacy of epistemic authorities and the delegitimization of the other.

As regards the scientific field, particularly in a context of political-partisan instrumentalization of science (Iyengar & Massey, 2019), science-related conspiracy theories are also seen to emerge in the discourses of both citizens and political leaders, who contest scientific evidence under the argument that science is hiding the truth that God and religion can reveal (Monari, Santos, Sacramento, 2020) or that leaders are engaged in a conspiracy against life in a geopolitical competition between great powers for the domination of the planet (Sampaio, 2020). In this complex field of meaning disputes on disinformation, fake news, fake sciences, and conspiracy theories, it is necessary to build more robust conceptual frameworks beyond understandings of the ordering of communication, the search for intentionality, or epistemic legitimation/delegitimization.

## **An analytical framework on emotions and disinformation**

Wardle & Derakhshan (2017) recognize emotion as one of the relevant aspects for identifying false content. They note that disinformation strategies present messages that are characterized by the provocation of emotional response through repetition, a strong visual appeal and a powerful narrative. Thus, they defend the importance of integrating these elements into solutions for dealing with the problem. They also indicate the need to understand which formats are most effective in arousing curiosity and instilling skepticism about the information people consume. Thus, they understand that the solution to disinformation includes understanding emotional aspects, among others, of communication. Media literacy initiatives that also empower individuals about the influence of emotions on critical thinking are some of the authors' recommendations. Nevertheless, Boyd (2017) points out that media literacy has backfired because, as seen in the Canadian context, criticism of the media without replacing it with other reliable sources has generated widespread mistrust and a continual challenge to epistemic institutions.

Thus, even though the emphasis on media and information literacy is presented as one of the solutions to confront disinformation (Charleaux, 2018; Serrano-Puche, 2021), it is necessary to understand that emotions are mobilized, particularly when associated with political instrumentalization, epistemic contestation and dynamics of information circulation in digital environments that are automated and algorithmically mediated, both in the context of partisan media and in legacy media (Boler & Davis, 2018). Therefore, media and information literacy must also consider digital, political and scientific literacy among the methods of combating disinformation. This alone is not enough, however. It is also necessary to foster public debates on media regulation and legislation on disinformation without framing the search for intentionality, thereby avoiding political persecution, particularly in the context of inquisitorial societies.

When exploring the communicative process in the dissemination of disinformation in democratic societies, Bennett & Livingston (2018) highlight that what is seen as false information may involve profound truths related to the emotional dimension of a given group. In this sense, Young (2021) argues that studies on affect and emotions expand their presence in the field of research on disinformation. According to him, such an approach can contribute to multidisciplinary theoretical conceptual frameworks that evade solutions excessively based on technology. He further states that the few studies that apply affect theory in understanding disinformation focus on specific case studies, but not on systematizing a theoretical conceptual framework. According to him, such studies have already identified the role of emotions in the dissemination of disinformation and the presence of affective aspects in disinformation campaigns, which even include the encouragement of distrust. He also highlights those practical responses to disinformation tend to combat false information with factual truth, as opposed to responding to the affective harm caused by disinformation. Such an understanding seems central to us, as it sheds much light on what underlies disinformation, as opposed to merely formal aspects of false content.

## **For an emotional framework on disputes over information**

This framework seeks to define and categorize disputes over the information in an institutionalized manner in political, scientific and media contexts. With that, we do not bring into the analysis individual accountability to avoid inquisitorial practices on subjects.

<b>Disinformation</b>	<b>Definition</b>	<b>Use, form or context</b>	<b>Emotion/ Belief system</b>	<b>Role</b>	<b>Coping method</b>
<b>Political instrumentalization of science</b>	Messages with politically instrumentalized meanings to accuse or delegitimize political opponents involving science information	It is used in a context of intensified hostile political debate, which may or may not be characterized by contexts of political polarization	Political hostility	It plays a role in a dispute over narratives in the political field involving science	Political and scientific literacy
<b>Epistemic disputes</b>	Messages with instrumentalized meanings used to accuse institutions responsible for producing or disseminating knowledge and information	It is used in a context of dispute over the epistemic authority and epistemic institutions, reducing certainty on the real nature of anything	Epistemic dispute	It plays a role in a dispute over narratives related to the epistemic field	Scientific literacy, as well as media and information literacy
<b>Conspiracy theory</b>	Proposed explanations for an event or practice that refer to the machinations of influential people, institutions, or a secret society	It arises in response to uncertainty and perceived threats posed by a coalition of secret elites/ stakeholders. It is constructed as “alternative” explanations that challenge the narratives provided by governments, conventional media, or scientific institutions	Distrust of institutions	It serves as a threat perception management response. It plays a role in a meaning-making process of dealing with threat perception and, often, as an anti-establishment / anti-science, political and ideological stance	Dissemination of narratives that explain gaps in complex social phenomena
<b>Fake Science (false connection)</b>	Contents that do not match the scientific method, or which subvert it to fit the confirmation bias and the argument. It is also manifested by the use of signs from the scientific field to validate the argument	It appears in a context of dispute over the narrative on science. Repackages and promotes imitation to represent scientific arguments or evidence	Lack of knowledge regarding scientific methods, procedures, and practices	It plays a role in providing a confusion about the science information, subverting the signs of science to validate the fake science arguments	Scientific literacy
<b>Pseudoscience</b>	It is characterized by contradictory, exaggerated or unfalsifiable claims, that appear to be based on the	It appears in a context over epistemic disputes, which the pseudo scientists claim for	Lack of knowledge regarding scientific methods, procedures, and practices. It involves a need to	It plays a role in providing to people answers with beliefs they wish were true, presenting	Scientific literacy

	scientific method	scientific authority, pointing they are a scientifically based practice but misunderstood by the general population	believe in something which could give answers	themselves as science without having scientific validity	
<b>Anti-science</b>	The outright rejection of the time-tested methods of science as a means of producing valid and useful knowledge	It appears in a context over contestation of science	Lack of knowledge regarding scientific methods, procedures, and practices	It plays a role of contestation of outright rejection of the time-tested methods of science as a means of producing valid and useful knowledge	Scientific literacy
<b>Context manipulation</b>	Subversion of context based on a fact or event	It happens when there is a dispute over the narrative based on events. It promotes confusion through “dazzlement” (reducing certainty on the real nature of anything)	Uncertainty regarding events	It plays a role in meaning-making and dispute over narratives of certain events	Presentation of facts in a clear and transparent manner
<b>Data subversion</b>	Subversion of data, with rhetorical strategies that present themselves as transparent, but which are not consistent with other sources and evidence	It appears in a context of excessive fascination on the neutrality of data, algorithms and transparency systems, without contextualization regarding their uses	Optimism and confidence in the neutrality of data, statistics, and transparency	It plays a role in legitimizing speech and arguments from numbers and data, even if they are not consistent with other “official” data sources	Digital literacy on datafication and big data
<b>Imposter content</b>	Use of false or non-existent sources	It appears in a context of narrative dispute, citing false or non-existent sources to validate arguments, fabricating facts, quotes and non-occurring evidence, distracting attention from events and evidence	Uncertainty regarding events	It plays a role in legitimizing speech and arguments from false or non-existent sources	Legislation on the use of fake sources or fabricated quotes
<b>Reverberation of science disinformation</b>	Publication of uninformative content without correcting or refuting it	It is produced by institutions, organizations, media outlets and people who	Curiosity and consumer interest in sensational news and tabloids	It plays a role in publicizing uninformative content and quoting others,	Media regulation, with an emphasis on information ethics

		disseminate uninformative content published by third parties, presenting them through sensationalism or tabloidization, distracting attention from facts and evidence		without an ethical commitment to the production of qualified information for the public	
<b>Mediation of controversies</b>	Giving visibility to controversies on disputed topics, with emphasis on the lack of consensus on the topic	It is related to a context of controversies over disputed topics, distracting attention from facts, events, and evidence	Uncertainty regarding scientific events, evidence, and information	It plays a role in quoting stakeholders and controversial topics, presenting them with both sides of the aisle, without ethical commitment to the production of qualified information for the public	Media regulation, with an emphasis on information ethics
<b>Source similarity</b>	Use of similar names, changing a few elements, causing confusion on the source	Fabricating or copying over certain aspects to represent an imitation as acceptable, distracting attention from facts, events, or evidence	Uncertainty regarding scientific events, evidence, and information	It plays a role in legitimizing speech and arguments from false or non-existent sources	Legislation on the use of fake sources or fabricated quotes

Table 1: Framework on disputes over information

Other forms of production of meaning on information can be characterized as Rumors (Meel & Vishwakarma, 2020), which were not included in the framework, as they did not present institutional organicity on the form of production, as well as Satire or Parody (Tandoc Jr, Lim & Ling, 2018; Sinclair, 2020), which were not included due to featuring a type of content that has an exclusive social function of entertaining or raising awareness, while not necessarily disputing the production of meanings about information.

## Final remarks

A framework designed to categorize different types of false information must go beyond the understanding of the communication flow order. Thus, it is necessary to encompass the dimension of the receiver with regard to negotiations and disputes on the meaning of life in society. As researchers, we must challenge ourselves and map the motivations that lead people to seek discourses that are more in line with their worldviews. In this direction, the consideration of emotions in the reflection on a framework for defining disinformation seems to us to be a necessary move.

Thus, we recommend investing in methods of coping with disinformation that consider the emotions provoked in the information consumption process. To do this, we have listed a few recommendations:

1. Investment in political literacy actions – mainly on political governance – regarding actions to combat disinformation while discussing issues such as ethics and political rights and duties on institutions and voters;
2. Investment in scientific literacy actions — mainly on scientific governance, practices, processes and methods of science production — with regard to actions to address scientific disinformation;
3. Media and information literacy, alongside digital literacy, putting forth debates about datafication, big data, ethics, and media regulation, to address and avoid the instrumentalization of emotions, emotionalization, tabloidization, and mediatization of scientific controversies;
4. Use of narrative strategies that employ emotions and affect to refute complex social phenomena. Use of clear and transparent information to refute disinformation in contexts of simulation or dissimulation of information;
5. Media regulation to hold institutions accountable for the reverberation of disinformation content and emphasis on scientific controversies and legislation on disinformation on digital and media environments, without framing the search for intentionality, but on the use of fake sources.



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