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Editorial

(Dis)Information Literacy: A Democratic Right and Duty of All Citizens

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Abstract
When the call for papers for this issue was made a few months ago, disinformation literacy to defend our democracies was already seen as having great importance. Today, when hybrid warfare (of which information disorder is a key part) is being waged, with deaths and destruction inflicted on European soil, it is clearly not only important but also urgent. Our democracies and freedoms are at stake. In a scenario where, on the one hand, labels ("audience," "prosumers," "media," "fake news," "post-truth") and on the other hand, the realities that these labels hide are changing and are modified so quickly, different institutions that structure the democratic societies must converge in the construction of effective information literacy strategies. Schools and the entire formal education system must be the first, of course. Universities must lead this fight, combining their teaching and research mission with their work relating to dissemination and social awareness, especially from communication studies and colleges of journalism. In parallel to educational and research institutions, media also play a crucial role in promoting (dis)information literacy. As media educators, they should not only serve the mercantilist objective of retaining their clientele but also uphold their democratic responsibility to help instill a sense of civic awareness in citizens.

Keywords
democracy; disinformation; hybrid war; information disorder; information literacy; post-truth; resilience

Issue
This editorial is part of the issue "Fakespotting: (Dis)Information Literacy as Key Tool to Defend Democracy" edited by José Antonio Muñiz-Velázquez (Universidad Loyola Andalucía) and Claudio Paolucci (University of Bologna).

1. Introduction

Disinformation is posing a significant threat to the stability of our democracies. The liberal democratic order, over which the law and our norms reign, is in crisis. There are many internal factors that have caused it, as well as external ones. The disinformation attacks suffered daily by democratic societies can destabilize governments, electoral processes, and referendums of all kinds; non-democratic societies and governments may view these attacks as an opportunity to exploit the situation for their own gain.

It is true that fake news is a great human tradition (Lagarde & Hudgins, 2018) and has often been decisive in the historical development of countries, continents, and the whole world (McIntyre, 2018; O'Connor & Weatherall, 2019). It is not for nothing that Buonanno (2019) calls lies "the violent creator of History." Machiavelli would consider it a consubstantial part of political practice (Villanueva, 2021), and the Tuscan author should be taken on his word on countless occasions. Especially in the 20th century, a century largely devastated by its extensive and intense cycles of war and ideological frenzies, to use Conquest's terms (2001), seasoned by a propaganda full of lies (Auerbach & Castronovo, 2013).

In this amalgam, journalism and the media must also sing a certain mea culpa. As Gelfert (2018) states, *fake journalism* has existed since the 19th century. Legendary is the case of the series of news stories that appeared in *The Sun* in 1835, which reported the existence of the inhabitants of the Moon, sighted through a supposed telescope of enormous power. For some, this story will be the first *fake news* in history *stricto sensu* (Salas Abad, 2019), from which all the William Randolph Hearst in the history of journalism will drink.

It seems, therefore, that *nihil novum sub sole* (nothing new under the sun) as we reach the third decade of the 21st century. But the truth is that there is one factor that has changed everything, or almost everything. It is digitalization and the new ecosystem in which our daily lives are immersed (Jacomella, 2017; Levitin, 2017; Williams, 2021). The digital injects disinformation with an unparalleled capacity for massive, ubiquitous, and instantaneous destruction—with a smaller monetary cost than ever before.

Floridi (2014), of the Oxford Internet Institute, goes further. He says that contemporary digital technologies have left behind even history itself as a concept. Just as the absence of all kinds of information and communication technologies (ICTs) marked prehistory, and history itself was "synonymous with the information age," the author describes the current digital and algorithmic era as *hyperhistory*. That is, a new human macro-period in which ICTs are now working autonomously and in which our well-being is no longer connected to them but depends directly and completely on them. We would be becoming what Lassalle (2019) calls an assisted humanity, with an equally assisted freedom that anchors us to a perpetual minority of age with respect to machines, living an *onlife* existence immersed in an *infosphere* largely independent of the human being himself (Floridi, 2014). It should be noted that the latter authors wrote all this long before the arrival of generative AI, which has become so massively popular in recent months.

2. Focusing and Unfocusing the Phenomenon

This issue opens with the more than relevant debate on the adverse consequences, unintentional or maybe intended, of emphasizing the threats of disinformation disorder. Putting too much focus on the problem, it is true, perhaps magnifies it. The denunciation of disinformation is becoming its ally. If the threat is perceived as constant, the citizen may take a defensive posture by default to everything that reaches them, and no matter how true a news item may be, it may not be free from the suspicions of a perhaps "too" alert population. Perhaps the main objective of this massive *infosmog* is not so much that we believe the lies but that we stop believing in the truth, in the truth of reliable and verifiable facts. Can, therefore, disinformation literacy affect trust in information? It is an interesting debate opened by Hameleers (2023) in his article.

In the same line, both the article by Rodríguez-Ferrándiz (2023) and the one by Pérez-Escolar et al. (2023) attempt to frame conceptually and terminologically the disinformation phenomenon by analyzing different types of sources. The phenomenon of disinformation and the misnamed fake news has become tremendously mainstream nowadays and requires constant scientific observation and reification, which takes into account the fickleness of the phenomenon. As the latter authors stress, it is important to analyze how scientific observation is approaching the issue since the way society and the relevant institutions deal with the problem may depend to a large extent on this scientific knowledge.

The reframing proposed by Paolucci (2023) is also interesting. With an approach from semiotics, he proposes an analysis of post-truth and disinformation phenomena that involves a profound change of conception, focusing particularly on the relationship of all this with power, and how to a large extent, this relationship will mark the consideration and nature of the problem.

3. Resilience, Democracy, and Media

If we circumscribe the problem of disinformation to the field of politics, we are faced with a scenario that Hendrix and Carroll (2017) unequivocally describe as a real nightmare for democracy today. O'Neil (2016) warned of the very serious democratic danger posed by social networks and other digital giants' algorithms. More recently, Messa (2019) analyzed the disinformation phenomenon from the perspective of a global cyberwar deployed under the well-known Gerasimov doctrine or hybrid war model, in which the information disorder is one more front in the military interest of weakening the "enemy" from the inside.

Not surprisingly, one of the main "feats" of hoaxes and fake news is the extreme fragmentation of public opinion and social polarization within a society, state, or nation (Tambuscio et al., 2015). Something that is enhanced, in turn, by a society made up of small tribes scattered in the plankton of the infinite ocean of the internet and social networks (Ferraris, 2019).

Williams (2021, p. 91) states that among the essential faculties for exercising democracy are "reflection, memory, prediction, calmness, logic, and goal setting." Without all this, the individual and society become less resilient to disinformative attacks. We must also look at the media themselves and ask ourselves what they have done and have failed to do in this regard—and what they should do. One of the main culprits for the lack of media legitimacy and trust is the media themselves, as Rodríguez-Pérez and Canel (2023) point out in their article. Therefore, media legitimacy and trust in them are essential for the citizens' resilience to misinformation in any democracy.

To construct and maintain legitimacy and trust, the media should perhaps go even further, as Sengl and Heinke (2023) point out, and assume the role of "media educators," in the words of these authors. Even if it were only for the mere mercantilist objective of guaranteeing a certain clientele and creating within them a desire to read newspapers and an attachment to newspapers or serious media, this alone would imply fulfilling the democratic duty of forming and fostering a minimally qualified and literate audience able to discern quality information from what is not.

4. Patterns of Vulnerability

If disinformation roams freely, it is also because there are patterns of vulnerability of which its spreaders take advantage. In this sense, the role played by intrinsic human cognitive biases is decisive (Matute, 2018). Biases are enhanced in turn by digital platforms and their algorithms, as we know today very well. In this issue, Disha et al. (2023) and Luo et al. (2023) carry out two interesting experimental studies on biases of different kinds and their ability to consider certain content as false or not.

In parallel, the habitat of continuous alerts and warnings in which a contemporary individual is immersed fosters a continuous flow of fragmented, decontextualized content at a dizzying pace. This is the business model on which the main agents of the new digital economy are based: human attention as the main commodity or raw material (Williams, 2021), engagement. Or rather, we could speak of *inattention* since this is what the overabundance of stimulation induces. And if the attentional capacity of the human being is diminished, the architecture of the whole human psyche wobbles, as William James, the father of modern psychology, warned many decades ago (James, 1890).

This "unattentional model" anchors us firmly in what Levitin (2017) calls the "breaking news mode of thinking." Thus, it banishes other "scientific research modes of thinking" that should guide many of our decisions, those which enable us to determine, among other things, the authenticity of the messages and content that reach us. It is the absolute triumph of fast thinking—if it can be called thinking—over slow thinking, to sum it up in the words of Kahneman (2011). It is in this breeding ground where conspiracy thinking feeds, addressed in his text by Terracciano (2023).

The surprising thing is that, to a large extent, all this is happening not only with the knowledge and acceptance of the citizens but even with their enthusiasm. Or at least with total indifference to the possible adverse consequences, especially among the younger population.

5. Conclusion

Lassalle (2019, p. 74) stated emphatically that the latest wave of the digital revolution seemed to be decisive in the "collapse of the liberal narrative," which can be identified as democratic. And he was saying this before Covid-19, before Putin's invasion and the war in Ukraine, and before the mass irruption of generative AI, as noted above.

Truth and freedom are Siamese twins. In a world where algorithms decide for us, making our lives easier and more comfortable, we are no longer afraid of freedom, but we simply despise it. Poor Erich Fromm. It is not surprising, therefore, that in a good number of today's liberal democracies, the percentage of citizens who consider it "essential" to live in a democracy (in freedom) has plummeted in recent years (Williams, 2021).

Like so many other things, what we are given in life is not valued until lost. That is why disinformation literacy should start with this aspect: fostering attachment to democratic values and stressing the importance of preserving the information order for democracy. Conservation is the responsibility of politicians, (traditional) media, and digital platforms, but also the duty of each and every citizen.

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Conflict of Interests

The author declares no conflicts of interest.

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Article

The (Un)Intended Consequences of Emphasizing the Threats of Mis- and Disinformation

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Abstract
The mis- and disinformation order does not only consist of the dissemination of deceptive content but also involves using fake news as a blame-shifting label in politics and society. The salience of this label on social media and in political discourse, and the frequent discussions held about the threats of fake news in public opinion, may result in a systematic overestimation of mis- and disinformation's presence. Even more so, these primed perceptions about false information may affect people's evaluations of factually accurate information. In this article, we offer a theoretical account of how the public's and media's attention to mis- and disinformation, fake news labels, and the threats of mis- and disinformation may have a negative impact on people's trust in factually accurate information and authentic news. In addition, relying on an experimental case study of pre-bunking interventions, we illustrate the extent to which tools intended to increase media literacy in the face of mis- and disinformation may also have ramifications for trust in reliable information. Based on this, we propose a forward-looking perspective and recommendations on how interventions can circumvent unintended consequences of flagging false information.

Keywords
credibility; disinformation; fake news; media literacy; misinformation; truth bias

Issue
This article is part of the issue "Fakespotting: (Dis)Information Literacy as Key Tool to Defend Democracy" edited by José Antonio Muñiz-Velázquez (Universidad Loyola Andalucía) and Claudio Paolucci (University of Bologna).

1. Introduction

The spread of mis- and disinformation has been regarded as a severe threat to democracies across the globe (e.g., Bennett & Livingston, 2018). We define disinformation as the covert and deliberate dissemination of deceptive information (e.g., Chadwick & Stanyer, 2022; Freelon & Wells, 2020). Misinformation refers to false information disseminated without the intention to deceive (e.g., Wardle, 2017). Although most empirical and theoretical accounts of mis- and disinformation's effects have focused on the consequences of mis- or disinformation as a genre of deceptive information, disinformation also exists as a discursive issue (e.g., Egelhofer & Lecheler, 2019). To offer an example, different politicians have weaponized the label fake news and exploited the opinion climate of factual relativism by accusing their opponents of disseminating false information. Such fake labels can have real consequences. As illustrated by Van Duyn and Collier (2019), using mis- or disinformation labels in elite discourse negatively influences people's trust in authentic news, and lowers the accuracy of discerning false from real statements. Against this backdrop, we have to shift our focus from mis- and disinformation as a purely informational crisis to a more holistic understanding of the threats associated with discussions surrounding the concept.

In line with the severe public concerns about mis- and disinformation, numerous interventions with the mission statement to combat and fight mis- and disinformation have been launched, such as fact-checks, media literacy interventions, and inoculation strategies (e.g., Roozenbeek & van der Linden, 2019; Tully et al., 2020). Although these interventions are effective (see Walter et al., 2020, for a meta-analysis on the effectiveness of fact-checks), they may also contribute to heightened, or

even disproportionate, public concerns about the dissemination of mis- and disinformation. Hence, recent empirical evidence has demonstrated that mis- and disinformation are extremely rare phenomena in people's media diets: Less than 2% of people's information diet in the US is estimated to contain mis- or disinformation (e.g., Acerbi et al., 2022). This low number does not seem to be reflected in the global response to mis- and disinformation, or the perceived prevalence of deceptive information. Based on a large-scale comparative survey, more than half of all participants (54%) are concerned about false information and its detection (Newman et al., 2022). In line with these concerns, different platforms, initiatives, committees, and working groups are introduced to warn people about disinformation, or promote resilience to the threats associated with mis- and disinformation.

Considering that more than half of the global population is concerned about mis- or disinformation whereas it may only make up less than 2% of their media diet, this article focuses on the effects of talking about the threats of mis- and disinformation. More specifically, this article offers a theoretical account of how the public's and media's attention to mis- and disinformation, fake news labels, and warnings may have a negative impact on people's trust in factually accurate information and authentic news. To further illustrate the unintended consequences of mis- or disinformation discussions, we will rely on an empirical example to test the potential backfire effect of media literacy interventions that warn people about mis- and disinformation. As a main contribution, we highlight the need to approach mis- and disinformation as a context-bound disorder, that involves discourses of fake news and societal responses to the threat. In a post-truth information ecology, talking about mis- and disinformation—be it in a malicious or well-intended manner—may have negative consequences for society as it may contribute to higher levels of distrust, doubt and factual relativism.

2. Theory

2.1. Mis- and Disinformation as Informational, Perceptual, and Discursive Phenomena

Before mapping the different components of the mis- and disinformation order, we need a comprehensive definition of the concept. Here, we follow extant literature that has distinguished misinformation from disinformation (see e.g., Wardle & Derakhshan, 2017). Misinformation is either used generally as an umbrella term to refer to false information that is not based on relevant expert knowledge or evidence (Vraga & Bode, 2020), or specifically to indicate that false information is disseminated without the intention to deceive recipients (Wardle, 2017). Disinformation, however, refers to the covert and goal-directed manipulation, decontextualization, or fabrication of information with the intention to cause harm or deceive (see e.g., Chadwick & Stanyer, 2022; Freelon & Wells, 2020). Mis- and disinformation can be disseminated for various reasons, such as the cultivation of cynicism or distrust, the reinforcement of societal cleavages, financial profit, or the legitimization of identity-congruent ideologies (e.g., Hameleers, 2022; Marwick & Lewis, 2017). Yet, the intentional component of disinformation is often difficult to distinguish without a full understanding of the context of deception (Hameleers, 2022). In any case, mis- and disinformation both refer to information that is false and potentially deceptive. As false information can be misinformation in one context and disinformation in another, we refer to the terms mis- and disinformation interchangeably in this article. By referring to mis- and disinformation, we aim to capture the broader concept of false information and warnings about its presence—which may refer to both the intentional dimension reflecting disinformation or the general scope of false information (misinformation).

Mis- and disinformation may not only relate to the accuracy of information, but can also be used as blame-shifting labels. More specifically, mis- and disinformation can be used to delegitimize information, sources, or actors, for example, by referring to them as "fake news" (see e.g., Egelhofer & Lecheler, 2019). In line with this, mis- and disinformation can also be regarded as discursive phenomena in which information is labeled as false and/or deceptive, herewith lowering the credibility of opposed information sources or communicators. Egelhofer and Lecheler (2019) have argued that fake news as a label specifically can exist as a delegitimizing master frame used mostly by right-wing populist actors to blame the established press for spreading false information. This application of disinformation as a label implies malicious intent: Disinformation is discursively used to delegitimize (political) opponents and to negatively impact the public's evaluation of the targets addressed by the label (Van Duyn & Collier, 2019). This way, fake news may be used to create the impression that incongruent information is false—a strategy that mostly fits right-wing populists' anti-establishment narrative (e.g., Waisbord, 2018). Based on the findings of an experiment, it can be argued that such attacks can be effective: Exposure to fake news discourses used by political elites can lower people's trust in real information, and harm their resilience against disinformation (Van Duyn & Collier, 2019).

Discourses of mis- and disinformation are not exclusively based on de-legitimizing narratives and accusations disseminated by malign actors. Hence, in line with increased public concerns about mis- and disinformation (Newman et al., 2022), the news media, journalists, educators, and governmental organizations are frequently warning the public about the dangers of disinformation and fake news in society. These discussions, albeit well-intended, may raise fear and cause overall levels of doubt among news audiences that no longer know whom they can trust. In this article, we specifically argue

that measures used to prevent or counter the impact of mis- and disinformation—such as media literacy interventions, inoculation strategies, and fact-checks—may unintentionally cause suspicion and lower the credibility and trustworthiness of authentic information.

Despite these potentially harmful side effects, interventions such as fact-checking, media literacy messages, and inoculation strategies are proven to be effective in lowering the acceptance and credibility of mis- and disinformation. Inoculation interventions, such as a misinformation game that exposes people to a small dose of false information to make them more resilient to actual misinformation, have been found to lower misperceptions (Roozenbeek & van der Linden, 2019). Such interventions may work as they offer users practical suggestions on how to resist and recognize misinformation, whilst the actual confrontation with false information helps them to understand its mechanisms. In a similar vein, media literacy messages that present news users with a list of suggestions on how to recognize and resist misinformation are found to be effective in lowering the credibility of misinformation in experimental research settings (e.g., Hameleers, 2022; Tully et al., 2020). There is even more research on the effectiveness of fact-checking messages (e.g., Chan et al., 2017; Walter et al., 2020). Fact-checks typically offer a short, fact-based verdict on the truthfulness of suspicious or highly prominent claims (e.g., Uscinski & Butler, 2013). Although these refutations of false information are mostly seen as neutral, independent, and free of political biases, they are often accused of demonstrating a Liberal bias in the US (Shin & Thorson, 2017). Although some studies have found a backfire effect of fact-checks, meaning that such interventions increase rather than decrease the acceptance of misinformation (e.g., Thorson, 2016), more recent literature and meta-analyses have generally indicated that exposure to fact-checking information lowers the acceptance of misinformation and corrects misperceptions (e.g., Walter et al., 2020). Yet, talking about disinformation and its threats may not only have positive ramifications. In line with this, accusations of disinformation are found to result in lower levels of trust in the media or factually accurate information (e.g., Egelhofer et al., 2022; Van Duyn & Collier, 2019), which illustrates that mis- and disinformation used as delegitimizing labels may negatively impact trust in factually accurate information.

As warning labels and media literacy interventions are both based on the same general strategy of prebunking mis- and disinformation (Hameleers, 2022), we integrate these approaches to explore the (un)intended effects of discussing the harms of mis- and disinformation *before* people are exposed to either factually accurate or false information. More specifically, many interventions used to warn people about false information contain both an explanation of the critical skills that are needed to verify information (e.g., Moore & Hancock, 2022) and a warning about the severity of mis- and disinformation and its presence in online news settings. As this article aims to map how the combination of teaching critical media literacy skills and a warning about the omnipresence of falsehoods—popular means of governmental interventions used to warn people about mis- and disinformation—may backfire by lowering the acceptance of factually accurate information, we focus on a combination of media literacy skills and a warning about mis- and disinformation in people's newsfeeds.

Despite the optimistic findings of previous experimental research on the effects of pre-bunking techniques, interventions that warn about harmful and false information may also lower the perceived authenticity of factually accurate information. Hence, such messages may trigger suspicion by cultivating the perception that false information is a highly salient issue. Even though media literacy interventions can increase the accurate discernment between false and real headlines, exposure to such information has also been found to reduce the perceived credibility of real news (Guess et al., 2020). In support of this, Modirrousta-Galian and Higham (2022) re-analyzed five experimental studies and found that gamified inoculation techniques that pre-bunk mis- and disinformation are less effective than assumed, as they trigger skepticism related to both false and real news. Thus, to comprehensively measure the effectiveness of warning labels and media literacy interventions, it is important to distinguish between the acceptance of misinformed claims and factually accurate information. Considering that experimental research found that being exposed to a warning label before seeing factually accurate information can also lower the trustworthiness of true information (Hameleers, 2022; Modirrousta-Galian & Higham, 2022), this article explores how the presentation of a warning label combined with a media literacy intervention placed before factually accurate information and mis- or disinformation influences the rating of both types of information.

Based on research on the effects of malign fake news labels and discussions or interventions targeting mis- and disinformation, it can be argued that talking about mis- and disinformation can have negative effects on the credibility and trust of real news. Therefore, it is crucial to turn our attention to disinformation as more than an informational crisis. Deceptive information, albeit problematic, may only take up a marginal proportion of today's newsfeed (Acerbi et al., 2022). Although exposure to false information can have real effects on people's beliefs, evidence on the impact of mis- and disinformation is mostly based on findings collected in the short-term and in controlled lab experiments—where people are forcefully exposed to mis- and disinformation that they may not select in real life (see e.g., Dobber et al., 2020; Hameleers et al., 2020; Zimmermann & Kohring, 2020). This begs the question of whether current interventions, media discourses, and political discussions about the alleged uncontrolled dissemination and impact of mis- and disinformation are legitimized or disproportionate. Is the treatment emphasizing the

dangers of disinformation coming with more severe side effects threatening the credibility of real information? Considering that the large majority of all information is factually accurate (e.g., Acerbi et al., 2022), such side effects are worrisome, and can potentially amplify the increasingly more relative status of factual knowledge and evidence. Before reporting on a case study to test these side effects in the context of a media literacy intervention, we will consider the wider processing biases and mechanisms that may explain the problematic consequences of mis- and disinformation as a discursive phenomenon.

2.2. The Potential Shift From Truth-Default to Deception Default in a Post-Truth Ecology

In line with the skewed distribution between false and truthful information in people's newsfeeds, people have a tendency to rate incoming information as honest and accurate (Levine, 2014). This tendency favoring honesty over deception has been formalized in the Truth-Default-Theory (TDT) (Levine, 2014). Being biased toward truthfulness serves as a heuristic that enables people to deal with the overload of information in their information ecology. As people do not have the resources to fact-check the truthfulness of all information that they encounter, the truth-default state serves as a filtering mechanism that helps people to cope with information overload. The TDT postulates that people accept the honesty of incoming information by default, and more or less heuristically, unless the communication context triggers suspicion.

People can deviate from the truth-default state when certain trigger events are causing suspicion of deception (Levine, 2014). These trigger events may, for example, comprise a lack of coherency within the argument structure of new information, or a discrepancy of new information with the external reality and existing information (Luo et al., 2022). Moreover, and relevant in the context of mis- and disinformation, perceived deception motives, dishonest demeanor, and logical inconsistencies of information with known facts or within narratives may all be considered as potential triggers of suspicion (Clare & Levine, 2019). Although interventions intended to fight mis- and disinformation may serve as trigger events that help people to detect deceptive information, they may also cause suspicion that is consequentially applied to real news. Hence, when media literacy interventions tell people to look out for suspicious content and be aware of deceptive news, their overall levels of cynicism and doubt may be triggered, which also increases the likelihood that they perceive real news as false.

On a more general level, we should consider whether the (potentially disproportionate) attention to mis- and disinformation, the weaponization of fake news, and the wide accessibility of counter-epistemic communities online (Waisbord, 2018) are causing a shift from truth-default to deception-default in veracity judgments. In contrast to the TDT, literature on the deception bias and interpersonal deception theory postulate that people are monitoring their information environment for deception while being sensitive to truthful information (Bond et al., 2005; Burgoon, 2015). Considering survey data illustrating that less than half of all respondents (42%) across 46 countries trust the news media most of the time (Newman et al., 2022), it could be argued that people are not very likely to be biased toward the truth.

To summarize, we argue that, above and beyond deceptive information, warning people about the negative impact of mis- and disinformation could be considered as a trigger event that causes suspicion and motivates people to deviate from the truth-default state. Considering that people are very concerned about false information, whereas they are likely to distrust the news (Newman et al., 2022), the salience of mis- and disinformation discussions in media discourse and public opinion may promote a deception bias in a post-factual information era. As warning labels and media literacy messages may enhance general levels of cynicism and trigger suspicion applied to both factually accurate information and mis- or disinformation (e.g., Modirrousta-Galian & Higham, 2022), we expect that exposure to warnings about mis- and disinformation enhances general distrust to all subsequent information. In our study, we specifically investigate the effects of exposure to a pre-bunking message that primes suspicion by emphasizing the threats of mis- and disinformation. As this can be considered a trigger event for perceived deception (Levine, 2014), we introduce the following central hypothesis: Exposure to a pre-bunking message that warns recipients about the dangers of mis- and disinformation lowers trust in both factually accurate information and misinformation.

3. Case Study: How Interventions May Backfire as a Consequence of Priming Deception

3.1. Data Collection

To assess the (unintended) effects of media literacy interventions, we conducted an experiment in the US and the Netherlands (N = 377). In the first part of the experiment, after asking pre-treatment questions on age, gender, education, ideology, media use, and perceptions, 50% of the sample was exposed to a media literacy intervention. The other 50% did not see such an intervention. In the next step, participants were randomly exposed to mis- or disinformation with an anti-immigration stance or an evidence-based message that was factually accurate (for the stimuli, see Appendix A of the Supplementary File). This topic was chosen as it is central in disinformation campaigns in both Europe and the US (e.g., Bennett & Livingston, 2018; Marwick & Lewis, 2017). As it strongly reflects a delegitimizing and politicized anti-immigration narrative, the stimulus could be regarded as intentionally false (disinformation). However, the message may

also be disseminated without harmful intentions (i.e., by ordinary citizens). For this reason, the false message central in this experiment can be both mis- and disinformation, depending on the communicator and the context of dissemination.

We compared the US and the Netherlands as these countries have been regarded as contrasting cases when it comes to resilience toward disinformation (Humprecht et al., 2020). The Netherlands, as a less polarized multiparty context with relatively high levels of trust in established media, could be considered relatively resilient: Citizens may be more likely to trust established and verified sources than counter-epistemic platforms, and the setting of different political parties makes it more difficult to raise cynicism or reinforce existing cleavages in society. In the US, however, the extremely low level of trust in the news may correspond to a more vulnerable context for disinformation—only 26% of all citizens trust the media most of the time according to the 2022 Reuters Institute Digital News Report (Newman et al., 2022). The high level of polarization further offers a discursive opportunity structure for malign actors to reinforce bi-partisan cleavages (Humprecht et al., 2020). The overall goal of the comparison is to explore whether similar effects of disinformation discussions—in the form of a media literacy message warning about disinformation—can be observed in settings with different levels of resilience to disinformation. We do not formulate directional hypotheses about the (un)intended effects of interventions between these two settings as levels of resilience could both dampen or enhance the effects of interventions. More specifically, lower levels of resilience in the US compared to the Netherlands could mean that there is more room for media literacy interventions to improve the discernment between false and accurate information. Alternatively, however, lower resilience could also imply that interventions are less likely to be accepted by citizens with higher levels of institutional distrust, such as the case in the US. Against this backdrop, we leave it an open question whether differential levels of assumed resilience to mis- and disinformation also translates into different (un)intended effects of warning labels.

3.2. Sample

We achieved 377 completes (188 US participants; the completion rate was 80.8%). Of these completes, 46.9% identified as female. The final sample closely reflects the populations' distribution on educational level, and shows a non-skewed distribution of the different levels of education. More specifically, 47.2% had a moderate level of education, whereas 24.1% and 28.6% had a lower and higher level of education, respectively. Ideology was equally distributed across the left-right divide: 39.5% identified as (somewhat) left-wing and 49.1% as (somewhat) right-wing (11.4% did not know or did not want to say). These distributions reflect the voting behavior of the different populations included in the study. Finally, the mean age of the participants was 43.30 years (*SD* = 14.31).

3.3. Exposure to a Media Literacy Intervention

Based on conventional interventions used in both countries, we designed a media literacy intervention that warned people about mis- and disinformation, whilst offering concrete suggestions on how to detect falsehoods (see Appendix A in the Supplementary File). As we based ourselves on templates that have been used by media literacy organizations in different contexts, we consider the intervention as externally valid. In the intervention, three key suggestions for media users were foregrounded: (a) It is important to check the source of messages; (b) it is important to look for factual information, and critically assess whether these facts match reality; and (c) it is suggested to look for logical argumentation styles. This way, the intervention also follows the theoretical premises of the trigger events of deception detection postulated in the TDT. The intervention is similar to media literacy messages tested in previous experimental research (e.g., Guess et al., 2020; Tully et al., 2020). Similar to the approach taken by Tully et al. (2020), the media literacy message emphasized the need to "spot fake news," for example by verifying the validity of the message's source. To enhance ecological validity, the intervention we used aimed to mimic existing infographics, warning messages, and online suggestions often encountered as close as possible. The intervention was, for example, based on the Dutch' governments public service announcements on how fake news should be spotted (the governmental platform of the national media literacy organization was used as inspiration). The intervention was also based on online lists of suggestions forward by fact-checking organizations such as factcheck.org. Although the interventions were similar in terms of argument structure, style, and other features, they were tailored to the different national settings (i.e., the US intervention talked about mis- and disinformation in the US).

3.4. Measures: The Perceived Credibility of (Dis)Information

After seeing the disinformation article or the fact-based information, participants evaluated the perceived credibility of the message based on the following statements (all measured on 7-point disagree-agree scales): (a) the message is truthful; (b) the message is accurate; (c) the message is based on false assumptions (reverse-coded); and (d) the message tried to deceive me (reverse-coded). To equally prime a truth and deception bias, we used a 50:50 mixture of items emphasizing the truthfulness versus dishonesty/lack of facticity of the messages. The items formed a reliable average scale of perceived credibility (*M* = 3.94, *SD* = 1.26, Cronbach's alpha = .849).

3.5. Procedures and Manipulation Checks

The data collection for the experiment was completed by the international research agency Dynata in March 2020, which has a large mixed-resources database of diverse panelists across countries. Potential participants were recruited via e-mail. Upon accepting the invitation from the company, participants were forwarded to the online survey via a redirect link. Upon entering, participants first of all completed questions on socio-demographics and background variables that could be used as controls (i.e., left-right ideological self-placement). Then, they were randomly allocated to the media literacy intervention or a filler survey block (control condition). In this control condition, they read information about a recipe (a non-political message that scored low on arousal and political content but equal in length). After that, participants were randomly assigned to the factual information or mis- and disinformation condition (equal group sizes). After reading the (dis)information, participants evaluated the perceived credibility of the statements they were exposed to (the main dependent variable).

In the final survey block, participants answered a series of manipulation check questions that asked them to remember the statements of the mis- and disinformation treatment and the media literacy interventions. The manipulations succeeded: Participants in the mis- and disinformation condition were significantly and substantially more likely to associate the message with falsehoods emphasizing increasing crime rates caused by migrants (M = 5.17, SD = 1.54) compared to participants exposed to fact-based information (M = 3.55, SD = 1.67, p < .001). Likewise, participants who were not exposed to a media literacy intervention were overall not likely to perceive to be warned about mis- or disinformation and its effects (M = 2.98, SD = 1.80), whereas participants exposed to the media literacy intervention remembered the media literacy's warning about the threats of disinformation (M = 5.25, SD = 1.57, p < .001).

Randomization checks confirmed that there were no differences between groups in terms of gender, age, level of education or ideological preferences. These factors were thus equally distributed across groups. Controlling for these factors did not influence any of the findings reported in this article.

Participants were carefully debriefed in the final step of the survey. As part of this procedure, they were presented with a fact-check that outlined the (un)truthfulness of the message they were exposed to. Participants were informed about why they were deceived, and the fictionality of the intervention was also emphasized. In addition to this, links with further reading on misinformation, as well as existing media literacy initiatives, were offered. All participants were confronted with this debriefing information, even if they left the survey earlier (i.e., a re-direct was implemented).

4. Results

To compare the perceived credibility of factually accurate information versus mis- or disinformation pre-bunked with a media literacy message, we ran a one-way ANOVA. The four conditions were included as a categorical independent variable, and the mean credibility scale was included as a dependent variable (see Table 1 for the mean scores across conditions). The results of the ANOVA indicate that there are significant differences in the perceived credibility of the messages shown in the different conditions (F(3, 373) = 2.81, p = .039, partial η^2 = .022). Inspecting the pairwise mean score comparisons, we only see only one significant between-conditions difference in the perceived credibility of the information participants were exposed to. More specifically, participants exposed to factually accurate information without a media literacy intervention are more likely to perceive the message as credible (M = 4.21, SD = 1.16) compared to participants exposed to mis- or disinformation that was preceded by a media literacy intervention (M = 3.72, SD = 1.16). Without a media literacy intervention, however, there was no significant difference in the credibility of factually accurate information (M = 4.21, SD = 1.16) and disinformation (M = 3.93, SD = 1.27). Only when the media literacy message was present (compared to absent), participants rated disinformation as significantly less credible than factually accurate information (ΔM = .49, SE = .16, p = .002). Yet, the differences between mis- or disinformation with and without pre-bunker are very small. Table 1 shows that these findings are most pronounced in the US—as the differences are not demonstrated in the Netherlands.

Table 1. Mean score differences across all four conditions.

	No pre-bunking message			Pre-bunking message		
	Total M (SD)	US M (SD)	NL M (SD)	Total M (SD)	US M (SD)	NL M (SD)
Mis- or disinformation	3.93^{b} (1.27)	3.50^{a} (1.25)	4.33^{b} (1.17)	3.72^{a} (1.16)	3.47^{a} (.97)	4.02^{a} (1.30)
Factually accurate information	4.21^{b} (1.16)	4.33^{b} (1.34)	4.06^{b} (.91)	3.95^{a} (.98)	3.87^{a} (1.01)	4.02^{a} (.95)
F, Df *(3, 377)*	2.81*					
Partial η^2	.022					

Notes: Means with different subscripts (^{a}, ^{b}) within columns are significantly different (p < .05); * p < .05.

More relevant for our main research question, we also compared the effect of exposure to a media literacy message in response to both real information and disinformation. Comparing the credibility ratings of factually accurate information with and without this intervention, we see no significant difference in the perceived credibility between exposure to a media literacy intervention presented before factually accurate information and the absence of such a message (ΔM = .26, SE = .17, p = .71). Based on this finding, we can conclude that the media literacy intervention did not significantly lower the credibility of factually accurate information.

We find a similar effect for the media literacy intervention preceding mis- or disinformation: The perceived credibility of mis- and disinformation is not significantly different for participants exposed to a media literacy intervention than participants that did not see such a forewarning message (ΔM = .21, SE = .17, p = 1). Although our findings suggest a difference in perceived credibility between factually accurate information that is not preceded by a media literacy message and pre-bunked mis- or disinformation, presenting a media literacy message before factually accurate information diminishes the potentially positive effect of media literacy interventions. On average, the credibility of both mis- or disinformation and real information is lowered by the intervention so that the difference between pre-bunked mis- or disinformation and factually accurate information is not significant.

In the final step, we repeated the analyses for both country cases separately (see Table 1). The country-specific analyses show that the mean score differences are most pronounced in the US. Although fact-based information is more credible than corrected mis- or disinformation in both the US and the Netherlands, the difference is most pronounced in the US (ΔM = .87, SE = .25, p = .005). In the US, but not in the Netherlands, there is a significant and substantial mean score difference between factually accurate information and disinformation in the absence of a media literacy intervention (ΔM = .84, SE = .25, p = .005). Although the intervention makes factual information less credible (ΔM = .49), the intervention does not have a significant effect on the credibility of mis- or disinformation (ΔM = .02). The findings thus point to a harmful side-effect of the pre-bunking intervention in the US: The media literacy message lowers the credibility of factually accurate information, and does not have a significant effect on the credibility of mis- or disinformation. Comparing the two country cases, it can be concluded that the intervention had more negative side effects than positive intended effects in the US. We can also conclude that the averaged findings across both country settings are driven by the US: There are no significant differences if we look at the Netherlands separately.

As a main finding, it can be concluded that the presence of a pre-bunking intervention in the form of a warning label combined with suggestions on how mis- and disinformation should be detected diminishes the credibility gap between factually accurate information and mis- or disinformation in the US. Hence, the intervention significantly lowers the credibility of factually accurate information, but not mis- or disinformation (see Table 1).

5. Discussion

What to make of these findings? Although warning people about the threats of mis- and disinformation, for example by exposing them to media literacy messages, can reduce the perceived credibility of mis- and disinformation, it can also harm the credibility of factually accurate information. Even more so, taking into account the negative side-effect of a media literacy message on the perceived credibility of factual information, the positive impact of the media literacy message can diminish. This was especially shown in the US, where people were better able to discern truthful information from mis- or disinformation without an intervention than with the presence of a media literacy intervention. The warning seemed to confuse news users, and made the task of truth and deception discernment more difficult.

This illustrates that media literacy messages that discuss the threats of mis- and disinformation may work most efficiently when they are shown to people that expose themselves to mis- or disinformation. When people are warned about mis- or disinformation but exposed to factual news, the intervention may harm trust in factually accurate information. In practice, targeting pre-bunking measures to mis- or disinformation exposure is virtually impossible. Hence, looking at existing applications of inoculation strategies, media literacy messages, and other pre-bunking information (e.g., Roozenbeek & van der Linden, 2019), these interventions are presented as general warnings that do not take into account people's preferences and selection patterns for mis- or disinformation compared to reliable information.

Although the effectiveness of news media literacy interventions and pre-bunking techniques requires more empirical research, our findings suggest that it is important to look at the discernment between factually accurate information and mis- or disinformation to measure the effectiveness of interventions (see also e.g., Modirrousta-Galian & Higham, 2022). Hence, under some conditions, exposure to a media literacy intervention can lower the credibility of information irrespective of its veracity. Overall, the effectiveness of interventions should be considered in the wider context of the prevalence of factually accurate, reliable information vis-à-vis mis- or disinformation (e.g., Acerbi et al., 2022; Allen et al., 2020). More specifically, mis- and disinformation is estimated to make up about 1% of news users' media diets (e.g., Acerbi et al., 2022). Although this estimate excludes blogs, chat groups, and communication in closed communities, it can be argued that the large majority of information that people are exposed to is reliable and factually accurate. Against this background,

the trend suggested by this study is that the presence of media literacy interventions can also result in lower levels of credibility when presented before factually accurate information may have consequences for how pre-bunking techniques could be presented and placed in people's newsfeeds. Although this study has only offered limited and preliminary evidence for this, future research needs to further explore under which conditions media literacy interventions may have unintended consequences that could harm their effectiveness.

This negative side-effect of talking about the threats of false information corresponds to Acerbi et al.'s (2022) recommendation to focus interventions on enhancing the credibility of reliable and factually accurate information instead of combating mis- and disinformation. Hence, based on the substantially lower prevalence of deceptive compared to factually accurate information in people's newsfeeds, it may be equally effective to enhance the trustworthiness of factually accurate information with 1% as to lower the acceptance of mis- and disinformation to zero. However, to date, most interventions and media literacy programs target the threats and perceived effectiveness of false and deceptive information (e.g., Hwang et al., 2021; Jones-Jang et al., 2021). Therefore, it may be important for interventions to relativize the threats associated with mis- and disinformation and to additionally focus on the consolidation of trust in authentic and factually accurate information and news sources.

In line with this suggestion, a practical implication of this study is to—after conducting more research on the unintended consequences of pre-bunking messages—reconsider media literacy interventions, as well as journalists' and media practitioners' attention to mis- or disinformation as a threat. More specifically, it may be worthwhile to emphasize that misinformation—although a problematic and amplified issue—is far less prevalent than factually accurate information. As part of media literacy programs, it is relevant to offer suggestions and practical recommendations on how news users can find reliable and trustworthy sources. Concretely, a list of suggestions on how the reliability and accuracy of trustworthy information and news sources may be assessed can be included, supplemented with source recommendations for verified news on different issues. Considering that all sources can be wrong sometimes, news users should be recommended to not blindly accept sources that are likely to contain factually accurate information. Yet, media literacy interventions can offer concrete guidance on how critical news users can discern truthful information from intentionally deceptive sources.

Although these media literacy interventions should motivate citizens to be critical toward information—including the information from reliable sources that are recommended—it is important to not instill cynicism. One suggestion in that regard would be to inform people about the reasons why information may not be accurate (i.e., due to a lack of expert knowledge, changing analyses, or updated evidence), instead of triggering suspicion related to perceived intended manipulation and conspiracies. Thus, although moderate misinformation perceptions may be conducive to media trust and news selection, mis- and disinformation perceptions that revolve around the perceived dishonesty of the press may be more detrimental to media trust and democracy at large (Hameleers et al., 2020). In any case, it is important that media literacy interventions focus on truth discernment instead of mis- and disinformation detection.

Theoretically, our findings offer relevant input for the truth versus deception default theory (Levine, 2014). Although it has traditionally been argued that people are biased toward the truth, and that people accept the honesty of information unless deception is triggered (Levine, 2014), discussions about mis- and disinformation may be an important trigger event. Hence, media literacy messages, the weaponization of fake news, and public and politicized debates on how to "fight" mis- and disinformation may contribute to a gradual shift toward a deception bias (also see Bond et al., 2005; Burgoon, 2015). As suggested by the findings of our study, people may become overly sensitive toward deception as frames and discourses around mis- and disinformation are omnipresent, potentially resulting in an overestimation of the threat. Although people should not, at least from a normative perspective, blindly follow a truth bias, the complexity of currently digitized information ecologies dictates that people should be wary about the likelihood to encounter deception or truthfulness in different communication contexts. Specifically, when people consume news on social media and when relevant expert knowledge is absent, they should arguably be more critical and motivated to verify information than when they use established news sources that quote different relevant expert sources.

Despite offering new insights into the dynamics of accuracy judgments driven by deception and truth biases in the context of mis- and disinformation, this study comes with a number of substantial limitations. First and foremost, we base ourselves on just one specific media literacy intervention and the subsequent effect of the credibility of just one mis- or disinformation and factual news article on one issue. It could be the case that this specific media literacy intervention caused cynicism and distrust due to its framing, and it could be argued that the difference between the deceptive and the factually framed article was too small to detect meaningful differences in perceived credibility. We thus need more research using different types of interventions applied to different forms of mis- and disinformation to triangulate and validate the trends suggested here. Although we based ourselves on real mis- or disinformation articles and media literacy interventions, we consider this as one case study that needs to be supplemented with more robust evidence based on different interventions and a more diverse selection of mis- and disinformation

narratives. We consider the artificiality of the experimental setting as another shortcoming. Although the media literacy intervention was not directly placed in front of the articles that participants had to evaluate, there is arguably more distance and distraction between warnings and actual (mis)information in people's newsfeeds. This means that the real-life effects of interventions may be smaller in real life. However, discussions on mis- and disinformation and warnings about their threats reach people in a multitude of formats that are constantly repeated. Therefore, the findings of this study may also underestimate the effects of warning people about mis- and disinformation. This calls for more realistic study designs that take delayed exposure as well as repetition into account, for example, by relying on a multi-wave survey experiment.

Yet, this study's aim was to offer first tentative evidence on the possibility that well-intended responses to mis- and disinformation could, under some conditions, have negative unintended side-effects on the trustworthiness of reliable information. We believe that our findings at the very least call for some sensitivity to undesired effects of mis- or disinformation as a discursive issue, and more research that takes unintended consequences into account when mapping the effectiveness of interventions.

Conflict of Interests

The author declares no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

An Overview of the Fake News Phenomenon: From Untruth-Driven to Post-Truth-Driven Approaches

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Abstract
"Fake news" was chosen in 2017 as the word of the year by the Collins Dictionary and the American Dialect Society, due to its extraordinary popularity. However, its relevance has been called into question due to its controversy and ambiguity. We have compiled herein 30 definitions from selected dictionaries, academic papers, news agencies, influential media observatories, and independent, certified fact-checkers over the last six years and have carried out a manual relational content analysis on them. We also collected data from four bibliometric studies from academic literature and five surveys on how the general public perceived fake news. In keeping with this three-level systematic review (lexicography, bibliometrics, and public perception) we detected some trends, including a growing drift towards a post-truth-driven conceptualization of fake news. Results also show that the "viral" and "memetic" quality of a rumor prevail over the demonstrable credibility of a source and even the factuality of a reported event; the element of surprise or outrage in the heat of the moment is more powerful than the ironic detachment elicited by news satire and parody; and sharing motivations are definitely less concerned with perceived accuracy than with partisan support, community sentiment, emotional contagion, and a taste for the sensational or bizarre.

Keywords
bibliometrics; disinformation; fakeness; fake news; lexicography; news-ness; partisanship; post-truth; public perception; shareworthiness

Issue
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1. Introduction: Fake News as a Controversial Issue

"Fake news" was chosen as the word of the year in 2017 by both the Collins Dictionary and the American Dialect Society, among others. Both justified this decision as their occurrence in public discourse had multiplied since the Brexit referendum campaign in the UK (June 2016) and the US presidential election campaign (November 2016). The latter stated that fake news was first considered in the voting for its 2016 Word of the Year Award, but "at the time its meaning was restricted to fictional or embellished stories presented as authentic news, disseminated for financial gain or for propagandistic purposes; in 2017, however, the meaning of *fake news* shifted and expanded, in large part due to its repeated use by President Donald Trump" (American Dialect Society, 2018).

However, even earlier, in 2016, it had already been chosen by the fact-checker Politifact as "lie of the year" (Holan, 2016). The notion behind this was to call out the use of this term which, in itself, had begun to be fraudulent or, at least, misleading. This brand-new word "fake news," as well as the related term "post-truth" (Harsin, 2015; McIntyre, 2018; Rodríguez-Ferrándiz, 2019; Waisbord, 2018), have been at the center of the maelstrom the media ecosystem is in, the so-called "information disorder" (Wardle & Derakhshan, 2017).

In itself the expression "fake news" is nothing new. In fact, it dates back to the beginning of the 20th century (McNair, 2018). In early mass communication research,

fake news meant false content, "which covered not only inaccurate news coverage but also encompassed entertainment-oriented content, such as news satire and parody" (Tong et al., 2020, p. 756). At the turn of the 21st century, this ambivalence persisted. "Fake news programs" was the label to refer to high-rating TV formats that mimicked the news (offering satirical news instead) such as *The Daily Show* (1999–2015) and *The Colbert Report* (2005–2014), both broadcast by the US cable channel Comedy Central, and the "Weekend Update" segment of NBC's *Saturday Night Live*. The same model was used in print magazines, such as the satirical *The Onion* (Baym, 2005; Day & Thompson, 2012; Holt, 2007).

Nowadays, the popularity gained by the expression "fake news" has little to do with its location within parody or satirical cognitive frameworks. On the contrary, it is associated with bitter political controversy, partisanship, and polarization. Fake news connotes intent to deceive and often to do harm. We may well regret such a loss. The capability satirical fake news has to highlight the limits or commitment to real news without aiming to be confused with them is praiseworthy (Baym, 2005, p. 273). Berkowitz and Schwartz (2016, p. 4) argued that "fake news does not exist independently of real news; instead, it exists as a critique of real news, a farcical watchdog that lampoons both journalists and the subjects they cover." As stated by Marnie Shure, *The Onion*'s managing editor: "We train readers on our brand of satire rather than trick them. And when we have the readers trained it speaks a greater truth to power" (as cited in Purcell, 2017). A 2004 Pew survey stated that 21% of people aged between 18 and 29 said they regularly learned about news and politics from comedy shows such as *Saturday Night Live*, and 13% reported learning about them from late-night talk shows such as NBC's *Tonight Show* with Jay Leno and CBS's *Late Show* with David Letterman. Among the programs regularly cited as a rising source of political information was Comedy Central's mock news program *The Daily Show* with Jon Stewart (Baym, 2005, p. 260). In its traditional definition, which is declining, the word "fake" retains a nuance that subtly distinguishes this sort of content from falsehood, lies, deceit, imposture, and fraud, becoming instead a tool for creativity and a reactive, subversive process. Its purpose is not to perpetually falsify the truth (an unmasked lie is a deactivated, failed lie); disclosure is rather an essential part of its strategy: Essentially, if "fake news" are not identified as such, they are unsuccessful, and its beneficial effects are not triggered.

As we know, in just a few years, the meaning of "fake news" as it was associated with critical subversion through humor has diminished greatly. Undoubtedly, comedic and satirical fake news can often be retweeted and shared on Twitter and Facebook feeds. However, social networks such as these look more realistic and could be misconstrued as being true. Indeed, these contents are shared, whether knowingly or unknowingly, as factual (Allcott & Gentzkow, 2017). As Harsin (2018b, p. IV) has stated: "While fake news increasingly refers to deceitful, if not completely false/invented, content, fake news as comedy lives on, but now as a problem: millions of social media users (and occasionally politicians) misrecognize it as professional journalism."

Fake news points out new directions. In the following sections, we intend to give an account of four bibliometric studies on fake news (Section 2) and show the methodology used to compile 30 selected definitions of the term (Section 3, Table 1). We also provide a content analysis of these definitions following five different variables (Section 4). Finally, we set out and compare five studies on how the public perceives fake news (Section 5). Our aim is to observe how the term has evolved from multiple perspectives. As barely six years have passed since it became a buzzword, it is still in its infancy. Nevertheless, this short lifespan has provided a surprising number of controversies and raised a number of social concerns.

Our secondary aim is to try and characterize, by way of exploration, what different research questions have been raised around fake news. We intend to correlate these different and sometimes conflicting interests with the perspectives of what fake news is, its scope, its coverage, and the measures taken, if any, to counteract it, combat it, or moderate its effect.

2. Analysing Bibliometric Data

Fake news has become a matter of scientific research. Although it has mainly concerned political communication scholars, this phenomenon has also interested a broader range of researchers: It first drew together experts from the social sciences in general (philosophers, semioticians, psychologists, anthropologists, sociologists, pedagogues); secondly came the doctors, biologists, environmentalists, economists, computer science and AI technologists, and generally almost any practitioner from the "hard" sciences (Lazer et al., 2018; McIntyre, 2018; Oreskes & Conway, 2010).

Regarding what the term means and the extent of its scope, a study published in 2018 analyzed 34 academic publications between 2003 and 2017 that used "fake news" as one of their keywords. Six different meanings were given to the term: news satire, news parody, news fabrication, photo or video manipulation, advertising and public relations presented as if they were information, and political propaganda (Tandoc et al., 2018). Looking at these labels, we will see that two out of the six are concerned with textual genres close to literature or narrative fiction: satire and parody. By no means can these texts be accused of mendacity since they were never intended to be factual. Two more (advertising and propaganda) correspond to textual genres that are motivated by commercial or political interests (not news contexts), so we are aware we are possibly being manipulated. Therefore, only news fabrication and photo or video manipulation can be deemed as genuine lies in public communication, albeit these border on the other

types, especially in such a ductile or malleable medium as the internet.

A more recent bibliometric study of texts indexed in the Web of Science conducted in 2020 collected 1,147 documents in which fake news appeared either in their title, abstract, or keywords. From this figure, 640 were articles in scientific journals (Alonso García et al., 2020). "Fake news" is first mentioned in 2005, but it only took off in 2017 (77 articles), with ever more mentions in 2018 (250) and 2019 (283). Between 2005 and 2017 the word was linked to "parody," "Jon Stewart" (*The Daily Show*'s anchor) and "literacy." However, from 2018 onwards it became mainly associated with "political communication," "bias," "verification," "Twitter," "social networks," "populism," and also "Russia." Alonso García et al. (2020, p. 14) concluded that, at first, "the term referred to news that express facts in a parodic and comic way." However, at present, "the phenomenon of fake news is associated with populist messages, mostly related to the political sphere" (p. 16).

A similar study, in this case retrieving data from the scientific database Scopus, was conducted by Nicola Righetti (2021). Here, 2,368 documents were collated in which "fake news" was mentioned in the title or abstract. In keeping with previous studies, this one shows that the term became popular from 2017 onwards, being virtually unused by scholars before that. The first occurrence in the data set is in 2005 (three documents), but until 2016 there were less than 10 documents a year that included it. In 2017, this number shot up to 203, reaching 477 in 2018, 694 in 2019, and 951 in 2020. Interestingly, compared with the number of documents mentioning "social media," another steadily growing topic, those mentioning "fake news" were 0.1% on average between 2010 and 2016, 2.5% in 2017, 5.1% in 2018, 6.5% in 2019, and 7.1% in 2020.

By considering the keywords used to describe document topics, there is a focus on social media (including Twitter, with 86 occurrences, and Facebook, with 64 occurrences). Also, there is a methodological interest in the detection of fake news (with keywords such as "machine learning," "deep learning," "learning algorithms," or "artificial intelligence"), and in computer programming ("natural language process," "text processing"). Righetti (2021) remarks this picture is consistent with the high number of contributions published in computer science-related fields, which is a top discipline by number of contributions (1,138 documents). Social sciences come in second (939 documents), and among the top ten academic areas are featured scientific, social, and humanistic disciplines such as engineering (346), mathematics (320), and arts and humanities (300). Keywords such as "journalism," "information system," "communication," and "politics" also imply there is special interest in the socio-political and communicative aspect of the problem, just as "pandemic" and "Covid-19" highlight the importance of misinformation during the current epidemiological crisis due to the SARS-CoV-2 virus.

This growing attention from 2017 onwards means that the phase in which fake news shot up occurred only a couple of years after the beginning of the "post-truth politics" era. This took place between 2015 and 2016. In fact, the adjective post-truth experienced similar exponential growth in that period.

Another contemporary bibliometric study on fake news (Park et al., 2020) reached similar findings, in this case expanding the search of relevant scholarly contributions not only to "fake news" but also "post-truth," "post-fact," "truthiness," and "deep fakes/deepfakes" as related keywords. The data source included documents indexed in the Web of Science database and the initial search resulted in 1,119 documents in a period of 20 years (2001–2020), which were further filtered to include only academic articles (editorials, book reviews, and commentaries were excluded). The final sample of 479 documents showed little occurrence of "fake news" and the related terms above-mentioned before the 2016 American presidential election and a breathtaking rise in academic mentions from 2017 onwards. Moreover, via VOSViewer, Park et al. (2020) also analyzed the co-occurrence in keywords, that is, the number of documents in which two keywords are found together. The most common keywords ranked by number of occurrences were "fake news," "social media," "misinformation," "media," "information," "policies," "internet," and "disinformation." Other relevant co-occurring keywords were "propaganda," "information literacy," "media literacy," and "fact-checking.''

As we can see, the more recent the bibliometric studies and the documents retrieved, the less the terms "parody" and "satire" appear as related keywords: Such tendency is in gradual decline since 2017. In this vein, two different meanings have been accepted for "fake news" once its parodic or humorous quality has been ruled out. According to Tamul et al. (2019, p. 2), fake news can refer to (a) deliberate and demonstrably false information and (b) the derogatory way in which the media or news that do not conform with the position of the speaker is dismissed. Thus, it is an expression of political disagreement (dressed up as an accusation of falsehood) in which no supporting evidence is provided or the counterarguments to which are merely ignored.

3. Methodology: Retrieving and Assessing Definitions of Fake News

To gain an insight into the variety and nuances of meanings that fake news has both in non-specialized dictionaries and in the literature, be it academic, professional (newspapers, fact-checkers, news agencies, journalistic observatories), or institutional (official reports, analyses, guides, and recommendations), we have compiled 30 definitions of "fake news" (see Table 1).

For scholarly publications, we used the Web of Science Core Collection search engine and gathered data from the Social Science (SSCI), Science (SCI), and Art and Humanities (A&HCI) Citation Indexes on 15 May 2022.

We retrieved a huge number of academic documents on "fake news," by which we mean texts including this compound word in the author's keywords as well as in the title of the works. These were further filtered to include only academic articles (*N* = 510; editorials, book reviews, and commentaries were excluded). After a preliminary review, we concluded that only a minority proposed an original and well-grounded definition of the expression and, consistently, a considerable quantity of scholars resorted to very few baseline studies. Out of the 510 results from the search, the most recurrent Web of Science categories were communication (23.3%), computer science information systems (18.4%), computer science artificial intelligence (12.7%), and information science and library science (12.3%). The fields of management and business (10.2%), psychology (10%), political science (3.3%), sociology (2.4%), and philosophy (2.2%) scored slighter but equally significant values. We tried to represent in the selected definitions this wide variety of fields that have addressed the issue.

For general dictionaries, we chose those especially mindful of disinformation as a matter of concern. The Collins Dictionary and the American Dialectal Society chose the expression "fake news" as their word of the year in 2017; the Oxford English Dictionary did the same with "post-truth" only a year earlier, and Dictionary.com chose "misinformation" one year after, in 2018.

For traditional media outlets and institutions, we chose some that are generally respected and especially committed to fact-checking, such as *The Guardian* and *The New York Times*, fact-checkers certified by the independent International Fact-Checking Network (Politifact, Snopes), and accredited media observatories and research institutes (Reuters Institute for the Study of Journalism and the Internet Policy Observatory at the Annenberg School). We also collected definitions from large international institutions concerned about the "new information disorder," such as UNESCO, and grassroots initiatives led by volunteers from academia and industry around the world (Fake News Challenge).

These 30 definitions were entered into a manually encoded relational content analysis to identify five variables:

1. Its intentional nature—or *fakeness*—meaning the definition is based on content that is misleading by design or that is an expression of partisan controversies or battles of narratives, as opposed to fake news that are so by mistake (misinformation; see Fallis, 2014, 2015; Harsin, 2018a, pp. 9–10) or as a joke (news satire, news parody). We named the former (intentional, misleading by design) an "untruth-driven definition" and the latter (partisan, ideologically fake news) a "post-truth-driven definition."
2. Its capacity to resemble real news (its *news-ness*), mimicking news reporting in format, content, values, etc.
3. Its online nature and viral quality (its *shareworthiness*), which points to a distributed form of influence, being social media an ideal platform to accelerate (fake) news dissemination, providing rich platforms to share, forward, vote, and review, and encouraging users to participate and discuss online news.
4. Its political motivation.
5. Its financial motivation.

Consistently with what has been stated above, there are no entries between 2017 and 2022 except one of those offered by Dictionary.com, which provide any definition for the humorous or parodic transformation of real news. This one was—it's worth remembering—the most popular meaning for fake news for at least a decade (2005–2015; Baym; 2005; Day & Thompson, 2012; Holt, 2007).

4. Results

A more detailed analysis based on the identified variables shows, first, that most definitions describe "fake news" as being exclusively misleading by design (19 out 30 definitions); they concern intentional falsehoods or disinformation and focus on *fakeness*. This implies two things: It can be proved that they are false and they can reasonably be assumed to have been formulated to mislead. Fake news are "stories" (definitions no. 2, 5, 7, 12, 14, 22, and 28) or "claims" (definitions no. 8, 10, 14) that are characterized as "misleading," "fraudulent," "false," "fabricated," "made-up," or "invented from whole cloth." Diverging definitions either introduce relativism (definitions no. 5 and 19), according to which fake news are rhetorical strategies to sow doubt, clashes of narratives with different geopolitical points of view (that is, they are not malicious but express truly opposing perspectives), or they encompass two or three different definitions, among which the will to deceive is just one of them (definitions no. 4, 10, 13, 14, 17, 23, 25, 26, and 29).

Our detailed analysis also show that slightly less than one-third of the definitions (9 out of 30) openly allude to the internet or any of its related phenomena (clickbait headlines, social sharing, web traffic, viral posts) when characterizing fake news (definitions no. 2, 8, 11, 12, 14, 16, 22, 28, 29). This seems to indicate that the phenomenon still has a largely neutral definition, not linked to any particular period but to the information system in general. It also remarks on an awareness that the scope of the social media ecosystem may have helped it spread.

Finally, only seven definitions mention political reasons and another six financial motivations, while both are mentioned in four cases (definitions no. 21, 23, 24, 26).

These results refer to *what* fake news is, *how* it attains its goals, and *why*. However, a Lasswellian questionnaire should also consider four more questions: *who* delivers fake news, to *whom*, *how* fake news manages

Table 1. Definitions for "fake news" and salient traits.

Reference	Year	Outlet/Publisher	Definition	Intentional Falsity (*fakeness*)	Disguised as news (*news-ness*)	Online & viral (*shareworthiness*)	Political ends	Financial ends
Allcott and Gentzkow	2017	*Journal of Economic Perspectives*	News articles that are intentionally and verifiably false and could mislead readers.	X	—	—	—	—
American Dialect Society	2017	American Dialect Society	(1) Disinformation or falsehoods presented as real news; (2) actual news that are claimed to be untrue.	X	X	—	—	—
Collins Dictionary	2017	Collins Dictionary	False, often sensational, information disseminated under the guise of news reporting.	X	X	—	—	—
Dalkir and Katz	2020	IGI Global	A potentially contradictory term, one that has some use in identifying and critiquing false claims that masquerade as news while also serving as a useful weapon by which motivated—and often biased—speakers attack traditional journalistic bodies attempting to report accurately on events.	X/—	X	—	—	—
Dentith	2017	*Public Reason*	An allegation that some story is misleading; a rhetorical device, one designed to cast doubt on what would otherwise be some received story.	—	—	—	—	—
Dictionary.com	n.d.	Dictionary.com	(1) False news stories, often of a sensational nature, created to be widely shared or distributed for the purpose of generating revenue, or promoting or discrediting a public figure, political movement, company, etc.; (2) a parody that presents current events or other news topics for humorous effect in an obviously satirical imitation of journalism; (3) a conversational tactic to dispute or discredit information that is perceived as hostile or unflattering (sometimes facetious).	X/—	—	X	X	X
Fake News Challenge	2017	Fake News Challenge	A completely fabricated claim or story created with an intention to deceive, often for a secondary gain.	X	—	—	—	—

Table 1. (Cont.) Definitions for "fake news" and salient traits.

Reference	Year	Outlet/Publisher	Definition	Intentional Falsity (*fakeness*)	Disguised as news (*news-ness*)	Online & viral (*shareworthiness*)	Political ends	Financial ends
Finneman and Thomas	2018	*Newspaper Research Journal*	Intentional deception of a mass audience by nonmedia actors via a sensational communication that appears credible but is designed to manipulate and is not revealed to be false	X	X	X	—	—
Gelfert	2018	*Informal Logic*	Deliberate presentation of (typically) false or misleading claims as news, where the claims are misleading by design.	X	X	—	—	—
Hinsley and Holton	2021	*International Journal of Communication*	Information spread through news-oriented sources that knowingly or unknowingly contain misinformation with the potential to misconstrue otherwise legitimate information in ways that may confuse news consumers and spread false information.	X/—	X	—	—	—
Holan	2016	*Politifact*	Made-up stuff, masterfully manipulated to look like credible journalistic reports that are easily spread online to large audiences willing to believe the fictions and spread the word.	X	X	X	—	—
Hunt	2016	*The Guardian*	In its purest form, fake news is completely made up, manipulated to resemble credible journalism and attract maximum attention and, with it, advertising revenue; hosted on websites that often followed design conventions of online news media to give the semblance of legitimacy, the stories are geared to travel on social media.	X	X	X	—	X
Ireton and Posetti	2018	UNESCO	So much more than a label for false and misleading information, disguised and disseminated as news. It has become an emotional, weaponised term used to undermine and discredit journalism.	X/—	X	—	—	—

Table 1. (Cont.) Definitions for "fake news" and salient traits.

Reference	Year	Outlet/Publisher	Definition	Intentional Falsity (*fakeness*)	Disguised as news (*news-ness*)	Online & viral (*shareworthiness*)	Political ends	Financial ends
Irwin	2017	*The New York Times*	Before the term "fake news" became an all-purpose insult for news coverage a person doesn't like, it had a more specific meaning: stories invented from whole cloth, designed to attract social shares and web traffic by flattering the prejudices of their intended audience.	X/—	—	X	—	—
Jaster and Lanius	2018	*Versus*	News that does mischief with the truth in that it exhibits both a lack of truth and a lack of truthfulness. It exhibits a lack of truth in the sense that it is either false or misleading. It exhibits a lack of truthfulness in the sense that it is propagated with the intention to deceive or in the manner of bullshit.	X	—	—	—	—
Klein and Wueller	2017	*Journal of Internet Law*	The online publication of intentionally or knowingly false statements of fact.	X	—	X	—	—
Lazer et al.	2018	*Science*	Fabricated information that mimics news media content in form but not in organizational process or intent. Fake news outlets, in turn, lack the news media's editorial norms and processes for ensuring the accuracy and credibility of information. Fake news overlaps with other information disorders, such as misinformation (false or misleading information) and disinformation (false information that is purposely spread to deceive people).	X/—	X	—	—	—
Levy	2017	*Social Epistemology Review*	The presentation of false claims that purport to be about the world in a format and with a content that resembles the format and content of legitimate media organizations.	X	X	—	—	—

Table 1. (Cont.) Definitions for "fake news" and salient traits.

Reference	Year	Outlet/Publisher	Definition	Intentional Falsity (*fakeness*)	Disguised as news (*news-ness*)	Online & viral (*shareworthiness*)	Political ends	Financial ends
Marda and Milan	2018	*Internet Policy Observatory at the Annenberg School*	A battle of and over narratives. It is a clash of narratives as it contrasts information about geopolitical viewpoints that are not conformant with the perceived interests of the security apparatus in the state where the alleged fake news is spread.	—	—	—	X	—
McGonagle	2017	*Netherlands Quarterly of Human Rights*	Information that has been deliberately fabricated and disseminated with the intention to deceive and mislead others into believing falsehoods or doubting verifiable facts.	X	—	—	—	—
McNair	2018	Routledge	Intentional disinformation (invention or falsification of known facts) for political and/or commercial purposes, presented as real news.	X	X	—	X	X
Mikkelson	2016	Snopes	Fabricated stories set loose via social media with clickbait headlines and tantalizing images, intended for no purpose other than to fool readers and generate advertising revenues for their publishers.	X	—	X	—	X
Newman et al.	2017	Reuters Institute for the Study of Journalism	(1) News that is "invented" to make money or discredit others; (2) news that has a basis in fact but is "spun" to suit a particular agenda; and (3) news that people don't feel comfortable about or don't agree with.	X/—	—	—	X	X
Oxford Dictionary	2017	Oxford Dictionary	False information that is broadcast or published as news for fraudulent or politically motivated purposes.	X	X	—	X	X
Oxford Dictionary	2019	Oxford Dictionary	News that conveys or incorporates false, fabricated, or deliberately misleading information, or that is characterized as or accused of doing so.	X/—	—	—	—	—

Table 1. (Cont.) Definitions for "fake news" and salient traits.

Reference	Year	Outlet/Publisher	Definition	Intentional Falsity (*fakeness*)	Disguised as news (*news-ness*)	Online & viral (*shareworthiness*)	Political ends	Financial ends
Oxford Institute for the Study of Computational Propaganda	2018	Oxford Institute for the Study of Computational Propaganda	Misleading, deceptive or incorrect information, purporting to be real news about politics, economics or culture.	X/—	X	—	X	X
Rini	2017	*Kennedy Institute of Ethics Journal*	One that purports to describe events in the real world, typically by mimicking the conventions of traditional media reportage, yet is known by its creators to be significantly false, and is transmitted with the two goals of being widely re-transmitted and of deceiving at least some of its audience.	X	X	—	—	—
Tamul et al.	2019	*Mass Communication and Society*	(1) The unprecedented proliferation of disinformation campaigns spreading fraudulent news about political candidates and other campaign-related information, in particular on social media sites such as Facebook; (2) President Trump has appropriated the term "fake news" and applied it to news stories or news organizations in an effort to delegitimize reporting, journalists, outlets, and journalism broadly.	X/—	—	X	—	—
Tandoc et al.	2018	*Digital Journalism*	Viral posts based on fictitious accounts made to look like news reports.	X	X	X	—	—
White	2016	*Ethical Journalism Network*	Information deliberately fabricated and published with the intention to deceive and mislead others into believing falsehoods or doubting verifiable facts.	X	—	—	—	—

Notes: The symbol X means that this specific feature is contained within the definition; the symbol – means that this is not. The symbol X/– means that the definition includes two or more meanings, and the feature is assumed by one of them and is absent or rejected by other(s).

to impact public perception, and *what effect* does fake news have on users' sharing activity. If we analyze these traits, we can observe the following patterns:

1. In general, definitions do not identify a characteristic agent for disseminating fake news. The exceptions include a somehow abusive appellative ("non-media actors," as in definition no. 8) and mere truisms ("fake news outlets," as in definition no. 17). A third definition (no. 29) mentions "fictitious accounts." It seems obvious that, in keeping with fake news' presumable will to deceive, often authorship can neither be identified nor traced, either because it has been made up for the occasion, is anonymous, or supplants another reputable source.
2. Regarding the recipients (or victims), they are either generic or not mentioned ("readers," "mass audience," or "news consumers," as in definitions no. 1, 8, and 10), except in three cases: One refers to "large audiences willing to believe the fictions and spread the word" (definition no. 11); another refers to an "intended audience" that is mobilized by "flattering their prejudices" (definition no. 14); the last one is more precise, in that it mentions former President Trump as a (self-proclaimed) victim of fake news (definition no. 28). However, in general, the victims are the media themselves.
3. Fake news either "mimics" (definitions no. 17 and 27), "resembles" (no. 12 and 18), "looks like" (no. 11 and 29), is "under the guise of" (no. 3), or "masquerades" as news (no. 4); is "information" that tries to pass itself off as "news reporting," "journalistic reports," or "media reportage" (no. 3, 11, and 27). In other words, we can say fake news have great *news-ness*. This feature, which is mentioned by a significant percentage of definitions (16 out of 30, which represents 53%), is a double-edged sword: Fake news are misleading because there is a resemblance between them and real news, but the criterion to distinguish the two lacks consensus. Interestingly, the most disruptive definitions—those that provide various meanings that are partly contradictory—suggest that fake news are not demonstrably false. Since it is "the people" who designate certain news items as fake when they "don't feel comfortable or don't agree with them" (definition no. 23); since fake news are "all-purpose insult for news coverage a person doesn't like" (definition no. 14); if we only can say "alleged" fake news (definition no. 19); if the former president of the US Donald Trump can blame the press for spreading fake news when it gives unfavorable reports about him or his policies—how can we unequivocally expose the *fakeness* of these news?
4. Fake news are "disseminated" (definitions no. 3, 13, and 20), "widely shared or distributed" (no. 6), "spread through news-oriented sources" (no. 10), "easily spread online" (no. 11), "geared to travel on social media" (no. 12), to "attract social shares and web traffic" (no. 14) or "maximum attention" (no. 12), and "propagated" (no. 15) as "viral posts" (no. 29), "being widely re-transmitted" (no. 27). This point, which is supported by a significant number of definitions (9 out of 30, or 30%), highlights the more important role audiences have as users, distributors, and gatekeepers of content. The dynamism of fake news is reflected in other viral posts or memes (Rodríguez-Ferrándiz et al., 2021, Rodríguez-Ferrándiz et al., in press). Any concern with *fakeness* seems to be eclipsed by their potential to become *shareworthy*, because high shareability is verified and measurable, and fakeness is alleged and even contested.

5. Impact on Public Perception

Studies on the perception of fake news among the general public show that the effects of information disorder are highly pervaded. Results from focus group research conducted in mid-2017 by Nielsen and Graves (2017) in the US, the UK, Spain, and Finland show that (a) informants see a difference in degree—and not an absolute one—between fake news and real news; (b) they spontaneously equate fake news with poor journalism, propaganda (including both lying politicians and hyperpartisan content), and some kinds of advertising, an association which is more typically made than one with false information masquerading as news reports (Nielsen & Graves, 2017, pp. 3–4); and (c) the controversy over fake news is seen as a symptom of a general discontent with traditional media, political communication, and the role of new stakeholders in the digital ecosystem. Evidence suggests that the public has internalized fake news as being a weapon in political debates (electoral or parliamentary) but also in public and civic spaces. They assume that what is fake news from one perspective could be (real) news from the opposing view and vice versa.

In the same vein, a study was carried out in March 2017 on a sample of 1,339 tweets that included the term "fake news" (Brummette et al., 2018). Most participants were private users who had no special credentials in politics or journalism. The authors determined that these "general social media users who dominate these discussions…influence others to use the term fake news to challenge the opposition and support beliefs and opinions that resemble their own ideologies" (Brummette et al., 2018, p. 510). Only a minority of the tweets were neutral or only descriptive when reporting cases of fake news debunked by evidence. Conversely, an overwhelming majority took sides in a vehemently partisan manner and contained negative valences, to such an extent that "necessary discussion of 'fake news' on social media may be drifting further to a point of obscurity or no return" (p. 510). The study concluded that a high

degree of polarization and non-negotiable homophily had metamorphosed fake news and had turned it into the very opposite of pluralism. In other words, brand new fake news has downplayed or diminished the concept of "truth" and has boosted or reinforced the concept of "opinion" (blended with subjectivity and sincerity) or at least has turned it into an absolute news value—"Everything against my opinion is fake news."

This trend was consolidated within only a year of Trump taking office. A nationwide survey in the US carried out by Monmouth University in April 2018 found that only 25% of 800 informants stated that the term "fake news" applies only to news based on false or wrong facts, while 65% said it also concerns how news media make editorial decisions about what to report on. In other words, for an overwhelming majority, fake news involves editorial decisions as well as inaccurate reporting (Murray, 2019).

Figures were not so alarming in the survey conducted by Tong et al. (2020) in May 2018. The sample (N = 447) answered the question: There has been increasing discussion about fake news. For you, what are fake news?

Coders separated descriptive answers, i.e., when informants made an effort to define or explain fake news ("news that are not true," "news that can't be verified"), from politicized answers, if they mentioned specific political figure(s), news media source(s), or political issues (e.g., "Trump," "Fox," "CBS," "NBC," "what Trump doesn't like," and "mainstream media"). In their sample, 294 responses (65.8%) lacked a subject to blame, articulating fake news in a descriptive, neutral, nonpolitical way, whereas 153 responses (34.2%) identified at least one subject to blame and thus were considered politicized definitions.

However, Tong et al. (2020, p. 765) concluded that "the politicized definitions as a whole implicitly (or sometimes even explicitly) promoted the idea that fake news is a report that opposes one's viewpoint." In the second part of their research, they also showed that the tendency to politicize the definition of fake news is more likely among those who show high political interest. It is also linked to the strength of partisanship, and especially the high perception of fake news exposure (p. 766). Moreover, they observed that the "strength of partisanship and fake news politicization positively correlated with affective polarization" (p. 768). In other words, not only affective polarization is more likely to be found among strong supporters of political parties; what is more, this animosity, a by-product of partisan social identity in which the outgroup is viewed negatively and co-partisans positively, is at risk of spreading like wildfire and hinders our capacity to evaluate news as accurate or deceptive.

The polysemy—or, to be precise, the ambiguity of the expression—has caused cynicism in academic circles (Fuchs, 2020; Kellner, 2019; Levinson, 2019; Vosoughi et al., 2018). This is because the term has been abused so much that it has been rendered unusable. Journalists and fact-checker managers, such as Snopes' Mikkelson (2016), BuzzFeed's Silverman (2016), Politifact's Holan (2016), and First Draft's Wardle and Derakhshan (2017) already expressed their disaffection towards it, since "[the word fake news] has also begun to be appropriated by politicians around the world to describe news organizations whose coverage they find disagreeable…it's becoming a mechanism by which the powerful can clamp down upon, restrict, undermine and circumvent the free press" (Wardle & Derakhshan, 2017, p. 5). Instead, they prefer to use the expression "information disorder." The US Pew Research Center began its surveys by asking about fake news (Barthel et al., 2016) only to later reject the term and replace it with "made-up news" (Mitchell et al., 2019).

It is very significant that the Oxford English Dictionary modified its definition in 2019 (see Table 1) by attempting to blend two competing definitions into one. To a certain extent, the update asserts that falsehoods can be real and demonstrable, or rather that they represent a partial or subjective view. Interestingly, political and financial goals, which were apparent in 2017, are absent in the 2019 definition. These changes, in turn, partially deactivate or render the adjective "fake" irrelevant and grant legal status to a "post-truth" approach to fake news.

Furthermore, a report by the European Commission proposes subsuming the term fake news under the broader category of disinformation. They define it as "all forms of false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm or for profit" (European Commission, 2018, p. 35). As they stress:

> It does not cover issues arising from the creation and dissemination online of illegal content (notably defamation, hate speech, incitement to violence), which are subject to regulatory remedies under EU or national laws, nor other forms of deliberate but not misleading distortions of facts such as satire and parody. (European Commission, 2018, p. 35)

UNESCO's *Journalism, "~~Fake News~~" & Disinformation Handbook for Journalism Education and Training* was published with the expression crossed out on the front cover, precisely to stress the term is useless (Ireton & Posetti, 2018).

Despite the objections and attempts to replace the term with other, more precise ones, the vitality of fake news in public discourse remains strong, at least when confronted with its potential competitors. Tandoc and Seet (2022) observed from a survey carried out in March 2021 how the public (a representative sample of over 1,000 informants in Singapour) reacted to "fake news" in comparison to other alternative terms, namely "misinformation," "disinformation," and "online falsehoods." They were divided into four groups, and they were asked to evaluate, on a scale from 1 to 7, to what extent they

agreed with certain phrases in which some terms were replaced with others. For example: "X refers to information that is false," "X is intentionally created to deceive people." In the five items considered (falsity, intentionality, concerning, severity, and need of response) the expression "fake news" received a greater response than the other three options.

6. Discussion and Conclusions: Post-Truth Driven Approaches Gain Ground

The ambivalence of fake news confronts us with competing interpretive patterns when it comes to explaining the new informational disorder. So far, we have compiled and analyzed definitions of fake news in the specialist (theoretical) literature and general dictionaries. In addition, we set out and assessed four bibliometric studies on the topic and five surveys on how the general public perceives the phenomenon.

We have shown that the most fundamental division between approximations, whether these are in the academic world, in the lexicon, among journalists, or even among the general public, is what we have termed "untruth-driven" and "post-truth-driven" definitions. Although most definitions compiled (up to two-thirds) are closest to the former, our hypothesis is there is a gradual move toward the latter.

This implicitly leads either to the loss of the sense of the adjective "fake" and the entire compound word (which causes the term to be rejected and replaced by another one, judged to be more accurate) or implies a *resémantisation*, as supported by some dictionaries (like Oxford and Dictionary.com) and some academics (Mourão & Robertson, 2019; Tandoc & Seet, 2022).

In truth, the problem will not be solved by avoiding using the term, which has become very popular (Tandoc & Seet, 2022). Instead, the issue becomes clear when there is an overt recognition that a paradoxical collision and collusion of two uses has occurred, one as a genre ("the deliberate creation of pseudo journalistic disinformation") and the other as a label which is also a weapon ("the political instrumentalization of the term to delegitimize news media"; see Egelhofer & Lecheler, 2019).

When addressing fake news, researchers focus on three main issues: There is (a) an intentional falsity to it (*fakeness*) that is veiled by its (b) disguising as news (*news-ness*), and (c) it spreads online quickly, going viral (*shareworthiness*). We have encoded these three variables in Table 1. Nevertheless, this "compound" definition only holds up on a superficial level but is problematic when we dig deeper.

Each of these approaches implies the search for specific aims and the adoption of concrete methodologies; it also implies having a previous stance on what "fake news" means, its effects, and possible ways of tackling the term. Those who reflect on fake news' *fakeness* (i.e., research on deception detection accuracy, people's confidence in identifying fake news and cues more relevant to them to assess credibility; see Hinsley & Holton, 2021), fake news early detection through AI (Bonet-Jover et al., 2020; Saquete et al., 2019; Shu et al., 2017), or even the prediction of future fake news topics and early warnings of potential targets through timely identification of polarizing content (Del Vicario et al., 2019), cognitive processes, and skills that enable readers to assort the true and the untrue (Pennycook & Rand, 2019) are generally confident that falsity can be demonstrated and assume the user will not knowingly share fake news. This has been called "ignorance theory" (Osmundsen et al., 2021). Those who reflect on fake news' *news-ness* consider fakers can replicate newsworthy features from authentic news, so it is not always possible to identify fake news by formal features, contents, or values (timeliness, negativity, prominence, human interest, opinion), which may be shared both by real and fake news (Tandoc et al., 2021) to the extent that fake news websites may draw the attention of other media outlets on certain issues and certain cognitive frameworks, affecting the whole agenda setting (Guo & Vargo, 2020). Finally, those who reflect on fake news' *shareworthiness* focus on the influence of motivated reasoning, partisanship, populism, and emotiveness on the willingness to share ("partisan theory"; see Osmundsen et al., 2021), or compare real and fake news sharing taking into account sentiment analysis or basic emotions conveyed by news content: anger, fear, anticipation, trust, surprise, sadness, joy, and disgust (Metzger et al., 2021; Vosoughi et al., 2018). They also reflect on "sharing" as a polysemic and complex activity, which includes not only endorsing, republishing, or quoting, but also questioning the news or denouncing fake news taking stances in a battle of narratives (Arielli, 2018; Metzger et al., 2021).

It stands to reason that if fake news' (presumed) *fakeness* doesn't stop them from being shared, and fake news' *news-ness* doesn't fully account for this mass sharing, being both incapable of explaining why fake news are shared more than real news (Silverman, 2016; Vosoughi et al., 2018), even knowing their untruthfulness (Ardèvol-Abreu et al., 2020; Pennycook et al., 2021), then we need to reflect on the extent to which online news sharing is detached from truthfulness and reliability.

The point is not only to recognize that some factors that make real news worth sharing (acting as an opinion leader, advocating for one's own beliefs, socializing, gaining social status, sharing experiences with others, self-disclosure, fear of missing out, relevance to the receiver) are precisely the factors that make fake news shareable (Duffy et al., 2019; Metzger et al., 2021), that is, the fact that they possess similar newsworthiness. The point is to assess to what extent known or suspected falsehoods restrain or, conversely, encourage sharing intentions or have no remarkable impact on them.

In this panorama, we can speak about a trend toward an ethically and politically alarming post-truth conceptualization of fake news. In other words, fake news has become a sociotechnical phenomenon in which

"viral" and "memetic" quality prevails over reflecting on whether the source is credible and the reported event consistent; on whether the element of surprise or outrage in the heat of the moment is more powerful than the ironic detachment elicited by news satire and parody, and sharing motivations are definitely less concerned with perceived accuracy than with partisan support, community sentiment, emotional contagion, and a taste for the sensational or bizarre.

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Conflict of Interests

The author declares no conflict of interests.

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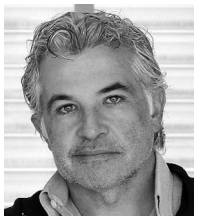
About the Author



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Article

Exploring European Citizens' Resilience to Misinformation: Media Legitimacy and Media Trust as Predictive Variables

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Abstract
Building on the notion of an intangible resource, this research conceptualizes resilience as an intangible resource that can be ascribed to countries (governments and media) and explores its sources. After presenting the conceptual framework, the study uses cross-national comparable data from Eurobarometer to (a) determine whether a factor called "resilience to misinformation" can be composed of citizens' attitudes and behaviors toward misinformation and be conceptualized and operationalized as an intangible asset, and (b) determine the extent to which other intangible assets regarding the media (legitimacy and trust) help predict resilience to misinformation. Based on statistical techniques, findings show that (a) it is possible to conceptualize "resilience to misinformation" as an intangible asset comprised of several items related to citizens' awareness of misinformation, acknowledgment of the negative impact, and the development of skills to identify misinformation; (b) this intangible asset can be analyzed in relation to intangibles that derive from media performance, such as media legitimacy and trust in the media; and (c) media's intangible assets seem to be more predictive of "resilience to misinformation" than sociodemographic variables. Based on the findings, this research proposes a conceptualization of "resilience to misinformation" as an intangible resource in the public sector. In addition, it highlights recommendations for the mainstream media on how to manage their intangible value while contributing to resilience to misinformation.

Keywords
European Union; intangible assets; media legitimacy; media trust; misinformation; resilience

Issue
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1. Introduction

While scholars in communication and journalism have studied in detail how misinformation is produced and disseminated and how citizens interact with misleading content, few studies have explored this phenomenon within the framework of intangible assets. This article seeks to conceptualize and operationalize resilience to misinformation as an intangible resource that can be managed by European governments. In addition, this research analyzes the relationship between resilience to misinformation and intangible resources, with a particular focus on intangible resources that emerge from the relationship between individuals and media. This framework allows us to identify if intangible assets associated with media help explain resilience to misinformation. From this perspective, the aim of this research is to explore how intangible resources may facilitate or inhibit citizens' resilience to misinformation.

The concept of misinformation is used to refer to the phenomenon in overall terms, as it is the preferred term used by the literature (García-Borrego & Casero-Ripollés, 2022). We are aware that the phenomenon includes several types of untruthful information (such as false information, misleading content, conspiracy theories, post-truth discourses, among others), whether or not the

content was deliberatively produced to deceive or harm. In this sense, this research follows Fetzer's definition of misinformation as "false, mistaken, or misleading information" (2004, p. 231). Regarding intangible resources, previous research with data from Spain has found a factor that synthesizes information about how people react to misinformation and explored relationships between that factor and two intangible resources, engagement, and institutional trust (Rodríguez-Pérez & Canel, 2022). This article builds on those findings to examine the phenomenon in other European countries and explore relationships between that possible factor and intangible resources derived from the interaction between individuals and the media.

This article has three objectives: (a) to determine whether a factor called "resilience to misinformation" can be composed of European citizens' attitudes and behaviors toward misinformation and ascertain whether this factor can be conceptualized as an intangible asset that European governments and media can influence; (b) it is intended to explore the relationship between "resilience to misinformation" with intangible assets derived from individuals and media performance; and (c) to study the relationships between intangible resources related to the media (more specifically, how citizens assess their legitimacy and trust) and "resilience to misinformation" to make recommendations that help media strengthen their intangible value and fight against misinformation and provide governments with insight on the role of media in the development of "resilience to misinformation." This article analyzes data from Eurobarometer, which includes data from 27 European countries.

This article is structured as follows. The theoretical framework delves into the concept of resilience to misinformation and why it is considered an intangible resource. Next, we explain how intangible resources (legitimacy and trust) derived from media performance are related to resilience to misinformation. After describing the research design, results and conclusions are presented.

2. Resilience to Misinformation as an Intangible Resource

This article studies resilience to misinformation as an intangible resource. The theory of intangible assets in the public sector (Canel & Luoma-aho, 2019) establishes that the management of intangible assets can help bridge gaps between public sector organizations and the citizens they serve. Concepts such as reputation, trust, engagement, intellectual capital, and legitimacy are considered intangible resources that are essential for an organization's survival.

The concept of intangible assets in the public sector used in this article is as follows:

> A nonmonetary asset (without physical substance) that enables and gives access to tangible assets, that is activated through communication, and that is built on past events (and linked to the behavior of the organization); therefore, it gives rise to a resource that is identifiable and from which a future (long-term) benefit/value (social, monetary, and so forth) is expected to flow, potentially, for both the organization and stakeholders/citizens. (Canel & Luoma-aho, 2019, p. 77)

The key point from this definition is the idea that value may derive from communicative interactions between organizations and stakeholders, which is relevant because misinformation can develop in these kinds of interactions. Resilience is associated with the social ability to overcome challenges. This article defines resilience as "the capacity of groups of people bound together in an organization, class, racial group, community or nation to sustain and advance their well-being in the face of challenges to it" (Hall & Lamont, 2013, p. 6). Resilience involves adaptative behaviors to ensure favorable conditions for facing threats and an awareness of risk and vulnerability (Masten, 2007). Therefore, resilience means facing vulnerability due to developmental adaptations "to overcome adversity and be able to be successful even with the presence of high risk" (Barua et al., 2020, p. 3). Habersaat et al. (2020) point out that a high degree of resilience is more likely to reduce adverse effects. In other words, higher resilience to misinformation is more likely to decrease misperceptions and threats against the functioning of democratic systems—including normative goods such as self-determination, accountable representation, and public deliberation (Tenove, 2020).

Thus, resilience refers to a mental process—a cognitive capacity—through which a citizen rationally and autonomously processes the information they receive. These skills allow citizens "to distinguish facts from fiction and the information from the disinformation" (Hansen, 2017, p. 36). The European Commission's Action Plan against Disinformation (European Commission, 2018a) stresses that resilience is an essential part of the fight against misinformation. Among the actions considered in the plan, the European Commission (2018a, 2018c, 2020) emphasized media literacy as a priority strategy for improving citizens' skills and knowledge, enabling them to cope with misinformation. Furthermore, the European Commission emphasizes the importance of raising awareness among citizens because the "response to disinformation requires active participation by civil society" (European Commission, 2018a, p. 10):

> Greater public awareness is essential for improving societal resilience against the threat that disinformation poses. The starting point is a better understanding of the sources of disinformation and of the intentions, tools and objectives behind disinformation, but also of our own vulnerability. (European Commission, 2018a, p. 9)

Increasing skills, knowledge, awareness of the scope of the problem of misinformation, and commitments to fight misinformation are avenues for building resilience. The literature includes research that evidences strategies such as psychological inoculation and multiple literacies that help curb misinformation by advancing citizens' resilience to misinformation. Psychological inoculation consists of warning citizens about the possibility of being exposed to untruthful content while citizens are taught, informed, and motivated to counteract (prebunking) that kind of content (Lewandowsky & van der Linden, 2021). Moreover, information literacy entails citizens' "abilities to navigate and find information online that is verified and reliable" (Jones-Jang et al., 2021, p. 382), and media literacy "emphasizes people's perceived beliefs about their ability to critically consume, question, and analyze information" (Jones-Jang et al., 2021, p. 374). These strategies seek to help citizens counteract misinformation.

The concept of citizen resilience to misinformation is based on attitudes and behaviors that allow citizens to become aware of misinformation, address the problem, identify the risks and effects of misinformation, and develop abilities (e.g., skills and knowledge) that allow them to overcome the threat. Using the concept of resilience to misinformation, we refer to citizens' attitudes and behaviors to cope with an array of misinformation content, and as mentioned, our aim is to conceptualize and operationalize resilience to misinformation as an intangible resource. Conceptualizing "resilience to misinformation" as an intangible resource may provide clues to identify whether intangible value can be derived from people's reactions to misinformation, and if so, whether it also can allow scholars to explore what other intangible resources could increase resilience. This could open avenues for developing something positive out of misinformation. For instance, if it is determined that citizens from a particular country are more resilient to misinformation, governments from other countries may find clues on how to strengthen resilience in their countries.

In previous research with data from Spain, a factor analysis showed that "resilience to misinformation" is composed of different attitudes and behaviors, and "resilience to misinformation" was conceptualized and operationalized as an intangible resource (Rodríguez-Pérez & Canel, 2022). This resource was defined as:

> An intangible resource belonging to a country that measures the capacity of its citizens to deploy discerning and cognitive skills about the veracity and falsehood of a piece of information, as also to be aware of the scope of the problem. (Rodríguez-Pérez & Canel, 2022, p. 862)

An exploration of relationships between this intangible resource and citizens' assessments of public sector organizations (more specifically, how they assess their legitimacy and trust) provided helpful insight into how governments can fight misinformation. The present research expands the exploration from Spain to other European Union countries and focuses on an analysis of the relationships between this intangible resource and other intangibles that may derive from people's assessments of media performance.

This leads us to formulate our first hypothesis:

> H1: It is possible to synthesize information about resilience to misinformation from European citizens' attitudes and behaviors toward misinformation.

3. Intangible Resources Deriving From Media Performance and Misinformation

To have a full understanding of the current phenomenon of misinformation, which includes related concepts such as fake news, hoaxes, and conspiracy theories, the media ecosystem should be taken into account. While politicians have accused the media of producing fake news, some media misconduct also has occurred. Del Hoyo-Hurtado et al. (2020) state that intangible assets are required to build the social influence of mainstream media outlets. This intangible value declines when media produce fake and misleading content. For instance, García-Galera et al. (2020) discuss three performances in which media are responsible for disseminating untruthful information. First, when journalists deliberately mislead citizens by making up news content. Second, when journalists deliberately produce biased or manipulated news. In both cases, media outlets disseminate disinformation, meaning "information that is false and deliberately created to harm a person, social group, organization or country" (Wardle & Derakhshan, 2017, p. 20). The third performance consists of unwitting inaccurate news, referred to as misinformation, which is defined as "information that is false, but not created with the intention of causing harm" (Wardle & Derakhshan, 2017, p. 20). These media performances contribute to information pollution and emphasize the responsibility of media practice in the phenomenon of misinformation. Additionally, Tsfati et al. (2020) state that mainstream media amplify misinformation (they also speak of disinformation) when they cover fake news content from a newsworthiness criterion.

Building on the literature on intangible resources, this research looks at two intangibles that may derive from how people assess media performance. The first one is legitimacy. Based on Suchman's definition of organizational legitimacy—a "generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (1995, p. 574)—this research looks at media legitimacy given that media outlets are evaluated by their stakeholders. People's judgment of media performance could be taken from a deontological commitment to key principles that address the journalistic practice. As Darío-Restrepo

(2016, p. 1) indicates, "ethics is to journalism as the buzz is to the blowfly." In this sense, characteristics that favor media legitimacy include independence, impartiality, and journalistic quality of media coverage (Arlt, 2018) that accomplishes the objectivity principle, separates information from opinion (Ardèvol-Abreu & Gil de Zúñiga, 2017), monitors political institutions, serves as a public forum (Markov & Min, 2020), and is committed to engaging with the community (Zahay et al., 2021). In addition, scholars recommend that media outlets increase transparency and accountability to avoid disseminating misinformation or being accused of it (Vu & Saldaña, 2021). Kyriakidou et al. (2022) assert that biased news, political spin, and misrepresented information must be included in the analysis of misinformation. Furthermore, the literature also suggests that citizens associate media coverage they believe is biased with fake news (Ardèvol-Abreu, 2022). None of these outputs foment increased media legitimacy.

Alternatively, there is research that suggests that citizens perceive poor journalism, click-baiting, and sensationalist coverage as fake news (Nielsen & Graves, 2017). Some scholars argue that there is a tendency in the media to favor emotion and persuasion rather than informing citizens (Del Hoyo-Hurtado et al., 2020; García-Galera et al., 2020). Within this media environment, citizens have to develop attitudes and skills to critically assess the truthfulness of information and curb misinformation (Hameleers et al., 2022). In other words, citizens are developing a pragmatic skepticism and becoming more critical of news (Kyriakidou et al., 2022). This leads us to formulate Hypothesis 2:

> H2: When media legitimacy decreases, resilience to misinformation is more likely to increase.

However, legitimacy is not the only intangible asset associated with the norms and procedures of news production. Trust in the media can be perceived as another intangible resource deriving from media performance, as it not only comes from the assessment of trust in the selectivity of topics and facts, accuracy of depictions, and journalistic assessment (Kohring & Matthes, 2007), but also from what the audience's expectation that news provides useful, reliable, and amusing information (Coleman et al., 2012).

European citizens assign journalists the responsibility of fighting disinformation (European Commission, 2018b). The European Commission warns "while news media can play an important role in combating disinformation and increasing societal resilience, some news media contribute to disinformation problems, thereby weakening European citizens' overall trust in media" (European Commission, 2018c, p. 11).

Although trust is necessary, it is important to take into account that a critical attitude towards media can be positive and functional because media do not always play a watchdog role regarding politicians and public administration. Therefore, trust is necessary but just to a certain point (Ardèvol-Abreu & Gil de Zúñiga, 2017). In the same vein, it is thought that "democracy greatly benefits from the public's critical attitude and a healthy sense of skepticism toward politics and the news media" (Hanitzsch et al., 2018, p. 19). In this sense, we argue that trust could be dysfunctional to resilience to misinformation. That leads us to formulate our third hypothesis:

> H3: When citizens' trust in the media decreases, resilience to misinformation is more likely to increase.

Furthermore, the media's approach must not only consider the mainstream media perspective. It is necessary to evaluate the technological environment and the scope of social media networks, online communication channels, and digital alternative media in which fake news stories gain prevalence. Coleman et al. (2012) state that the internet is increasingly being used to look for unofficial accounts and make vernacular explanations of reality, such as conspiracy theories. When surfing the internet, citizens usually adopt the principle of least effort (Weiss et al., 2020), which explains why they use heuristic shortcuts to get informed. Moreover, citizens tend to trust the content their contacts share on social networks, which makes it easier to share fake news (Montero-Liberona & Halpern, 2019). This leads us to our fourth hypothesis:

> H4: When citizens' trust in online environments decreases, resilience to misinformation is more likely to increase.

4. Methods

The data in this study were extracted from Eurobarometer, which contains comparable data from 27 European countries in Eurobarometer 94.3 (European Commission, 2021). Eurobarometer was selected because it met the following criteria: (a) it had a sufficient number of countries to make statistical analysis possible; (b) had comparable data; (c) included individuals' reactions to misinformation; and (d) included attitudes and behaviors related to some intangible assets that derive from people's assessments of media performance. The statistical design followed Piqueiras' research (2019) regarding the sequence of the statistical techniques: factor analysis, correlation analysis, and multiple linear regression.

This research is based on aggregated public opinion data reported in multiple countries rather than individual-level data from just one country. Dependent and independent variables are measures of specific attitudes and behaviors of surveyed people aggregated by country. This study was designed this way for two reasons. First, this research examines intangible assets in the public sector, which means that the role of public organizations (more specifically, a national/central

government) is the object of study. The idea is to operationalize an intangible asset ("resilience to misinformation") in such a way that governments and the media measure it. The ultimate goal of this research is to provide governments and the media with recommendations about how to foster this resilience. Second, this study attempts to create a cross-country comparative dataset for future comparative research.

4.1. Measures

We decided to adopt a common criterion to ensure that all items comply with the same measurement scale and have a consistent meaning: the higher the value of the item, the higher its positivity. Likert scales from 0 to 1 were used. Answers *I don't know (spontaneous)* or *It depends* were included as midpoints on the Likert scale (Raaijmakers et al., 2000). The total sample was N = 27,409.

Building upon prior research in Spain (Rodríguez-Pérez & Canel, 2022), we identified four items related to attitudes and behaviors toward misinformation: (a) You often come across news or information that you believe misrepresent reality or are even false—or "exposure awareness" (M = 0.67; SD = 0.29); (b) it is easy for you to identify news or information that you believe misrepresent reality or are even false—or "media literacy" (M = 0.65; SD = 0.28); (c) the existence of news or information that misrepresent reality or is even false is a problem in our country—or "problem in country" (M = 0.70; SD = 0.29); and (d) the existence of news or information that misrepresent reality or is even false is a problem for democracy in general—or "problem for democracy" (M = 0.78; SD = 0.25). The answer choices were a five-point Likert scale, with 0 indicating *totally disagree* and 1 indicating *totally agree*. Cronbach alpha (four items) was α = 0.643.

Four items were identified related to media legitimacy (five-point Likert scale: from 0 = *no, not at all*; 1 = *yes, definitively*): (a) Media provide trustworthy information (M = 0.59; SD = 0.31); (b) media provide a diversity of views and opinions (M = 0.63; SD = 0.30); (c) media provide information free from political or commercial pressure (M = 0.48; SD = 0.33); and (d) public service media are free from political pressure (M = 0.46; SD = 0.35). Cronbach alpha (four items) was α = 0.825.

Five items were selected related to trust (three-point Likert scale: from 0 = *tends not to trust*; 1 = *tends to trust*): (a) the written press (M = 0.57; SD = 0.48); (b) radio (M = 0.66; SD = 0.46); (c) television (M = 0.58; SD = 0.49); (d) the internet (M = .41; SD = 0.47); and (e) online social networks (M = 0.24; SD = 0.40). Cronbach alpha (five items) was α = 0.712.

As sociodemographic control variables, we included: (a) gender (0 = *woman*, 0.5 = *non-binary*, 1 = *man*); (b) age (original scale from 15 to 98 years old); (c) education level (0 = *no education*, 0.2 = *primary education*, 0.4 = *secondary education and tertiary non-university education*, 0.6 = *university-bachelor's*, 0.8 = *university-master's*; 1 = *university-doctoral*); (d) employability (0 = *unemployed*, 1 = *self-employed or employed*); (e) size community (0 = *rural area or village*, 0.5 = *small or middle sized town*, 1 = *large town*), and (f) ideological self-placement (from 1 = *left* to 10 = *right*). Missing data were excluded.

5. Findings

We conducted a principal component factor analysis with varimax rotation to determine whether a factor called "resilience to misinformation" can be composed of citizens' attitudes and behaviors toward misinformation and ascertain whether this factor can be conceptualized as an intangible asset that European governments and media can manage through public policies. The Kaiser Meyer-Olkin (KMO) measure of sampling adequacy was 0.651, and the Bartlett spherical value was significant (p < 0.001). Factor analysis yielded a unique factor with an eigenvalue greater than one, explaining 49.352% of the variance (see Table 1). The four items converged in the first rotation. This result allows us to accept H1. "Resilience to misinformation" is composed of citizens' exposure awareness, media literacy, and the recognition of false information as a problem in the country and for democracy.

This study explored the relationship between "resilience to misinformation" and intangible assets derived from media performance. We developed a factor

Table 1. Factor analysis for items related to attitudes and behaviors toward misinformation.

Items	1
Factor 1: Resilience to Misinformation	
Exposure awareness	0.736
Media literacy	0.456
Problem in country	0.823
Problem for democracy	0.740
Eigenvalue	1.974
Variance explained	49.352
Reliability (Cronbach's α)	0.643

Note: Extraction by principal component analysis.

analysis (principal component analysis with varimax rotation) with the objective of reducing the number of items (nine) and identifying latent variables associated with intangible assets related to media performance. The KMO test was 0.820, and the Bartlett spherical value was significant ($p < 0.001$). The factor analysis yielded three factors with eigenvalues greater than one, explaining 71.554% of the variance (Factor 1 = 41.857%; Factor 2 = 17.672%; Factor 3 = 12.026%). Table 2 shows how the items group themselves into factors.

As Table 2 shows, the first-factor groups items related to how survey respondents assess fulfillment by media and their standards of legitimacy. Therefore, we called this factor Media Legitimacy. The second-factor groups items specifically assessed trust, which we called Media Trust. Finally, the third-factor groups items related to trust in the online environment, which we refer to as Online Environments Trust. Based on the literature review, we understand that these factors measured three intangible resources that derive from media performance.

Afterward, we examined the relationships between these three intangible resources and "resilience to misinformation." First, we conducted a correlation analysis. Table 3 shows that Media Legitimacy and Media Trust are significantly correlated with "resilience to misinformation." Online Environments Trust is not correlated. Therefore, we rejected H4.

We carried out a multiple linear regression model to assess the predictive capacity of the intangible assets Media Legitimacy and Media Trust (independent variables) on "resilience to misinformation" (dependent variable). This model included the above-mentioned sociodemographic control variables. The results show that the model is significant (F[8—25,664] = 330.228; $p < 0.001$), explaining 9.3% of the variance in the dependent variable. The variance inflation factor (VIF) is close to one for all independent variables (1.005 < VIF < 1.144). Although the amount of variance that is explained by this regression model is not very high, we understand that results for the betas have sufficient statistical significance to deserve to be reported. Table 4 shows the multiple linear regression results predicting "resilience to misinformation.''

Results show that the intangible resources Media Legitimacy and Media Trust significantly predict "resilience to misinformation." Interestingly, betas for those two intangible resources are higher than for other independent variables (sociodemographics). The following betas are mentioned here but not discussed because they are not the goal of this article: gender (men are more resilient than women), age (the younger, the higher resilience), education (the higher educated, the higher resilience), community size (the larger the size, the higher resilience), and ideological self-placement (the more to the left, the higher resilience).

Table 2. Factor analysis for intangible items.

Items	1	2	3
Factor 1: Media Legitimacy			
Media provide information free from political or commercial pressure	0.842*	0.166	0.020
Public service media are free from political pressure	0.814*	0.127	0.018
Media provide trustworthy information	0.732*	0.392	−0.017
Media provide a diversity of views and opinions	0.718*	0.221	0.000
Factor 2: Media Trust			
Trust radio	0.193	0.862*	0.053
Trust the written press	0.209	0.828*	0.090
Trust television	0.302	0.781*	0.104
Factor 3: Online Environments Trust			
Trust online social networks	−0.001	0.007	0.884*
Trust the internet	0.011	0.168	0.853*
Eigenvalue	3.767	1.590	1.082
Variance explained	41.857	17.672	12.026
Reliability (Cronbach's α)	0.825	0.830	0.683

Notes: Extraction by principal component analysis, varimax rotation with Kaiser normalization; the rotation converged in 5 iterations; * = primary loading of an item on a factor.

Table 3. Pearson's correlation analysis between media performance intangible assets and "resilience to misinformation."

Factor	Media Legitimacy	Media Trust	Online Environments Trust
Resilience to misinformation	−0.228***	−0.162***	−0.003

Note: *** $p < 0.001$ (bilateral).

Table 4. Predictivity of media performance intangible resources on "resilience to misinformation."

	Resilience to misinformation
Independent variable	β (standardized coefficient)
Gender	0.064***
Age	−0.073***
Education level	0.058***
Community size	0.032***
Employability	0.008
Ideological self-placement	−0.016**
Media legitimacy	−0.224***
Media trust	−0.166***
N	25,673
R^2	0.093
Adjusted R^2	0.093
Durbin Watson	1.679
F statistic	330.228***

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Betas for the variables that refer to intangible resources are much higher than the sociodemographic variables. Media Legitimacy ($\beta = -0.224$; $p < 0.001$) has the greatest explanatory capacity; and the direction is negative, with lower legitimacy associated with higher resilience. Therefore, H2 is accepted. Similarly, Media Trust also has a high predictive capacity ($\beta = -0.166$; $p < 0.001$) with a negative direction, which leads us to accept H3.

6. Discussion and Conclusion

The purpose of this study was to conceptualize "resilience to misinformation" as an intangible asset in the public sector. More specifically, we sought to: (a) determine if a factor called "resilience to misinformation" could be composed of European citizens' attitudes and behaviors toward misinformation and ascertain whether this factor could be conceptualized as an intangible asset managed by European governments and media; (b) explore the relationship between "resilience to misinformation" and intangible assets derived from individuals and media performance; and (c) study the relationships between media's intangible resources (legitimacy and trust) and "resilience to misinformation" to make suggestions that help media strengthen their intangible value and help them fight against misinformation.

Findings empirically support that "resilience to misinformation" is an intangible asset composed of citizens' attitudes and behaviors toward misinformation that enables facing threats and vulnerabilities posed by misinformation. Items included in the factor are citizens' awareness, media literacy, and the recognition of false information as a problem for the country and democracy. These findings support the concept of "resilience to misinformation" discussed in the literature (Hansen, 2017) and the European Commission (2018a, 2018c, 2020), as well as findings from previous research using data from Spain (Rodríguez-Pérez & Canel, 2022).

These components of resilience provide significant input for developing public policies to combat misinformation. Resilience includes aspects associated with social awareness that enable citizens to recognize both social and individual vulnerabilities and threats. Public policies that contribute to alerting citizens about the problem of misinformation will help increase resilience. Moreover, the factor "resilience to misinformation" includes both awareness and media literacy, reflecting developmental adaptations to overcome risks and succeed at identifying misinformation. Citizens' empowerment is necessary to complement current regulatory policy responses to face misinformation threats.

This finding allows us to conceptualize "resilience to misinformation" as an intangible asset in the European context and supports the idea that intangible assets are expected to give rise to positive value (e.g., economic and social value; Canel & Luoma-aho, 2019): In this case, higher resilience to misinformation can lead to social benefits.

We conclude that the definition that we proposed for "resilience to misinformation" based on data from Spain also is supported by data from other European countries analyzed in this research:

> An intangible resource belonging to a country that measures the capacity of its citizens to deploy discerning and cognitive skills about the veracity and falsehood of a piece of information, as also to be aware of the scope of the problem. (Rodríguez-Pérez & Canel, 2022, p. 862)

"Resilience to misinformation" is an intangible resource that is managed by countries because the national governments can influence it by promoting public policies

that boost social awareness or enhance literacies, such as media and information literacy skills. In addition, this resilience can also be managed by the media themselves.

Moreover, the previous conceptualization of resilience to misinformation allows us to explore how this resilience to can increase or decrease intangible resources that derive from media performance. Results show a significant opposite relationship between media's intangible assets and "resilience to misinformation." More specifically, lower Media Legitimacy and lower Media Trust is associated with greater "resilience to misinformation." We explain these relationships in light of alarmed citizens who perceive media practice from a pragmatic skeptical behavior (Kyriakidou et al., 2022). Citizens assign the media the responsibility of fighting against misinformation (European Commission, 2018b). Perceptions of media bias, as well as deliberately misleading content (disinformation) and unwitting inaccurate content (misinformation) in news coverage may support citizens in developing greater resilience. This relationship suggests that a lack of trust in the media can be beneficial because awareness of the dissemination of false information is higher. Consequently, a certain lack of media legitimacy and trust seems to be good for the increase of this intangible resource. This result points out a dysfunctional role of media trust regarding "resilience to misinformation," or in opposite terms, a functional role of media distrust and of low media legitimacy.

These results lead us to the following analysis. A critical assessment of media practice facilitates "resilience to misinformation." For this reason, achieving greater resilience involves citizens assessing critical information from cognitive skills to identify truthful news sources. Acerbi et al. (2022) assert that resilience should allow citizens to fight misinformation and fight for good information, a fundamental factor given today's fragmentation of channels and sources of information. Paraphrasing Spanish journalist Gabilondo (2011), the first thing that is scarce when there is a flood is drinking water. In this case, we could say that the first thing that is scarce when there is misinformation is good information. For this reason, the cognitive ability of citizens to critically assess information and consult reliable sources of information is essential for overcoming the vulnerability caused by misinformation. The cultivation of pragmatic or functional skepticism helps curb misinformation by boosting citizens' critical gaze which benefits society against misinformation. Blind trust in the media could be dysfunctional for the misinformation challenge.

As a result, media should deploy strategies to strengthen internal procedures and facilitate knowledge and skills that allow citizens to differentiate between truthful and untruthful news sources to increase trust in media outlets whose practices are deontologically correct, rigorous, and non-partisan. More specifically, media have beneficial effects on democracy (Kalogeropoulos et al., 2019) and facilitate citizens' understanding of public affairs and public policies.

Media, for their part, should foster resilience to misinformation. Research shows the extent to which the lack of Media Trust is driven by inaccurate media coverage, lack of transparency, and partisanship, which undermine legitimacy and trust (García-Galera et al., 2020; Kyriakidou et al., 2022; Vu & Saldaña, 2021). An important practical implication of this research's findings is that governments and media both have a role in fighting misinformation by managing their own intangible resources. This research may complement what the literature argues regarding the responsibility of media, and it does so by placing this responsibility within the framework of intangible assets. To gain legitimacy and trust, mainstream media (print, radio, and television) can implement a range of strategies to strengthen their watchdog role. Focused on the news coverage of fake news agendas, Tsfati et al. (2020) suggest that the media have a role in popularizing and disseminating misinformation. A new media framing based on facticity and data may help media to avoid perpetuating misperceptions and linking their brand with misinformation. However, if the intangible assets framework is deployed, working with the latter's tools and measures may be good leverage. For instance, barometers of media trust and legitimacy can be developed to allow governments to measure levels of resilience to misinformation.

To strengthen the management of intangible assets, educommunication strategies address media literacy and promote and raise citizens' awareness of their misinformation's vulnerabilities. This strategy should combine the instrumental vision of educommunication to train citizens on aspects of a technical and technological nature and the dialogic perspective, which considers citizens to be prosumers of information. Therefore, the dialogic perspective fosters cognitive and expressive skills that seek to deploy communicative training (reception, comprehension, and evaluation) in an environment with a plethora of (mis)information. Evidence of the effectiveness of this strategy can be found in research by Hameleers (2022), who states that the alliance between media literacy and fact-checking improves the effectiveness of reducing misperceptions. This recommendation aims for citizens to develop resilience with media, not in spite of media, which will make it easier to regain media legitimacy and media trust.

Fact-checking is characterized as a reform movement to uphold journalistic values of impartiality, independence, and rigor (Amazeen, 2020; Graves, 2018). Furthermore, fact-checking is one of the actions supported by the European Commission as an effective practice to combat disinformation. Fact-checking aims to reconnect citizens with journalism through the curation and verification of information. However, it is noteworthy to follow the recommendation made by Carson et al. (2022) so that fact-checking platforms clearly show the political claim checked instead of the media coverage that contains it. Doing the latter is more likely to negatively impact trust in news media.

The analysis does not provide empirical evidence to support the relationship between trust in online environments and "resilience to misinformation." This result is surprising given that misinformation has been mainly associated with social network sites and digital platforms. In the current hybrid information ecosystem, it can be unclear what is meant by a social network site. Is it reasonable to question whether hybridization is an agent that produces information, or is it only a channel? Is it responsible for disseminating information? Are social media sites exclusively pathways that contain information posted by others (e.g., media outlets, users, companies)? Although European citizens usually consume news on social media sites, trust in online environments is not related to adaptative behaviors to cope with misinformation. It is possible that citizens do believe that social network sites and digital platforms are mere channels that are not responsible for the information that they disseminate. These are issues for future research.

Finally, the multiple linear regression results indicate that the predictive capacity of intangible assets regarding media is much higher than sociodemographic variables. Findings indicate that age is the sociodemographic variable with the highest predictive power, with younger citizens tending to be more resilient than the elderly. This result is consistent with previous studies (Baptista et al., 2021; Brashier & Schacter, 2020; Golob et al., 2021). Furthermore, higher education seems to be a predictive variable that favors resilience, an outcome previously demonstrated by researchers (Baptista et al., 2021; Humprecht et al., 2021; Seo et al., 2021; Serrano-Puche et al., 2021; Staender et al., 2021). Regarding gender, our results show that men have greater "resilience to misinformation" than women, which contradicts previous research (Almenar et al., 2021; Golob et al., 2021; Humprecht et al., 2021; Neyazi & Muhtadi, 2021). Ideological self-placement also is relevant, as citizens who reported identifying with the political right tended to be less resilient to misinformation. All these findings come from data from 27 European countries that may help policymakers and media owners design public policies to contribute to "resilience to misinformation."

This research has limitations. First, the statistical treatment and analysis come from secondary data from a trustworthy European source, such as the Eurobarometer. Though the amount of the data included in this dataset is valid and representative, they include self-assessments of citizens, and as typical of surveys, these data are prone to subjective biases. Therefore, a Dunning-Kruger effect can be hidden. Second, this analysis focuses on a specific context, but European countries change over time, and this research only provides a snapshot. Third, the Eurobarometer items address the media in overall terms, and this prevents us from getting into specific media (such as tabloids, alternative publications, and partisan media outlets versus quality mainstream media, as well as local and regional media versus national media). This limitation suggests that further research pursuing the analysis in a more specific manner is needed.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Vulnerability to Disinformation in Relation to Political Affiliation in North Macedonia

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Abstract
This study aims to analyze the relationship between political affiliation and vulnerability to disinformation in North Macedonia through the role of psychological and social constraints in shaping how individuals respond to and process information. Research has shown that politically affiliated individuals may be particularly vulnerable to disinformation in part due to confirmation bias or the tendency to accept and seek out information that is consistent with one's preexisting beliefs and ignore or refute information that is not. Using the quantitative method and cross-matched data from the empirical research, the study has shown that political affiliation affects the way individuals perceive disinformation. Correspondingly, disinformation with a negative connotation from one's affiliated political party is perceived by a lower percentage as accurate, contrary to disinformation with a negative connotation from the opposing political party, which is perceived by a higher percentage as accurate. The study also found that politically affiliated individuals are more prone to disinformation than those who are not politically affiliated. The results suggest that political affiliation plays a significant role in an individual's vulnerability to disinformation.

Keywords
confirmation bias; disinformation; North Macedonia; political affiliation; vulnerability

Issue
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1. Information Space and Political Landscape in North Macedonia

The information space in North Macedonia is characterized as vulnerable to foreign influence. Russian disinformation campaigns have found their way to the Macedonian audience through various portals and traditional media. The unregulated space of online media facilitates the implementation of these malign campaigns.

According to Freedom House's report (2022), North Macedonia became a partially free country for the first time in 2022, evading the transitional period with hybrid-regime countries. Despite North Macedonia climbing 33 spots in the 2022 World Press Freedom Index and the media's freedom to exercise their profession, it is stated: "Although journalists do not work in a hostile environment, widespread misinformation and the lack of professionalism contribute to society's declining trust in the media, which exposes independent outlets to threats and attacks" (Reporters Without Borders, 2022).

The conditions for a country to be vulnerable to disinformation rely primarily on its internal predispositions than on foreign factors, as Greene et al. (2021) indicate. High levels of polarization, with low levels of trust in media and institutions, populist communication, increased social media use, and a fragmented environment are some of the preconditions that make a country more vulnerable to disinformation (Humprecht et al., 2020).

Striving for democratization and EU accession, North Macedonia, a NATO member since 2020, still

struggles with a highly polarized and fragmented society, mainly on ethnic and political lines. The political spectrum is boldly divided into the ethnic Macedonian and the Albanian blocs. The Macedonian bloc is further divided along their ideological lines, which often merge with the geostrategic ones: social-democrats (Social Democratic Union of Macedonia [SDUM]) and conservatives (Internal Macedonian Revolutionary Organization—Democratic Party for Macedonian National Unity [IMRO-DPMNU]). The Albanian political bloc consists of Democratic Union for Integration (DUI), the Alliance for Albanians (AA), the Democratic Party of Albanians, Besa, and Alternativa. Pro-Russian sentiment is present in the Macedonian community due to their common Slavic origin and religious affiliation. The opposite is true for the Albanian population in North Macedonia. However, we cannot claim they are resilient to malign influences. In an already fragile environment, disinformation in North Macedonia finds a suitable landscape for dissemination and amplification by deepening the polarization and divisions in society.

In *The Global Disinformation Order*, Bradshaw and Howard (2019) revealed social media manipulation campaigns in 70 countries—48 countries in 2018 and 28 countries in 2017. Among other democratic and non-democratic states, in this report, North Macedonia was examined as one of the countries where cyber troop activity took part through social media manipulation, respectively Facebook and Twitter fake accounts: automated (bots) and human. These strategies were used in North Macedonia to attack the opposition, spread polarizing messages, and suppress participation through personal attacks or harassment (Bradshaw & Howard, 2019). Moreover, during the 2016 US presidential election, the small Macedonian city of Veles became the epicenter of generating and disseminating a global disinformation campaign on social media (Hughes & Waismel-Manor, 2020).

Otherwise, in the country's most decisive times, North Macedonia experienced orchestrated foreign disinformation campaigns, supported and disseminated mostly by domestic online media outlets and mainly Macedonian conservative and far-left political parties (Denkovski, 2020). Some of the most active and aggressive disinformation campaigns in recent years affecting Macedonian citizens took place during the 2018 referendum for NATO and EU accession respectively, the country's name change (Metodieva, 2022), and the 2021 census (Trajanoski, 2022), which was organized after 19 years (the last one was from 2002). Elections in North Macedonia are also affected by disinformation. However, this is a shorter term aimed internal campaign than a strategic foreign campaign—unless it is a question of significant changes that impact the country's geostrategic and ideological orientation, as was the case with the 2016 parliamentary elections when the pro-Russian authoritarian regime failed (Tsalov, 2020). The Russian Federation used the referendum to issue an aggressive disinformation campaign to boycott the vote. Moscow openly opposed Macedonia's NATO aspirations (Veselinovic, 2018).

Internal factors also overlap with the challenges coming from external influences. Despite North Macedonia's 2017 regime change which brought about an overall democratic transformation, still:

> Reform fatigue, clientelistic pressures from the political domain towards media (and vice versa) and party-political confrontations, coupled with structural pressures not exclusive to North Macedonia—such as the disinformation and misinformation flooding of the public sphere, exacerbated by health challenges concerning the Covid-19—have all partaken in the assessment that the media system in this country needs a new impetus for constructive change (Micevski & Trpevska, 2022, p. 8).

Moreover, Micevski and Trpevska (2022) argue that the risks to media pluralism in the digital sphere critically affect the overall state of the media system in the Republic of North Macedonia.

Since political orientation has a major impact on the citizens of North Macedonia and they are continuously exposed to disinformation campaigns, this study addresses political affiliation as an independent variable for raising a research question on vulnerability to disinformation. The research question "does political affiliation affect the vulnerability to disinformation in North Macedonia?" is tested through the quantitative method with a survey based on questions for attaining respondents' political affiliation and their ability to identify true or false information for their affiliated and opposing political party. Additionally, the study tries to answer the research question "does political affiliation impact the way the audience perceives political disinformation?" aiming to reveal how politically affiliated individuals react and perceive disinformation with positive/negative context for their affiliated party and positive/negative context for their opposing political party. The study is also interested in showing correlations between politically affiliated individuals and their vulnerability to disinformation concerning source credibility.

2. Disinformation and Confirmation Bias: An Overview

Human consciousness has a tendency to seek and interpret information and other evidence that support its already existing beliefs while ignoring those that do not match or are even against their beliefs. This human condition favors malign actors' objectives to mislead or influence political views through the spreading of disinformation.

Disinformation has become a significant concern in recent years because it can have serious consequences for individuals and society. However, the term "fake news" gained widespread attention during the 2016

US presidential election, where research from Google trends showed that people began searching for the term more frequently (Derakhshan & Wardle, 2017). This increase in fake news usage continued after the election, with the Trump administration using it to discredit media channels that published negative stories about the administration (Marwick & Lewis, 2017). Despite this, professional journalists believe that news should be accurate and true and, therefore, cannot be fake. Journalists from the *Washington Post* and other researchers argue that "fake news" does not accurately capture the complexity of misinformation and disinformation (Annenberg School for Communication et al., 2017). In this regard, Wardle and Derakhshan (2017) created an information disorder framework, where *misinformation*, *disinformation*, *and mal-information* represent the systematic disorders in the media and define disinformation as "when false information is knowingly shared to cause harm" (Wardle & Derakhshan, 2017, p. 5). Additionally, the orchestrated manipulative information to influence political causes is called disinformation. Woolley and Joseff (2020, p. 6) have defined disinformation from the intent's perspective as a broad term usually referring to the "purposeful use of nonrational argument to undermine a political ideal, inflame social division, or engender political cynicism." Disinformation can also distort the context to achieve the deliberate effect. Therefore, throughout this article, "false information" is used to describe pieces of disinformation (fake news), whereas we use the term "disinformation" for the overall intended manipulation in the media sphere.

Derakhshan and Wardle (2017) argue that there are three elements to the spread of disinformation: the agent, the messenger, and the interpreter. The interpreter, or the person receiving and interpreting the message, is the focus of this research, as it aims to understand how audiences perceive disinformation and their vulnerability to it. The agents who create and disseminate disinformation use a strong understanding of behavioral and cognitive strategies for individual manipulation. It is important to use this same understanding to reveal and understand how people react to and are affected by disinformation. The concept of "empathic media," which refers to the use of personalized and emotionally targeted news produced by algorithms in the digital environment, can also be used to understand the phenomenon of disinformation (Bakir & McStay, 2017). Woolley and Joseff (2020) argue that cognitive bias theories of information consumption and opinion formation, such as attitude polarization, confirmation bias, and illusory correlation, are particularly relevant for examining the influence of disinformation. This suggests that understanding the psychological factors that affect how people consume and form opinions about information can help to shed light on the spread and impact of disinformation.

Confirmation bias of politically affiliated individuals is one of the variables tested in this research. These biases might make them more prone to disinformation. Political affiliation can influence how a person votes, what issues they prioritize, and their general political beliefs and values. Confirmation bias, as defined by Wason (1960), refers to the tendency to search for and interpret evidence that confirms one's preexisting beliefs or hypotheses. This can involve selectively attending to, remembering, or interpreting information in a way that supports one's beliefs while discounting or ignoring information that challenges or contradicts those beliefs. In his experiment, Wason (1960) found that participants tended to select cards that confirmed their initial hypotheses about the rule rather than testing alternative hypotheses, even when those alternative hypotheses would have been more informative. Namely, confirmation bias may lead people to disregard important evidence and consider only evidence that supports their beliefs, leading to incorrect conclusions or decision-making. Confirmation bias, as Nickerson (1998) notes, tends to selectively use evidence to justify a conclusion while neglecting evidence that contradicts that conclusion. It may also make it more difficult for people to consider alternative perspectives or viewpoints, as they may be more likely to dismiss or discount information that does not align with their preexisting beliefs. In the context of political affiliation, this can manifest as a tendency only to seek out information that aligns with one's political beliefs and affiliations and to ignore or dismiss information that does not. This can create a self-reinforcing cycle, as people with strong political affiliations may be more likely to surround themselves with others who share their views and consume media that aligns with their beliefs.

This tendency is related to cognitive dissonance, as described earlier by Festinger (1957), which refers to the discomfort people feel when confronted with information or situations that conflict with their preexisting beliefs or attitudes. To reduce this discomfort and maintain cognitive consistency, people may minimize or avoid exposure to information that contradicts their beliefs. Festinger (1957) suggested that people will look for sources of information that will help increase consonance but avoid sources that would increase dissonance. The same would apply to people. They will seek opinions from people they think would have the same beliefs. In this light, the "personal influence" by Katz and Lazarsfeld (1955) highlighted that people talk with each other and are often used as a source of important messages. Klapper (1960), through his work *Effects on Mass Communication*, believed that media does not directly impact people's choices but through opinion leaders who interpret, shape, and distribute the information to the public through a mediated two-step flow model. According to Klapper (1960), mass media reinforces the audience's beliefs and does not have a direct impact on people's choices. People are influenced only by the media they choose to watch, depending on their previous attitude toward the subject. Klapper (1960) suggested that further research should be done to understand the conditions under which media has the most

potent effects, highlighting the importance of understanding how psychological predispositions, social context, and cultural factors can influence an individual's media consumption.

One of the key factors that can contribute to vulnerability to disinformation among politically affiliated individuals is the credibility of the source of information. Metzger et al. (2020) research proved that partisan users consider more credible sources that are consistent with their attitude or political affiliation rather than sources that challenge their attitude or political belief. The study has shown that news consumers report higher levels of cognitive dissonance when exposed to attitude-challenging news sources than when exposed to attitude-confirming or balanced news sources. Even though a moderate level of dissonance was noticed in balanced news sources, this suggests that there may be some potential for further research based on the perception of source credibility and media consumption habits in the future that could help reduce disinformation vulnerability levels of partisan users.

The role of interpersonal connections and social media influencers in the dissemination of disinformation is also significant. Research has shown that people are more likely to believe and share information if it comes from someone they trust, even if the source is not a credible organization. The Media Insight Project (2017) indicates that the audience believes the news more if it is shared by people they trust. As this finding reveals, the audience believes more in the person who shares it than the organization that produces the news. Interpersonal connections are still influential. Yesterday's opinion leaders might be today's social media influencers. The relevancy of the two-step flow model in the theory of political communication, which Southwell (2017) marks, lies in the social nature of humanity, even though the evidence has shown a more complicated model of information flow than the two-step model. He suggests that future research should address social network genesis, conversational modality's impact, and environmental context's role (Southwell, 2017). Prioritizing a post from a friend rather than a credible source of information leads to the spread of disinformation or misinformation. Vosoughi et al. (2018) tested the spreading of false news and news in the same subjects and in the same manner by robots vs. humans. They revealed that bots accelerate the spread of false and true information at the same rate, but false information was spread significantly faster and deeper, especially political category of false news. The authors attribute this result to the human's tendency to engage with falsehood more than with truth. In addition, bots amplify low-credibility sources and target users with many followers through replies and mentions (Shao et al., 2018). The algorithmic design of social media platforms prioritizes popular content versus trustworthy content. This also highlights the need to consider the design of these algorithms and human social media interactions in contributing to the disinformation ecosystem.

3. Methodology

The research strategy employed in this empirical study is quantitative. In the first part, the current political and media state in North Macedonia is described. Moreover, the most prominent local disinformation cases are presented as well as conditions under which North Macedonia is a vulnerable country. The theoretical part of the study gives the definition of disinformation from different scholars and highlights the academic discussion for the term fake news. In this part, the theory of cognitive dissonance is also discussed in relation to confirmation bias and how it may impact a person's vulnerability to disinformation. The impact of political affiliation on a person's vulnerability to disinformation is also explored and is complemented by reviewing recent research studies in regard to disinformation.

The quantitative method investigates the relationship between politically affiliated individuals and their vulnerability to disinformation. The designed questionnaire, and its testing, were carried out with citizens of North Macedonia. The questionnaire was created with Google Forms, and the dissemination was done through group emails and through personal social media profiles. The questionnaire contained questions aimed at identifying respondents' political affiliations, and their answers were cross matched with the false information identification question results. The answers are developed with SPSS software and Microsoft Office for Windows (Word and Excel). The respondents' structure is a mixed group of political party-affiliated individuals with various educational backgrounds.

The last census held in 2021 in North Macedonia registered a total population of 2,097,319, of whom 29.52% are Albanians, the second largest ethnic group living in North Macedonia (State Statistical Office, 2022). North Macedonia is divided into six electoral units, and each of them elects 20 parliamentary deputies. This research is focused on Electoral Unit No. 6 due to the majority of deputies in that unit being of Albanian ethnicity. This electoral unit in 2020 Parliamentary Elections had 309,727 registered voters (Pankovski et al., 2020). A sample of 0.05% of the voters of Electoral Unit No. 6 was chosen: 150 voters (respondents) with a margin error of 0.3%. The voter turnout in the last parliamentary election of 2020 in Electoral Unit No. 6 was 40.74% and reserved 16 seats in the Parliament for Albanian ethnic representatives out of 20 seats from this electoral unit (State Election Committee, 2020, p. 10). This method was chosen because the vote is very discreet—According to the laws of North Macedonia, it should not be revealed. For this reason, the only technique and method we can use in this case is the anonymous questionnaire. The sample was intentionally chosen as we are interested in the correlation between the Albanian voters' political affiliation and their perception of disinformation for an affiliated political party and an opposing political party. The questionnaire generated 94% of

Albanian ethnicity respondents, with 88.7% high-level educational status respondents.

The questionnaire was distributed randomly, and the questions were structural: dichotomous questions and multiple-choice questions. The survey included closed-ended questions and agreeing/disagreeing statements for identifying political affiliation, revealing perception of disinformation, as well as defining respondents' behavior for politically consistent information and source credibility.

The questionnaire was disseminated on 9 July 2021 and remained open to the public until 1 September 2021, during which there were no active election campaigns. The question for identification of the disinformation during the 2020 parliamentary election campaign in North Macedonia was cross matched with all the other questions. The political environment when the questionnaire was distributed was not an active one, intentionally so. It is essential to consider the timeline during which the survey was conducted. The political landscape between the opponents in the pre- and post-election periods can change from time to time, depending on the pre- and post-election coalitions. The content of the false news stories is also significant and carefully chosen. It must correspond with the political context of the time when the research is done. Still, this type of research can also be tested during election campaigns to analyze how respondents' answers and political affiliation change over time according to political scene movements, campaign coalitions, and the relation of the same with confirmation bias and perception of disinformation. To obtain information about their political affiliation, a question to identify their political affiliation by asking which political party they voted for in the last North Macedonia's parliamentary elections in 2020 was engaged. Five options for answers were given for the four most prominent political parties in the country (IMRO-DPMNU, SDUM, DUI, and AA), adding one if they have not voted at all. Of the respondents, 63.3% claimed to vote for one of the four political party options and 36.7% claimed they did not vote in the last elections in North Macedonia. The respondents' percentage who claimed to vote are considered to be the politically affiliated respondents for this research. Conversely, those who did not vote are considered non-politically affiliated respondents.

In addition, eight pieces of false information were given for the political parties to measure vulnerability to disinformation. These false news stories were circulated online during the parliamentary election campaign of 2020 in North Macedonia and included sensationalism, hyperbolism, and propagandistic news for the four biggest parties competing in the country's 2020 elections (IMRO-DPMNU, SDUM, DUI, and AA). Each political party was presented with one false piece of information with a positive connotation and one with a negative connotation. The intent was to see how the audience would respond to each of them, bearing in mind their political affiliation attained through the questionnaire. The specific focus is on the analysis of the results from the Albanian bloc of the political parties.

There are recognized limitations of this study: This research would benefit from a wider mixed group of respondents, such as different educational statuses, socio-economic groups, and mixed ethnic groups. Also, a representative sample of North Macedonia citizens and mixed focus groups with representatives of the four biggest political parties in North Macedonia would strengthen the thesis.

4. Findings and Discussion

When we talk about individual characteristics to provide a frame of reference for future researchers in analyzing the impact of disinformation on the audience, in social psychology, Festinger's (1957) theory of cognitive dissonance is most cited, where the notion of confirmation bias is linked. Based on this, politically biased individuals tend to believe, accept, and share information that is consistent with their political beliefs, whether that information is accurate or not, and ignore other information that is inconsistent with their beliefs. In this regard, we analyzed the respondents' answers based on their political affiliation. Thus, for this particular study, the content of the false information is not as relevant as the connotation (negative or positive) and the political affiliation. We will consider the positive connotation of the false information as consistent with the prior beliefs of the politically affiliated party of the same party individuals; whereas the negative connotation as discrepant to politically affiliated party with the same party individuals. The below figure will show how the respondents who voted for DUI assessed false information for their political party (positive or negative connotation) and as accurate false information for the opposition political party (positive or negative connotation). Also, how the respondents who answered that they voted for the AA assessed as accurate two of the false information for their political party (positive or negative connotation) and accurate for the opponent's political party (positive or negative connotation).

From the results, we can assume that respondents who voted for DUI have assessed the accuracy of the false information in positive connotations for their political party in a higher percentage, contrary to negative connotations for their political party. Also, the same respondents rated a higher percentage as accurate false information with a negative connotation for the opposing political party (AA) and a lower percentage as accurate false information with a positive connotation for the opposing political party (AA). The same applies to the respondents who voted for the AA and their assessment as accurate for false information about their political party and the opponent's party. More clearly, Figure 1, presented in percentages, shows the difference in their perception. Here we can confirm the assumption of confirmation bias. The politically affiliated individuals

assessed in higher percentage the false information as true with a positive connotation for their affiliated political party; whereas, they assessed in lower percentage the false information as true with a negative connotation which might have been discrepant with their prior beliefs. The same applies to each of the political party-affiliated groups. Moreover, politically affiliated individuals in lower percentage identified the false as true positive information for the opposing political party, which might be discrepant with their prior beliefs; whereas they assessed in higher percentage the false negative information as true for the same opposing party, that might be consistent with their beliefs.

In addition, four statements were included to test how the respondents behave if they encounter politically consistent or discrepant information regarding their attitudes on social media and how the source credibility, in this case, if it is a friend, has a role. This resulted in 35.40% of the respondents agreeing that if they encounter news posted on social media with a positive context for their affiliated political party, they will probably like it; 31.20% of the respondents agreed that if they encounter news posted on social media with a negative context for their affiliated political party, they will probably ignore it (for reference, see Figure 2). Even though these questions were obviously posed, again we can see a high percentage of the individuals who agreed with the statements.

The percentage of respondents who agreed with the statements mentioned above was analyzed to see how they perceived false political news. Of the respondents who probably would like it if they encountered

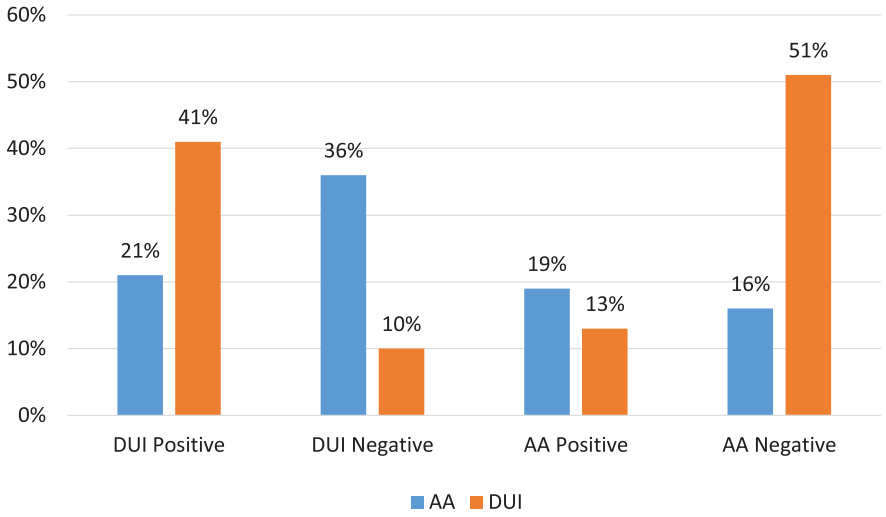

Figure 1. Politically affiliated individuals and their perception of false political information. Notes: AA voters—DUI positive = 21%, DUI negative = 36%, AA positive = 19%, AA negative = 16%; DUI voters—DUI positive = 41%, DUI negative = 10%, AA positive = 13%, AA negative = 51%.

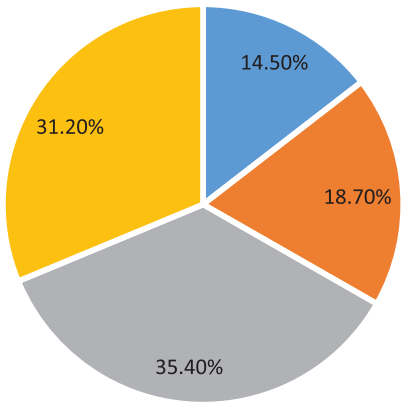

Figure 2. Respondents' attitudes related to confirmation bias statements. Notes: Blue stands for the statement "if you see a political news that your friend shared in social media you would probably like it and think is relevant"; orange for "if you see political news shared by a friend in social media, you would probably like it, comment, and share"; grey for "if you encounter news in social media that has a positive context for your affiliated political party, you would probably like it" is in grey; and yellow for "if you encounter news in social media that has a negative context for your affiliated political party, you would probably ignore it."

information with positive context for their affiliated political party, 31.30% perceived false political news as accurate. Furthermore, of the respondents who would like, comment, and share the political information posted by their friends, 26.40% perceive false political information as accurate (Figure 3). The respondents who agreed with these two statements are more vulnerable to disinformation since they perceived false political information in a higher percentage as true.

In supporting the relationship between the confirmation bias of politically affiliated individuals and their vulnerability to disinformation, a question of how the respondents behave if they encounter information in social media that they strongly agree with was included: 41.30% check first whether the information is true or untrue, 31.30% check who posted the information with which they agree, 18% like and share it, while 9.30% share the information automatically with close friends. This question intends to observe how the respondents behave when encountering false political information. Thirty-four point ten percent of the respondents who like and share the information with which they strongly agree are unable to identify false political news. This makes them more vulnerable to disinformation (see comparison data presented in Figure 4).

Further, let us analyze what we consider interesting for this research: the data received from the respondents who answered that they had not voted in

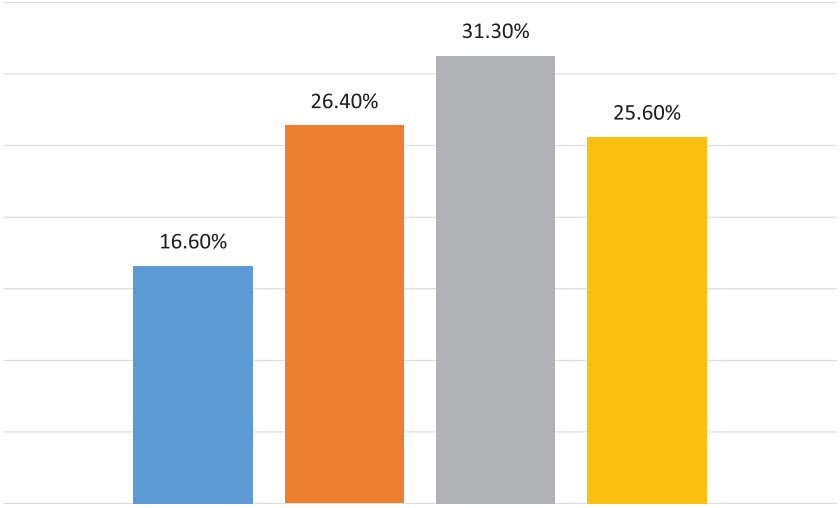

Figure 3. Vulnerability to disinformation concerning source credibility and confirmation bias. Notes: Blue stands for the statement "if you see a political news that your friend shared in social media you would probably like it and think is relevant"; orange for "if you see political news shared by a friend in social media, you would probably like it, comment, and share"; grey for "if you encounter news in social media that has a positive context for your affiliated political party, you would probably like it" is in grey; and yellow for "if you encounter news in social media that has a negative context for your affiliated political party, you would probably ignore it."

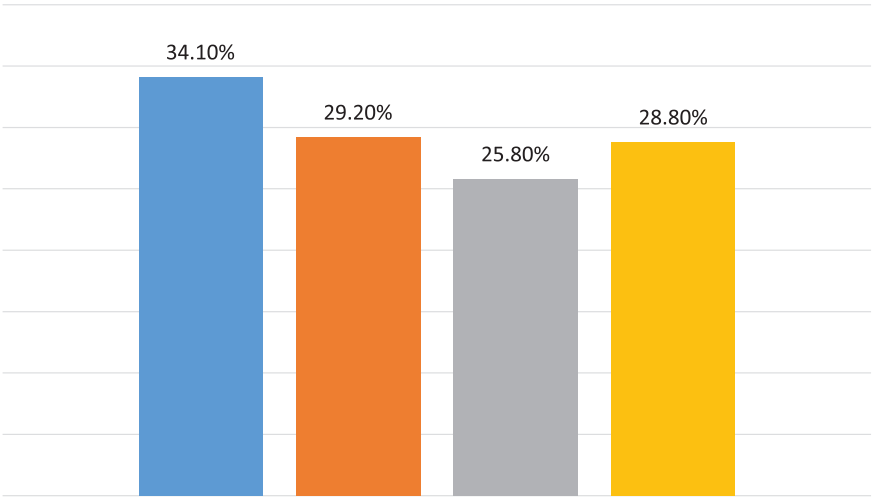

Figure 4. Vulnerability to disinformation and encountering agreeing information in social media. Notes: Blue stands for the statement "you like it and share it," orange for "you check who posted it," grey for "you share to a close friend group," and yellow for "you check whether the information is true or untrue."

the 2020 parliamentary elections in North Macedonia. We consider them as a politically non-affiliated audience. We can assume that this part of the audience is independent of their political beliefs and attitudes to perceive the disinformation as true or false. The table below shows that the trend of their assessment is constant for all the political parties and is not biased. In addition, a negative connotation for SDUM ranked in higher percent as accurate information. Nevertheless, this does not show a comparison data with another political party, with a positive or negative connotation with a higher or lower percentage of the perceived disinformation (see Figure 5.)

Considering this, politically affiliated individuals are more prone to disinformation than the rest of the non-politically affiliated audience. In support of this, the figure below represents the comparison in identifying each false news stories as accurate between politically affiliated and non-politically affiliated audiences (see Figure 6). As we can see politically affiliated individuals identified as true in higher percentage compared to non-politically affiliated individuals each given false information.

Thus, we assume and raise another hypothesis for in-depth research in the future that politically affiliated individuals are more vulnerable to disinformation than politically non-affiliated individuals, as we can assume that the two hypotheses raised for this study are confirmed. Political affiliation affects the vulnerability to disinformation, as well as political affiliation impacts the way the audience perceives political disinformation.

5. Conclusion

This study has comprehensively analyzed the vulnerability to disinformation of politically affiliated individuals in North Macedonia. North Macedonia's highly politicized and fragmented landscape accelerates disinformation dissemination, and online unregulated media contributes to this phenomenon. Russian disinformation campaigns interfere with Balkan countries' political and geostrategic orientations. North Macedonia is vulnerable to foreign influence, particularly Russian disinformation campaigns, which often spread through various

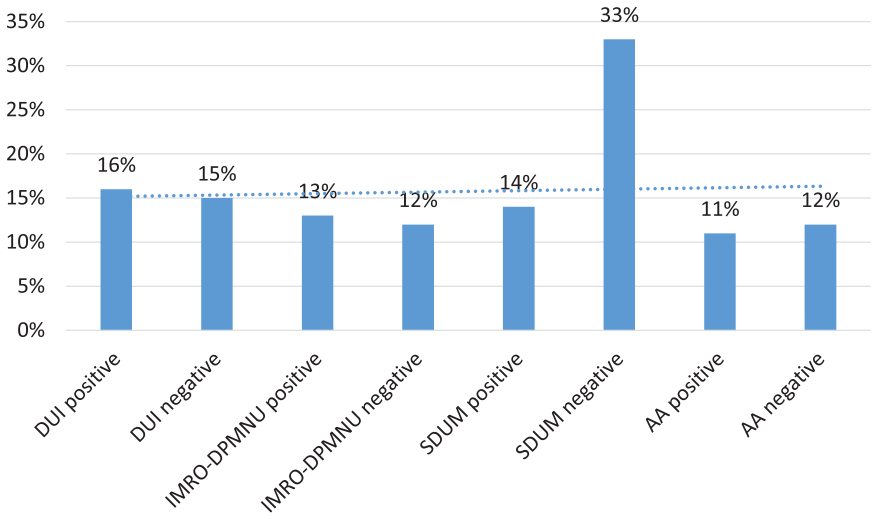

Figure 5. The perception of false information from politically not affiliated respondents.

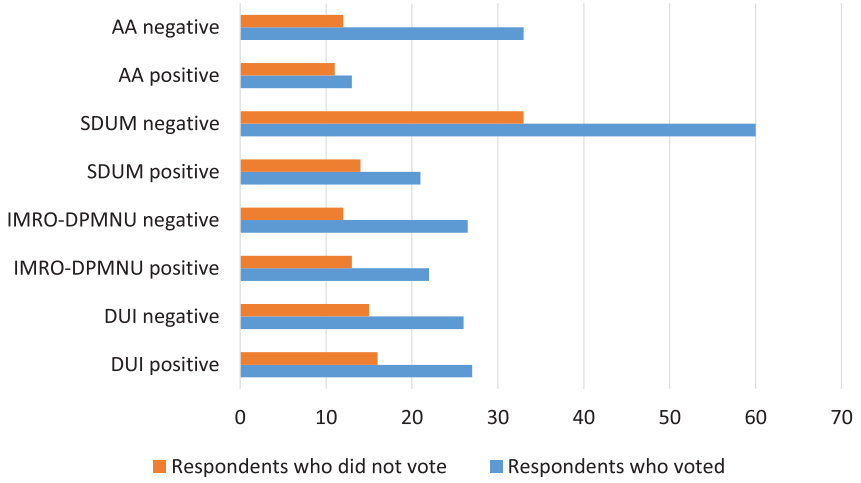

Figure 6. Comparison of vulnerability to disinformation between the politically and non-politically affiliated audience.

portals and traditional media. In 2022, North Macedonia became a partly free country, according to the Freedom House (2022). While journalists can exercise their profession freely, widespread misinformation and a lack of professionalism contribute to a decline in trust in the media. This leaves independent outlets vulnerable to threats and attacks. Factors that make a country vulnerable to disinformation include polarization, a low level of trust in media and institutions, increased social media use, and a fragmented environment. North Macedonia, a NATO member since 2020, is characterized by a highly polarized and fragmented society, particularly along ethnic and political lines. The country has also been the target of foreign disinformation campaigns, which have been supported and disseminated by domestic online media outlets and political parties. In recent years, disinformation campaigns in North Macedonia have affected the outcomes of significant events such as the 2018 referendum on NATO and EU accession, the country's name change, and the 2021 census, as well as elections. Hence, its geostrategic orientation often suffers from eastern influence.

Disinformation is characterized by the spread of false or misleading information that is intended to deceive and cause harm. Disinformation can also be spread with the intention of distorting the context to achieve a specific effect. People are vulnerable to disinformation because of cognitive biases, such as confirmation bias and attitude polarization, which can lead them to accept and seek information that aligns with their preexisting beliefs and ignore information that contradicts those beliefs. The theory of cognitive dissonance contributes to people's vulnerability to disinformation, as people may seek to maintain cognitive consistency by avoiding or minimizing information that conflicts with their preexisting beliefs or attitudes. Political affiliation can impact an individual's susceptibility to confirmation bias, a cognitive bias that refers to the tendency to seek out and give more weight to information that aligns with one's preexisting beliefs while discounting or ignoring information that challenges or contradicts those beliefs. This can lead individuals to be more vulnerable to disinformation, particularly when it comes to information related to their affiliated political party. Understanding the psychological factors that contribute to confirmation bias, such as the need for cognitive consistency and the desire to avoid dissonance, can help to shed light on the ways in which political affiliation may impact an individual's vulnerability to disinformation, as well as how they perceive and interpret information that relates to their affiliated political party versus an opposing party.

The results of this study suggest that politically affiliated individuals tend to believe, accept, and share information that is consistent with their political beliefs and attitudes and avoid or minimize information that is inconsistent with those beliefs. The study found that politically affiliated individuals are more likely to believe false information with a positive connotation for their own political party and false information with a negative connotation for the opposing political party. This suggests that politically affiliated individuals are more likely to accept false information that aligns with their preexisting beliefs and attitudes and are less likely to accept information that challenges those beliefs. Additionally, the study found that politically affiliated individuals are more likely to engage with information on social media if it is consistent with their attitudes and less likely to engage with information that is discrepant with their attitudes.

The study suggests that the impact of disinformation is influenced by individual characteristics such as confirmation bias, respectively, biased information processing. This study argued that the audience's perception of disinformation depends on their political affiliation. Namely, the political affiliation of the audience prevents the audience from objectively assessing information. The results of this study suggest that politically affiliated individuals who would engage with positive political information for their affiliated political party might be more vulnerable to disinformation. Specifically, it appears that about 31.30% of respondents who agreed that they would probably like information on social media with a positive connotation for their affiliated political party perceived false political news as accurate.

The tendency to prioritize information that confirms one's preexisting beliefs may lead individuals to be more likely to perceive false political information as accurate if it comes from a source that is consistent with their attitudes and political affiliations. Social interactions between people are still powerful and play a crucial role in the social media environment. Additionally, about 26.4% of respondents who agreed that they would like, comment, and share political information posted by their friends perceived false political information as accurate. This result suggests that politically affiliated individuals who are more likely to engage with information that aligns with their preexisting beliefs and attitudes posted by their friends are more vulnerable to disinformation. The credibility of the source of information is also a key factor in how politically affiliated individuals will respond to incoming messages. They are more likely to consider sources that are consistent with their attitudes and political affiliations as credible. The phenomenon of echo chambers as homogenous group gatherings encourages the dissemination of disinformation in an environment of mutual trust. Interpersonal connections and social media influencers play a significant role in the spread of disinformation. It is important for individuals to critically evaluate the information they encounter online, including checking the source and verifying the accuracy of the information, to avoid spreading disinformation and protect themselves from its harmful effects.

This study found that confirmation bias plays a role in the vulnerability of individuals to disinformation, particularly in the context of political beliefs and attitudes. It also suggests that other factors, such as the source credibility and influence of interpersonal connections,

contribute to this vulnerability and highlights the importance of considering these factors in future research on disinformation. This study also revealed that politically affiliated individuals are more prone to disinformation compared to non-politically affiliated individuals, which could be studied in the future.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Teaching Journalism Literacy in Schools: The Role of Media Companies as Media Educators in Germany

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Abstract
German journalism is facing major challenges including declining circulation, funding, trust, and political allegations of spreading disinformation. Increased media literacy in the population is one way to counter these issues and their implications. This especially applies to the sub-concept of journalism literacy, focusing on the ability to consume news critically and reflectively, thus enabling democratic participation. For media companies, promoting journalism literacy seems logical for economic and altruistic reasons. However, research on German initiatives is scarce. This article presents an explorative qualitative survey of experts from seven media companies offering journalistic media education projects in German schools, focusing on the initiatives' content, structure, and motivation. Results show that initiatives primarily aim at students and teachers, offering mostly education on journalism (e.g., teaching material) and via journalism (e.g., journalistic co-production with students). While these projects mainly provide information on the respective medium and journalistic practices, dealing with disinformation is also a central goal. Most initiatives are motivated both extrinsically (e.g., reaching new audiences) and intrinsically (e.g., democratic responsibility). Despite sometimes insufficient resources and reluctant teachers, media companies see many opportunities in their initiatives: Gaining trust and creating resilience against disinformation are just two examples within the larger goal of enabling young people to be informed and opinionated members of a democratic society.

Keywords
disinformation; journalism literacy; journalistic media education; media literacy; news media literacy

Issue
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1. Introduction

Digitalization brought fundamental changes to financing, producing, and distributing media products. In journalism as a whole and daily newspapers in particular, revenues have been declining for more than 20 years. The industry is reacting through consolidation and economization. Despite mitigating economic problems in the short term, these measures mostly rely on reducing staff and cutting costs. While supported by loyal, older target groups still buying print editions, newspapers still do not seem to have found a sustainable digital revenue model, especially for younger audiences. Without a permanent solution, journalism faces a difficult future (Lobigs, 2016; Newman et al., 2022). Decreasing sales in high-quality journalism is a threat to society as a whole since media is understood as the fourth pillar of democracy. Indeed, journalists cover a broad spectrum of important functions. This includes, e.g., providing citizens with the necessary information to participate in the democratic system and make well-informed decisions (Malik et al., 2013), serving as a watchdog to observe and control the governing institutions, or giving socially disadvantaged groups a voice, to name a few (Hanitzsch & Vos, 2018).

In addition to the economic insecurities described above, parts of society are deeply and consistently mistrusting traditional media (Jakobs et al., 2021; Newman et al., 2022). Despite the general belief in conspiracy theories being low, those who rely on alternative news sources and disinformation are significantly more susceptible to them (Sengl & Holzer, 2020). Furthermore, low trust in journalism seems to correlate with low media literacy (Ziegele et al., 2018). The latter and its sub-concept journalism literacy (Jaakkola, 2020) offer a promising opportunity for civic resilience (Beiler et al., 2020; Meßmer & Sängerlaub, 2020).

Despite not reaching all citizens, school offers one of the broadest and most convenient opportunities to spread journalism literacy. Unfortunately, structural deficits regarding organization, personnel, and teaching development have hindered media education in German schools for years. Inadequate and non-functioning (technical) equipment as well as rigid school structures, large classes, full curricula, and a lack of teaching materials are one side of the problem (Durner, 2009; Lilienthal, 2022; Spanhel, 2005). While political goals regarding media literacy are ambitious, media literacy is theoretically part of most school curricula, and researchers have long recommended multi-faceted media literacy education concepts (Tulodziecki, 2010), journalism literacy or journalism as a democratic institution only play a minor role (Hagen et al., 2017a), even in countries like Australia that embrace media literacy education in their school system (Notley & Dezuanni, 2019). Media production projects mostly take place in out-of-school settings and are often only offered for a small number of students in teachers' free time (e.g., video club, student newspaper). The other side of the problem is that teachers often lack the necessary skills and knowledge (Durner, 2009; Spanhel, 2005). In university curricula for future teachers, journalism literacy takes a minor spot, with university students striving to become teachers showing low levels of journalism literacy despite them regarding the subject as very important (Hagen et al., 2017a). These results support findings of a representative survey of German teachers supposed to teach journalism literacy. Despite their responsibility, misunderstandings about media's tasks and misconceptions about rules applying to journalists and reporting are evident among them (Institut für Demoskopie Allensbach, 2020). This skill gap among teachers has led to journalists and media companies filling in the role of journalism literacy educators (Beiler et al., 2020; Lilienthal, 2022). The following study provides an initial insight into what media companies in Germany contribute to teaching journalism literacy and why they do so.

2. From Media Literacy to Journalism Literacy

Media literacy is a central concept in media education. With the growing importance of the internet and multimedia, the term has been increasingly discussed since the beginning of the 1990s (Koltay, 2011). In Germany, Dieter Baacke is considered a pioneer of media literacy research. Like other studies in the field (e.g., Aufderheide & Firestone, 1993; Livingstone, 2004; Potter, 2013) he differentiates the four sub-areas media criticism, media knowledge, media use, and media design in his definition of media literacy. Media criticism refers to the ability to analyze social changes triggered by media change and to reflect on them in terms of oneself and one's social responsibility. Media knowledge refers to knowledge of one's own media system as well as the ability to use new devices. Media use encompasses both passive and active use of media while media design describes the competence to produce innovative and aesthetically creative content (Baacke, 1996). For the school context, Tulodziecki (2010) specifies five central aspects: (a) selection and use of media content, (b) creation and distribution of one's own content, (c) comprehension and evaluation of media content, (d) recognition and processing of media influences, and (e) understanding and evaluation of the conditions of media production and distribution. These definitions are still reflected in the current competency framework of the Standing Conference of the Ministers of Education and Cultural Affairs in Germany (Kultusministerkonferenz). This framework comprises six areas of competence: "searching, processing, and storing," "communicating and cooperating," "producing and presenting," "protecting and acting safely," "problem solving and acting," and "analyzing and reflecting" (Kultusministerkonferenz, 2016, p. 16–19). While this is meant to be reflected in media literacy in teachers' education, teaching plans for schools, technical equipment in schools, cooperation programs, regular evaluations, etc. (Kultusministerkonferenz, 2016), these goals have very little impact on schools in practice. Most teacher-led projects targeting media literacy focus on how to use the internet or social media while neglecting essential dimensions of media literacy such as media knowledge or media criticism (Beiler et al., 2020; Knaus, 2016; Notley & Dezuanni, 2019).

Recently, the term "media literacy" has been criticized for lacking specificity (Beiler et al., 2020) as it allows for a very broad debate and includes aspects like the ability to read and write that are not at the core of the challenges of journalism and society. Therefore, several scholars have been referring to more specific concepts like digital news and information literacy, news media literacy, or journalism literacy. These various definitions are often based on broader concepts of media literacy like Baacke's (1996). Some approaches like the concept of news literacy by Hagen et al. (2017b) build on Baacke's (1996) basic structure, further differentiating the dimension of media use. These authors understand news media literacy as the ability to use, understand and critically evaluate news media and journalistic content purposefully, as well as to participate in news production, breaking down Baacke's (1996) approach to media literacy on news media. Others like Meßmer and

Sängerlaub (2020) approach digital news and information literacy by including all types of information, regardless of them being from a journalistic institution or not if they address politically or societally relevant content.

Malik et al. (2013) also derive their concept of news literacy from information literacy and media literacy, categorizing news as a type of information delivered through the media. The difference from other information or media is derived from the civic engagement aspect and the formal aspect of news as a journalistic product. While the authors do not strive to define news literacy, they identify five dimensions that should be included in the concept: First, news-literate citizens should understand the role of news in society. Second, they should be intrinsically motivated to actively seek out news. Third, they need to be able to find and recognize news as such by, fourth, being able to critically evaluate them. Fifth, the ability to create news as the best way to understand them is included in the concept. In summary, the authors define news literate recipients as "empowered citizens" (Malik et al., 2013, p. 8) who can participate in democratic processes.

Beiler et al. (2020) as well as Jaakkola (2020) argue that that while many of these conceptualizations do aim at journalism, its special role in democratic societies, and recipients' critical, civic, and democratic skills, their naming and focus lack a clear reference to journalism, which can lead to a blurring with other sub-forms of media literacy, e.g., by policymakers. Therefore, Beiler et al. (2020) and Jaakkola (2020) recommend using the term journalism literacy.

The distinction between other types of literacy, especially media literacy, and journalism literacy often comes down to civic engagement. While media literacy as a register of skills for using mass media content is a very broad concept, journalism literacy as a specific subset refers to the ability to use journalistic content critically and reflectively, and thus to participate in democratic processes (Ashley et al., 2013; Maksl et al., 2015; Meßmer & Sängerlaub, 2020; Tully & Vraga, 2018). Therefore, while journalism literacy is often named as a central approach for combatting disinformation, studies show that it can also impact other factors. According to Craft et al. (2017), there is a connection between news media literacy and skepticism in media use (Maksl et al., 2015), trust in the media (Ashley et al., 2010), and judgments of credibility (Carr et al., 2014). In addition, higher levels of news media literacy positively affect the motivation to consume high-quality news (Maksl et al., 2015, 2017). Moreover, media literacy positively affects the willingness to pay for journalistic content (Wellbrock & Buschow, 2020), addressing journalism's economic troubles and in turn helping secure its services for democracy in the long term. These findings suggest a high relevance of journalism literacy for the industry, which currently faces several challenges at once. In this tense situation, a look at media companies' initiatives to teach journalism literacy seems promising.

In this study, we build upon the criteria of news literacy by Malik et al. (2013) but follow Jaakkola (2020) in her terminology of journalism literacy and journalistic media education.

3. Journalism Literacy Education by Media Companies

Based on these theoretical concepts, there are many practical approaches to teaching journalism literacy at school. Jaakkola (2020) identifies three types of journalistic media education: *on*, *in*, and *via* journalism. Media education *on* journalism refers to journalists acting as mediators that convey knowledge about journalism to their audience. This typically means media companies producing educational material for schools or encountering audiences in live events, e.g., by journalists visiting schools, talking about general topics like journalistic genres or journalism ethics. Media education *in* journalism integrates information on journalistic work within journalistic content in a didactically appropriate way, making media education part of the day-to-day work of journalists. By explaining the backgrounds of journalistic stories, publishing media criticism, or in-house fact-checking, audiences can learn about journalistic values and production processes. Media education *via* journalism refers to audience engagement, integrating them into journalistic processes as (co-)producers. This is typically achieved either by supporting newsroom simulations in schools or publishing content produced by students. Jaakkola (2020) concludes that, while being time- and resource-intensive, a combination of different approaches—introducing students to journalistic practices, offering them insight into an authentic journalistic environment, and then supporting the setup of a training newsroom—promises the most didactic value. She identifies three different goals of media companies: promoting journalism literacy to restore the legitimacy and credibility of journalism, as a way of self-promotion to attract new audiences, and finally as an altruistic promotion of civic skills for citizens in a democracy.

The state of research on the teaching of journalism literacy by media companies is scarce, both internationally (Notley & Dezuanni, 2019) and in Germany: When conducting the study, we could not find any study addressing this topic for the German-speaking region. Meanwhile, this has changed with Lilienthal (2022) investigating journalistic school visits in Hamburg and Schleswig-Holstein. An online survey among journalists, students, and teachers, supplementary qualitative in-depth interviews with selected journalists as well as a content analysis of documented school visits concluded, among other things, that most students assess their knowledge of media and journalism as expanded, whereas only just under half of the journalists agreed. However, more than two-thirds of the teachers felt that the visit's goal had been achieved despite the limited time of 90 minutes being criticized by students and journalists alike. The author criticizes a discrepancy between students' interests (e.g., social media)

and journalists' input (e.g., journalistic practices, disinformation). Lilienthal (2022) sees school visits as one enriching component of media literacy education among others as journalists could not fulfill the educational goal of media literacy on their own due to irregular visits and lacking pedagogical skills.

In her 2009 dissertation, Alexandra Durner also addressed journalistic media education in her conceptualization of a project for political media education in which she defines the basics of journalistic work as basic competencies to be taught in school. Thereby she extends beyond journalism as a didactic media tool and considers the critical and analytical examination of journalistic material as central to political education (Durner, 2009).

Two further studies, albeit master's and bachelor's theses, explore journalistic media education. Kakkola (2009) investigated the relation between media education and the professional identity of journalists in a qualitative survey of nine Finnish newspaper journalists who had participated in media education projects. Despite it being part of their work, the interviewees did not identify as educators, but as journalists supplying media education in addition to their actual work. While intrinsically motivated to promote journalism literacy, they did not want to be responsible for teaching students but rather support actual teachers in doing so. Interviewing four Finnish journalists, Huovinen (2019) found similar results: While journalists' feelings towards pedagogical aspects of journalistic media education were more positive than in Kakkola's (2009) study and they stressed its importance, they still regarded it as an addition rather than an integral part of their job. Apart from this work, journalistic media education projects are hardly mentioned in academic work (Lilienthal, 2022), making it even more important to provide an initial overview of such projects in Germany and thus lay the foundation for further research.

4. Research Questions and Methodology

The scarce state of empirical research did not allow for a quantitative, hypothesis-testing approach at the time, as a scientific basis for hypotheses had to be established first (Mayring, 2014). Based on our preliminary theoretical considerations, we formulated qualitative research questions to gain a first overview of journalism literacy projects by German news media companies:

RQ1: How are journalism literacy projects by German media companies designed?

RQ2: To what extent do German media companies feel responsible for promoting journalism literacy?

RQ3: What is the motivation behind journalism literacy projects?

Guideline-based expert interviews promised the greatest success in finding detailed and in-depth answers (as seen in Huovinen, 2019; Kakkola, 2009; or Lilienthal, 2022). We structured them in three parts: (a) the respective interviewees' literacy definition (e.g., journalism/media/news literacy), (b) their sense of responsibility regarding journalistic media education (including, e.g., opportunities and limitations, motivation, potential, and importance of the projects), and (c) the structure of the specific projects (including, e.g., target groups, goals, development, successes and failures, and competitors). We asked mainly open-ended questions with more specific follow-ups as needed. This basic guide was tailored to the respective interviewees to confirm information about the project found online or complete aspects still missing. The three-part structure was always retained.

To explain the selection of interviewees, we first summarize Germany's media system very briefly: The German media market consists of private media companies and public-service broadcasters with the latter only providing radio, television, and limited online content. The biggest and most impactful sector of private media is newspapers and their digital platforms (Beck, 2018). Traditionally, the private newspaper sector has been very diverse, regional, and consisted of plenty of small newspapers. While nowadays this diversity is shrinking due to economic pressure and the following consolidation processes, regional newspapers still play an important role in Germany's media system. In addition to the regional press, national newspapers are the second large block of the daily newspaper market (Beck, 2018). To cover as much of the German media market as possible, the selection of interviewees was based on two criteria. First, although the small, qualitative sample of seven projects cannot provide a representative overview of Germany's media landscape, we paid attention to integrate public service broadcasters, local daily newspapers, and national daily newspapers (NDNs) that offer journalism literacy projects. Second, our interviewees had to be part of the journalism literacy project team, which did not necessarily consist only of journalists.

Seven projects were selected based on online research in combination with recommendations of particularly committed projects by Thorsten Merkle, managing director of the Young Readers Initiative, a network and knowledge database on children's and youth engagement in newspapers. The sample ultimately consisted of two public service broadcasters, two national newspapers, and three regional newspapers (see Table 1). All interviews were conducted by telephone between October 2019 and January 2020 and lasted some 35 minutes on average. The interviews were transcribed into standard German and sentence structure and grammatical errors were corrected. As the content was central to the analysis, dialectal colorations or para-linguistic expressions were irrelevant. Before the content-structuring qualitative content

Table 1. Overview of the sample.

Type of medium	Medium	Project	Target group	Interview partners
National Daily Newspaper (NDN)	*Süddeutsche Zeitung* (SZ) alias NDN 1	Schule & Zeitung, SZ-Werkstattgespräche (School & Newspaper, SZ Workshop Talks)	Middle and high school students	Mario Lauer, head of marketing at SZ: interviewee (IV) 1.1 Wilhelm Maassen, CEO of the media education institute Promedia Maassen: IV 1.2 Klaus Ott, journalist at SZ and co-organizer of the workshop talks: IV 1.3
	Frankfurter Allgemeine Zeitung (FAZ) alias NDN 2	Meine Zeitung (My Newspaper)	Students in grades 6 to 10	Werner D'Inka, co-publisher and project co-organizer at FAZ: IV 2.1 Oliver Beddies, head of education at the Stiftung Polytechnische Gesellschaft Frankfurt am Main (project co-organizer): IV 2.2
Public Service Broadcaster (PSB)	*Bayerischer Rundfunk* (BR) alias PSB 1	Multiple offers for students, teachers	All school types and age groups	Isabella Schmid, head of the media literacy department at BR: IV 3
	Südwestrundfunk (SWR) alias PSB 2		All school types and age groups	Christine Poulet, media literacy officer at SWR: IV 4
Local Daily Newspaper (LDN)	*Mindener Tageblatt* (MT) alias LDN 1	MT clever	Children in kindergarten and elementary schools	Nicola Waltemathe, project lead MT clever and deputy head of marketing at MT: IV 5.1 Lisa Meier, project team MT clever: IV 5.2 Frank Sommer, head of marketing at MT: IV 5.3
	Mittelbayerische Zeitung (MZ) alias LDN 2	Klasse informiert (Informed Class)	All school types and age groups	Dagmar Unrecht, journalist responsible for the project in Ratisbon at MZ: IV 6
	Main-Post (MP) alias LDN 3	KLASSE! (CLASS!)	All school types and age groups	Peter Krones, project lead at MP: IV 7.1 Anke Faust, journalist working on the project at MP: IV 7.2

analysis (Kuckartz, 2018; Mayring, 2014), the transcripts were authorized by the interviewees. We then processed the transcripts initiatively, marked important passages, and wrote initial summaries. Based on main categories deduced from the interview guide (e.g., definition, motivation, target groups, goals, etc.) the material was first coded. From the resulting structuring categories, subcategories (e.g., intrinsical/extrinsical motivation, or students/teachers/seniors as target groups) were inductively formed, acting as a template for the second coding process, also selecting prototypical quotes which were translated into English for this article. Thus, a case overview in an Excel spreadsheet was created for each interview, and for each topic a matrix was used as a template for comparing the individual cases for evaluation. Due to the strong orientation towards the structure of the guide in the coding process, there was little susceptibility to different category systems and coding by different researchers. Nevertheless, we checked this by using consensual coding (Hopf & Schmidt, 1993; see also intercoder agreement following Mayring, 2014). Since the discrepancy between the two codings was very small, the procedure was continued with a consensual category system by a single person. In summary, our study meets the quality criteria according to Mayring (2016) up to the point of triangulation.

5. Definition of Media and Journalism Literacy

In contrast to the very similar target groups of the different projects summarized in Table 1, the various understandings of media literacy differ more widely from one another. Here, media literacy is the correct term as definitions cover a broad spectrum from relatively loose to explicitly mentioning Baacke (1996). National Daily Newspaper (NDN) 1 and Public Service Broadcaster (PSB) 2 referred to the latter, each emphasizing one skill in particular: "Developing one's own writing talent" (interviewee [IV] 1.1, NDN 1) as an aspect of media creation and ethical competence, which IV 4 (PSB 2) considers "not sufficiently represented in [Baacke's] model." Along with IV 3 (PSB 1), she is the only one who, in addition to media literacy, also specifically talks about news media literacy, which "is becoming more and more central." Definitions of media literacy by PSB 1, NDN 2, and Local Daily Newspaper (LDN) 2 also closely resemble Baacke's (1996) model. However, the experts from these media organizations mainly mention the skills of media criticism, media knowledge, and media use in their definitions. But despite not being explicitly mentioned in the interviews, media creation plays an important role in their projects. Nevertheless, IV 3 (PSB 1) emphasizes that "the focus is on content, not technology." IV 6 (LDN 2) further stresses: "Students should develop a feeling for sources and learn to distinguish serious, independent information from subjective assessments." How to evaluate information and sources is also very important to LDN 1. Thus, they focus primarily on media criticism, media knowledge, and media use. Media design plays a subordinate role, which is related to the project's target group of children in kindergarten and elementary school. In LDN 3's definition of media competence as well as in their project, the ability to design media does not play a key role either.

6. Project Implementation

The journalism literacy projects can be analyzed on a conceptual and a content level. Conceptually, most of the projects' modules can be attributed to journalistic media education on journalism. All media companies offer teaching material as well as free access to their news content. Typically, editors visit schools as part of the projects. At LDN 2, the PSBs, and NDN 2, classes can also visit editorial offices. The NDNs as well as LDN 3 offer advanced training options for teachers. PSB 1, in addition to frequent teacher trainings, offers a special two-year training to become a media expert that is recognized by the Ministry of Education. These "teach the teacher" modules can also be categorized as journalistic media education on journalism.

Regarding education via journalism, producing one's own content is also an integral part of the projects by both NDNs, both PSBs, and LDN 2, where students can create Instagram stories with a social media expert during newsroom visits. While NDN 2 and LDN 2 are particularly positive about students producing their own content, IV 7.1 (LDN 3) criticizes that writing one's own article is not necessary to properly understand how to use media. In his opinion, "the obligation to write articles does not lead to good content, but rather stresses teachers and editors."

While at NDN 1, the newspaper serves "as a day-to-day textbook" (IV 1.2), "which is supporting the formation of opinions and interest in democracy, society, and politics" (IV 1.1), there is no special pedagogical content. No expert mentions fact checks in newspapers or media journalism as didactical elements of the literacy projects.

In summary, the project approaches can therefore be assigned to journalistic media education on and via, but not in journalism according to the model by Jaakkola (2020).

In terms of content, the projects are very similar, showing a clear canon of what media companies want to convey to students and teachers. Here, five topics stand out. First, all media companies try to explain the role and structure of their own medium. Second, all projects focus on journalistic genres. According to IV 6 (LDN 2), "it is nowadays very important for children and adolescents to learn to distinguish informatory and commentary formats." In the project Schule & Zeitung (School & Newspaper, NDN 1), students also deal with the formation and shaping of opinions. In terms of content, except for LDN 1, experts of all other projects talk about journalists' work and strive to make it more comprehensible. For IV 2 (NDN 2), "more knowledge about the journalistic profession is needed for a realistic assessment of what journalism can achieve in society and where its limits might be." IV 1.3 (NDN 1) stresses that journalists "need to build trust by explaining how they work, how they research and edit, how they check facts and how they decide what to publish and how." According to IV 3 (PSB 1), this often leads to an "aha-moment," both for students and teachers, which illustrates the need for such projects and confirms the results of the study on German teachers' journalism literacy (Institut für Demoskopie Allensbach, 2020). The fifth central topic is the question of what so-called fake news is and how it can be recognized or prevented. Except LDN 1, whose project is aimed at kindergarten and elementary school children, each of the six media companies addresses this topic. LDN 2, for example, teaches what reputable and independent sources are. NDN 2 and LDN 3 want to instill a healthy skepticism in the students' minds towards dubious sources, as IV 2.1 says: "Use your own head, don't believe everything. Nevertheless, try to use sources that have proven to be trustworthy over a longer period and trust them more than others." To be able to distinguish reputable and untrustworthy ones, practical exercises are part of the teaching material of LDN 3.

In addition to these main topics, projects are also devoted to other current issues. PSB 1 and NDN 1 offer information on extremism and hate speech, while

all three LDNs compare different media with each other. These topics, however, are overall rather marginal. Nevertheless, IV 5.3 (LDN 1) emphasizes that "it is important to keep the projects up-to-date and to develop them further to remain in the target group's focus" and thus guarantee a high level of participation.

While our study as well as media companies' offers clearly focus on school projects, both PSBs, NDN 1, LDN 2, and 3 also offer limited modules for other target groups like seniors, e.g., in cooperation with adult education centers.

7. Sense of Responsibility

Two types of feeling responsible can be identified: role responsibility as a journalistic entity, and task responsibility of media as the fourth power in a democracy. The latter is especially important for both PSBs, as they feel obliged by law to fulfill the educational mandate laid down in the Interstate Broadcasting Treaty (Rundfunkstaatsvertrag). PSB 1 adds that this is also demanded by the audience, citing the ARD acceptance study from 2018 which found that it is important for around three-quarters of Germany's population that ARD teaches media literacy (ARD, 2019).

PSB 1 and NDN 1 also address the sense of responsibility arising from the media's social task of promoting participation in political discourse. The latter (IV 1.2) stresses its responsibility "in times of influencers, disinformation, and conspiracy theorists to help set the course for the future of democracy as only those who know how and where to obtain serious and well-founded information can have their say."

However, for the NDNs three areas of responsibility emerge that apply primarily to private-sector media companies not bound by the Interstate Broadcasting Treaty. First, the responsibility of individual journalists as experts in their field is to inform, explain, and pass on their knowledge. Second, media companies "should create transparency about their work and thus promote media literacy much more than ever before," as IV 2.1 (NDN 2) notes. Third, responsibility arises from the self-perception of the respective media companies. Thus, LDN 1 and 2 refer to their role as a trustworthy medium that must contribute to journalism literacy, NDN 1 from its role as a leading and high-quality medium, and LDN 3 and 1 from their role as regional daily newspapers. The latter explains this primarily with the high reach in their respective regions as well as the proximity to their users.

8. Motivation for the Projects

According to IV 5.2 (LDN 1), "the project serves an educational purpose first and foremost, not only a promotional one." IV 6 (LDN 2) admits, however, "We are a commercial enterprise. Of course, we hope that this project will introduce young people to our range of products and services." These two statements show that journalistic media education projects are neither solely motivated extrinsically nor intrinsically. Both NDNs, LDN 2, and both PSBs teach media literacy because they want to explain quality journalism and thus also create transparency. Except for PSB 2, the interviewees also specifically talk about enabling citizens to participate in political and social discourse. A third intrinsic motive is mentioned by NDN 1 and LDN 3 wanting to train teachers as mediators of knowledge in the field of media literacy to reach many and not just a few classes.

However, these intrinsic motives are often linked to extrinsic ones. This means attracting new readers, which all three LDNs cite as a motive. While IV 6 (LDN 2) is optimistic, even though not every student would become a future subscriber, IV 2.1 (NDN 2) is more pessimistic and therefore speaks of "a more general economic interest in keeping young people aware that newspapers still exist." Both NDNs and LDN 1 and 2 aim to present and position their brand. Another relevant extrinsic motive is to maintain, establish or regain trust, which was mentioned by PSB 2, NDN 2, and LDN 3. After all, "less trust automatically means fewer readers," says IV 2.1 (NDN 2). A final extrinsic motive according to both NDNs, and LDN 1 is the promotion of reading skills and pleasure. Of course, one could also argue that this motive is an intrinsic reason for the media companies, just as promoting civic literacy is one. However, reading is obviously a prerequisite for consuming daily newspapers, so there could be several motives at work here. For completeness' sake, the above-mentioned legally prescribed educational mandate that both PSBs must fulfill is also an extrinsic motivation through negative reinforcement.

Despite the opportunities that arise with the projects they also create various mainly organizational challenges, e.g., time constraints due to the curriculum and sometimes a lack of motivation of the teachers making cooperation difficult (LDN 2). But "teachers are indispensable as mediators," says IV 7.1 (LDN 3), because "journalists only have limited time for the projects," as mentioned by IV 3 (PSB 1). IV 2.1 (NDN 2) adds, that "parents sometimes suspect a promotional event behind the projects."

Nevertheless, media companies are sticking to their projects. Their motivation clearly goes beyond extrinsic motivations. None of the respondents regards journalism literacy projects of their direct and indirect competitors in the media market as competition. They are rather seen as a joint response to challenges for the entire industry: "We are all in the same boat," emphasized IV 6 (LDN 2). According to PSB 1, there is after all a very high demand for such initiatives. It is therefore also helpful to share ideas with other projects, since "everyone can learn something from another" (IV 5.1, LDN 1) and "we will achieve more together…than if everyone works alone" (IV 1.3, NDN 1). The latter is therefore calling for more cooperation that goes beyond exchange, e.g., collaborations with federal media institutions, public organizations, or tandems with universities

and communication scientists. The latter could talk about journalism on their own, but also provide scientific background and evaluate and possibly improve journalism literacy projects. This is a clear appeal to researchers in Germany to participate in such projects and to become active in journalism literacy education not only in academic contexts, as Morris and Yeoman (2021) have already called for in the UK. Or as IV 2.1 (NDN 2) says: "The more participate, the better."

9. Conclusions

In summary, the research questions can be answered as follows: Journalism literacy projects in Germany are primarily aimed at students and their teachers. The services offered mostly focus on journalistic media education on journalism, ranging from educational resources, free news content, and visits by editors to further training for teachers and visits to editorial departments. Some of the media companies further use education via journalism by students producing their own content while others explicitly oppose this approach. Journalistic media education in journalism does not play a role within our sample.

In terms of content, the projects mainly provide information on the respective medium as well as on journalistic work practices, journalistic genres, and disinformation. This finding is in line with Lilienthal's (2022) research, although he adds that students are more interested in learning about social media, criticizing the lack of focus on how journalism can be an integral part of young people's lives.

Media companies' sense of responsibility results primarily from their role in the media industry, a task responsibility as the fourth power in a democracy, or the social task of promoting participation in political discourse. The motives behind the initiatives are neither exclusively extrinsic, e.g., to attract new audiences, nor solely intrinsic, as in teaching civic skills. Rather, there is an interplay between the two motives. These findings support Jaakkola's (2020) assumption that journalistic actors have three goals: promoting the legitimacy and authority of journalism, attracting new audiences, and enabling democratic participation.

The projects' organizational implementation is sometimes difficult, mainly due to insufficient resources and teachers' lack of motivation to register their classes for such projects, showing that some problems described in the mid to late 2000s (Durner, 2009; Spanhel, 2005) are still existing today. Among the teachers that did register their classes for cooperation with media companies, Lilienthal (2022) found them and their students to be pleased with the projects and overall feeling that their knowledge had increased while journalists were more skeptical regarding the projects' success. In contrast, our interviewees praised the opportunities of journalistic media education in our study: Gaining trust and countering disinformation are just two examples. Finally, the fact that none of the experts sees the other projects as competition but rather as enriching for students and society shows the projects' perceived importance and suggests that industry-led journalism literacy education seems to be boundary work in journalism. In encouraging and agreeing with each other, media companies redefine what journalism is, including supporting educators in promoting journalism literacy.

This refers to the metajournalistic discourse on what journalism is and what it is not as conceptualized by Carlson (2016). He identifies three types of interpretative processes, including a shared language of definitions for different actors, practices, or products, boundaries that come into play when actors debate appropriate and inappropriate journalistic topics, actors, practices, norms, etc., and lastly journalistic legitimacy, discussing why news deserves attention and therefore concerning the authoritative base of journalism. Journalistic media education concerns two of these areas. First, Jaakkola (2020) argues that it is a type of inclusive boundary work, lifting barriers between what journalism is and what it is not by providing non-journalists (in this case students) access to journalistic resources, including, e.g., journalists' time, knowledge, experience and more. Second, stressing the boundaries between (one's own) high-quality journalism and low-quality- or non-journalism is an important distinction for media companies regarding debates about their authority and legitimacy in times of disinformation and so-called alternative news sources (Carlson & Lewis, 2019; Nygaard, 2020).

Nevertheless, in line with Lilienthal (2022), Jaakkola (2020), and Kakkola (2009), this study shows that media companies cannot and do not want to be the only ones responsible for teaching journalism literacy due to the various challenges mentioned above, including a misfit with journalists' professional identity, the irregular nature of the visits, and the lack of journalists' pedagogic expertise. To date, "teach the teacher" programs are the most popular approach for media companies supporting, but not becoming educators. As our experts did not necessarily have to be journalists but rather experts for the projects, we could not assess journalists' role identity regarding the role of educators.

While media companies already offer a broad spectrum of education on journalism and some also educate via journalism, journalistic media education in journalism still seems to play a minor role. Pedagogically valuable journalistic content like background explanations of journalistic stories, media criticism, or in-house fact-checking offers the potential to broaden journalism literacy education, especially as this approach reaches audiences beyond students.

Our goal in this study was to analyze journalism literacy projects by news media companies. Nonetheless, most of the experts referred to their projects as focusing on media literacy. While both public service broadcasters explicitly referred to Baacke's (1996) definition of media literacy, they were also the only ones differentiating

news media literacy from media literacy. The other interviewees used the general term media literacy despite their projects clearly targeting journalism literacy. This discrepancy in terminology further underlines Jaakkola's (2020) point of consistently referring to journalism literacy when talking about the subdimension of media literacy focusing on news content.

Although these results offer an exciting insight into an under-researched topic (Lilienthal, 2022), they can only be an initial snapshot. One limitation of the study is its explorative and qualitative character, which does not allow for conclusions to be drawn about all journalism literacy projects conducted by German media companies. In addition, the study's results are based solely on information provided by experts with social desirability effects being possibly present, particularly regarding topics like feelings of responsibility and motivations. Therefore, follow-up studies are strongly recommended. For example, quantitative content analyses of project websites and teaching materials as well as quantitative surveys of those responsible for the projects would be useful to obtain an overview of these kinds of projects throughout Germany. This also includes following up on the discussion on the boundaries of journalism by investigating the relationship between journalists' role conceptions and their educatory tasks. It would also be interesting to learn how media companies fund such projects and, above all, how successful they ultimately are in teaching journalism literacy.

Despite these limitations, the study offers a first interesting glimpse into the German media's commitment to promoting journalism literacy among students in Germany, striving to strengthen resilience against disinformation and enable democratic participation.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Accessing to a "Truer Truth": Conspiracy and Figurative Reasoning From Covid-19 to the Russia–Ukraine War

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Abstract
This research hypothesizes that all conspiracy theories have dominating isotopies and images-symbols regardless of ideology or context. As a result, I hypothesized that the common denominator might be discovered in figurative reasoning, which means using the same representations to explain current events, in order to detect an ideal center of the semantic universe of conspiracy where the diverse conspiracist fringes converge. Social media invariant topicalizations of the Covid-19 epidemic and the Russia–Ukraine war are the ideal field to validate this hypothesis. The corpus on which the study was conducted consists of thousands of online items published between February 15, 2020, and October 15, 2022. Within the corpus were chosen posts by QAnon supporters designated as disinformation "superspreaders."

Keywords
conspiracy; Covid-19; figurative reasoning; QAnon; Russia; semiotics; Telegram; Ukraine

Issue
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1. Introduction

This article continues researching conspiracists' social media representations of the Covid-19 pandemic (Pezzini & Terracciano, 2022). This study aims to chart the phenomenon of "selective negationism," or the manipulation of events based on an exaggerated fear of change and a need to maintain the status quo. The research confirmed the initial hypothesis regarding dominant isotopies and images-symbols cross-cutting all conspiracy theories, independent from ideological or contextual specificity. In semiotics, isotopies correspond to redundant semantic categories that provide narrative coherence and consistency as the prevalence of the theme of secrecy in conspiracy theories. The term "conspiracy theory" refers to a set of mental and emotional attitudes aimed at discovering adequate explanations for the happenings in the world by concentrating on the reconstruction and revelation of the evil plots carried out by influential people (Douglas et al., 2019). Conspiracy theories exist semiotically in the form of actualization, whereas actual conspiracies, such as the Watergate scandal, are their actualization (Uscinski, 2020, pp. 22–27). Conspiracy theories are "unproven stories told as truth" (Bergmann, 2018, p. 6), in which the activities of the wealthy and powerful have a negative connotation. These stories have a stable structure that makes them credible, containing recurrent figures of the conspiracy discursive configuration, such as the evil plan and secrecy (Byford, 2011, pp. 71–94). The category of secrecy underpins conspiracy narrative relations in which truth values are decided by refutational patterns (Oswald & Herman, 2016, p. 297) articulated with short, clean implicatures to lessen the intricacy of the events narrated based on post hoc fallacy (Prochazka & Blommaert, 2021). Using Marin's words, the secret is the present effect of meaning of a past state with a negative connotation (Marin, 1984).

Secrecy equalizes differences and distinguishes similarities. Conspiracists spread stories to convince the public that conspirators such as Bill Gates use secrets as weapons and sources of power, but they also employ secrets as a source of credibility. Conspiracy theories imply a narrative rhetoric called by Marin (1984) "reality

that overdoes the fiction." If, continuing with Marin, in every conspiracy story lies the uncovering of a secret, then what matters is the discourse structure, which causes individuals to believe through accurate descriptions of things. Secrecy is a way to communicate that gives the impression that the person receiving it has unique access to information. The possession of a secret confers power over others who disregard the truth. Thus, it is a form of tactical polemology arising from the manipulation of the signs viewed as reserved powers, which consists in continually displacing the center of the discourse itself, which equates to destroying it. To demolish rather than deceive. This is why conspiracism is essentially a method of perceiving the world, a paranoid attitude of individuals who believe they possess the truth and refuse to accept contradictions (Hofstadter, 1964; Uscinski, 2020, 27).

In this article, an attempt will be made to determine whether there is a general property in the similarities and associations that lend credence to conspiracy theories, as well as to construct a theoretical object that explains the phenomena investigated in image-symbols recurring in discourse. However, given the various perspectives that characterize semiotic theory, it is vital first to define what symbol means. According to Saussure (1916/1986), the symbol must be interpreted unambiguously in a specific socio-cultural context, but it does not constitute a system. Saussure contrasts the sign to the symbol because, in the latter, he detects a sensible dimension between signifier and signified that is not arbitrary because it is founded on a natural and social correlation (cf. Fabbri, 2019). Peirce (1903) states that the symbol represents an arbitrary social convention, as opposed to the icon, which defines a similarity between representamen and object. The Peircean icon is essentially the Sassurean symbol. Hjelmslev (1943/1961) refers to symbolic systems as diagrams and games and includes all interpretable but non-biplanar structures, like representations or emblems, such as the hammer and sickle symbol of communism and the scale as a symbol of justice. In the words of Eco, the symbolic of Saussure and Hjelmslev is guided by a procedure per *ratio difficilis*, modeled on the abstract type of content (Eco, 2019). Conspiracy theories are governed by *ratio difficilis* because they alter the plane of expression of events to generate hypotheses regarding their veracity, redefining the plane of content. Conspiracy theorists tend to over-signify or amplify the implied significance of a sign's associations to support their ideas in a way that stretches beyond their literal meaning. In the context of conspiracy theories:

> A symbol retains its invariant nature through time, yet on the other hand, a symbol correlates actively with its cultural context, is transformed by its influence, and transforms itself….Thus, symbols and texts important for the audience here fulfill the function of collective cultural memory. (Madisson & Ventsel, 2020)

Eco (2019) investigates the different concrete uses of the term "symbol," concluding that no fixed nucleus of signified can be established. Eco prefers the semantic-pragmatic attitude that should be called "symbolic mode" over the symbol. This activity organizes the complexity of experience into content structures corresponding to systems of expression that make "incomprehensible" events thinkable and communicable (Eco, 2019, p. 45), just like those shown in conspiracy theories or those related to unjustified war killings or the persistence of Covid-19.

The symbolic mode describes how texts are made or interpreted, and it requires an invention applied to recognition. For example, a sign-function is given to an event related to the Russia–Ukraine war, which is seen as a projection that realizes some properties of the content plane per *ratio difficilis*. The symbolic mode is an intentional way of interpreting how text and signs connect original approaches to stable expressions (e.g., Nazi signified attributed to the symbol of Ukraine). The symbolic mode of current conspiracy theories relies on figurative argumentation or figure-based reasoning that transforms beliefs into truth (Fabbri, 2003). Figurative argumentation is a component of the traces that enunciation leaves in the text as certain textual tactics of secret doing (Fabbri, 2020). The ultimate purpose of this research is to catalog the various sorts of figurative argumentation that link the Russia–Ukraine war to the evil plan underpinning Covid-19.

1.1. Methodology

This study focuses on the "presidential" conspiracy theory trend that emerged in 2016, the year of Donald Trump's election as US president and the introduction of "post-truth" as the *Oxford English Dictionary*'s word of the year (Butter, 2022; Demata et al., 2022; Rosenblum & Muirhead, 2019). Based on the premise that "conspiracy theories are essentially social constructs" (Butter & Knight, 2015, p. 26), the research seeks to examine the associative and figurative mechanisms driving the connections between events of the economic, political, and social relevance of our day. Consequently, the analysis relies on a semiotic methodology that identifies the discursive invariants of persuasion deployed in the argumentation of conspiracy theories. In this context, discourses are meant to be understood in the same way that Foucault (1972) did, as generated by the historical conditions and practices of a given time.

I applied a proprietary methodology of analysis called "semioptics" (our neologism), which can be imagined as an infinite chain composed of adaptable links capable of networking and strengthening with other scientific disciplines. The starting point of the semioptics method is the generative trajectory of meaning theorized by Greimas (1966), chosen for its usefulness in selecting figures and topics through which values and semantic categories manifest themselves in discourse. The generative

trajectory of meaning is a vast translation procedure, from the simplest to the most complex, from the abstract to the most figurative. Greimasian semiotics offers tools to analyze the construction of emotion and effects of meaning in various types of text, verbal, visual, and syncretic; thus, it is well suited to the characteristics of post-truth discourses. Truth is an effect of meaning, the outcome of a series of text construction that constitute its relevance and credibility. In that case, it is, therefore, necessary to analyze the narrative mechanisms to trace its profound articulation. The semioptics method combines the semiotics of texts with other approaches like Eco's (1992) theories on overinterpretation and misinterpretation or semiotics of culture.

Hence, we can confirm an ideal core in the semantic universe of conspiracy where pockets of unique thought converge, a holistic vision of global events based on figurative reasoning that encompasses the precise norms of meaning generation articulating a particular discursive universe with representational clichés comprehensible only with a common background.

Conspiracy theorists twist any occurrence into a story by rewriting the chain of causality to support their claims. They do this by autonomously establishing a comprehensive and integrated layer that yields figurative reasoning to defend the beliefs (cf. Fabbri & Marrone, 2001, p. 144). Whether the primary focus is on real-world events or fabricated stories based on those events determines the level of figurative intensity in our corpus, which runs the representation of facts from medium (figurative) to high (iconic). The use of figurative thinking demonstrates that the proof of the hypothesis does not follow scientific methods like abduction, deduction, and induction. Instead, the demonstration of the hypothesis relies on analogy and the limit extension of the signified (catachresis), like the impromptu association of two different crosses and their symbolizations to accuse Zelensky of being Nazi.

After looking at how the same types of figurative reasoning were used over and over during Covid-19, we noticed that the same thing happened in the conspiracy discourse about the Russia–Ukraine war. The recurrence of figurative reasoning backs up the analysis structure and shows that conspiracists use the same categories to classify events, no matter the context or specific implications.

The main delegated enunciators of conspiracism, those who embody the value system and are in charge of spreading it and connecting the events scattered around the world, in every space and time, need to reach as many people as possible in order to spread the absolute truth, but they need a platform that guarantees anonymity and little chance of interference seen as censorship. The history of Twitter, both before and after Elon Musk, shows that social media is the ultimate playing field (see also Donald Trump and Kanye West), and ensuring "freedom of opinion" is vital to preserving the pursuit of agendas. Freedom of speech is why conspiracists favor Telegram, and for this phase of the study, the choice was to focus on specific QAnon channels.

The screening of Telegram channels began with the search engine query "QAnon," to which other pertinent channels were added over time after they were individuated through participant observation. Telegram channels were monitored from the start of the Russia–Ukraine war to October 2022. Channels were chosen in English and selected by the number of subscribers. First, the most subscribed Telegram channels were sorted out among those thematized by QAnon theories, then the most visualized posts regarding the Russia-Ukraine war characterized by redundancy across channels were picked. In fact, the same text is often reposted and forwarded to different channels. The Telegram channels selected in alphabetic order are: BioClandestine (113,469 subscribers), QAnon Warriors (65,684 subscribers), QAnon Fighters (62,100 subscribers), The Donald (54,100 subscribers)—Trump's secret Telegram channel, probably fake—and ULTRA Pepe Lives Matter (210,652 subscribers).

The QAnon movement is seen as a possible terrorist danger in the US and is also becoming a social stigma in Italy, where it has impacted those already vulnerable due to the epidemic. Furthermore, QAnon's statements are distinguished by attributing all global occurrences to deep state schemes.

1.2. When Freedom of Speech Falls Short, Go on Telegram

Telegram had a boom in subscribers during the pandemic and with the shutdown of US social media and TikTok in Russia in February 2022. In order to have a better understanding of the reasons for its late propagation, it is essential to summarize its history and main features, which bear in its construction the *seme* of politicization.

Telegram is an instant messaging service with freemium, cross-platform functionalities that was created on August 14, 2013, by Russian brothers Nikolai and Pavel Durov. Nikolai, a mathematics prodigy, created the MTProto Protocol, open source from the start, while Pavel, a philologist, oversaw the app's strategic and financial aspects. The Durov brothers are the founders of Russia's first social network, VKontakte, or VK, which has been online since 2006 and has similar functionality to Facebook. Unfortunately, it became an object of interest to the Russian government, which claimed control over it. After eight years and relentless abuse, the Durovs decided to leave VK and Russia in 2014. One of the factors that caused Durov to leave Russia seemed to be the request to send personal data of Ukrainian dissidents to Russia's security agencies and to block Alexei Navalny's page on VK, which was flatly refused. As a result, Pavel Durov is known as one of Putin's biggest adversaries. After leaving Russia, Telegram wanders the globe, stopping in St. Kitts and Nevis (where the Durovs first became citizens), Berlin, and, most recently, Dubai.

Telegram is currently used by the Russian government, Ukrainian supporters, and conspiracists.

The distinctive characteristics of Telegram include Secret Chats with self-destruct timers, which make the privacy of communication the main attraction for users. Secrecy makes Telegram the app of choice for conspiracy organizations, paradoxically conservative and Putinist, because it is more difficult to block accounts than Twitter and Facebook. Despite Telegram's efforts, which actively deletes terrorist and Nazi content, it is relatively easy to get into conspiracy channels.

On the technical side, secrecy is assured through an auto-delete timer set to wipe messages 24 hours or seven days after they are sent. As a result, group administrators can remain anonymous, making them tough to track down and their posting activity. Because anonymity and secrecy increase the risk of fake news, Telegram offers a simplified verification process based on having verified accounts on other social media platforms. It is obvious that conspiracy groups are not verified.

The broadcast mode was added in 2014, but it was replaced in 2015 by channels, increased accounts with limitless followers, view counters for each post, and the possibility for just administrators to post. Given the one-way nature of the conversation, it can be classified as broadcast. The emphasis is on continuous updates, with the debate in the comments. According to Telegram's website, "channels were swiftly accepted in regions where freedom of speech falls short." So, the *raison d'être* of the channels is to report a state of affairs that gives access to the reality of the facts.

Forwarding posts from one channel to another is a tactic for gaining a following. Shared posts have a recurring pattern because they are created not only for exclusive sharing on the Telegram channel but also to be forwarded to other channels, so they have a formula such as "Join" plus the emoji of the finger pointing to the channel link placed on the line below, added to visual and verbal text about an event, news, or opinion. Disseminating posts in other channels is a form of enunciative concatenation, which is an assemblage of voices linked by a common cause and intertwined by repeated and serialized quotations and references (see Paolucci, 2020, p. 244). In fact, upon closer inspection, channels labeled with words that everyone knows are the gateway to those where the most confidential information is circulating, which are named in a more complex way and thus cannot be accessed by a simple query in Telegram's search engine, so they are restricted to insiders.

The Anons, QAnon's followers, use digital tools and social media to expose the deep state's plans to the world. In order to counteract the widespread censorship of online platforms, groups have resorted to strategies like significant content diffusion. For instance, after its Twitter accounts were repeatedly shut down for spreading false information, the BioClandestine channel was launched on February 24, 2022, when the Russia–Ukraine war began. Switching to Telegram is essential to avoid being "censored," with sporadic forays onto Twitter to snag new users. In practice, Anons switch back and forth between drumbeat dissemination on Twitter, which is a platform that indexes conversations through the use of hashtags and subjects that are currently trending, and continual updates on Telegram, which is described as "a good tool to gather and spread information" (BioClandestine, October 18, 2022). Therefore, the forms of expression are structured to be shared via the instant messaging application and social media. The ethical dilemma, however, is more acute now than ever before because of the paradox that indestructible bubbles often engulf inexperienced, impressionable followers. There is a renewed focus on the issue of free expression online because of the advent of social media platforms like Parler. Which limits, if any, can be placed on the right to free speech under the constitution? The topic is brought up once more concerning Musk's Twitter and the "content control council." Parler has existed since 2018, but it was not widely known until 2020, when its popularity skyrocketed to 20 million users attributed to the pandemic and the forthcoming US presidential election in November 2021. Parler markets itself as the "premier global free speech app," where only illegal activities, child pornography, and illegal narcotics are blocked.

Nevertheless, precisely what qualifies as an illegal activity? Is it not illegal to plot a violent uprising, a sort of coup d'état? The act of promoting violence and taking advantage of people whose minds have been impaired by Covid-19?

Parler was accused of being actively involved in the attack on the US Congress on January 6, 2021, as the place where such activities were coordinated and organized. Twitter itself had the evidence left by one of the victims, Ashli Babbit, but demonstrated limitations of social media monitoring, especially regarding regular people. With Trump's account suspension and the concomitant dissociation from tweets about the event, Twitter attempted to make amends.

On Telegram, whoever desiring to "speak directly to the 'ordinary' people without having their words twisted by…corrupt bureaucrats or journalists serving the elite" plays "on simplification and emotionality" (Bergmann & Butter, 2020). In this scenario, Telegram seems to be the platform for proselytizing outside bubbles and pursuing free speech.

2. A Typology of Conspiracy Figurative Reasoning

The corpus was analyzed using a custom grid to be applied to all posts, independent of genre and channel. The first item of interest in the grid concerns the definition of context, namely the external causalities that led to the publication of the content. External causalities are ideologies, alternative information strategies, or counter-information, paired with internal causalities related to the specific semiotic system of representation and the code characterizing the text.

External causalities involve a social right mobilization effort against Joe Biden and the Democrats as members of a deep state whose ultimate purpose is to impose the new order. The deep state is a fragmented group of persons led by Bill Gates and supported by Rothschild bankers, the Vatican, and Hollywood celebrities (the latter two accused of pedophilia), as well as numerous personalities classified as antagonists in line with the top of the media agenda of the time. In terms of global mobilization, every far-right conspiracist theory has a common discourse topicalization; for instance, QAnon, which began as a small US-based conspiracy fringe, now has significant international dissemination. QAnon's influence in Italy increased during the March 2020 lockdown, which, and several journalistic investigations have reported its spread not only in English-speaking countries such as the UK and Australia but also in Brazil, France, Germany, or even Japan, where sects historically root quite well (Pezzini & Terracciano, 2022).

In addition to sociopolitical localization compatible with the constraints of each country, the Anons' utterances are transnational and similarly topicalized. Recurring themes are resentment toward wealthy elites, anxiety for safety paired with the perceived need for self-preservation, and concern over losing fundamental civil rights. Themes like 9/11, 5G, Covid-19, and the war between Russia and Ukraine are the four modern triggers that set off the chain of events. The events of 9/11 fuel xenophobia and sovereignism while reigniting curiosity about government secrets. Survival is jeopardized by the unpredictability created by alterity, which is also an issue with 5G and Covid-19, but here the attack is on health, and it has as a counterpart the restriction of civil liberties with mandatory masks and vaccines (cf. Demuru, 2022).

The present phase of "plandemic"—namely the deep state's strategy of world domination directed by Bill Gates, which started with Covid-19—is the war between Russia and Ukraine, which is about economic and energy deprivation. So, first, there is mental deterioration (terrorism), then physical disease (pathogens), and finally, monetary loss (consumption and inflation). The issue is that people are compelled to infer a relationship between these events, a universal Deus ex machina. On June 14, 2022, ULTRA Pepe Lives Matter channel claimed that the war between Russia and Ukraine is the second part of the "plandemic" organized by Bill Gates (implied reference) and Putin helped avert a bacteriological catastrophe (Figure 1). The post also envisions an alliance between Trump, Putin, and Xi, who go from planetary opponents to silent heroes. The source of the information from which this reflection arose is the Bioclandestine channel, part of the research corpus.

The systemic perspective of conspiracists acts like a form of reverse prophecy by looking to the past for explanations of the present. Eco (1992) describes this phenomenon as the "secrecy syndrome," the false idea that revealing confidential information grants an advantage. The Anons use the Streisand effect, which corresponds to individuals' automatic reaction when something is forcibly hidden or restricted, causing them to become more aware of the information in question, typically through the web and social media. The name is credited to star Barbra Streisand because her attempts to remove a photograph of her Malibu cliff-top property from the California Coastal Records Project in 2003 aroused attention to coastal erosion, resulting in a public case.

As Paolucci (2017) points out, for Eco, no key can give access to comprehensive knowledge because it is composed of a patchwork of local expertise acquired through labor and conjecture. However, a conspiracy develops by assigning a single meaning to unrelated occurrences. Therefore, one must be cautious of one-size-fits-all explanations, which are always wrong, and emphasize enunciation rather than utterance, which affects how things are described and their communicative construction. The ability to appear objective is a rhetorical trick that may be executed with the help of specific language and aesthetic tools applied to the art of storytelling.

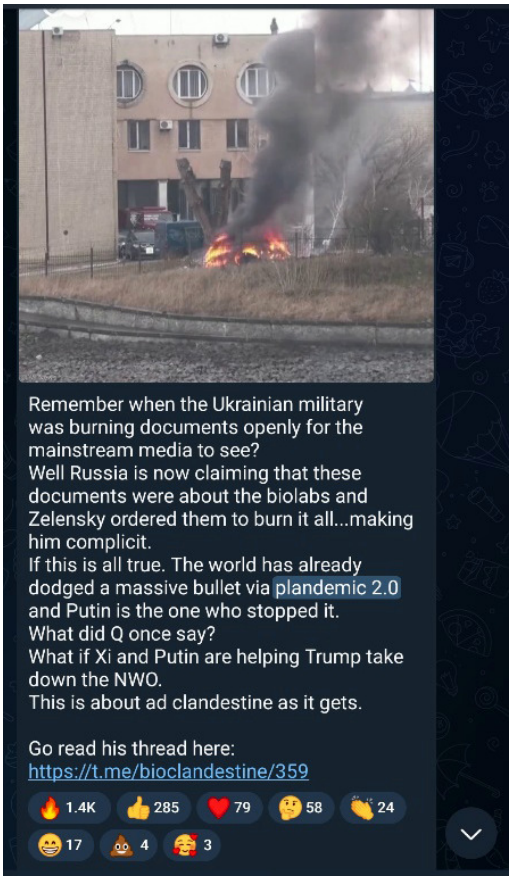

Figure 1. ULTRA Pepe Lives Matter: Ukrainian documents are burning.

By demonstrating the connection between narrating and showing, Paolucci demonstrates that enunciation—whose etymological origin, *ex-nuncius*, means "to send a messenger"—is defined by the subject with the creative

obligation of transmuting subjectivity with objectivity. Then showing "the truth" of facts takes on different tones if it is Q speaking rather than Trump or other actual "prophets." The search for a single global and "glocal'' meaning has its emotional roots in the passion of mistrust, which bears a seme of skepticism, particularly regarding the sincerity of politicians. When the governors' reasons are vague and inconsistent, common sense looks elsewhere to the "signs" that confirm a malicious plot. After all, even if the premises are wrong, the sign is still connected to the structure of the real object, and it is observable in the same way as Obama's photographs taken in Ukraine or the symbols printed on Zelensky's t-shirts are.

Several times, Zelensky has been spotted in uniform, a military green t-shirt bearing the Ukrainian trident or armed forces cross, which has been "mixed" by haters with the iron one, a Nazi military insignia, and presented as proof in favor of the Putinian thesis of the denazification of Ukraine (cf. Pezzini, 2023). Officially, the Ukrainian trident is the symbol of a modern nation that looks back to its heroic history, as described on the website *ukraine.ua*. In the 10th century, Prince of Kyiv Volodymyr the Great popularized the usage of the trident as a sign of authority: *Nomen omen*. The trident, considered excessively nationalistic by the Soviets, became the de facto coat of arms of independent Ukraine, and now it appears in the Ukrainian ministry of defense logo, an equilateral cross with crimson divergent sides. Ukrainian trident was the subject of an ex-post parallelism that had QAnon supporters deciphering one of the hints disseminated by Trump while he was in office. When asked at a press conference about the origin of Covid-19, Trump held up three swabs and answered, "Chy-na." Considering recent events in Russia and Ukraine and the exposure of US-funded biolabs, Anonymous members deduced that "Shpyl'chyna" was not a mispronunciation but rather the name of a town in Ukraine close to Lviv and that this was likely where the deep state developed the virus.

Following the *divide and impera* strategy but applied to the real force at play—the dominant narrative—QAnon and its prophets dissect information to awaken the population. Stories convert, so much so that the deep state's dominant narrative crumbles with the addition of each jigsaw piece to the Great Awakening Map, the system of spatio-temporal links that determines the condition of the entire globe. The dominant narratives are the same for all media outlets, conspiracist or not; the signifieds attributed and the meaning conveyed vary. Conspiracy theories are like a prism that selectively filters data. In particular, the Great Awakening Map summarizes Q and the Anons' philosophy of the world, providing meaning to things (an *encyclopedia*, the shared knowledge of a group, as Eco would put it) by showing that all facets of human history are interconnected.

The structure of the posts is fixed and comprises visual or audiovisual text and verbal commentary. The images or videos should validate the claims or activate the emotional and sensible dimensions of the enunciatees. The statements are made to seem more credible and truer, thanks to the visuals that accompany them. It is essential to distinguish between the alethic (modes of true and false possibilities) and epistemic (certainty) categories while trying to understand the enunciatee's act of believing. Because they are often seen as an unvarnished depiction of reality, images lend credibility to the information they carry by reducing any "degrees of ambiguity" associated with the messengers. By employing figurative logic, they make connections and inferences that stimulate critical thinking (Bertrand, 2002).

The visual text, whether a comic strip or an out-of-context illustration, helps to emphasize the point by encouraging a simplistic interpretation of online content. As part of a strategy to grab the attention of potential enunciatees, the use of visual or audiovisual content, or even just emoji, distinguishes a social media post from the majority of the feed. Video and pictures recall contextual, cultural, rhetorical-argumentative, and dictionary meanings along with ambiguous, conflicting formulations so that they can enhance persuasiveness (cf. Pezzini, 2008). In the realm of conspiracy theories, it can be identified four distinct forms of visual and audiovisual representations (Pezzini & Terracciano, 2022): (a) image-articles, (b) image-symbols (figures, cartoons, emoji, thematic roles), (c) visual tropes, and (d) image-frames.

The first type is the image-article, which consists of screenshots of articles or social media posts that are turned into a meta-news narrative for remark. As a strategy to capitalize on users' laziness and lack of desire to verify information, it is common practice to avoid providing a clear connection to the source of the statement in question. It should be specified, however, that to be perceived as influential, Anons on Telegram "conceal" links much less than other kinds of conspiracists on Facebook, Instagram, and Twitter.

This strategy diverts attention to facts supporting conspiracy theses while ignoring countervailing elements, which may or may not be a deliberate choice on the part of the deep state-controlled media. In the same way, statements attributed to writers and philosophers (Nietzsche, Popper) are frequently ripped from their original context and repurposed to fit the enunciators' arguments. Recent years have seen Anons supplement the snapshot with video clips from TV shows, YouTube publications, and even content from the increasingly popular video-sharing platform TikTok. Telegram's features and the increased engagement ability of short videos, as evidenced by TikTok's popularity, fuel the preference for video. In addition, they are viewed as evidence that triggers the veridictory effect of meaning.

Visuals add credibility to QAnon's story, but with Eco's help, we can see through some semiotic issues, notably with the credibility of the audiovisual evidence. Eco (2017) argued that the proliferation of visual culture enabled by social media has significantly impacted

what he called "the knowledge attitude of spectators toward reality." The "fact" is given more weight by the visual's immediate indication and communication of the fact, which strengthens the statement's relationship to reality and proves what is being told.

Consider employing the deepfake technique to create credible hypotheses, papers, or testimonials to validate *parrhesia*. It is not necessary to create the proof with a picture editing program; it is sufficient to correlate the "right" image with the news or choose the subject's body language, the most effective mood to emphasize the situation, regardless of the coincidence of space and time. Politicians of the other party can be easily scapegoated if a photo of them exists in which they are giving off a glare or conveying a confused attitude. Eco argues that if a depiction of a fact is displayed near an image of a person, it can imply that he or she is responsible. With this in mind, Eco seeks out the "semiotic core" of potential deception, which he locates in the images' ability to convey not just one but two meanings: the first refers to the relation with the represented thing, and the second, because of the similarity, unrelated to the object, but with its class.

In this case, the enunciatees can interpret the misleading image as a sign alluding to a fact they do not know, or they can match it to the information already in their possession and form opinions from it. The verbal text might guide the image's meaning according to the enunciators' intentions to convince people to conform to their beliefs. As Eco (2017) says, we should not disbelieve visuals but read them attentively. Reasoning in terms of intermediality can constitute a strategy of active intervention intended at fact and theory checking, that is, a way of comparing the discourses of the many media with the same topicalization and rearranging the relative regimes of truth to suggest new forms of documentality and witnessing. In this regard, Montani (2020) asserts that reasoning in terms of intermediality might have these implications.

For example, on March 8, 2022, conspiracists got the proof they have been waiting for since the beginning of the Russia–Ukraine conflict, or rather, they fabricated it, using the following statement by Victoria Nuland, Under Secretary of State for Political Affairs took out of context of her speech during US Senate hearings (Figure 2):

> Ukraine has biological research facilities with which in fact we are now quite concerned Russian troops…Russian forces may be seeking to gain control of, so we are working with the Ukrainians on how they prevent any of those research materials from falling into the hands of Russian forces should they approach. (Reuters, 2022)

Telegram channels such as Bioclandestine, QAnon Warriors, and ULTRA Pepe Lives Matter hail the open admission and quickness of the Anons to grasp "what is really going on." The rhetorical tactic here is decontextualization because Nuland said those words in response to Senator Marco Rubio's question about Ukraine's possession of biological weapons during US Senate hearings. Nuland expressed concern about what might happen to the bio-laboratories once in Russian hands, the only ones capable of using bacteriological or chemical weapons. The bio-laboratories mentioned above are Ukrainian and were established with American support through the Biological Threat Reduction Program and then used to track the spread of the Covid-19 epidemic. Nuland also states that spreading misinformation about a bacteriological menace endorsed by Americans is a "classic Russian technique to blame on the other guy what they're planning to do themselves" (Reuters, 2022). Here the actantial role of the Addresser is made more than explicit.

The second category consists of the images-symbols that amplify the impact of the effect of meaning of the "news clipping" and are responsible for triggering the reactions of the enunciatees. Empirical authors-enunciators developing conspiracy narratives assume the interpretive cooperation of *model readers* who match their perspective by basing their thesis on anticipating the interpretive process of the enunciates. The model reader is a construct by Eco (1979) that describes the ideal audience of those who produce a text, with whom they share a background and knowledge that facilitate its correct interpretation.

Figure 2. Victoria Nuland at US Senate hearings.

Cartoons and emojis are examples of image-symbols; they have a robust argumentative-polemic force because they clarify the interpretative agenda of the enunciator through sarcasm and satire. In the QAnon supporters' channels are used some recurrent emojis like flags to signify the nation, the police car light, the frog, and popcorn. The police car light emoji indicates an urgent situation or focuses on a crucial issue. There is a consistent

trend in the ULTRA Pepe Lives Matter and The Donald channels, where posts announcing potentially disruptive news always end with emojis for popcorn, a frog, and the American flag. To put it another way, the Anons, the chosen ones who stand up for the whole planet, the true patriots, are watching with amusement as the opponent's narrative crumbles. The red and white popcorn box gives the impression of being on the outside looking in but also on the very edge of one's seat, highlighting the central nature of the event. The frog is not just a signifier for an amphibian but for Pepe the Frog (associated with trolling and the alt-right), a fictional character developed by Matt Furie who unintentionally became an ambiguous doppelgänger of Donald Trump and a flag of the alt-right (Marino & Thibault, 2016, p. 19). All kinds of image-symbols increase intimacy with the audience due to the hyper-simplification of conversation themes (Lorusso & Violi, 2004). In the same way that a book aimed at children might tone down the effect of upsetting events and make the meaning of the text clear, image-symbols serve a similar purpose in a context intended for adults.

In contrast to the scientific community, which cannot break free from metalanguage, hypersimplification bolsters the veridictory authority of the enunciator, who adopts the unique capacity to explain the most complex matters. Asserting that explaining an event is the simplest one is a common arguing strategy used across all channels (Figure 3).

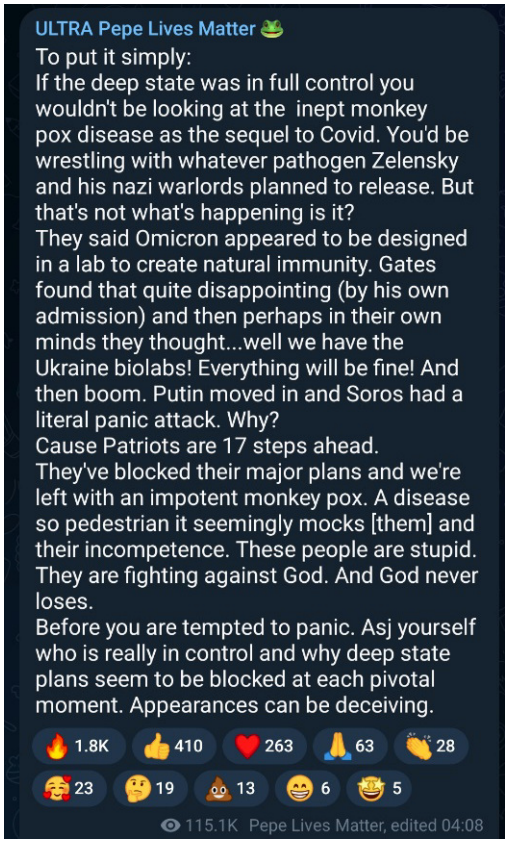

Figure 3. ULTRA Pepe Lives Matter: Put it simply.

This strategy involves repeatedly using the adjectival and adverbial form of the word "simple" or "simply" in conjunction with concepts such as "truth," "solution," "minded," "question," and "red pill," which are all figures in the discursive configuration of Anons. The simplicity resides in the words that are used to argue, which are distinct from the complicated metalanguage employed by the scientific community, in the minds of wise citizens, in the questions to incompetent politicians, and in the system of quotations, to which anyone with intermediate pop culture can relate.

The third kind of recurrent image is visual tropes, the effect of which is decided by the disorientation brought about by the insertion of an unexpected seme into discourse. Putting a signified out of context or the acknowledged paradigm of thought generates a breach corresponding to its rhetoric degree. The more remarkable similarity to reality, i.e., iconism, the more likely the visual text would go unnoticed and be useless. Rhetoric indeed has a higher level of incompatibility, but in the case of propagandistic material, we must also consider the link between the verbal text and the visual text, which provides new semantic meanings (Sedda, 2021, p. 26). Then, the shock that results from the combination of a fact and a visual text that is not a direct reference boosts the emotional intensity of the information. Figures of speech such as synecdoche, metaphor, and metonym are all stylistic devices that have the same impact as the association implied by parallelism. Conspiracists use a twisted and whimsical version of the world as the foundation for persuasive communication, implying tropes (cf. Fabbri & Latour, 1977).

The fact that image-symbols and visual tropes dominate the corpus is evidence that it is tough to provide proof for conspiracy theories. If the enunciatees fail to distinguish between fiction and reality, the narration's emotional dimension may be more convincing than the alethic one. Anons read events using analogy on the category of good against evil, where omicron and the Russian invasion are seen as ways to destroy the "plandemic."

Conspiracy theories use other fields of study, such as science, journalism, statistics, literature, and the arts, as parasite anchors. The last constant of conspiratorial figurative reasoning is the use of an image frame, which may range from diagrams and infographics to demonstrate the significance and thoroughness of the information being delivered to the use of references to other kinds of narration, often fictional.

The enunciatees' behaviors, emotions, and judgments are shaped by frames of experience to create a typical scenario through which people rely on conceptual systems based on predefined uses and meanings. So, the frame is a mental structure that includes all the ways people think molded by languages (Lakoff, 2004).

Conspiracy theorists explain the world by constantly alluding to movies like *The Matrix* (1999–2021), whose recurrent figures are deployed as image-symbols to explain phenomena from the perspective of the

enunciator and enunciatee of that narration. The movie's central narrative arc—the search for the real world—has resonated with the conspiracists because it represents their basic narrative program. The seduction of enlightened figures, such as the glocalized prophets of the QAnon movement, has grown as people adapt to a new reality and wonder about the possibility of unrevealed secrets of wholly submerged worlds accessible via them. The openness to learn the truth is englobed in the red and blue pill metaphor, well explained in a line from the first movie of the Matrix saga where Morpheus (portrayed by Laurence Fishburne) invites Neo (Keanu Reeves) to the "real world":

> You take the blue pill, the story ends. You wake up in your bed and believe whatever you want to believe. You take the red pill, you stay in Wonderland, and I show you how deep the rabbit hole goes. Remember that I am just delivering the truth. (Silver et al., 1999)

Red pill, blue pill, rabbit hole, and Wonderland are intertextual quotes from Lewis Carrol's 1865 book *Alice's Adventures in Wonderland*, where they function as intermediates in discovering a new world. The white rabbit is a symbol of QAnon's commitment to helping people see the world as it is, and the letter Q not only stands for the name of the movement's most prominent leader but also for the highest level of clearance required to see classified material held by the US government. Given the letter's position in the American alphabet and the movement's founding year (2017), the Q also connects to the number 17.

As has already been anticipated, the basic narrative program of conspiracists is known as the "Great Awakening," which is the connection with the truth as the object of value that brings about consciousness about the inadequacies of the dominant powers (Figure 4). Here we can observe a semantic framework advocating for a reticular relationship between events that may be traced back to the 1776 United States of America formation. US and USA are both abbreviations for the United States of America, but conspiracy theorists believe the former refers to a corporation established in Delaware in 1871 that has the authority to turn its population into employees and its governors into corporate leaders who serve self-interest solely. This might make sense as an explanation for politicians' persistent "betrayals" of the public. The initials of Ulysses S. Grant, who was serving as President of the US at the time, provide evidence supporting this notion. It is a shame that the letter "G" in the surname does not play any role in the acronym.

Capitol Hill in Washington, DC, the emblem of the political power of the US, is often referred to as "the new Rome" because of its symbolic location at the center of the world. The similarities between the St. Peter's Basilica and the Capitol Building are emphasized by the presence of Egyptian Obelisks in a post on the QAnon Fighters channel from October 1, 2022, that has received over 22.4 k views. Moreover, the QAnon Fighters' admin explains that:

> Washington, D.C. is a foreign corporation, and it is not a State. It is not a part of America and has nothing to do with the 50 states at all. It is where the foreign U.S. Corporation is headquartered with its own laws.

At this point, we understand the enunciator's goals, namely, to link the fictitious US Inc. to the passage of The District of Columbia Organic Act of 1871, generally known as the Act of Congress that dissolved the individual charters of the cities of Washington and Georgetown and formed a new territorial authority for the whole District of Columbia. Despite Congress' 1874 dissolution of the territory government, this act was the first to establish a unified municipal government for the federal

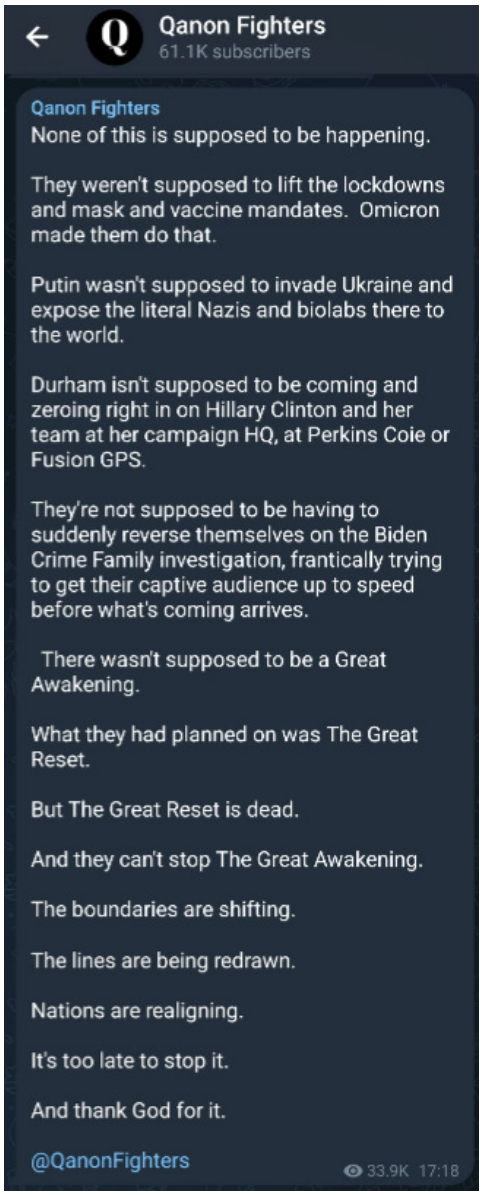

Figure 4. QanonFighters: Great reset is dead.

district. During Grant's presidency the same year, the UK and the US signed the Treaty of Washington to end their dispute. The obligations of a neutral government throughout the war and the regulations governing firms and businesses are also codified in this treaty ("District of Columbia Organic Act of 1871," 2023). In the post, it is said that "assault on our sovereignty happened in 1871. You just don't know that's when the Matrix we live in started." The evil powers officially launched their new world on that day: the Matrix. The Anons speculate that in 1871, the "Constitution for the United States for America" was renamed "Constitution of the United States of America" by replacing the word "for" with "of." Probably, the Anons are anchoring to the shifting from the meaning of "having the purpose of" to the one used to show possession, belonging, or origin (For, n.d.). The problem is that the constitution was only amended twice in the 19th century, in 1804 and 1868; in 1871, only the Treaty of Washington and the Act of Congress happened. The American economic and cultural shift toward materialism is interpreted as a pact with the devil represented by international bankers (namely the Rothschilds of London) to solve the country's financial woes. It would appear that the treaty signed between the US and the UK, which shifts the focus of the connection between the government and its inhabitants from one of purpose to one of possession, is the underlying cause of the problems that have arisen in this scenario, even though the constitution is being questioned.

The year 1871 also finds connections in Italy with the promulgation of the Law of Guarantees, which addresses the Holy See's legal status at the time. Finally, since there is a concern with the coexistence of religion and state, the Anons connected it to the formation of US Inc., which implies not only the connection between the US and Europe but also the problem with the manipulation of religious authority by satanic forces.

An unanticipated hole in the deep state's plan eventually causes the Matrix to be disrupted, setting the events of the Great Awakening in motion. In a post on the QAnon Fighters channel dated April 18, 2022, the author enunciator uses the rhetorical device of repetition "isn't supposed" to list the unexpected events that caused dominant narratives to crumble and thereby set in motion the Great Awakening, which has the potential to put an end to the Great Reset, namely the "evil" new order of the world.

3. Conclusions

The Russia–Ukraine conflict is a "war for signs," fought with semiotic weapons such as threats, challenges, revenge, and disinformation; it extensively invests the pathemic-cognitive dimension in various ways, seeking to produce negative passions (fear, horror, terror…) in the populations involved as well as undermining "troop morale" or conversely exalting it by producing enthusiasm and courage).

Conflict, like secrecy, has a binary structure peculiar to the structuralist linguistic model and from which semiotics started. So, for semiotics, *polémos* is really at the origin of all things, as a constitutive way of observing the world. In this way, the basis of signification is conceived in a profoundly dynamic-conflictual sense.

Further, conflicting tension is often established here between different semiospheres, semiotics spaces where semiosis occurs, corresponding to a universe of meaning where every sign act becomes a reality (Lotman, 1985). This tensive dynamic describes subjects, collectivities, and texts that enter into relations in the more general semiosphere experience a double need: that of being able to communicate, share their information, and ensure that their communication is of the most value, that it leads to the generation of new information.

Leaders posing as "double agents" are infiltrating and fighting the deep state (Figure 5). Tulsi Gabbard, a politician from Hawaii, is a noteworthy double agent for Anons. She defected from the Democratic Party in October 2022, claiming that the party supported policies that were undemocratic, elitist, and in favor of war (Figure 6).

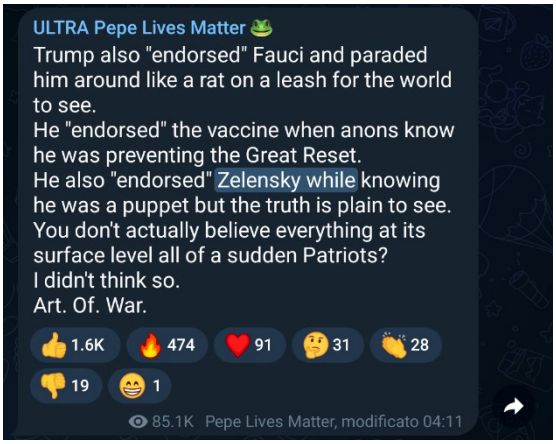

Figure 5. ULTRA Pepe Lives Matter: Double agents.

Fabbri (1990) explains that employing the same secrecy tactic in a reciprocal circumstance makes the stakes null and void, compromising the secret. Fabbri presents a dynamic tactical secret that becomes almost ludicrous because it is known and easily obtained. The fact that the secret is not openly disclosed is the reason for its status as a secret; it is not because the information is concealed or unknown. Masters of the manifest secret, double agents employ allusion, which Fabbri defines as a rhetorical figure aimed to generate complicity by activating recurrent verbal and visual elements, such as those discussed in the typology proposed in this article. What Derrida (2005) refers to as the *shibboleth*—from Hebrew, which means to distinguish and be part of a group—is a distinctive element that attracts people who possess the portion that completes it. This is how Anons recognize themselves.

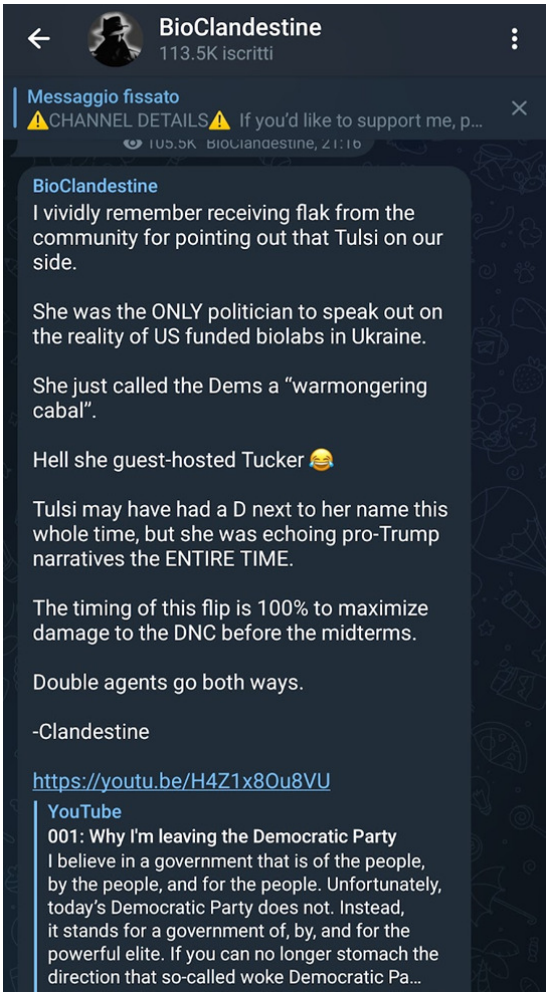

Figure 6. Bioclandestine: Double agents.

Access to a truer truth is determined not by the knowledge itself but by how the secret is disseminated, which appears more authentic precisely because it takes the form of an enigma.

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Conflict of Interests

The author declares no conflict of interests.

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Review

A Systematic Literature Review of the Phenomenon of Disinformation and Misinformation

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Abstract
Disinformation threatens the virtue of knowledge. The notion of truth becomes corrupted when citizens believe and give credibility to false, inaccurate, or misleading messages. This situation is particularly relevant in the digital age, where users of media platforms are exposed to different sorts of persuasive statements with uncertain origins and a lack of authenticity. How does academia understand the disinformation problem, and are we equipped to offer solutions? In response to this question, our study provides an overview of the general definitions, trends, patterns, and developments that represent the research on disinformation and misinformation. We conducted a systematic review of *N* = 756 publications covering eight years, 2014–2022. This period captures phenomena such as Trump's emergence as a candidate for the US presidency, his term in office, as well as the leadership of figures such as Erdogan in Turkey, Bolsonaro in Brazil, Modi in India, and various similar populist and nationalist leaders across a range of democratic and semi-democratic societies. This period is also one that witnessed the first global pandemic, when misinformation and disinformation not only threatened societal cohesion but the lives of people. This systematic review explores the critical terminology used, the areas of social life where disinformation is identified as problematic, the sources identified as creating or circulating this material, as well as the channels studied, the targets, and the persuasiveness of the discourse. What this article offers, then, is an overview of what we know about disinformation and what gaps in research should be pursued. We conclude that given the problems that misinformation and disinformation are seen to cause for democratic societies, we need to assess the contribution of social science in providing a foundation for scientific knowledge.

Keywords
credibility; disinformation; fake news; falsehood; hoaxes; misinformation; truth

Issue
This review is part of the issue "Fakespotting: (Dis)Information Literacy as Key Tool to Defend Democracy" edited by José Antonio Muñiz-Velázquez (Universidad Loyola Andalucía) and Claudio Paolucci (University of Bologna).

1. Introduction

The circulation of misinformation and disinformation poses a threat to the notions of truth and fact. It can undermine trust in science, experts, elites, and politicians, some of whom may be the creators and disseminators of false information. While there is a general understanding of these terms they are often conflated with the notion of fake news which is problematic for public understanding. Fake news is a vague term that has been used to cover a wide variety of communication that is to some degree false, but it has also been weaponised by far-right political actors as part of their attack on oppositional media outlets (see Farkas & Schou, 2018; Koliska & Assmann, 2021). Awareness of the notions of fake news and disinformation as a problem has become intrinsically linked to the presidency of Donald Trump in the US, although he is not alone or the first in using

this style of populist communication as a tool of governance. In the aftermath of the election of Trump, the victory of the leave campaign during the EU membership referendum within the UK, 2016 was marked as the beginning of the post-truth era. The notions of misinformation and disinformation have a history as long as that of communication itself, but post-truth was not simply an observation that disinformation was circulating widely, facilitated by social media. Rather, describing the post-2016 period as the post-truth era reflected that disinformation was influential in shaping public opinions and attitudes and so drives the political engagement of some citizens. The observations that disinformation was spreading and shaping opinions led researchers to attempt to explain this phenomenon. Hence, the body of research on these themes has been burgeoning and addressing the mis/disinformation problem is seen as one of the priorities to correct instabilities in democratic societies.

The quantity of research in this area offers the opportunity to reflect on what we know about the challenge of disinformation, and what aspects continue to be of concern. Despite the association with the Trump presidency and Brexit campaign, the Covid-19 pandemic led research on disinformation to become a cross-disciplinary and multi-disciplinary problem. Debates on how to tackle this information disorder have moved into more science-based journals that both expand and deepen understanding of the nature and impact of the spread of disinformation. Hence, through a meta-analysis of published research, we explore the trends within this holistic body of research, exploring how researchers across the disciplines have provided an understanding of the fake news problem and what research gaps are illuminated. We cover an eight-year period: 2014–2022. This captures research which responded to the emergence of Trump as a candidate for the US presidency, his tenure in office as well as figures such as Erdogan in Turkey, Bolsonaro in Brazil, Modi in India, and the rise of similar populist and nationalist figures and movements across a range of democratic and semi-democratic societies. Importantly, it also covers the period of the Covid-19 pandemic which was described as coinciding with a misinformation infodemic by the World Health Organisation (Lilleker et al., 2021). The systematic review of N = 756 publications explores the key terminology used, the areas of social life where disinformation is identified as problematic, the sources identified as creating or circulating this material as well as the channels researchers have explored, the targets, and the persuasiveness of the discourse. What this article offers, therefore, is an overview of what we know about disinformation and what gaps in research exist that should be pursued. Given the problems that fake news and disinformation are seen to cause for democratic societies, we begin by considering the notion of truth and the contribution of social science in providing a foundation for scientific knowledge.

2. Disinformation and Misinformation: An Epistemological Problem

Disinformation is fundamentally an attack on the integrity of knowledge. If false information circulates and is believed to be true by members of society then the information environment becomes polluted (Tsipursky, 2017). This situation is particularly true in the realm of politics, a sphere of activity that gave rise to the notion of post-truth. Politics is contested and contentious (Lilleker, 2018). Political parties and their candidates interpret data through the lens of their ideologies as well as their communication strategies for gaining elections. While one party can claim economic success, their opponent can contest that claim, often using the same data or an alternative source of data to support their argument. Both sides can have an almost religious adherence to their own interpretations (Ho, 2021). Media organizations can also be embroiled in this contestation, sometimes due to their partisan bias, and at other times due to their role as scrutineer of the claims of politicians (Chadwick, 2017). But even the most objective journalism can find itself under fire within the modern age. Donald Trump weaponised the term fake news in response to criticism from CNN (Farkas & Schou, 2018). Similarly, the German far-right AfD describes sections of the media sweepingly as "lugenpresse," the lying press (Koliska & Assmann, 2021). The escalation of the contestation that is natural to politics can, in the most extreme cases, lead to polarization in society with each side believing it has ownership of its own immutable truth (Bruns, 2019). The other side of the divide is at best stupid, at worst liars. Hence it is important that citizens of democratic societies can recognize what is fact, what is an ideological interpretation of reality, and what is opinion. It is important that they know which sources are reliable and credible and which sources should be treated with scepticism. If the lines between fact and fiction, reliable and unreliable, become blurred then individual beliefs are all that matter. This observation was at the heart of the issues identified when coining the phrase post-truth. As Lisbet van Zoonen (2012) presciently argued, objective and scientific knowledge (epistemology) is being challenged by those who argue that if they believe something it must be true (i-pistemology). Disinformation naturally fuels the shift away from a society that values scientific knowledge.

How do ordinary citizens know what is or is not scientific fact? This is particularly pertinent in the digital age where users of social media platforms can be exposed to persuasive statements which can be devoid of any informational cues regarding their credibility or authenticity (Sawyer, 2018). The concept of truth itself has a contested history, debates on truth are not simply an artefact of the fragmented nature of communication via digital technologies. From the age of superstition, through the enlightenment and into the industrial, scientific, and technological revolutions, what we

know to be fact has evolved (Anstead, 2021). Yet even in an age where science and technology impact every area of human life to some extent, religious belief remains a powerful force. Religious belief and science can often compete in providing legitimate answers, for example, is climate change the will of God or due to the carelessness of mankind (Morrison et al., 2015)? The fact that the opinion of the vast majority of scientists can be contested on the grounds of religious beliefs indicates that defining immutable truth can be problematic in a range of contexts. Such problems can also be found when considering how we might define disinformation. If one cannot definitively define truth, how can one definitively identify what is false? Such questions are even more complex when considering the realm of politics where everything can be contestable and truths are delivered through ideological lenses.

Scientific fact is largely privileged as being objective and accurate, despite scientific knowledge evolving over time. In fact, one positive element of the pandemic was that public trust in science increased (Bromme et al., 2022). Social science however is not always viewed as being similarly authoritative. Social science is not simply descriptive but it can and arguably should also adopt a normative position, stating not just how things are but also how they should be. Montuschi (2004) not only argued that the normative position of objectivity in social science is extremely challenging in practice, but also that if social science is to guide society it has to be led by a philosophical or ideological position which will naturally be contested. Whether we consider the differing positions of liberal economists, revisionist historians, or debates surrounding decolonization, normative positions are open to debate and thus challenged (Weiner, 2014). Social science researchers can also shape understanding of phenomena through the position they take with regard to ongoing social struggles. They can set the agenda for research by prioritizing some issues over others, for example focusing on disinformation within the context of political contests and not in other communication contexts. They imbue the production of knowledge with social meaning and interpretation. In this sense, social science may not only follow fashion in order to buck the publishing game but also contravene notions of political ambivalence and neutrality, perhaps particularly when analyzing the actions of illiberal leaders (Stocchetti, 2023). Sociologist Dick Pels (1996) suggests that, for social scientists, the suggestion that there is a definitive truth that is out there can lead researchers to make truth claims that are coloured more by ideological attachments than objective reasoning. With references to Foucault's notion of "regimes of truth," these arguments recognize that differing groups in society may have their own interpretations that are no less truthful than that of any other. The academic community, in this case, may have its own notion of what is and is not truth.

It is therefore following this line of reflection on research that we consider what we know about disinformation. Despite criticisms of social science as an objective discipline, defenders claim that we can build a holistic understanding of phenomena through rigorous data collection while ensuring when interpreting that data the researcher maintains a sensitivity to their own biases and avoids succumbing to the wider pressures of institutions, the academy, or governments (Habermas, 1971). While this may not be true or even possible for every researcher and every project, across all projects a more objective picture may emerge. Similarly, a review of the totality of a body of work can overcome the problem that individual social scientists can adopt a restricted scope, focusing on one prominent issue while ignoring others to the detriment of developing a holistic understanding. This, Barnes (2014) argues, dogged the development of economic theory. Hence, through our meta-analysis of studies of disinformation, we seek to explore how this contested term has been understood and studied and how we understand the current challenges this phenomenon poses to democracy.

3. Methodology

3.1. Method

A systematic review is a qualitative and structured method for identifying previous studies in a given area of research (Boote & Beile, 2005; Combs et al., 2010; Onwuegbuzie et al., 2014; Siddaway et al., 2019), helping to categorize the literature to answer specific research questions (Grant & Booth, 2009; Williams, 2019), as well as to shed light on trends, to reveal connections across many studies (Baumeister & Leary, 1997; Canet & Pérez-Escolar, 2022; Pérez-Escolar & Canet, 2022; Reyes-de-Cózar et al., 2022), and to detect any gaps that need to be filled (Petticrew, 2001; Petticrew & Roberts, 2006). In doing so, the present systematic review provides a database comprising all the relevant literature, from across the disciplines, related to disinformation and misinformation.

For this purpose, the variables included in this systematic review, which aim to address this study's main objective and research questions, are divided into three categories. The first is formal elements: This variable provides information about the journal indexation, the ranking and the Web of Science (WoS) database in which the journal is included, the number of authors of the research, the number of words in the abstract, and the number of keywords, and article pages. The second variable is factors related to the design and method conducted in each study: This variable analyses the type of document (essay or empirical), the methodology applied (descriptive, causal, or experimental), the research methods used (quantitative, qualitative, or mixed), and the size of the sample used in each study. And the third variable is elements regarding the content and the structure of the phenomenon being explored: This variable refers to the sender of the message, the potential victim or

targets of the falsehood, the channel used to spread disinformation, and the type of disinformation. We follow the categorization offered by Wardle and Derakhshan (2017), who argued that there are different kinds of disinformation, these are: Satire or Parody, Misleading Content, Impostor Content, Fabricated Content, False Connection, False Content, and Manipulated Content. We also explore the extent that researchers investigate the persuasiveness of disinformation, specifically whether articles contain any reference to the manipulation of emotions, as well as the topic and purpose of the form of disinformation being examined.

The final database of 756 articles was analyzed by three coders—the authors—in October 2022. The categories are discrete and largely based on simple indicators; however, an intercoder reliability test was carried out on a sample of 20 articles. Given that 100% agreement was found no further discussion or revision of the coding scheme was required.

3.2. Objective and Research Questions

The formulation of research questions is one of the first steps in terms of defining the scope of a systematic review, guiding the decision-making throughout the whole review process, and ensuring more focused findings (Booth et al., 2012; Counsell, 1997; Petticrew & Roberts, 2006; Siddaway et al., 2019). Given this, the present study attempts to respond to the following core research questions:

RQ1: What are the main characteristics of research on disinformation and misinformation?

RQ2: What are the main topics and features related to fake news?

RQ3: Who are seen as the primary sources of the dissemination of fake news?

RQ4: Who are the principal victims of disinformation?

RQ5: Through which channels are disinformation and misinformation mainly disseminated?

Addressing these research questions was the main objective of this systematic review, which is to provide an overview of the general definitions, trends, patterns, and developments that represent the research on disinformation and misinformation.

3.3. Inclusion and Exclusion Criteria for Identifying the Study Population

Following Siddaway et al. (2019), inclusion and exclusion criteria were developed to allow us to ensure we could answer the research questions, which necessarily meant narrowing down the literature in order to delimit the systematic review. Hence, the eligible literature responds to the following principles:

1. Publications focused on disinformation and misinformation.
2. Publications written in English and Spanish as the two most used languages within the field of social science.
3. Publications published between 2014 and 2022. This time criteria captures research which responded to the emergence of Trump as a candidate for the US presidency, his tenure in office as well as similar figures such as Erdogan in Turkey, Bolsonaro in Brazil, Modi in India, and various populist and nationalist figures across a range of democratic and semi-democratic societies. The period also includes the Covid-19 pandemic and so articles related to the infodemic that was raised as a concern.
4. Articles.

The terms used were identified from a scoping study, in which we set out to find articles which adhere fully to the selection criteria and so enable us to respond to the research questions previously set out. Given this, the search strategy was formulated as follows: TITLE INCLUDES disinformation OR "misinformation" OR "dis-information" OR "mis-information" OR "dis information" OR "mis information" OR "desinformación" OR "misinformación" OR "des-información" OR "mi-sinformación" OR "des información" OR "mi sinformación."

The research process returned N = 850 results in WoS. Taking into consideration the criteria established, 94 items were excluded because they were written in other languages, they were letters, editorial materials, or duplicates; thus, leaving a total of N = 756 publications that fully satisfied the requirements detailed above.

4. Findings

This section presents the core findings derived from the systematic literature review analysis (N = 756). The results are framed around the five research questions previously formulated.

4.1. Preliminary Descriptive Analysis: An Overview of Formal Elements

Table 1 shows there is an increasing interest in the study of disinformation and misinformation over time. The period 2014–2017 saw less than 20 articles published per year, research outputs increased slightly in 2018 and then again in 2019 but the spike in published outputs on disinformation appeared in 2020 and 2021 and already there have been 160 published articles in 2022. This suggests there was a spike in interest reflecting back on events in the late 2010s but the end of Donald Trump's term as US president as well as the

Table 1. Number of publications over time.

Year	Number of publications	Percentage
2014	16	2.1%
2015	17	2.2%
2016	14	1.9%
2017	16	2.1%
2018	39	5.2%
2019	62	8.2%
2020	180	23.8%
2021	252	33.3%
2022	160	21.2%
TOTAL	756	100%

pandemic has led the literature concerning misinformation and disinformation to have grown exponentially.

The first variable applied in this systematic review refers to formal elements. The WoS database is an indicator of the journal's prestige. Thus, this indicates the journal's position in the Journal Citation Reports (JCR), in the Emerging Sources Citation Index (ESCI)—which is already included in the JCR database but indexed based on the Journal Citation Indictor (JCI) algorithm and not on the Journal Impact Factor (JIF) algorithm, that is the one traditionally used in the JCR database—or in other collections of the database mentioned above. Furthermore, the journal's position in the top quartiles presumably implies the publication of higher-level studies. Thus, in response to RQ1, our results indicating that the preponderance of studies in the JCR, 86% of the total, were published in journals ranked in the high quartiles is noteworthy, this finding could suggest a high scientific level of the works analyzed, as Table 2 shows.

The number of research studies in the JCR is significantly higher than in the ESCI (Chi-square 138.348, $p < .000$, Contingency Coefficient .399), regardless of the main topic or the area of knowledge. Similarly, we have also analyzed the average number of research pages. In this case, no relevant differences can be noted considering factors such as the database, the quartile, or the year of research publication. However, a distinct difference can be observed in the studies according to the subjects explored. Thus, as Table 3 illustrates, articles referring to the field of health tend to be shorter on average which is consistent with the requirements of journals across the different disciplines.

Concerning the average number of words per abstract and keywords in the 756 articles, there is a higher number of keywords in the most recent research, possibly due to the requirements of the journal editors. Regarding the abstract, there are no relevant differences concerning the year of publication, the database, the indexed quartile, or the article's main topic.

Finally, it is worth noting that the majority of articles are published in North American and English journals, specifically in *Health and Communication*. Thus, journals such as *Social Media + Society* (21 articles), *Health Communication* (21), *Plos One* (20), *Journal of Medical Internet Research* (19), *International Journal of Environmental Research and Public Health* (18), *International Journal of Communication* (17), *Profesional de la Información* (15), *Media and Communication* (14), *American Journal of Public Health* (14), *New Media & Society* (12), *Digital Journalism* (12), *Political Communication* (10), and *Science Communication* (10) stand out. Regarding the second variable used in this study, which is related to the type of article, the first consideration to take into account is whether the studies have an empirical basis or whether they are merely theoretical trials.

When analyzing the variable related to each article's method of design, results show that 74.6% of the studies are empirical, homogeneous in all the main topics, with the logical exception of the topic "scientific

Table 2. Database and quartile in which the studies are indexed.

		Quartile			
		1	2	3	4
Database	WoS—JCR	43.7%	33%	15.5%	7.8%
	WoS—ESCI	4.9%	14.7%	47.1%	33.3%
TOTAL	38.3%	30.5%	19.9%	11.4%	

Table 3. Average number of pages per article type.

Topics	Average	Standard deviation
Politics and democracy	17.28	5.620
Immigration	16.50	5.182
Gender	18.14	9.974
Climate change	18	6.588
Education	14.50	5.557
Economics, development, and business	17.23	7.596
Health	10.53	7.135
Young generation	15.50	4.950
Science (conspiracy theories)	13.96	5.971
History and facts	16.33	6.743
Famous people	12	—
Scientific experiment	14.57	6.551
TOTAL	13.67	7.187

experiment," with greater intensity of empirical articles (94.5%). The remaining 25.4% are essays. Concerning the empirical studies, there is very high variability regarding the number within the research sample size. As expected, empirical studies that focus on citizens tend to have a smaller sample size than empirical studies that refer to social networks. The former tends to have an experimental design and explore how ordinary people consume and respond to disinformation. In contrast, the latter focus more on identifying and describing the spread of disinformation; these studies gather a larger sample because they use tweets or other kinds of content or interactions in the sampling procedure—for example, Facebook likes, WhatsApp messages, or Instagram interactions, among others.

Interestingly, concerning the empirical studies, we have also observed a tendency towards descriptive studies (69% of the total) instead of causal (1.9%) and experimental (29.1%) studies. Regarding the research method used, the preferred methods are quantitative (72.1%) as opposed to qualitative (26.3%). This highlights that research appears focused on defining the problem in terms of quantity as opposed to focusing on the effects by drawing on psychological methods.

4.2. Analysis of the Anatomy of Disinformation

In response to RQ2, the general themes or topics of research on misinformation and disinformation (Table 4) mostly related to the field of health (48%), especially in

Table 4. Topics related to fake news.

Topic	Frequency	Percentage of overall sample
Health	341	48%
Politics/democracy	152	21.4%
Scientific experiment	94	13.2%
Science (conspiracy theory)	40	5.6%
Economics, development, and business	19	2.7%
Education	16	2.3%
Climate change	14	2%
Immigration	13	1.8%
Gender	10	1.4%
Historical facts	7	1%
Famous people	2	0.3%
Young generation	2	0.3%
Total	756	

2020, 2021, and 2022. This is unsurprising and is a consequence of the Covid-19 pandemic and the concerns relating to the circulation of misinformation and disinformation and its impact on public health. Equally unsurprising, particularly given the role of specific political leaders in spreading mis/disinformation, the second highest field is that of politics and democracy (21.4%), although the use of disinformation for challenging scientific facts is also quite notable, as well as the topic of conspiracy theories (5.6%). This data suggests that research tends to follow topics which are seen to be important as well as fashionable. The large amount of studies relating to the pandemic suggests many researchers shifted their focus during this period so increasing the body of knowledge focusing on this area.

Another important feature relating to the study of disinformation is that 66.7% of publications do not reference the persuasiveness and emotionality when analysing messages that contain disinformation. The only exception is the main topic "immigration," in which we have observed that 61.5% of cases do mention emotions. When they do, most of them refer to the simplest element "trust." This result is in line with the main topic or theme of research on disinformation and misinformation since it is crucial to assess both the level of citizens' trust in the content they receive and the impact on citizens' trust in institutions of government. The finding is also consistent with the majority of studies being quantitative. The emotionality of discourse is best achieved through a close reading of texts. Similarly exploring the emotional resonance of disinformation or the impact on the individual from being exposed to or having shared disinformation involves in-depth interviews or similar qualitative research involving small and purposeful samples. However, where studies do explore the use of emotional language, the casuistry is broad, as can be seen in the Table 5.

According to Wardle and Derakhshan (2017), there are different types of information disorders. Drawing upon their classification (Table 6), we have identified that the most researched type of information disorder is "misleading content" (37.2%), although focus on this has reduced over the last two years; "false content" (30.8%) was found to be given greater prominence since 2019; and "fabricated content" (20.1%), which has been relatively stable across the period analyzed. The former is doubtless linked to the Covid-19 infodemic where any content that was deemed misleading was given greater importance due to its potential impact on public health. Considering the main topic, it can be noted that "misleading content" type is least referenced in relation to articles that focus on disinformation in the context of immigration and gender (Chi-square 142.446, $p < .000$, Contingency Coefficient .419).

Finally, our findings also show that research on disinformation focuses on a narrow range of purposes (Table 7). The data reveals a significant preponderance of research focuses on disinformation of a purely scientific purpose (67.9%), which remained stable throughout the period analyzed and the main topic addressed. However, there is the logical exception with the use of disinformation for "political propaganda." The latter was referenced mainly when the focus of the article was the topic "politics and democracy" (83.6%). Concerns have been raised for many years about phenomena such as anti-vaccination messages and climate change denial. These issues relating to science were magnified during the Covid-19 pandemic. Hence, and unexpectedly due to the events of the period, we find the greatest priority in research is also awarded to understanding the use and spread of disinformation relating to science, but the second priority is political propaganda (25.3%). Again this is unsurprising given the context, in particular the role of prominent leaders such as US president Trump

Table 5. References to emotions.

Topic	Frequency	Percentage of articles referencing emotions
Trust	158	67.5%
Anger	21	9%
Scepticism	21	9%
Fear	16	6.8%
Sadness	5	2.1%
Happiness	4	1.7%
Disgust	3	1.3%
Excitement	2	0.9%
Surprise	2	0.9%
Shame or embarrassment	1	0.4%
Joy	1	0.4%
No emotion	522	
Total	756	

Table 6. Type of information disorder.

Topic	Frequency	Percentage of Overall Sample
Misleading content	256	37.2%
False content	212	30.8%
Fabricated content	138	20.1%
Manipulated content	59	8.6%
Impostor content	14	2%
False connection	5	0.7%
Satire or parody	4	0.6%
No specific type	68	
Total	756	

and Brazilian president Bolsonaro in spreading disinformation regarding a range of contexts including the severity of Covid-19 and what treatments could be used by those contracting the disease. Interestingly there are few other priorities for researchers.

Addressing RQ3, relating to the sources of fake news which are under investigation, unsurprisingly given the other findings the majority of research focuses on the dissemination of disinformation by social network users (24.3%), mainstream media outlets (22.3%), anonymous people across different online platforms, a generic category relating to research that conducts cross platform-based analyses (16.4%), and political actors (9.3%). In 26.7% of the articles reviewed there was no specific source. These were experimental studies where the researchers exposed subjects to different forms of disinformation under laboratory conditions in order to assess how people responded to exposure to specific types of disinformation. Such research is very important as it moves beyond the descriptive analysis of who produces disinformation and where is it disseminated but explores the crucial questions regarding with what effect.

Consequently, and responding to the RQ4, we find that researchers are most concerned about exposure to disinformation among the general citizenry (85.7%). Nevertheless, where a target is identified the priority is awarded to "young people" (43,8%) when the principal topic is "education." Often this is subjective, drawing assumptions from descriptive analysis of the flow of false content across media platforms and suggesting possible effects on young people's acceptance of established facts. Very few studies explore the impact of exposure to misinformation and disinformation experienced by a specific sub-group or community of citizens. Where studies do identify specific groups as the potential victims of misinformation and disinformation they tend to be the targets of attacks as opposed to being those that are being manipulated. Hence a small number of studies explored the effects upon young people (7.2%), the elderly and the disabled (1.8%), but the use of disinformation was only explored as a means to target attacks against women (3.3%) and immigrants (1.9%) with no examination of the actual or potential impact. The latter category was found to be a specific target of right-wing populist political propaganda which is argued to shape public attitudes.

In response to RQ5, focusing on the channels which researchers investigate, we find research takes a broad view across the information environment. Perhaps due to the concerns raised about social media, these networks were a focus as either a general category as well as research focusing on specific social networks—especially

Table 7. The purpose of fake news.

Topic	Frequency	Percentage of overall sample
Scientific purpose	465	67.9%
Political propaganda	173	25.3%
Cultural purpose	17	2.5%
Financial purpose	16	2.3%
Advertising/clickbait	10	1.5%
Humorous purpose	3	0.4%
Religious propaganda	1	0.1%
No specific purpose	71	
Total	756	

Twitter, Instagram, Facebook, WhatsApp, Telegram, TikTok, Reddit, and YouTube. These are the most common channels and were referenced in 36.5% of the articles within the review, with the logical exception of the topic "scientific experiment," in which the main channel used was a "simulated experience" (72.3%). Concerns were also raised in research about the way that misinformation and disinformation are disseminated through online media websites (30.6%) as well as the pages of traditional media (5.2%). As 24.2% of studies were simulations, these covered a variety of different platforms replicating the types of experiences citizens are likely to have when using social media.

5. Conclusions

The results of our systematic review of the literature allow us to conclude that disinformation and misinformation are increasingly studied phenomena; in other words, they have become to be recognized as a serious social problem that is increasingly studied globally and appears to be of growing concern. This is not surprising considering the large number of false arguments about Covid-19 that were created and shared during the pandemic, in particular hoax content. In this case, such hoaxes put the health of citizens at risk, as their content induces individuals to engage in certain behaviours that are harmful and dangerous to their health. This includes home remedies, miracle cures, and therapies despite there being no scientific evidence of their efficacy in treating any serious illnesses. There were also concerns regarding the spread of conspiracy theories which denied the existence of Covid-19. It is important that the research community maintains this focus as the pandemic subsides, but there is a need to broaden the scope of research. The focus on the use of misinformation and disinformation for political propaganda purposes will remain important, particularly if Donald Trump stands for the US presidency again in 2024. However, his supportive network repeats his claims that he won the 2020 election and so we need to understand how these messages spread, who spreads them, and the extent such arguments are believed within wider American society. This problem is not exclusive to the US, hence explorations of the impact of misinformation and disinformation on the level, extent, and form of political engagement in democratic societies is important. Therefore, based on the data obtained in this systematic review and following the methodology proposed by Lecheler and Kruikemeier (2015) or Flew and McWater (2020), we suggest developing further studies focusing the scope on a particular sub-discipline—e.g., political communication or journalism studies, among others—that deepen the evolution of disinformation in specific fields of knowledge.

However, as the existing priorities of researchers show, the research agenda around public understanding and trust in science communication will remain important. While concerns relating to Covid-19 will naturally subside, the climate crisis requires researchers to explore the extent people understand their role in preventing further environmental damage as well as how to respond to the effects of climate change. There will also be a need to further explore debates around trust in vaccinations, these have proved crucial in the fight against Covid-19 but are also important in quelling the spread of a range of diseases across the world. Hence there is an important role for researchers to explore the extent that science is trusted and under what conditions science misinformation and disinformation spread and become influential. This argument highlights the importance of effects research. Empirical knowledge regarding the prevalence of misinformation and disinformation is important. However, the research community can only effectively combat its influence by understanding the reasons why it has resonance. In particular, research is needed that dissects disinformation and explores the way the source attempts to manipulate the emotions of receivers. At present this area is an under-explored but crucial piece of the jigsaw we need to complete in order to develop ways to equip citizens to inoculate themselves from the harmful effects of fake news. Researchers also need to be cognizant of the full range of actors involved in the production and dissemination of misinformation and disinformation and their motivations for doing so. While it was of crucial importance for researchers to deliver impactful findings during the pandemic that could inform the various health and science communication agencies, they must not follow fashions in order to get published. Monitoring the flow of information, and quantitatively assessing what arguments circulate across media is important. However, it is also important to engage with citizens and gain qualitative understanding of what they see and how it makes them feel. Qualitative research is highly complex but important, adding an additional layer of understanding of how misinformation and disinformation flow, what citizens are exposed to, and how they react.

Identifying these gaps in research is not meant to be a criticism of academic research. Rather we highlight that we currently have a rich picture of the "who" and "what" and of the "channels" but only have a partial picture of the core aspect of communication research: "with what effect." Belief in false arguments jeopardises the democratic health of countries and can have severe impacts on every aspect of the lives of citizens. Misinformation and disinformation act as a fuel which is able to ignite ideological polarization and radical behaviours, and are the seeds of all kinds of propaganda, as Jowett and O'Donnell (2012) distinguished:

- White propaganda, which employs true information and the message is accurate: no lies, distortion, or manipulation in it. This form of propaganda is used to build credibility with the public and persuade them to trust the source and comply with their message.

- Black propaganda, which refers to untruthful content and lies. Black propaganda is directly connected with disinformation because, in both cases, the audience receives false, inaccurate, incomplete, or misleading information.
- Grey propaganda, which has a blurred identity and sits somewhere between white and black propaganda depending on the specific message and context, where it is hard to identify the source or origin of the information. This form of propaganda may or may not use false information but is likely to interpret information for persuasive purposes making false links between what are in reality independent events for example. Therefore, the accuracy of the information is uncertain, and it is related to concepts such as the infodemic and misinformation.

All disinformation undermines truth and makes public debate and social understanding impossible. Disinformation in the field of science has serious consequences for the health and well-being of societies, but so does political disinformation as it undermines trust in institutions. For this reason, one of the key solutions to combat this epidemic of falsehoods is to make society more literate and more knowledgeable so equipping them to detect and avoid manipulation from disinformation. It is of crucial importance that citizens can easily find reliable and trustworthy sources of accurate information. Understanding more about the patterns of behaviour of citizens can support this endeavour. Furthermore, alongside this understanding of human behaviour, we would also recommend that researchers explore how artificial intelligence can help in the verification of information, especially in today's dangerous and confusing world. Further research is also needed to understand the cognitive conditions that lead some people to accept false information, be that low levels of education, extant low trust in institutions, or the effects of their socio-economic positions in society. These factors are also areas that can be combatted if a clear link is found between some or all of these factors and the acceptance of and propensity to spread disinformation. If we can understand how humans operate, we can also develop artificial intelligence to support them and guide them through the complex and fragmented communication ecosystem—aiding them to avoid being manipulated by those who wish to beguile them with false information.

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Conflict of Interests

The author declares no conflict of interests.

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Article

Combating Disinformation or Reinforcing Cognitive Bias: Effect of Weibo Poster's Location Disclosure

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Abstract
This study conducted a controlled experiment to examine the impact of posters' IP disclosure on the perceptions of Weibo users with different habits and information preferences and explore whether such disclosure facilitates the fight against disinformation or deepens cognitive biases. Results showed that the IP location of the information poster does influence users' judgments of the authenticity of the information and that the consistency between users' long-term residence and poster IP is not important for users to make judgments about the credibility of information. The high level of usage of Weibo also has no effect on users' judgment of the credibility of the information, and this may be related to the small difference in college students' overall use of Weibo. The results also showed that users' perceptions of information's accuracy, logical coherence, absence of bias, alignment with their own views, consistency with the majority opinion, and trustworthiness of its source are all statistically positively correlated with the overall credibility of information.

Keywords
cognitive bias; disinformation; identity disclosure; social media; Weibo

Issue
This article is part of the issue "Fakespotting: (Dis)Information Literacy as Key Tool to Defend Democracy" edited by José Antonio Muñiz-Velázquez (Universidad Loyola Andalucía) and Claudio Paolucci (University of Bologna).

1. Introduction

The extensive spread of fake news in social media could negatively impact individuals and society (Shu et al., 2017). The inclusion of users' different identities has caused a mixture of true and false information on social media, exacerbating the complexity of communication contexts and creating a cognitive dilemma for users. Therefore, improving the public's information literacy and judgment skills is increasingly important. Governments and social media platforms have introduced various measures to counter the proliferation of false information.

Weibo is the most prominent Chinese microblogging website and the leading online social media in China, with 582 million monthly active users and 252 million daily active users at the end of the first quarter of 2022 ("Weibo Q1 profit," 2022). Weibo constitutes a techno-cultural assemblage that becomes entangled with various actors during contentious episodes (Poell et al., 2014). Thus, the Chinese government seeks to balance its approach to microblogs, as it harnesses and controls content in the medium (Harwit, 2014). In such a government management philosophy and media environment, in April 2022, Weibo started to publish users' IP locations on their account pages to combat "bad behavior" online ("China's Weibo shows user," 2022). It is now widely practiced on various social media platforms in China.

Cognition is increasingly investigated as an activity constitutively relying on culture, context, and history. An increasingly semiotic perspective is thus needed to integrate and re-assess conceptual frameworks, methodologies, and results mainly focused on the individual and the biological (Paolucci, 2011). Since the information

environment formed by identity labels in different social media (together with external socio-cultural and individual factors) constitutes the user's cognitive context, this study examines the impact of disclosing posters' IP addresses on the perceptions of Weibo users with different habits and information preferences. Specifically, we aim to explore whether such disclosure facilitates the fight against disinformation or contributes to the deepening of cognitive biases.

2. Literature Review

2.1. Fake News on Social Media

Fake news is created with a dishonest intention to mislead (Shu et al., 2017) and overlaps with other information disorders, such as misinformation (false or misleading information) and disinformation (false information that is deliberately spread to deceive; Lazer et al., 2018). The social media ecosystem, which facilitates rapid information sharing and spreading, can enable the spread of fake news. Studies show that social bots, trolls, and algorithm manipulation have become malicious entities specifically designed to propagate fake news on social media. For example, social bots distorted the 2016 US presidential campaign with false information (Howard et al., 2018).

There has been significant scholarly interest in understanding the diverse definitions of fake news, scientific approaches to studying it (Egelhofer & Lecheler, 2019; Lazer et al., 2018; Tandoc et al., 2018), and the detection of fake news on social media from different perspectives (such as data mining, linguistic processing, network analyzing; Conroy et al., 2015; Shu et al., 2017), yet few investigations of the diffusion and cognition of disinformation through different heuristic cues such as ID or IP display. Usually manipulated to conduct computational propaganda to persuade information consumers to accept biased or false beliefs intentionally, some fake news has been created solely to trigger readers' distrust; to impede their ability to differentiate what is true from false (Bessi & Ferrara, 2016). To help mitigate the negative effects caused by fake news, it's critical that we explore whether heuristic cues such as IP make people confused or confirm their existing cognitive biases.

2.2. Perception and Spread of Disinformation on Social Media

Studies have shown that an individual's cognitive abilities, motivated reasoning, political preferences, and ideological biases are important factors in the perception and sharing of fake news (Nyhan & Reifler, 2010; Sharma et al., 2019). Thus, the correction of false information (e.g., fake political news) by the factual presentation of hashtag or location (IP) is not only less conducive to reducing people's misperceptions but also reinforces their cognitive bias, ideological preferences, and partisan beliefs resulting in a "backfire effect," especially among ideological groups and like-minded cultural or political community (Nickerson, 1998; Nyhan & Reifler, 2010).

Most authors agree that disinformation contains deceptive information or deliberately misleading or false elements incorporated within its content or context (Fallis, 2009; Fetzer, 2004). This means that although fake news may be completely fabricated, it can be presented with the correct label or hashtag, giving it a misleading veneer of credibility (Hunt et al., 2020). In addition, fake news may share properties with informative content, such as photos and convincing text, making it seem to have accuracy, truthfulness, and currency (Karlova & Fisher, 2013). The use of labels, geolocations, or hashtags possibly affects how netizens perceive news in terms of accuracy and credibility since users' location is very useful and informative. It matters because perceptions of such identity cues may shape citizens' cognition of news and how they recognize disinformation (Deligiannis et al., 2018). Using the label or identity might drive users to other news sources and contribute to political polarization (Carlson, 2017, p. 179).

Furthermore, the label or identity disclosure against disinformation relates to increasing relativism of facts (Van Aelst et al., 2017). A heuristic identity label as a transparency cue on the message may impact users' perceptions of source credibility, media bias, and trust (Otis, 2022). Social media platforms seek to combat disinformation with identity verification by reducing users' anonymity, providing users' addresses/locations, or verifying identification. Some empirical findings have shown that identity verification, such as an enhanced badge, may, in fact, not debunk fake news, but fuel its proliferation, sharing, and spread (Wang et al., 2018). Label and its function recently emerged hot topic as social media such as Weibo in China started displaying ID or IP. However, whether IP explicitly implies a higher level of endowed credibility or reinforces cognitive bias is still unknown.

A set of information cues, known as heuristic reminders, such as ID, IP, brand name, account label, and amount of likes, can significantly influence credibility evaluations (Iyengar & Han, 2008). ID and IP as identity cues can be defined as indicators that provide netizens with details about the information producer. While identity has been suggested as a remedy for debunking disinformation or misinformation, little empirical research has been conducted into the relationship between these concepts, with previous studies exploring only the effects of information cues on message credibility. This article aims to extend earlier studies by stringent experiments to test whether identity disclosure may impact social media users' perception of a message's source credibility and their cognitive bias.

2.3. Cognitive Engagement and the Perception of Information Credibility

Martinez (2019) used a cognitive framework to explore the effects of cognitive engagement while learning

about misinformation on social media. The cognitive factors which impact the credibility of messages and the detection of disinformation are related to the consistency of the message, its coherency, the credibility of the source, and general acceptability (Kumar & Geethakumari, 2014). For example, attitude-consistent messages are easier to process, making them more appealing as they require less cognitive effort from netizens (Ziemke, 1980). Research on information credibility suggests that it is a message source-level credibility when it relates to information cues. Perceptions of source credibility offer information consumers a way to distinguish between disinformation and truth. Specifically, high source credibility is known to increase message credibility (Homer & Kahle, 1990). However, little is known about how individuals evaluate and assign credibility to information sources with different cognitive engagement.

Although source credibility is one of the most widely tested variables in persuasion research (Petty & Cacioppo, 1986), disinformation research offers few empirical examinations of the social-psychological process underlying individuals and judgments of source credibility in online environments, especially users' attitude homophily and different cognitive factors (Garrett & Stroud, 2014; Kumar & Geethakumari, 2014). Additionally, these studies employ motivated reasoning theory to discern the relationship between perceptions of attitudinal homophily, information credibility, political participation, and party identification (Housholder & LaMarre, 2014). Attitudinal homophily increases source credibility evaluations and subsequent bias among online stakeholders. It suggests that information cues can launch different cognitive engagement and biases in information perception. These findings have been supported by the effect of user comments on perceptions of news bias and credibility (Gearhart et al., 2020).

2.4. Cognitive Bias and Identity Cues

A cognitive bias refers to the systematic deviation from the norm of rationality in judgment, whereby inferences about other people and situations may be drawn in an illogical fashion. People are more likely to accept claims that are coherent with their preexisting beliefs and to seek information confirming their cognition, which can be summarized as echo-chamber effects or motivated/selective information exposure (Garrett, 2009; Wang et al., 2020). A latent or illogical bias may be turned into a confirmation bias when users are provided with some reminders, such as positive or negative cues (Workman, 2018). Some studies have examined whether social media commentary or users' comments reinforced confirmation bias, especially when users read hostile comments and controversial information (Gearhart et al., 2020).

According to the biopsychosocial model of threat and challenge (Blascovich & Mendes, 2000), people are motivated to defend their beliefs, values, ideologies, and opinions (Maio & Olson, 1998); they will avoid exposure to controversial information that disconfirms their prior beliefs or prejudices that support their worldview (Major et al., 2007; Townsend et al., 2010). Perceived prejudice or cognitive bias as a situational demand indicates that the extent to which people are threatened is decided by their cognitive evaluations and their perceptions of danger, uncertainty, or shared beliefs (Townsend et al., 2010).

Social media tends to reinforce already-held beliefs or preexisting cognition (Kahneman & Tversky, 1973). While the studies mentioned above have focused on the credibility perception of users as they perform their information-based activities, few have examined how users' knowledge of geolocation data affects the fight against disinformation. Thus, the following research questions require further exploration:

RQ1: How do users detect disinformation sources when they cognitively engage in IP disclosure?

RQ2: Does IP display or disclosure confirm their biases?

RQ3: How does the user's cognitive engagement affect the information's credibility?

2.5. Hypotheses

Drawing on the research on identity cues, perceptions of information credibility, and cognitive biases described above, we propose the following hypotheses:

H1a: When the poster's IP is displayed as overseas, it will make users judge the credibility of false information as lower than when there is no IP or when the IP is displayed as a domestic city.

H1b: When the poster's IP is displayed as overseas, it will make users judge the credibility of true information as lower than when there is no IP or when the IP is displayed as a domestic city.

H2: Users who have used Weibo for a long time, with high frequency and with skill, are less affected by the poster's IP display when judging the authenticity of the information.

H3: When the IP of the poster is shown to be overseas, there is a stronger correlation between the user's judgment of the accuracy of the information, its logical coherence, its bias, its alignment with their own views, its consistency with the majority opinion, and the trustworthiness of the poster correlates with the user's judgment of the overall credibility of the information.

H4a: Users whose long-term residence differs from the domestic city displayed by the poster's IP judge the information to be more credible.

H4b: Users whose long-term residence differs from the domestic city displayed by the poster's IP are more influenced by the information when they are more concerned about it.

H5a: Users' judgments of the credibility of information with high interest are less influenced by the poster's IP display.

H5b: The higher the user's interest in social and livelihood information, the lower the influence of IP display on the user's judging the credibility of the information.

3. Methodology

3.1. Method and Principles

This study was a controlled experiment following the principles of randomization, control, and blinding. In the randomization principle, a simple random method was used to assign six groups of subjects by generating random results using a random number generator, ensuring that each group of subjects had an equal chance of being assigned to six different groups of experimental materials for testing. Under the control principle, in addition to the different experimental reading materials, the subjects' own influencing factors (such as emotional state, WeChat usage habits, and familiarity with the topic) were controlled. Other external factors (such as reading environment and reading equipment) were kept the same as much as possible during the experiment to ensure that the differences in the results of different groups were caused by reading different experimental materials. To some extent, the subjects' subjective factors (such as psychological effects) were prevented from influencing the results.

3.2. Subjects

In China, internet users aged 10–19 and 20–29 accounted for 13.5% and 17.2% of the total, respectively (China Internet Network Information Center, 2022), with students being the most numerous, accounting for 21.0% (China Internet Network Information Center, 2021). The number of general undergraduate students in schools in 2020 was 32.853 million, higher than other categories of school, such as high schools and secondary vocational education (National Bureau of Statistics of China, 2021), so undergraduate students have a certain representation in China's Internet user group. With the popularity of the mobile internet, a large number of social media, such as Weibo, have sprung up, and the proportion of college students using smartphones is virtually 100% (Nan et al., 2018). Young Chinese internet users experience different senses of belonging by flexibly appropriating the affordances of social media platforms for communication and networking; these senses of belonging play a key role in forming and sustaining their identities and are crucial for their well-being (Fu, 2018). As young people constitute the majority who use Weibo to obtain useful information, interact with others, seek recognition, and pursue leisure (Liu, 2015; Pang, 2018; Zhang & Lin, 2014; Zhang & Pentina, 2012), some researchers have taken college students as the research objects of new media studies.

In this case, the experimental subjects were chosen to be first-year students who had just entered the university. To avoid possible interference from different universities, subjects were recruited only within a single university in Beijing. The students were students from six classes in two different humanities and social science majors at the university. Since the total number of students, the gender ratio, the distribution of high school entrance examination scores, and the distribution of students' hometowns were basically the same in the six classes, and the major courses had not yet been taught, the composition of the experimental subjects within each group could be considered to be consistent in its internal structure. The formal experiments were conducted on 28 and 29 September 2022, and after excluding the samples with missing values and those who dropped out on the spot, a valid sample of 217 was obtained. The gender and place of origin of the subjects are shown in Table 1. To further determine whether there was a significant difference between the six groups of subjects, a sample t-test was performed. The results showed that the sig values of Pearson's

Table 1. Gender and place of origin of each group.

	Gender				Place of Origin				
Group	Male	Percentage	Female	Percentage	Beijing	Percentage	Other Provinces	Percentage	sum
1	6	16.22%	31	83.78%	24	64.86%	13	35.14%	37
2	6	16.22%	31	83.78%	23	62.16%	14	37.84%	37
3	5	13.89%	31	86.11%	25	69.44%	11	30.56%	36
4	5	13.51%	32	86.49%	20	54.05%	17	45.95%	37
5	4	12.12%	29	87.88%	24	72.73%	9	27.27%	33
6	7	18.92%	30	81.08%	22	59.46%	15	40.54%	37

chi-square for gender (X^2 = 8.274, p = 0.219) and place of birth (X^2 = 1.334, p = 0.970) were greater than 0.05, indicating that there was no significant difference between the subjects of the six groups.

3.3. Materials and Procedures

The experimental materials underwent three stages: screening and adaptation, expert evaluation, and manipulation testing.

Firstly, topic screening and content adaptation were carried out. According to the *China Internet Social Mindset Report*, (Fudan Development Institute, 2021) and the *Survey Report on Social Mindset of Chinese Youth Internet Users (2009–2021)* (Fudan Development Institute, 2022), employment and retirement issues are the topics of the greatest and lowest concern, respectively, among young Chinese internet users. Therefore, we used the keywords "employment" and "retirement" to search for relevant posts on Weibo. We selected posts not obvious in terms of source characteristics to avoid the influence of source authority on the subjects' judgment of the authenticity of the information. For each category of employment and retirement, we selected one post of true information and one false.

Secondly, we invited four experts (one journalist, one editor, and two new media researchers) to evaluate the materials. They confirmed that the four selected posts were suitable for the experiments.

Thirdly, we conducted manipulation tests to ensure that the stimuli of the experimental materials were valid. Thirty subjects, five from each of the six groups, completed a pre-test on 22 September 2022. Subjects read two screenshots of Weibo messages from the experimental materials and then completed the questionnaire. The results showed that there were differences between the six groups of questionnaires for the two Weibo messages with high and low-attention levels in terms of accuracy, completeness, unbiasedness, homophily, other's opinion, poster reliability, and believability measured with a 7-point Likert scale (p < 0.05). This indicates that there were significant differences between the six groups of subjects' perceptions of the experimental materials and that the experiment was successfully manipulated.

In the experiment, the moderator introduced the experimental procedure to the subjects and informed them that they would read two Weibo posts and then synthesize various types of information in the posts to answer the questions. The experiment was conducted anonymously, and the subjects first completed the authenticity questionnaire based on the two posts and then the questionnaire on basic information and Weibo usage habits.

3.4. Variables

For the topic, the two variables were employment and retirement; for the subjects, these topics were of deep and low concern, respectively. Each topic consisted of one true post and one fake. For the poster's location, three variables were the US, Beijing, and not showing the location. This resulted in six different experimental materials of 2X3. With the difference between true and fake information, we obtained 2X2X3 statistics of 12 categories, such that we obtained four constructs, including fake information with high-attention (A1), fake information with low-attention (A2), real information with high-attention (B1), and real information with low-attention (B2).

3.5. Design of Questionnaire

We collected experimental data through a questionnaire consisting of three main parts. The first part is the information credibility scale developed by Housholder and LaMarre (2014) and modified with the characteristics of Weibo use. Subjects separately evaluated the authenticity of the two Weibo posts, including their accuracy, logic, bias, alignment with their own views, consistency with the majority opinion, trustworthiness of the poster, and the user's evaluation of the overall credibility of the information (1 = *totally disagree* to 7 = *totally agree*). The second part is the social media activity questionnaire designed by Martinez (2019), combined with modified questions on the characteristics of Weibo use, including duration of use, frequency of use, daily frequency, interest preference, and ability to use. The third part is demographic information statistics, such as gender and usual residence before enrolment.

The contents in the screenshots of Weibo information of six groups of questionnaires mainly consisted of four identical messages, including two employment-related messages (one with false employment data and one with true information involving the reality of private enterprises not paying labor compensation on time for no reason and experts suggesting that students pay to get hired) and two retirement-related messages (one with false information about pension insurance and social service industry, and one with true information about pensioner's experience of life and population aging). The differences between the groups of questionnaires lay in the IP display of the information posters and the attention paid to the topics, as shown in Table 2.

4. Data Analysis

We used SPSS 27.0 to examine reliability and validity. Table 3 shows the four constructs' composite reliabilities, average extracted variance values, and intercorrelations. The composite reliabilities ranged from 0.790 to 0.930, indicating that the measurement items were reliable. The AVE values of A1, A2, B1, and B2 were 0.536, 0.393, 0.550, and 0.658, respectively, most of which were more significant than 0.5, indicating adequate convergent validity. Discriminant validity was assessed by comparing the square root of the AVE for each construct with

Table 2. Screenshot contents of Weibo for each group.

Topic	Group	IP	Fake	Real
Employment	1	None	The employment rate of Chinese college students: in 2015, 91.7%; in 2017, 91.9%; in 2021, 34%; and in 2022, the contracting rate of college students was 23%. Some time ago, it was said that this year is the most difficult in history. Why? The reason is simple: the number of college graduates is very large, even larger than the number of newborns last year! In fact, if you really want to find a job, you can definitely find one in any case since manufacturing workers are in great need nowadays. But for many college students, these jobs may not be their ideal ones. Since the incomes of manufacturing industries are uneven and low, with irregular work and rest, many parents who have been manufacturing workers basically do not want their children to be manufacturing workers.	Now, the bosses of private enterprises will not pay wages to their employees boldly and confidently. I read a piece of news that some experts suggest that in order to solve the difficulties of enterprise funds and college students' employment, we may let college students pay to get hired to get working experiences and help solve the problem of enterprise funds.
	2	Beijing		
	3	America		
Retirement	4	None	With the help of an acquaintance, I found one newly closed company to renew my old-age insurance. No extra documents are needed, and when all are set, I will be able to retire and start to get my pension. Now, none of the nursing homes is reliable; one should be in charge of his or her own pension plan. In the fifties, sixties, and seventies of the last century, the Communist Party of China and the Chinese governments were responsible for establishing nursing homes, and all the costs were covered by all levels of finance and civil affairs departments to serve the people wholeheartedly. Today, the primary aim of the nursing home is to make money, and the government only gives preferential treatment in the relevant policies. In Beijing, if you want to go to the nursing homes founded by the government, you need to be a model worker at least.	The total amount of national pensions is steadily increasing, yet it has yet to make a big difference in the lives of the retired. Trying to live a comfortable retirement life by pension is still very difficult in nature. Moreover, we are now facing a severe problem of population aging, with the number of older people increasing dramatically and the birth rate of the population decreasing. Under the present context, if the two-child policy and three-child policy to stimulate childbirth are not effective, it is estimated that we will enter an aging society in 2030.
	5	Beijing		
	6	America		

the correlations between that construct and all other constructs. The square root AVE values were greater than all of the inter-construct correlations, as shown in Table 3, supporting discriminant validity.

The results revealed that participants' scores for judging the information varied significantly under different IP conditions, with the independent variable being the IP shown in the screenshot on Sina Weibo and dependent variables being the average score of accuracy, completeness, unbiasedness, homophily, other's opinion, poster reliability, and believability of the information seen by participants (1 = *totally disagree* to 7 = *totally agree*).

Table 3. The Cronbach's *α* composite reliabilities, AVE values, and correlations of the constructs.

	Cronbach's *α*	*CR*	AVE	A1	A2	B1	B2
High-attention and fake (A1)	0.864	0.888	0.536	0.732[a]			
Low-attention and fake (A2)	0.773	0.790	0.393	−0.030	0.627[a]		
High-attention and real (B1)	0.887	0.894	0.550	0.429**	−0.194*	0.742[a]	
Low-attention and real (B2)	0.922	0.930	0.658	−0.003	0.316**	−0.111	0.811[a]

Notes: (1) * p < 0.05; ** p < 0.01; *** p < 0.001. [a] = square root of AVE values.

Before running the ANOVA, we checked the assumption of homogeneity of variance by Levene's Test of Equality of Error Variances, and both of the assumptions for fake and real information were met ($p > 0.05$). For fake information, F (2,214) = 3.205, p = 0.043 and for real information, F (2,214) = 6.468, p = 0.002. The scores for judging the believability of fake information are no IP (M = 3.22, SD = 1.08), IP shown as Beijing (M = 3.11, SD = 1.06), and IP shown as US (M = 2.78, SD = 1.12), and the scores for judging the believability of real information are no IP (M = 3.46, SD = 1.53), IP shown as Beijing (M = 3.26, SD = 1.37), and IP shown as US (M = 2.64, SD = 1.143). Post-hoc comparisons revealed that, in cases of false information, the difference between data with no IP and IP shown as US is significant (p = 0.016); in cases of real information, the difference between data with no IP and IP shown as US is significant ($p < 0.01$), and the difference between data with no IP and IP shown as US is also significant (p = 0.011; see Table 4). This proved that H1a and H1b were valid and that participants rated the same information as less credible when the IP was shown as overseas, regardless of whether the information was fake or real.

Using multiple linear regression, this study tested whether participants' use of Weibo affected the effectiveness of different IPs in determining the believability of information. Our independent variables were participants' usage of Weibo with total hours of use, frequency, average daily visits, and operational ability; the dependent variable was the score of the believability of the information seen by participants (1 = *totally disagree* to 7 = *totally agree*). The regression model was insignificant and showed that participants' usage of Weibo was not significant in determining the authenticity of either fake (F = 0.634, p = 0.639, R^2 = 0.012) or real (F = 0.999, p = 0.409, R^2 = 0.019) information. For fake information, total hours of use, frequency, average daily visits, and operability were all negatively correlated with believability judgments. And for real information, most of them were negatively correlated with believability judgments (Table 5). This proved that H2 was invalid and that participants' use of Weibo did not affect their judgments of information believability.

To test the believability with accuracy, logicality, unbiasedness, similarity, other's opinion, and poster's reliability, the independent variables were participants' scores of accuracy, logicality, unbiasedness, similarity, other's opinion, poster's reliability (1 = *totally disagree* to 7 = *totally agree*), and the dependent variable was the score of credibility of the information seen by participants (1 = *totally disagree* to 7 = *totally agree*). The regression models were statistically significant. For high-attention and fake information (A1; F = 29.035, $p < 0.01$, R^2 = 0.628), the strongest Pearson correlation was the poster's reliability (r = 0.711), and the weakest Pearson correlation was completeness (r = 0.360). For low-attention and fake information (A2; F = 32.061, $p < 0.01$, R^2 = 0.658), the strongest Pearson correlation was the poster's reliability (r = 0.763), and the weakest Pearson correlation was unbiasedness (r = 0.302). For high-attention and real information (B1; F = 31.528, $p < 0.01$, R^2 = 0.647), the strongest Pearson Correlation was the poster's reliability (r = 0.748), and the weakest Pearson correlation was other's opinion (r = 0.490). For low-attention and real information (B2; F = 71.056, $p < 0.01$, R^2 = 0.810), the strongest Pearson correlation was the poster's reliability (r = 0.866), and the weakest Pearson correlation was logicality (r = 0.526; see Table 6). This study showed that accuracy, logicality, unbiasedness, similarity, other's opinion, and poster reliability were statistically relevant to the credibility of the information.

For the effects of different IPs within high-attention and fake information (A1) on participants' judgment of

Table 4. ANOVA and description of the effect of different IPs on information judgment.

					ANOVA					
	IP	*N*	*M*	*SD*		SS	df	MS	F	sig
Fake	None	74	3.22	1.081	Between	7.608	2	3.804	3.205	0.043
	Beijing	70	3.11	1.062						
	US	73	2.78	1.123	Within	254.024	214	1.187		
Real	None	74	3.46	1.529	Between	26.996	2	13.498	6.468	0.002
	Beijing	70	3.26	1.366						
	US	73	2.64	1.430	Within	446.579	214	2.087		

Table 5. Multiple linear regression analysis results related to different IPs in determining the believability.

	R	R^2	*SE*	*F*	*sig*
Fake	0.109[a]	0.012	1.502	0.634	0.639
Real	0.136[a]	0.019	1.762	0.999	0.409

Notes: Predictors—(constant), total hours of use, frequency, average daily visit, and operational ability; dependent variable—believability; [a] = adjust.

Table 6. Pearson correlation for believability.

	Believability (A1)	Believability (A2)	Believability (B1)	Believability (B2)
Accuracy	0.672	0.515	0.608	0.688
Logicality	0.360	0.044	0.493	0.526
Unbiasedness	0.365	0.302	0.538	0.698
Similarity	0.629	0.599	0.597	0.835
Other's opinion	0.557	0.382	0.490	0.653
Poster's reliability	0.711	0.763	0.748	0.866

information believability, IP shown as Beijing (F = 5.738, p < 0.01, R^2 = 0.534) and IP shown as US (F = 28.505, p < 0.01, R^2 = 0.855) suggested that when the IP of fake information with high-attention was shown as being US, data filled in by participants on the accuracy, completeness, unbiasedness, similarity, other's opinion, and the reliability of the poster was correlated more strongly with the data of their believability. For low-attention and fake information (A2), IPs shown as Beijing (F = 10.587, p < 0.01, R^2 = 0.710) and IPs shown as US (F = 7.947, p < 0.01, R^2 = 0.614) suggested that when the IP of fake information with low-attention was shown as Beijing, data filled in by participants on the accuracy, completeness, unbiasedness, similarity, other's opinion, and the reliability of the poster correlated more strongly with the data of their believability. For high-attention and real information (B1), IPs shown as Beijing (F = 17.748, p < 0.01, R^2 = 0.780) and IPs shown as US (F = 16.283, p < 0.01, R^2 = 0.771) suggested that there was no significant difference in real information with high-attention. And for low-attention and real information(B2), IPs shown as Beijing (F = 18.854, p < 0.01, R^2 = 0.813) and IPs shown as US (F = 32.941, p < 0.01, R^2 = 0.868) suggested that when the IP of real information with low-attention was shown as US, data filled in by the participants on the accuracy, completeness, unbiasedness, similarity, other's opinion, the reliability of the poster correlated more strongly with the data of their believability (Table 7). This demonstrated that H3 was valid and that the stronger the correlation between participants' judgments of accuracy, completeness, unbiasedness, similarity, other's opinion, poster reliability, and their judgments of believability, the more likely it was that the IP was overseas.

The results showed that the participants' believability scores differed insignificantly under different origins, with the independent variable being the participants' origin and the dependent variable being the participants' believability score for the information they read (1 = *totally disagree* to 7 = *totally agree*). Before running the ANOVA, we checked the assumption of homogeneity of variance using Levene's test of equality of error variances, and the assumption met all four constructs (p > 0.05): for high-attention and fake information (A1), F(1,35) = 2.739, p = 0.107; for low-attention and fake information (A2), F(1,31) = 0.180, p = 0.674; for high-attention and real information (B1), F(1,35) = 0.019, p = 0.892; and for low-attention and real information (B2), F(1,31) = 0.030, p = 0.865 (Table 8). This proved that both H4a and H4b were invalid and that whether the participants' place of origin was the same as the IP did not affect their judgment of the believability of the fake or real information.

We used two-factor ANOVA to test the effects of different types of IPs on judging the believability of information, with independent variables being the IP and the attention to the information and the dependent variable being the believability score of the information seen by the participants (1 = *totally disagree* to 7 = *totally agree*). Before running the two-factor ANOVA, we tested the assumption of homogeneity of variance using Levene's test of equality of error variances, and

Table 7. Multiple linear regression analysis results related to believability in different IPs.

	IP	R	R^2	SE	F	sig
A1	Beijing	0.731[a]	0.534	1.169	5.738	0
	US	0.925[a]	0.855	0.659	28.505	0
A2	Beijing	0.842[a]	0.710	0.790	10.587	0
	US	0.783[a]	0.614	0.755	7.947	0
B1	Beijing	0.883[a]	0.780	0.712	17.748	0
	US	0.878[a]	0.771	0.716	16.283	0
B2	Beijing	0.902[a]	0.813	0.782	18.854	0
	US	0.932[a]	0.868	0.734	17.763	0

Notes: Dependent variable—believability; predictors—(constant), accuracy, logicality, unbiasedness, similarity, other's opinion, poster's reliability; [a] = adjust.

Table 8. ANOVA on the effect of place of origin on information judgment.

			SS	*df*	*MS*	*F*	*sig*
High-attention	Fake	Between	6.394	1	6.394	2.739	0.107
		Within	81.714	35	2.335		
	Real	Between	0.037	1	0.037	0.019	0.892
		Within	69.152	35	1.976		
Low-attention	Fake	Between	0.323	1	0.323	0.18	0.674
		Within	55.556	31	1.792		
	Real	Between	0.081	1	0.081	0.030	0.865
		Within	84.889	31	2.738		

both the assumption for fake and real information were met by the data ($p > 0.05$). The results of the statistical tests showed that for the information with high attention ($F = 0.724$, $p = 0.486$, partial $\eta^2 = 0.007$), there were no statistically significant differences in the main effects of different IPs on the information with high attention. For low-attention information ($F = 8.629$, $p < 0.01$, partial $\eta^2 = 0.077$), there was a statistically significant difference in the main effects of different IPs on low-attention information (Table 9). This proved that H5a was valid and that participants were less influenced by IP when judging the believability of high-attention information than when judging the believability of low-attention information.

Given that high-attention in employment information and low-attention in retirement information are both social and livelihood information, this study categorized the attention ranking of social and livelihood information according to the participants, where ranking 1 to 3 is *high-attention*, 4 to 6 is *medium attention*, and 7 to 9 is *low-attention*. The results showed that the participants' scores for judging believability differed insignificantly with different levels of attention. The independent variable was the participants' level of attention to social and livelihood information, and the dependent variable was the participants' score for the believability of the information they read (1 = *totally disagree* to 7 = *totally agree*). Before running the ANOVA, we tested the assumption of homogeneity of variances using Levene's test of equality of error variances, and both the assumption for fake and real information were met by the data ($p > 0.05$). The data for fake information (F [2,214] = 0.402, $p = 0.670$) and real information (F [2,214] = 0.339, $p = 0.713$) proved that H5b was not valid and that the participants' level of attention in the information-related area did not affect their judgment of the believability of the information (Table 10).

5. Discussion and Conclusion

Governments, social platforms, and users are increasingly concerned about the spread of disinformation on social media. The Chinese government and social platforms hope to help users distinguish the quality of information by disclosing the IP locations of posters. This study conducted a controlled experiment with 217 first-year students to examine the impact of a poster's IP being disclosed on the perceptions of Weibo users with different habits and information preferences and to explore whether such disclosure facilitates the fight against disinformation or deepens cognitive biases.

Experiments showed that there was a significant difference in users' judgments of true or false information

Table 9. Different IP effects on high and low-attention's coherence values.

	df	*MS*	*F*	*sig*	partial η^2
High-attention	2	1.709	0.724	0.486	0.007
Low-attention	2	19.004	8.629	0	0.077

Notes: Dependent variable—believability; R(High-attention)^2 = 0.87 (adjusted R^2 = 0.066); R(Low-attention)^2 = 0.229 (adjusted R^2 = 0.210).

Table 10. ANOVA on the effect of interest of social and livelihood information on information judgment.

		SS	*df*	*MS*	*F*	*sig*
Fake	Between	1.811	2	0.905	0.402	0.670
	Within	482.346	214	2.254		
Real	Between	2.116	2	1.058	0.339	0.713
	Within	668.391	214	3.123		

whether the IP location of information posters was displayed or not, displayed as a domestic city or displayed as overseas. That is to say, the IP location of the information poster does influence users' judgments of the authenticity of the information. However, this influence is not entirely conducive to combating and reducing false information. In general, when the IP location of the information poster is shown to be overseas, users rate the credibility of the information lower regardless of whether the information is true or false. We believe it may be related to nationalism on the Chinese internet. Scholars suggest that digital nationalism in China is on the rise; simultaneously, there is a belief that this rise is being fueled by the internet (Zhang et al., 2018). As one of China's most dominant social media platforms, Weibo offers a virtual "imagined community" for netizens to interact with national symbols to spontaneously strengthen a sense of national identity (Zhang, 2020). Chinese netizens' mistrust of media and sources in Western countries might have evolved into mistrust of overseas IP posters. Since a study of American Twitter users has shown that Twitter authors whose location is close to their own are seen as more credible (Morris et al., 2012), we may perhaps suppose that distance represents the unknown and dubious in the view of both Chinese and American netizens.

Characteristics of today's information and communication environment highlight the complex reality that information consumers face when evaluating online information. In this study, users were less influenced by IP when judging the credibility of high-attention information than that of low-attention information. Other factors, such as users' attention and familiarity with the information, also play a role in users' judgments of its authenticity, and these factors may, to some extent, dissipate the influence of the poster's IP being displayed. This study proved the importance of the psychological dimensions of people's information appraisals, including their information processing activities, the personality-based characteristics that influence information appraisals, and the dynamics of information appraisals that develop in the context of online social interaction, as suggested by Metzger and Flanagin (2015).

The results showed that whether the user's long-term residence is the same as where the IP is displayed has no effect on their judgment of the credibility of both false and true information, meaning the consistency between users' long-term residence and poster IP is not important for users to make judgments about the credibility of information. High levels of Weibo usage also do not affect users' judgment of the credibility of the information, and this may be related to the small difference in college students' overall use of Weibo. Scholars have argued that location information, together with various social structural features, such as network overlap and social distance, can be generated at a relatively low cost but may yield great utility in discovering credible information (Yang et al., 2013). Affordances in mediated environments are subject to cognitive as well as emotional processes (Nagy & Neff, 2015). These views and our results suggest that the cognitively demanding task of identifying the quality of information in social media is determined by a variety of factors and requires further systematic research.

The results also showed that users' perceptions of information's accuracy, logical coherence, absence of bias, alignment with their own views, consistency with the majority opinion, and trustworthiness of the source are all statistically positively correlated with the overall credibility of information.

However, this study did not prove that these variables are the basis for users to judge the credibility of the information and could not indicate a causal relationship between them. This somewhat validates the study of Housholder and LaMarre (2014) about the relationship between perceptions of attitudinal similarity, information credibility, political participation, and party identification. Combining the five characteristics of information sources that scholars have proposed as influencing the effectiveness of online rumors in China's catastrophic events—credibility, professionalism, attractiveness, mystery, and concreteness (Meng et al., 2022), we suggest that these characteristics can be explored in the future in distinguishing the quality of information.

Although this study yielded interesting results, several limitations need to be acknowledged. A social medium is inherently social in nature, in that it seeks to create, capitalize on, or maintain social interactions among its users (Carr & Hayes, 2015). In terms of users' daily use of microblogs, the authentication information of the poster, the content of previously posted messages, the number of likes and retweets of messages, and the general tendency of attitudes in message comments all influence users' judgments of message authenticity, whereas we only examined the influence of displaying the location of the poster on users' information perception and judgments. A systematic study of the perceived credibility of social media information from a more macro perspective should consider the influence of factors such as social media affordances, social norms, cultural context, and the user's psychological framework. The validity of these and other potential factors should be identified and ranked in a hierarchical order.

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Conflict of Interests

The authors declare no conflict of interest.

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Article

Pre-Truth: Fake News, Semiological Guerrilla Warfare, and Some Other Media and Communication "Revolutions"

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Abstract
In this article, I will work on the idea of Pre-Truth (as opposed to post-truth) and Semiological Guerrilla (as opposed to fake news), claiming that these two concepts are better equipped to explain what is happening in our contemporary societies, especially if we take into account the world of media and communication. In the first part of the article, I will frame the problems of fake news and post-truth within the dynamics characterizing the relationships between knowledge and power. Taking into account Foucault and Latour's perspectives, I argue that the problem of fake news can be understood as a new kind of relationship between these two instances, previously stably coupled and in the hands of institutional power. Later, I will deal with three different meanings of "fake news," that are usually blended and confused: (a) serendipity, (b) false belief, and (c) mendacity. Consequently, I will deal with the problem of "Semiological Guerrilla Warfare," arguing that the new shape of the "knowledge-power relationship" rendered alternative and non-institutionally certified interpretations the norm. Eventually, I will identify the deep cause of this effect in the machinic production of documents provided by new technologies, causing a return of the medieval sense of "truth" as "trust," independent from knowledge and strictly related to anecdotes and personal experiences. Finally, I will work on the concept of "truth" connected to technology, trying to reveal its genealogy with the aim of explaining some misleading contemporary beliefs on "post-truth."

Keywords
post-truth; fake news; semiological guerrilla warfare; semiotics; experience and knowledge

Issue
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1. The Age of Fake News: Is it Really the Way We Are Told?

This is the age of fake news (see Baptista & Gradim, 2022; Tandoc et al., 2017). But not in the sense that it is an age in which false news spreads; it has always spread as we all well know (two classical examples are the "Donation of Constantine" or the "Inquisition," when women were burnt alive after being declared—obviously falsely—witches). This is the age of fake news in two different senses: (a) first, in the sense that *fake news is also produced and spread by people who do not have a cultural or political power*; and, second—maybe for this reason—(b) this is the age of fake news in the sense that fake news is seen as a problem that we have to defend ourselves against.

While it is usually framed as a negative phenomenon, the first sense could be also intended as a form of democratization of knowledge and information that is actually positive: Because people who did *not* have power have always tended to endure, and only endure, fake news and have always found themselves on the wrong side of fake news, being usually witches and not inquisitors. As far as the second sense is concerned, it is important to note that since those responsible for spreading information, including fake news, have always been the ones in power, communities were not feeling the need to defend themselves, that is, to recognize the institution's voice among many other ones that speak in the web or inside our social media. Once, those responsible for fake news were always those who also had a form of institutional power. Now, even someone who

does not have that kind of power is able to produce fake news. As a result, in the last 15 years, institutions have felt the need to teach students and many other components of society to defend themselves from potentially unreliable sources of information and fake news (see for instance Digicomp, a framework by the European Commission for educating citizens on digital literacy and competence; cf. Vuorikari et al., 2022). There is no need to make malicious inferences from this: Indeed, democratic institutions are inspired by the will to emancipate people, so that nowadays who holds power also wants to coach people to defend themselves against fake news. This is a completely new phenomenon, which main cause is connected to a point I will develop later: In the past few years, inside the world of information and communication, something has decentralized the power of controlling sources, taking it away from the traditionally delegated actors which have withheld this role for centuries.

Hence, the first important point, if we really want to grasp what is happening in our society: What we generically refer to under the label of the "fake news problem" is more deeply the problem of a relationship between knowledge and power, in which, for the first time, there is a separation between types of power and the power of controlling information. Those who have political and cultural power no longer have control over information, or, at least, have less control over it than in the past, and therefore need to educate others to recognise their voices among the other millions of voices that circulate inside social media, while they did not have this problem before. We could frame these features of the age of fake news in a more academic way starting from the relationship between knowledge and power studied by Foucault. Indeed, Foucault (1976) argued that power is first and foremost to be understood as the "multiplicity of relations of force immanent to the field in which they are exercised and constitutive of their organisation" (Foucault, 1976, p. 82, translation by the author), an impersonal dimension that directs social actors but, at the same time, it is reproduced and propagated through the social actions of the actor themselves. According to Foucault, knowledge is a mode through which power regulates, shapes, and legitimises itself, and has a role in managing the social body.

In the past, power and knowledge were concentrated in state institutions and apparatuses. These institutions leaned on each other through the intertwining of decision-making, punitive and cognitive power, and became the social actors in which it was most possible to see the function of the power-knowledge pair in the management of social relations. Today, with a phenomenon of progressive decentralisation, we are witnessing a fragmentation of the knowledge–power binomial: While on the one hand, the institutions remain the stronghold (albeit often undermined by lobbies, big finance, and internet giants) of decision-making and administrative power, on the other hand, knowledge and its production are spreading horizontally among different and varied social actors, who are more numerous and less controllable. Power relations within a social system are in fact the result of systemic and dynamic relations between social actors. Radical changes in social actors and their relations can therefore reconfigure the ways in which knowledge and power are articulated. As Latour (2006) has shown, not only human individuals are social actors, but also non-human actors such as animals, bacteria, materials, plants, and not least technologies. What this article will attempt to show is that the explosion of certain kinds of technologies is reconfiguring both the relationship between social actors and the ways in which power and knowledge regulate these relationships.

Summing up: The problem is not the spread of fake news and their increase in quantity, but the relationship between knowledge and power, between what we know and what we want others to know, between who produces knowledge and who has power and controls it. In this direction, I will focus on the ways through which (a) the relationship between knowledge and power produces the concepts of truth and falsehood, and (b) how a radical reassemblation of the network of social actors (Latour, 2006) modifies these relationships.

This looks like a much more interesting and much more difficult problem.

2. The Force of the False and the Three Stages of "Fake News"

Before investigating how this perspective can shed a new light on what I have called the age of fake news, it is crucial to focus on the role of "fake" in our framework and how it relates to the current radical societal changes. Three "stages" can be individuated. First, it is important to stress that a true piece of information is not necessarily good, as well as a false one is not necessarily bad. Of course, this has nothing to do with day-to-day things, like the many small lies we tell, perhaps to a good end, but with information: Giving true information in a situation of calamity or risk, as an evacuation, a fire, or flight from a hazardous substance, may lead to carnage, and, for this reason, fake news has always been given not to unleash panic and to control the situation. Far be it from me to defend false information. However, it is important not to polarize and split the problem between "the good" (truth) and "the bad" (false), since the aim of this article is to break down the problem and show that the point is not the fake or the defence of the truth. After all, my mentor Umberto Eco (2000) wrote a wonderful essay called "The Force of the False," which he used to show how falsities have contributed to crucial scientific discoveries. One of Eco's favourite examples on this topic was Christopher Columbus: Columbus went to the King of Spain to do what today we would call "asking for a grant" to fund a scientific project after the King of Portugal had refused this very same request. For many good reasons, we would say today, because what Columbus had in his

hands was nothing other than a series of fake news: the maps were wrong, the calculation of the dimensions of the Earth was wrong, the credit given to certain theories was wrong, the project to redeem Asian savages was wrong, and even the financial investment was wrong. And yet, from all this collection of false knowledge and full-blown fake news (Columbus had the maps drawn up by his brother and relied on seamen's tales), Columbus made the greatest European discovery of the century (see Bergreen, 2011). The name for this phenomenon is *serendipity* (cf. Ross & Copeland, 2022), namely a discovery that you make, in spite of yourself, when you are looking for something else. Serendipity is at the heart of the vast majority of scientific discoveries, because much true knowledge can be gained starting from what is false (on this topic, see Eco, 2000). Falsity, then, is neither bad nor good; it depends on what use you make of it. The problem, on the contrary, is mendacity, which is a completely different matter.

As far as our "second stage of fake" is concerned, it is indeed important to notice that when Ptolemy used to say that the earth does not move and it is at the centre of the universe, he was not lying, he was wrong. Ptolemy said what is false but believed that what he said was true. He simply had a false belief. And this is exactly the state of mind behind the fake news produced by those who do not have cultural power: They are people that put information into circulation believing that they are right. They are not lying, they are in another state that, as we shall see, we can call "semiotic guerrilla warfare." We will come back to this in the next paragraph. For now, it is very important to distinguish two stages of fake news: *serendipity* and *false beliefs*. A totally different thing, if compared to the previous two, is mendacity, where one says what is false, but they say it knowing that it is false. Mendacity is the third stage of fake news: One believes what is true, but one says what is false.

In order to take into account this third stage, let's consider an example, taking a leap of a few centuries forward: the Paris Climate Change Conference of 2015, when politicians signed an agreement on climate change. Two years later, Donald Trump gets elected as the president of the United States of America and claims, as he was already doing since 2012, that climate change is fake news, invented by China in order to put the American economy on its knees ("the concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive," Trump, 2012). Trump knows that what he is saying is false, and he has a huge amount of data that refute what he is saying, but he has the advantage of telling a lie and having people believe that it is other people who are telling lies. Note the staggering subtlety of Trump, who produces a *meta-fake news*. Trump perfectly knew that in those years fake news was a much-discussed issue, and, while he was giving a piece of fake news, he used to accuse others of saying what is false while they are telling the truth. So, truth still matters a lot in the so-called "fake news" problem, and there is no need to embrace its "post," as I will try to demonstrate later.

It is also important to notice that no institution sent a university lecturer to the White House to explain to Trump how to defend himself against fake news. Indeed, the most dangerous fake news do not come from people on social networks, they come from institutions that have power. All the big examples, like those in healthcare, are like that: The anti-vax movement emerges from a study published by *Lancet*—one of the most prestigious medical journals in the world—written by a well-known English doctor, Andrew Wakefield, who issued false data concerning the children involved in his study, because, at the same time, he had patented a vaccine alternative to the trivalent, which it was in his interest to discredit in order to sell his own (cf. Eggerston, 2010). The Di Bella cancer treatment in Italy came from an oncologist with a good curriculum (see Di Bella, 2019) and was tried out by a part of the Italian scientific community headed by Umberto Veronesi, who falsified it. It was the very same for the Hamer method or that of Gerson, a German doctor who treated tumours with coffee enemas and fruit juice extracts.

And the point is precisely this. When fake news is spread by someone with cultural or political power like Wakefield or Trump, it is usually fake in our last sense, the sense of being lies: Wakefield knew that he had falsified his data and asked for the MMR vaccine to be suspended in order to sell his own. But the great majority of anti-vax supporters does really believe that vaccinations are harmful or that the Di Bella method can treat cancer. Why?

3. The Semiological Guerrilla Warfare

My claim is that they are somehow living in a state of generalised semiological guerrilla warfare. Eco (1973) used to think of the "semiological guerrilla" as a local and multiple form of resistance against the centralised power of media, the one that used to build and spread the dominant "world view" (see Paolucci, 2017, 2021). At that time, the media system was reliant upon the formula "one-to-many": Information originated from a source possessing cultural power and then flowed towards the so-called (at that time) "mass." Eco suggested that it was better to control the outfall than the source of this flow of information, by switching focus to the direction of the message through the implementation of a semiological guerrilla made possible by deviating and non-standardised interpretations:

> Usually politicians, educators, communication theorists, believe that in order to control the power of the media, it is necessary to control two moments of the communication chain: the Source and the Channel. In this way they believe they control the message; and instead, they control the message as an empty form that at the Destination everyone will fill with

> the meanings suggested to him by his own anthropological situation, by his own model of culture….For this…it will be necessary…to apply a guerrilla warfare solution. We must occupy, in every place in the world, the first chair in front of every television set….If you want a less paradoxical formulation, I will say: the battle for the survival of man as a responsible being in the Age of Communication is not won where communication starts, but where it arrives…: just as communication systems envisage a single industrialised Source and a single message that will reach an audience dispersed throughout the world, we will have to be able to imagine complementary communication systems that allow us to reach every single human group…to discuss the incoming message in the light of the arrival codes, comparing them with the departure codes. (Eco, 1973, pp. 296–297; translation by the author)

We now live in a world where a deviant version of the semiological guerrilla has won and has become, paradoxically, the default mechanism of many contemporary forms of communication, presenting aberrant decoding, misleading interpretations, and contents aimed at deconstructing knowledge, since everyone now knows that knowledge is always connected to some form of power.

Post-truth (McIntyre, 2018), fake news and "expertise death" are heterogeneous terms seeking to explain the effects of a semiotic phenomenon that is actually of another type, the victory of the semiological guerrilla.

Indeed, this new generalised state of semiological guerrilla warfare is born out of two things:

(a) An unprecedented technological revolution, in which the receivers of the message become themselves a source—if not "broadcasters," at least "narrowcasters"—and, in their turn, produce texts and documents that are recorded a priori, even if they are valueless (this is an epoch-making revolution, since, in the past, recording followed a filtering of what was of value, while, now, it precedes it; on this topic, see Hoog, 2009, and Paolucci, 2013, 2023);
(b) The fear of being manipulated, coming from the knowledge of having been manipulated in the past: now *one knows* (and it is important to insist on the impersonal form of the enunciation) that knowledge is always linked to a form of power and that information circulates because it is spread by those with political, cultural, and economic power. Hence, the triumph of conspiratorial thought and many other things of the same kind (on this topic, see Leone, 2016, 2020).

However, it is worth distinguishing the general idea of the semiological guerrilla from the way it was thought of in the 1960s. As previously stated, according to Eco (1973), the semiological guerrilla was meant as the local construction of deviating forms from the *mainstream* information. If that was the idea, the semiological guerrilla is not just possible nowadays, but is now even more necessary than before. It simply must take a different shape. In a world where democracy has a primacy over competence, where expertise has somehow become an opinion among other opinions (cf. Marrone & Migliore, 2021) and where different, contradictory versions of the world circulate into our encyclopaedia, there is no salvation outside a new form of semiological guerrilla, a semiological guerrilla 2.0, able to emancipate people inside new media environments. Indeed, writing his essay on semiological guerrilla, Umberto Eco strongly felt that the duty of the intellectual was to work in favour of what, at the time, was called "the masses," who were the object of thorough-going manipulation on the part of *élite* culture, which used to build cultural products to control them (Eco, 1973). When he started his column for the *Espresso*, the *Manifesto*, and other mass media, this pedagogical and emancipatory instinct behind his critical articles may have been even more evident, because there were the masses to "educate," teaching them the "game of the media," so that they would not succumb to the power of manipulating information and building consent. Eco thought that the semiological guerrilla solved an emancipatory function for the people belonging to the so-called "mass," as it was able to overturn their position in relation to the cultural *élite*. Actually, something similar has happened. However, the participation in information, the possibility of becoming local broadcasters and content providers, the idea of not believing in the mainstream information carried out an emancipatory function that has not been developing as Umberto Eco might have hoped.

This situation brought us the points highlighted in our argument's beginning: The technological revolution has led to a reformulation of the relationship between knowledge and power. When Eco wrote his ideas on the semiological guerilla warfare, there were a completely different social system and forms of knowledge that have now been altered by the introduction of new actors in the social scenery. The relationship between knowledge and the network of social actors is the basis for the production of the concept of truth in a society: The semiological guerilla proposed by Eco was based on a concept of truth and falsehood which were related to institutional power. Now, this power has been redistributed, but not, as Eco whished, thanks to the conceptual instruments provided by the high culture and cultural institutions, but due to new kinds of actors that have modified the very same idea of truth, as we will now show.

4. The Machinic Production of Documents and the Post-Truth

Within a genealogical perspective (Foucault, 1969), a clear example of the reassembling of the networks crafting the relationships between knowledge and power can

be found during the Middle Ages. Indeed, the destabilising effects generated in the Middle Ages by the passage from truth as "trust in authority" (or in personal and feudal loyalty), to truth as something guaranteed by documents has already been studied (Ferraris, 2021, p. 27).

Green (2002) has shown how the very word "truth" changed meaning at the end of the 14th century. While "trouthe" previously meant something like "integrity" or "reliability" (the word "trust" comes from it), it was only at the end of the 14th century that it began to take on its present meaning of "conformity to the facts." At the same time, the meaning of its antonym, which was "tresoun" (as opposed to the integrity and reliability of "trouthe" as "trust": "tresoun" was the practice of helping the enemy) began to change from "personal betrayal" to "crime against the state." In *A Crisis of Truth*, Green (2002) maintains, therefore, that these changes and alterations in meaning were closely connected with the growing emphasis on the written word, which generated documents, rather than on the spoken word, which generated promises. At the same time, these changes and alterations related to the simultaneous reshaping of thought connected to legal practices that took place in those years. According to Green (2002), the very rapid increase in the quantity of documents created by a bureaucratic, centralised, and authoritarian state like that of Richard II in England at the time contributed to bringing about the fundamental change in the attitude that, still nowadays, we have (or are "said to have" or "should have") to an item of evidence or a proof, which has moved from an idea of truth that resides almost totally in persons to a truth that resides in and rests constitutively on documents, through which certain facts speak.

A second turning point in the conception of truth can be found in the scientific revolution, and in the Boyle versus Hobbes debate particularly. While, in the previous case, the transition from orality to writing—a real technological revolution—made the meaning of truth as an idea of integrity and reliability turn into that of the conformity to facts mediated by documents, now, truth moves from conformity to facts through documents to the production of reality through machines. While, before, people produced documents, now reality is produced, but reality is not produced by us nor by one of our particular sub-groups called "scientists": It is machines that produce reality. Truth—scientific truth—is not based on the production of documents by means of man's aids (writing) but on the production of what is real by means of machines.

In order to understand the world we live in nowadays, Shapin and Shaffer's book (1985) on the debate between Boyle and Hobbes is a must-read (the book had a huge influence on Bruno Latour's thought: see Latour, 2006). Indeed, something momentous happened with Boyle that is fundamental for grasping present-day reality. In fact, to put order in the debate between "fullists" and "emptyists" that followed Torricelli's discovery—these were the years in which the ether used to be believed—Boyle did not say a word, he did not even write a scientific treatise, but produced a machine that enclosed a Torricelli tube in the inverted glass casing of a pump and made a vacuum with a crank. Later, he suffocated small animals and snuffed out lots of candles in his machine. Then, with this pump, he went to the king, who, we remember, was the one who produced documents. With the king, Boyle found Hobbes, a supporter of the ether and one who had already sent the king a whole range of admonitions in the form of letters and other documents (Hobbes was a producer of documents, while Boyle was a producer of machines). What Hobbes did not like about Boyle was his appeal to *doxa* to get the support of his peers. Boyle did not rely on logic, mathematics, or rhetoric, but on the concept that anyone could use his machine and whoever used it would produce reality, the very same reality as that produced by nature. A kind of Spinoza's *ordo et connexio rerum idem est ac ordo et connexio idearum* is at work behind Boyle's pump.

On the contrary, Hobbes, who believed in the ether, which was contradicted by Boyle's machine that produces vacuum, said that we cannot delegate the production of the accepted version of reality to the people, because people must delegate their power to the king and the institutions, and when the king speaks and produces documents, it will be the people that speak and produce them (see Shapin & Shaffer, 1985) But Boyle replied that his machine produced the vacuum, produced reality without passing through any document, any expertise or any other delegation. The only mediation needed is machinic. Take whoever you want from among the people, give him Boyle's machine, and he will produce the vacuum. And Boyle had a technician with a crank that produces the vacuum using a chicken feather as a sensor. Through Boyle's pump, we assist, by means of mediation through the machine, to the splitting between science and politics (see Latour, 2006). Science produces reality, and therefore knowledge, by means of the machinic production of reality, while politics produces documents, and therefore knowledge, by means of a delegation to experts or sovereigns, to their narrations, and their meanings.

In my view, the only acceptable sense of Bachelard's (1934) by now famous slogan that "*les faits sont faits*" ("facts are made of"), meaning that they are constructed, is that facts are produced through machines. Vaccines are made through machines, like many other things. When, on the other hand, we say that facts are socially constructed, we are, from my point of view, exporting a principle of science to other cultural domains that work in a very different way. It is now almost a common place in the Humanities to claim that facts are socially constructed, but this must not be taken for granted at all, since it looks like an exportation of a principle born to say quite the opposite.

In fact, many of the problems in debates on post-truth and in the concept that facts are built through

narratives and media starting from emotions arise here: Science produces knowledge through the production of reality, which is machinic, while politics produce reality through the production of texts and documents. Science reaches knowledge moving from the production and reproduction of reality, through machines, machinic perceptions, laboratories, and environments. Politics and information produce knowledge moving from the production and reproduction of texts and documents. Those, in the world of information or culture, who say that facts are built through media, in order to explain knowledge in the world of information and communication, are using the science model, which, following my previous remarks, is a mistake, because scientific knowledge comes through the production of reality by means of machines and not by means of texts and documents, meanings, narrations, and points of view.

For these reasons, I suggest that this mistake has become very clear during the last 25 years, in which for the first time, due to the quantitative increase of document production and circulation (and I will come back to this later), even a document is pushed through with the mediation of a machine. Now we have machines that generate documents. Not only, for instance, in deep fakes, where the whole text is produced through machines, but also in our present-day situation, where, even when documents are produced by human beings, the machine produces new documents starting from these very same documents (metadata), that, afterwards, direct human beings to produce and read other documents. "Echo chambers," "bubbles," "algocracies" are heterogeneous names for another kind of phenomenon, which is the new machinic production of documents.

5. Pre-Truth, or the Primacy of Experience Over Knowledge

The web and what Ferraris (2021) is calling our "documediality era" are a great pump that produces Boyle's vacuum. And what effect does this have? The most evident one is that we are returning back to a medieval idea of truth of the type that Green told us about, an idea of truth that resides above all inside the persons, in trust and reliability: a "truth" that is "trust."

This is happening in a twofold sense: On one hand, trust in experts, who mediate our access to documents which, for our medium-level competencies about the machines we use on a daily basis, are broadly inaccessible in the same way as the workings of an engine are broadly inaccessible to a person who drives a car and has a licence; on the other hand—and this second dimension is the most original one—when documents proliferate, a quantitative change becomes qualitative and truth as trust takes on the form of an anecdotal fact.

And so, there are two changes: Now documents are generated not only by the king or his various substitutes (the state, institutions, intellectuals, newspapers, television, etc.). Currently, we have semiological guerrilla warfare that generates documents, but it generates them also and especially by means of machines. The other change is that this quantitative change gives rise to a corresponding qualitative change, which consists of the primacy of the anecdotal fact. The proliferation of anecdotal facts is the real novelty in the new places of information grounded on the victory of semiological guerrilla warfare. Anecdotal facts are something of the kind: "Since she became a vegan, Susy has got slimmer and is very well," or "since Marc followed a ketogenic paleo diet and eats beefsteaks at breakfast, he has got slimmer and is very well." Susy and Marc do two opposite things and yet they are both very well because both diets are much better than that of the average European. The problem with anecdotal facts is that instead of asking why two opposite things are both good for one's health, one normally joins the paleo diet or the vegan faction, because they back what in the social world takes on the form of their own experience. Hence, the primacy of the anecdotal fact over knowledge. Indeed, the structure of the anecdotal fact is the following: "I can accept what science says, I can accept pre-existing knowledge on a subject, I can accept mostly everything, but, *as far as I am concerned*, it was good for *me*, and how can anyone but myself claim to know anything about me? I'm certainly not denying anything other people say, they may be absolutely right by all means—I believe them (or perhaps not)—but *my experience* is that it was good for *me* and it was right for *me*. Don't you trust me and believe the simple truth that it was good for me?"

Due to their semiotic structure, anecdotal facts institute the primacy of experience over knowledge. But obviously—and it is important to learn how to import what is really importable from science—knowledge has nothing to do with experience, so much so that a theory is not to be verified but falsified. Indeed, there will always be that anecdote about a mythological grandpa who lived to be 100 years old smoking two packets of cigarettes a day, which verifies the false theory that smoking can make you a centenary. Therefore, instead of speaking about *post-truth*, we should speak of *pre-truth*: You have truth beforehand, it resides in you and in that multiplicity of intermediaries, often machinic, that give you access to documents that are mainly inaccessible. And what you want is to be right, that is to say, you want that others confirm what you already know and that they trust you. In this sense, Ferraris (2021, p. 32) speaks of a "privatisation of the illusion of being right." However, this has nothing to do, as it has often been claimed, with a form of "confirmation bias" amplified by the web and its bubbles. On the contrary, it has to do with the return to a medieval dimension of truth, which precedes its conception of something that "corresponds" to the facts: a *pre-truth* in the sense of a return to its pre-modern dimension.

In this return to the medieval meaning of trust, in an internal, pre-existing truth which is connected to

experience and not to knowledge, online enunciation is the contemporary form of St. Augustine's "doing truth." Indeed, as it is well known, Augustine (2008) confessed to an omniscient God and, above all, wondered *why* he was confessing, as God already knew what he wanted to confess. In the age of pre-truth, we confess to an omniscient machine, which records our confession and adds metadata to it. To paraphrase St Augustine in the *Confessions*, we want to "do truth" in front of you, omnipotent and omniscient, and in front of many witnesses. And what does the machine do? It gives us a score (numbers of likes, followers, etc.). Influencers are the new hard-core gamers good at playing *The Game of Truth* with the machine: They are high in score and they keep on confessing to a machinic God able to transform their information into values and money.

6. Conclusion

Starting from a semiotic approach towards falsehood, we have discovered that the problem of the "fake news age" is neither the falsity of fake news per se nor the so-called "post-truth attitude," but the structural change of the relation between knowledge and power, which has, consequently, produced a radical transformation of the concepts of false and truth. The core of this structural change can be found in the machinic production and diffusion of documents, which has led to a state of generalized semiological guerrilla.

Through the enormous amount of information characterizing the documedial revolution (Ferraris, 2009, 2021), which led to the related redistribution of the relationship between power and knowledge, this quantitative machinic production of texts and documents has been able to produce a qualitative change in the notion of truth and false. Indeed, truth and false are no longer concepts in the hand of institutional powers, able to create a communitarian agreement on facts, but are now located in the relationship between individuals and their confessor, the technology, the new actor that is increasing its power, not imposing its truth, but sustaining everyone's desire to *do* truth.

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Conflict of Interests

None.

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