

This special issue of *Lingue e Linguaggi* on "The Languages and Anti-Languages of Health Communication in the Age of Conspiracy Theories, Mis/Disinformation and Hate Speech" focuses on the languages of discourse of health communication, specifically health message design, addressing COVID-19 in both institutional and non-institutional media settings. Health communication during the pandemic has often intersected with the notion of (dis-/mis-)information, conspiracy theories and hate speech. The special issue discusses aspects related to genre and discourse as well as morphosyntactic characteristics of health communication in the current age, an age increasingly characterised by (dis-/mis-)information, conspiracy theories and hate speech as occurring in the context of both mass media and social media. The purpose of this special issue is to explore the "anti-languages" and counter-discourses endorsing (mis/dis-)information, and conspiracy theories which are in direct opposition to official discourses and challenge social and political hegemony. The discourse approach to health communication featured in the papers of this special issue can help understanding social responses to sickness and belief related to health.

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Edited by

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Natalia Knoblock
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INTRODUCTION

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Abstract – “The Languages and Anti-Languages of Health Communication in the Age of Conspiracy Theories, Mis/Disinformation and Hate Speech” aims at analysing the languages of discourse of health communication, specifically health message design, addressing COVID-19 in both institutional and non-institutional media settings. The purpose of this special issue is to explore the “anti-languages” and counter-discourses endorsing (mis/dis-)information, and conspiracy theories which are in direct opposition to official discourses and challenge social and political hegemony. The discourse approach to health communication featured in the papers of this special issue will help understanding social responses to sickness and belief related to health.

Keywords: conspiracy theories; COVID-19; disinformation; hate speech; health communication; misinformation.

This special issue of *Lingue e Linguaggi* on “The Languages and Anti-Languages of Health Communication in the Age of Conspiracy Theories, Mis/Disinformation and Hate Speech” focuses on health communication in both institutional and non-institutional media settings and explores its relation to mis/disinformation and conspiracy theories. Mis/disinformation, conspiracy theories and hostile communication are reportedly on the rise and are beginning to receive significant attention among linguists and discourse scholars because of the alternative discourses which are generated through them (e.g. Demata *et al.* forthcoming; Knoblock 2020; Zummo 2017, 2018). With the growing popularity of online social networks and their (mis)information propagation potential, the ability to assess the credibility of information has become crucial. These phenomena have always existed but have gained stronger traction recently also thanks to the growing influence of social media in the public sphere (Demata, Heaney & Herring 2018; Zummo 2017). One of the consequences of this influence is that the communication of unofficial or alternative health discourse, often in opposition to that of “official” media and science, has become very difficult to challenge. Furthermore, the narratives supporting alternative health discourses have increasingly become part of the growing consensus for populist parties and leaders in many parts of the world, as distrust in the official science feeds into

the typically populist drive against establishment politics (Bergmann 2018).

During the last three decades or so, health discourse has been particularly exposed to mis/disinformation and fake news. Conspiracy theories and mis/disinformation about AIDS have been followed by those about the supposed damage brought by vaccines (Archer 2015; Kata 2010). A long tradition of studying public health communication and the impact on individuals' health beliefs, behaviours and attitudes has produced increasing attention to the elaboration of the message and risk of emotive amplification. In fact, tension arises between medical science looking out for the collective well-being and groups being concerned with their individual health. As an example of this, many studies have analysed the linguistic constructions and discourses on the correlation between the measles, mumps and rubella (MMR) vaccine and autism, that are based on individual information regarding immunization, with the medical community encouraging individuals to vaccinate and large sectors of the public who exhibit hesitancy due to varying personal concerns or beliefs with regard to vaccine efficacy and safety. Such exchanges have developed in anti-vaccination discourses, with (mainly online) fora working as echo chambers. More recently, the coronavirus outbreak has provided evidence of how the spread of disinformation and conspiracy thinking has reached beyond the narrow confines of individual or group narratives for believers. As noted by the World Health Organization, the COVID-19 outbreak and response was accompanied by a massive infodemic: an overabundance of information – some accurate and some not – that made it hard for people to find trustworthy sources and reliable guidance when they need it (PAHO 2020).

The importance of quality information in the healthcare domain is impossible to overestimate since erroneous or useless/irrelevant materials may imperil people's lives. This is amplified at times of epidemics because of the potential to harm a high number of people. While all health-related mis/disinformation is dangerous, some of it might originate without malicious intent, while some other may be a result of deliberate distortions called to conform to political, ideological or other dogmatic positions. A thorough analysis of the threat, as well as careful studies of the best ways to counter it, are necessary. Finding a solution is not an easy task. It has been demonstrated that addressing conspiracy theories with only corrective information is often ineffective, and crafting successful counter-narratives needs to take into account psychological, socio-political, and cultural reasons behind the urge to spread false information (Lazić & Žeželj 2021).

In such circumstances, a linguistic approach to health communication can help understanding social response thanks to the analysis of interactions, or by examining ideological representations of sickness and belief related to healthy life. It is therefore the purpose of this special issue to explore the

“anti-languages” (Halliday 1976) at the basis of the counter-discourses endorsing (mis/dis)information and conspiracy theories in direct opposition to official discourses and challenging social and political hegemony (Terdiman 1985; Van Dijk 1997). The collection of new and original research presented here focuses on the languages of health communication in both institutional and non-institutional media settings. It addresses a range of aspects related to genre and discourse as well as morphosyntactic characteristics of health communication in the current age, with the ultimate goal to gain insights and tackle misinformation about health.

Specifically, **Maria Ivana Lorenzetti** examines the rhetorical response to the COVID-19 pandemic of two right-wing populist leaders, former US President Donald J. Trump and current UK Prime Minister Boris Johnson. The study exposes the two leaders’ attempts to exploit the emergency in the typical populist style to serve their political interests. In his trademark style, Trump used the pandemic as a stage to call out and blame multiple enemies both at home (the US Congress, the media) and abroad (China). On the other hand, Johnson, who, unlike Trump, did not lend an ear to conspiratorial thinking but still initially minimised the extent of the danger, framed the pandemic as the fight of a nation “walking alone” in a nationalist sense.

Focusing on the British side of the health communication used during the pandemic, **Carlotta Fiammenghi** explores the discourses of and about anti-vaccination conspiracy theories in two national British newspapers, the *Guardian* and the *Daily Mail*. The study focuses on the frequency and usage of the lemma ‘conspiracy’ in articles dealing with the controversy surrounding the measles, mumps, and rubella vaccine in the UK. The phrases ‘conspiracy theory’ and ‘conspiracy theorist’ are used with a strong negative connotation, mainly as insults, and conversations on Facebook which contain such phrases are markedly antagonistic. The interlocutors’ only aim appears to defend their pre-existing point of view from the other side’s attacks, and the discourses of and about anti-vaccination conspiracy theories express strong ideological positionings rather than truth-seeking.

Anna Anselmo focuses on blogs written by British conspiracy theorist Martin Geddes, available on his personal website. The blogs were written from March to December 2020 and represent an early testimony of COVID-19 scepticism. The article aims to analyse Geddes’ conspirational counter-narrative of the coronavirus syndemic by focusing on four elements: the generic characteristics of the corpus, Geddes’ construal of ethos, his texts’ connection to the theoretical framework of science-related populism, and, lastly, the representation of select social actors in the corpus and how such representation sustains Geddes’ conspirational arguments. These elements provide insight into the idiom of conspiracy theorists and their construction of counter-information and counter-knowledge.

Moving to the USA, **Jacqueline Aiello**'s article investigates anti-mask discourses in the US. They were propagated by different actors using different media, i.e. conservative radio talk-show host Rush Limbaugh, users who signed an online petition against school mask mandates, and anti-mask activists speaking at school board meetings. The analysis explicates the processes involved in the delegitimization of scientific, political, and mediatic authority. It records the development and perpetuation of alternative truths by casting doubt on the interests served by key political and scientific figures and by questioning the veracity of the information coming from left-leaning news networks, government institutions, and the scientific community.

Virginia Zorzi analyzes the notorious Plandemic video interview by Judy Mikovits, a former National Cancer Institute scientist, who claimed that US public health institutions planned and profited from the pandemic. The study meticulously compares the video with the interview of ex-FDA Associate Director of Drug Safety David Graham, who became a whistleblower instrumental in uncovering serious and sometimes fatal health risks of painkiller Vioxx, withdrawn in 2004. The article catalogues linguistic and textual features used by Mikovits and Graham to convey ideological messages, such as lexical choices, actor representation, recurring themes, coherence and evidentiality. The analysis reveals both similarities and differences and raises questions concerning how close and credible the two interviews may be perceived by recipients who do not engage in fact-checking.

Stefania D'Avanzo investigates the institutional communication produced by the WHO Director General during the initial period of the pandemic, March - May 2020. At that time, WHO represented the most reliable institution committed to deliver the correct information about the COVID-19 pandemic. However, uncertainty and insecurity have characterized the news about the virus since its outbreak and resulted in distortion of information. The paper highlights the processes and the representations of the roles played by both WHO and China institutions in WHO Director 'speeches, in order to understand the legitimation strategies and possible manipulative intentions covered in such communication concerning the pandemic.

Margaret Rasulo explores the workings of "conspiratorial" platforms, and provides evidence of how they support and intensify the infodemic phenomenon by acting as "*seed sources*", or primary online providers of (mis)information. These platforms have direct access to secondary sources such as social media accounts and other knowledge-sharing platforms that trigger the infodemic system of communication. She shows that conspirators follow a specific pattern to disseminate their claims, starting by establishing

their legitimate position among the scientific community, setting up a narrative of an alleged secret plot, presenting supporting evidence, and advocating logical and even historically-grounded explanations behind their suspicions.

Focusing specifically on Twitter, **Claudia Roberta Combei** highlights the recent proliferation of online discussions on the COVID-19 vaccines and traces the evolution of this debate by analysing an ad hoc corpus of tweets (over 5.5 million words) collected from March 15th to April 14th, 2021. By employing sentiment, emotion, and emoji analysis to uncover the users' affective states, perceptions, and reactions regarding the COVID-19 vaccination, the author proves a connection between vaccine sentiment and real-time news and by other information circulating on the Internet. The analysis highlights the polarizing effect of input toward the negative and the positive extremities of the sentiment scale. At the same time, it stresses that the infodemic relies primarily on strong negative emotions, such as fear, anger, and disgust.

Again on Twitter, the multiple ways to name the virus that causes COVID-19 are examined by **Ewelina Prazmo** and **Rafal Agustyn**. Some of the labels of the pathogen, SARS-CoV-2, stress the Asian origin of the virus. Such names, as Asian virus, Chinese virus, Sinovirus or Wuhan virus are discouraged by the scientific community but remain in frequent use in various COVID-19-related discourses. While they may be purely referential, they are, nonetheless, marked with accusatory or downright racist overtones. The analysis demonstrates the intentional use of the potentially harmful names and describes blatant cases of defamatory and accusatory language targeting the Chinese, which could be linked to anti-Asian violence, especially in the US.

The issue carries on the investigation of conspiracies and health communication from non-specifically anglophone perspectives. Distinctively, **Nataša Raschi**'s article offers discursive and argumentative reflections on the differences between Diderot and D'Alembert on the question of inoculation, one of the most important subjects of their time. The polemic is articulated around several axes: pragmatic, when it focuses on the modalities of experimentation; epistemological, when it attacks the intellectualism that antecedes mathematical axioms to their benefits for society; personal, with direct accusations against the opponent.

The study of the right-wing German political party Alternative für Deutschland (AfD) by **Sabrina Bertollo** zeroes in on the politicization of the health discourse. It investigates official speeches of AfD parliamentarians to see how AfD's Covid-19 communication exhibits conspiratorial or misinformative traits and relates them to Facebook posts which appeared in the AfD's profile in the same time span. The comparison of morphosyntactic

features used by AfD in the two communication channels demonstrates the populists' manipulation of affixation and compounding, personal deixis, moods and deontic modality, as well as clausal linking to deliver pseudo-factual narratives and oppose official health discourse.

The issue of adapting information from a specialized field to fit the linguistic competence of the general population is addressed by **Vince Liégeois** and **Jolien Mathysen**. They look at the discursive representation of 5 terms (coronavirus, virus, COVID-19, epidemic, pandemic) in a (Dutch) corpus of Belgian government communications from a cognitive semantic point of view. They single out the frames in which these terms resurface, attribute specific functions and formal features to these frames and seek to connect them with possible communication strategies used by the Belgian government.

Giulia Adriana Pennisi investigates the discourse of the European Commission on disinformation in order to achieve institutional legitimation through the linguistic and discursive construction of 'trustworthiness', 'credibility', and 'transparency'. The results reveal the EU discursive process of conceptualising 'verifiably false or misleading information' as 'public harm', while distancing it from the EU's fight against disinformation' that is discursively constructed as 'the protection of the EU values'. In particular, the investigation will show how the lexical and phraseological interaction discursively removes the harmful potential of conspiracy theories activists, legitimises massive control measures as the most effective way to guarantee freedom of expression and pluralistic democratic debate, and empowers the EU's image as the shield protecting the European citizens' awareness and societal resilience.

The comparative approach is employed by **Litiane Barbosa Macedo** and **Bernadette Hofer-Bonfim**, who describe discursive patterns and arguments of anti-vax campaigns posted on Twitter in Brazilian Portuguese and in German in January 2021 under the hashtags #vacina and #impfung. The application of Social Media Critical Discourse Studies methodology (KhosraviNik 2018) and the Transitivity System proposed by Halliday and Matthiessen (2004, 2014) with the help of corpus-linguistic software identified recurrent themes and textual patterns in anti-vax campaigns. The comparative analysis underscored the formative role of the socio-political context for anti-vax Tweets while highlighting similarities in the discursive patterns of anti-vax arguments.

All in all, this special issue shows the extent to which health discourse can be remodelled and reshaped following diverging political agendas, and how political agendas themselves nowadays routinely include health discourse (official or "manipulated") in order to both respond to and shape communication and society.

Bionotes: Massimiliano Demata is Associate Professor of English at the Department of Cultures, Politics and Society of the University of Turin. He was a Fulbright scholar in Yale (1999) and Indiana University (2014) and has taught as Visiting Professor at Saarland University (2020), Sciences Po Lyon (2021), and OTH Regensburg (2022). He is the co-editor of the *Journal of Language and Discrimination* and has published *Discourses of Borders and the Nation in the USA. A Discourse-Historical Analysis* (Routledge 2022) as well as books, papers and book chapters on populist discourse, Trump's rhetoric, metaphors of the nation and social media discourse.

Natalia Knoblock is an Associate Professor of English at Saginaw Valley State University in Michigan, USA. Her research interests lie mostly in political and cognitive linguistics, sociolinguistics, and corpus-assisted discourse analysis. Some of her queries focused on the US presidential debates, xenophobia and hostility in online communication, and the cognitive processes involved in verbal aggression and propaganda.

Her articles were published in such journals as *Journal of Language Aggression and Conflict*, *Discourse and Society*, and *Pragmatics and Cognition*. She edited the collected volumes *Language of Conflict: The Discourses of the Ukrainian Crisis* (2020) and *The Grammar of Hate: Morphosyntactic Features of Hateful, Aggressive, and Dehumanizing Discourse* (forthcoming 2022).

Marianna Lya Zummo is Associate Professor at the University of Palermo. Her interests cover issues in sociolinguistics, authenticity in discourses, communication dynamics in health communication and exchanges, studies on the dimension of modality and evidentiality. Her research is primarily related to issues in health communication in online contexts. Recent publications include: *Social Media and Crowd Diagnosis*, (2022); "Isn't It so Heartbreaking to See Our Loved Ones Decline Right before Our eyes": Exploring Posts As Illness Stories (2021); "The war is over". Militarizing the language and framing the Nation in post-Brexit discourse (2021); *Performing Authenticity on a Digital Political Stage: Politainment as Interactive Practice and (Populist?) Performance* (2020); *Seniors' social image: the representation of ageing in electoral campaigns* (2019).

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References

- Archer L.R. 2015, *Validating Vaccines: Understanding the Rhetorical Dynamics of Expertise amid a Manufactured Controversy* (Unpublished doctoral dissertation), University of Washington, Washington, USA.
- Bergmann E. 2018, *Conspiracy & Populism. The Politics of Misinformation*, Palgrave, London.
- Demata M., Herring S. and Heaney D. 2018 (eds.), *Language and Discourse in Social Media: New Challenges, New Approaches*, special issue of “Altre Modernità”.
- Demata M., Zorzi V. and Zottola A. forthcoming (eds.), *Conspiracy Theory Discourses*, John Benjamins, Amsterdam.
- Halliday M.A.K. 1976, *Anti-Languages*, in “American Anthropologist” 78 [3], pp. 570-584.
- Halliday M.A.K. 2014, *Halliday’s Introduction to Functional Grammar*, Routledge, London.
- Halliday M.A.K. and Matthiessen C.M.I.M. 2004, *An Introduction to Functional Grammar*, Hodder Arnold, London.
- Kata A. 2010, *A Postmodern Pandora’s Box: Anti-vaccination Misinformation on the Internet*, in “Vaccine” 28, pp. 1709-1716.
- Knoblock N. 2020 (ed.), *Language of Conflict: Discourses of the Ukrainian Crisis*, Bloomsbury USA Academic.
- KhosraviNik M. 2018, *Social Media Critical Discourse Studies (SM-CDS)* in Flowerdew J. and Richardson J.E. (eds.), *The Routledge Handbook of Critical Discourse Studies*, Routledge, London/New York, pp. 582-596.
- Lazić A. and Žeželj I. 2021, *A Systematic Review of Narrative Interventions: Lessons for Countering Anti-vaccination Conspiracy Theories and Misinformation*, in “Public Understanding of Science” 30 [6], pp. 644-670.
- PAHO [Pan American Health Organization] 2020, *Understanding the Infodemic and Misinformation in the Fight against COVID-19: Digital Transformation Toolkit*. https://iris.paho.org/bitstream/handle/10665.2/52052/Factsheet-infodemic_eng.pdf?sequence=16&isAllowed=y.
- Terdiman R. 1985, *Discourse/Counter-Discourse: The Theory and Practice of Symbolic Resistance in Nineteenth-Century France*, Cornell University Press, Ithaca.
- van Dijk T.A. 1997 (ed.), *Discourse Studies: A Multidisciplinary Introduction*, Sage, London.
- Zummo M.L. 2017, *A Linguistic Analysis of the Online Debate on Vaccines and Use of Fora as Information Stations and Confirmation Niche*, in “International Journal of Society, Culture and Language” 5 [1], pp. 44-57.
- Zummo M.L. 2018, *The Linguistic Construction of Confirmation Niches in Online Comment Sequences*, in Demata M., Herring S. and Heaney D. 2018 (eds.), *Language and Discourse in Social Media: New Challenges, New Approaches*, special issue of “Altre Modernità”, pp. 107-123.

DRAMATISING CRISIS

Rhetorical Responses to the COVID-19 Pandemic by Right-Wing Populist Leaders in the USA and UK

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Abstract – Building on the theoretical lens of Critical Discourse Analysis and Conceptual Metaphor Theory, this paper examines the rhetorical responses to the COVID-19 pandemic of two right-wing populist leaders whose management of the emergency has been viewed as controversial, namely former American President Donald J. Trump and UK Prime Minister Boris Johnson. Through the critical examination of a dataset of speeches, press conferences and social media posts, and focusing on the discursive strategies employed in framing the pandemic, attributing responsibility, people-building, and policy-making, our study reveals that through different trajectories, the two leaders attempted to exploit the emergency to perform a “crisis within the crisis” in the typical populist style to serve their political interests, based on Moffitt’s (2015) framework. In his trademark style, Trump used the pandemic as a stage to call out and blame multiple enemies both at home (the Congress, the media) and abroad (China). On the other hand, Johnson, who, unlike Trump, did not lend an ear to conspiratorial thinking but still initially minimised the extent of the danger, framed the pandemic as the fight of a nation “walking alone” in a nationalist sense.

Keywords: right-wing populism; political rhetoric; COVID-19; crisis; metaphor; Critical Discourse Analysis

1. Introduction

The coronavirus (COVID-19) pandemic that spread exponentially across the globe, starting from January 2020, causing 540 million confirmed cases and more than 6 million deaths (WHO 2022a),¹ has been an unprecedented event whose dramatic impact in terms of human casualties² and economic recession will be felt over the long term. Despite not being the only pandemic that has hit the world in recent times (Snowden 2019), COVID-19 flared up and

¹ WHO data last updated as of June 2022.

² Based on recent WHO data (of May 2022) on excess mortality attributable to the pandemic, the global number of deaths directly or indirectly associated with COVID-19 may be closer to 14.9 million (WHO 2022b).

spread, taking advantage of the unpreparedness of modern societies (Nuñez Garcia Saucó 2020), thus exposing the weaknesses and fragmentation of our globalised world (Ritzer, Dean 2015) where constant social interconnectedness and increasing isolation coexist at multiple levels (Bauman 2012).

As an occurrence beyond the control of every actor, a pandemic is arguably one of the most severe and complex forms of crisis due to the range and depths of its possible effects and requires an immediate response to mitigate its impact (Coman *et al.* 2021). The role of leadership is thus paramount in taking the necessary decisions to tackle the situation, media management, framing the narrative (Coman *et al.* 2021; Lakoff 2014), and effectively communicating policies to the different groups of actors involved (Kahn 2020).

Kahn (2020) outlines two basic leadership models during crises: *The Politician Prominence Model* and *The Expert Appointee Model*. The former sees leaders accepting advice from experts but retaining primary decision-making and public communication role. By contrast, the latter presupposes delegation of primary decision-making and public communication to an expert committee while providing political support for general decisions. *The Politician Prominence Model* fosters personalisation of leadership and involves taking personal control of the situation, while the second model features a broad range of spokespersons selected based on their expertise.

Furthermore, owing to their role and preferential access to public fora, and thus to the minds of the public at large, political leaders may easily “establish common values, aims and concerns; [...] formulate common sense as well as the consensus, both as individuals and as leaders of the dominant institutions of society” (van Dijk 2002, p. 148). Therefore, language, as the primary instrument of political action (Edelman 1977; ‘t Hart 1993; Lorenzetti 2018), is essential in constructing the crisis, shaping collective conscience, fostering understanding, and creating a sense of shared social identity (Jetten *et al.* 2020), which in turn favours behavioural change aligned with policy measures (Ajzen 1988), while facilitating the acceptance of sacrifices (Edelman 1964, 1977). Conversely, failure to provide a clear message or develop a strong narrative of national unity may lead to uncertainty, causing people to look for alternative sources of information and eventually jeopardise the expected response (Greenaway 2020).

Due to the inherent heterogeneity of current populist outlets across the globe and the political spectrum (Mudde 2004), no uniform response by populist actors to the COVID-19 pandemic can be identified (Lilleker *et al.* 2020; Stavrakakis, Katsambekis 2020; Wondreys, Mudde 2020), nor is it possible to claim incompetence by populist leaders *tout court* in managing the crisis (Stavrakakis, Katsambekis 2020). However, political ideology and

partisanship often influenced how some right-wing populist leaders rhetorically framed the crisis and responded to it, at times contributing to the spread of coronavirus-related conspiracy theories by building their appeal on the indirect association with them (Papaioannou *et al.* 2022; Sutton, Douglas 2020) or fostering distrust of science (Boseley *et al.* 2018; Kennedy 2019; van Zoonen 2012). Moreover, such unclear narratives affected how citizens perceived the virus in many parts of the world (Bieber 2020).

This paper investigates the rhetorical responses to the COVID-19 pandemic of two right-wing populist leaders whose management of the emergency has been viewed as controversial, namely former American President Donald J. Trump and UK Prime Minister Boris Johnson (Bieber 2020; Gardini 2020; Stavrakakis, Katsambekis 2020; Timsit 2021; Wondreys, Mudde 2020).

On a political level, the pandemic proved to be a disruptive element for both leaders at a moment when the focus of each of them was on prosperity and crucial future plans for their political career and country. When COVID-19 surfaced around the world in February 2020, Trump had just delivered a very optimistic State of the Union Address which included no mention of the virus already circulating Europe and the US. Instead, he boasted about the purported economic successes of his Administration, paving the way for his re-election campaign later that year. At the same time, the United Kingdom, following the referendum on EU membership in June 2016, was in the process of negotiating the terms for its planned withdrawal from the EU, a topic which had dominated the media debate in the last few years, and which was the desired outcome for Leavers, the faction of Johnson's Conservative Party.

Building on both the theoretical lens of critical discourse analysis (van Dijk 2001, 2002; Wodak 2015) and conceptual metaphor theory (Lakoff 2014; Lakoff, Johnson 1980) and starting from the two leaders' initial common downplaying of the virus, this work intends to examine how they discursively addressed the pandemic situation, in terms of a) responsibility attribution b) cohesion-creating strategies and c) policy-making. Moreover, it will unveil recurrent patterns and differences and observe whether the similarity in populist style (Moffitt 2016) that the two leaders exhibited through coarse language, aggressive rhetoric and disregard for political and socio-cultural norms is reflected to the same extent in their rhetorical responses to COVID-19.

This study complements and corroborates existing works on the strategic politicisation of crisis (Bennett 2019; Forchtner, Özvatán 2022; Zappettini, Krzyżanowski 2019) and the growing body of work on COVID-19 and metaphor (Charteris-Black 2021; Filardo-Llamas 2021; Olza *et al.* 2021; Semino 2020).

The analysis, based on a dataset of speeches, press conferences and social media posts, reveals that through different trajectories and across different genres of communication, the two leaders attempted to exploit the emergency to perform a crisis within the crisis in the typical populist style, to opportunistically serve their political interests (‘t Hart 1993; Moffitt 2015) and preserve the *status quo*. Although the two leaders emphasised different issues that resonate within the political culture in which they operate, after the initial similarity in the stance adopted and the vague downplaying of the virus’s significance, they exploited and dramatised the crisis as a discursive tool of self-promotion and self-legitimation (Chilton 2004; ‘t Hart 1993; van Leeuwen 2008). In his trademark style, Trump strategically used the pandemic as a stage to call out and blame multiple enemies both at home (the Congress, the media) and abroad (China). By contrast, unlike Trump, Johnson did not lend an ear to conspiratorial thinking, still initially minimised the extent of the danger and later framed the pandemic as the fight of a nation “walking alone” in a nationalist sense.

The paper is organised as follows: Section 2 introduces the core features of populism and right-wing populism, justifying the inclusion of Trump and Johnson among right-wing populist leaders, and presents Moffitt’s (2015) framework for discussing the relationship between populism and crisis. Section 3 outlines Conceptual Metaphor Theory and van Dijk’s socio-cognitive framework as the two main theoretical approaches informing this research. Section 4 presents the data and research methodology. Further, Section 5 puts forward the analysis of the rhetorical responses to COVID-19 by the two politicians in two distinct sub-sections. Finally, in Section 6, conclusions are outlined with a discussion and comparison of the relevant findings.

2. The core features of right-wing populism

Populism is pervasive across electoral cleavages. According to the ideational approach³ (Hawkins, Rovira Kaltwasser 2017; Mudde 2017; Mudde, Rovira Kaltwasser 2017), which captures the essence of the phenomenon as a discourse, an ideology, or a worldview, in the populist argumentative frame, ‘the people’ is engaged in a Manichean contrast with an enemy alleged to have dishonoured a historically, culturally, or geographically constituted people (Lee 2006).

³ For an analysis of populism over time, across geographical areas and electoral appeals, see Canovan (1981); Panizza (2005) and Taggart (2000, 2002).

As an ideology, populism is defined as thin-centred (Freeden 1996; Mudde 2004), that is restricted to a narrow core and unable to offer comprehensive solutions for the full spectrum of societal problems that full-fledged ideologies (e.g., fascism, socialism) typically provide. Hence, it seldom exists in its pure form but borrows elements from other more stable and complex ideologies. The formation of the different types of populism stems from a) the combination of the thin-centred ideology with a host one, b) the selection of a specific enemy (typically the economic elite, the government, or immigrants) and c) the sense of ‘the people’⁴ placed in the foreground.

‘The people’ is inherently a construction, an empty signifier (Laclau 2005b), an unachievable totality that is addressed and “rendered present” (Arditi 2007) through a performative act of naming (Austin 1962) in a way that appeals to different constituencies at the same time. Three basic senses of ‘the people’ have been identified, which are often blended together (Canovan 1999):

- The people as sovereign, i.e., the political community as a whole.
- The people as a nation defined in either civic or ethnic terms.
- The ordinary people, defined by socioeconomic status, against the establishment.

Left-wing populism and right-wing populism emerge from the different interplay of these elements. Both are inherently anti-elitist and exploit the gap between promise and performance intrinsic to all liberal democracies to strengthen the right of the people to exercise their power. However, left-wing populists fight against inequalities in society and aim to empower ordinary people and involve them in the direct political-making process (Stavrakakis 2014). They emphasise a pyramidal view of society based on the UP/DOWN dimension, where the people at the bottom of the social scale (DOWN) as underdogs are set against a powerful antagonist (TOP). Conversely, right-wing populism stresses a nuclear view of society predominantly founded on the IN/OUT dimension, i.e., who rightfully belongs to the people as opposed to outsiders in a nativist sense (Lorenzetti 2020, p. 102). Hence, whereas left-wing populism embraces an inclusive view of society (Katsambekis 2017), right-wing populism champions nativism, and traditional body politics, emphasising cultural issues (Mudde 2019) and the need to defend an idealised homogenous community from the perceived threat of outsiders. Moreover, its defence of ‘the people’ is predicated on the exclusion of ‘the other’ and the instrumentalisation of political minorities as scapegoats for all

⁴ For an overview of the senses of *the people*, Latin *populus*, and Greek *dēmos*, see Lorenzetti (2016).

societal woes in an ‘us’ *versus* ‘them’ fashion (Mondon, Winter 2020; Wodak 2015).

Right-wing populist parties, Mudde (2019) argues, have become increasingly mainstreamed in the last two decades when sociocultural issues and the so-called identity politics started to dominate the political debate in the wake of specific political events, like the rise of jihadist terrorism and the so-called refugee crisis. This process also produced the radicalisation of mainstream parties moving towards the right, especially on the issues of immigration and integration, eventually leading to increasingly fuzzy boundaries between right-wing populism and mainstream right and the resurfacing of racism and discriminatory discourse hidden behind liberal themes like free speech, political correctness, gender, and LGBTQ+ rights (Mondon, Winter 2020; Wodak 2015).

Combining *laissez-faire* liberalism with anti-elitism, populists often envisage some conspiracy between the political establishment and some dangerous others at the expense of the people. However, anti-elitism may also be directed against the scientific community, viewed as an untrustworthy and unlegitimised elite class (Motta 2018), threatening the people’s social identities (Merkley, Loewen 2021). Populists typically embrace anti-intellectualism since “the plain sense of the common man [...] is an altogether adequate substitute for, if not actually much superior to, formal knowledge and expertise acquired in the schools” (Hofstadter 1963, p. 19). Conversely, they often promote a rhetoric of common sense and an arrogance of ignorance made by simplifying complex issues through stereotyping.

Antagonism between the populist worldview and scientific evidence has been indicated in the last few years as the source of climate change denial (De Pryck, Gemenne 2017; Lahsen 2013) and vaccine hesitancy (Kennedy 2019). Moreover, with the COVID-19 pandemic, it has become even more salient due to the role of scientific knowledge as the basis for policy decisions, the increasing media visibility of virologists, epidemiologists and other experts, and the fact that many policies, especially at the outset of the emergency have seemed “elite-driven-top-down policies with lower levels of parliamentary debate” (Eberl *et al.* 2021, p. 274).

Emphasising the centrality of leadership and the increasingly mediatised character of populist actors, who skillfully exploit the affordances of the hybrid media system (Chadwick 2003), where traditional and new media coexist, to construct their own public and private *persona* (Strömbäck 2008; van Aelst *et al.* 2012) to be competitive in a permanent campaigning environment, Moffitt (2016) outlines his framework of populism as a political style. Performance, he argues, has become a central element of politics and is “embodied, and enacted across a variety of political and cultural contexts” (p. 3). Populists do not simply rely on divisive rhetoric, seeking to blame a

designated ‘other’; they also utilise a sophisticated repertoire of performative tools to underline their role as outsiders or their radical status. Combined with the other typical traits of populism, one of the crucial elements of populism as a political style is reliance on bad manners, a broad category in which Moffitt (2016) conflates the disregard for appropriateness, the usage of a direct, uninhibited, and coarse language, calculated provocations and violations of socio-cultural and political norms, coupled with increasing personalisation in the name of “getting things done”, or the “antagonistic flaunting of the sociocultural low” (Ostiguy, Roberts 2016).

Neither Trump, a wealthy entrepreneur and celebrity, nor Johnson, a former Eton pupil with a career including journalism, a parliamentary role, the appointment as London’s mayor and head of government, can successfully claim to be “men of the people”. However, Trump exhibits many prototypical traits of the right-wing populist leader, including a divisive ‘us’ *versus* ‘them’ rhetoric, scapegoating of ethnic minorities, discriminatory and racist overtones, and disregard for political correctness (Lorenzetti 2020; Ross, Rivers 2020) with his ‘gut-feeling’ tweeting often rooted in informal and anti-intellectual language. Johnson, by contrast, does not meet all the prototypical criteria of a populist (Canovan 1981; Mudde 2004; Mudde, Rovira Kaltwasser 2017). He rarely speaks of an evil elite damaging the people. However, his willingness to embrace a no-deal Brexit fulfilling the people’s will matches Mudde’s (2004) definition. His main populist traits are the simplification of the political debate and his unconventional manners. Margulies (2019) argues that Johnson exhibits the characteristics of a maverick *persona*. Following Barr (2009), a maverick is defined as an unconventional politician with a rebellious attitude who rises to prominence within an established party and either abandons it to compete as an independent or radically reshapes the party. Mavericks critically seek to distinguish themselves from the mainstream “by adopting a performative strategy in which they are consistently seen to be breaking the rules” (Flinders 2019, pp. 237). His distracting dramaturgy of buffoonery and exaggeration is a carefully stage-crafted strategy that constantly attracts the media’s attention while simultaneously preventing in-depth discussions of policy-related issues. In this respect, it can be argued that, although populist leaders adapt their content from their host culture, Donald Trump and Boris Johnson display consistent similarities and embody two variations of the same overarching populist style.

Another essential element of populist style in Moffitt’s (2016) account is crisis performance. Due to its centrality in the rhetorical responses of the right-wing populist leaders analysed to the COVID-19 pandemic, this topic will be discussed in the following subsection.

2.1. Right-wing populism and the performance of crisis

Crisis is one of the most widely debated concepts in political science and an ineluctable part of the human condition (Mitroff 2004). It may refer to a highly transformative moment or “times of difficulty, insecurity, and suspense” (OED 2022). From a symbolic action perspective (Edelman 1964, 1971, 1977), a crisis entails “the breakdown of familiar symbolic frameworks legitimating the pre-existing socio-political order” (‘t Hart 1993, pp. 39) due to some disruption or exogenous event.

The connection between populism and crisis is commonplace in the relevant literature (Bennett 2019; Forchtner, Özvatan 2022; Laclau 2005a; Taggart 2000; Zappettini, Krzyżanowski 2019; Zaslove 2008), and populism has been canonically viewed as thriving in moments of crisis (of values, of democracy, of political parties, or more generally, periods of economic recession or political turmoil). However, whilst this connection is presented as a general tendency, crisis is usually conceived as an external trigger or a precondition of populism, and the link between the two has often been taken for granted and underdeveloped (Moffitt 2015).

Despite their contingent nature, however, crises are also perceptual categories that exist as social constructions (Bennett 2019) in which the understanding of societal symbolic objects of reference is called into question via practices of recontextualisation that, in turn, may bring about processes of legitimation and delegitimation (‘t Hart 1993). Moreover, crises offer “dramaturgic opportunities” of exploitation that can be capitalised upon by leaders and have a bearing on agenda management dynamics as they present simplified forms of communication that may affect the articulation of demands, the representation of the crisis itself and the early stages of policy formulation (‘t Hart 1993).

In the last few years, Moffitt critically revisited the idea of crisis as an external trigger of populism, arguing that not all the current populist phenomena across the globe fit this idea. Conversely, he stressed that, in many ways, populist discourse is not merely a response to a pre-existing crisis but also an active (performative) creator of crisis at the level of representation, where its defining characteristics are socially and discursively constructed (Moffitt 2015, 2016). Populists, he argues, actively take part in the “spectacularization of failure”, that is, the elevation of failure to crisis, stressing the necessity to act at once. In such a process, they exacerbate divisions between ‘the people’ and the alleged dangerous others responsible for the crisis, offering simple solutions and legitimating their strong leadership.

Edelman (1971) argued that “people who are anxious and confused are eager to be supplied with an organized political order—including simple

explanations of the threats they fear—and with reassurances that the threats are being countered” (p. 65) while elsewhere he observed that it is common for many people not to tolerate complex situations, and prefer simplification, stereotypes and personalisation, especially in times of insecurity (Edelman 1964). The COVID-19 pandemic is precisely the kind of situation where people are more likely to look for a clear explanation of how to respond to it.

Moffitt (2015) indicates several steps of the populist performance of crisis, namely:

1. *Identity failure*, in which attention is drawn to a given failure as a matter of urgency.
2. *Elevate the level of crisis, by linking it into a broader framework and adding a temporal dimension*, where through mediated performance, the failure is framed within a broader context and related to a set of other alleged symptoms, stressing the need for immediate action.
3. *Frame the people versus those responsible for the crisis*, leading to the demonisation of specific social groups.
4. *Use media to propagate performance*. This step focuses on how populist actors exploit media affordances and their role as outsiders to promote and propagate a sense of crisis. Nowadays, the new hybrid media ecology enables them to pursue a double communicative strategy. On the one hand, they still rely on the visibility and ensuing popularity assured by the coverage of professional mass media, as they benefit from their newsworthy role as outsiders. On the other, social media platforms allow them to bypass the role of journalists or any gate-keepers to create a (seemingly) direct connection with the people, uncontestedly articulate their ideology (Engesser *et al.* 2017), and spread contents thanks to the logic of virality (Klinger, Svensson 2015).
5. *Present simple solutions and strong leadership*. Populist actors use several performative techniques to present themselves as saviours in times of perceived crisis, ranging from portraying opponents as incompetents to offering straightforward solutions with a focus on action (as opposed to empty words) with the intent to single out a culprit to blame.
6. *Continue to propagate crisis*, where the sense of precarity is perpetuated by reframing and extending the purview of the crisis. This may also have the function of deflecting attention and distracting the audience from the current problems (Ross, Rivers 2018).

These steps, we contend, are of crucial importance to explain the rhetorical responses of the two leaders analysed in the context of the COVID-19 crisis. Our data indicate that, even in the downplaying of the pandemic crisis, both Trump and Johnson rhetorically exploited the situation to aggravate the sense of societal crisis and legitimise their leadership.

3. Polarised discourse from a Critical Discourse Analysis perspective

The spread of misleading and untrustworthy information, including misinformation, disinformation (Wung *et al.* 2019), and fake news (Li, Su 2020; Ross, Rivers 2018) on both social media and other media channels, despite the different intent entailed by these labels,⁵ has the potential to polarise public opinion, and exacerbate existing tensions in society. The more so, when the propagation of false information concerns sensitive and high-impact fields like politics or health during a pandemic emergency, leading even the WHO to warn against an infodemic (Eysenbach 2002, 2020); or when false, inaccurate, or misleading information (either with malicious intent or not) is conveyed by political leaders with a bully pulpit through which they can reach a wider audience via traditional media coverage and social media (Papaioannou *et al.* 2022).

Claims that SARS-CoV-2, responsible for COVID-19, was artificially created in a China lab, blaming specific countries for its massive spread, or suggesting unproven therapeutic methods to cure the disease effectively, have the potential to manipulate the audience, illegitimately influencing them through discourse (van Dijk 2006). However, the label *misleading information* in a broad sense may also refer to conveying oversimplified or distorted interpretations of very complex phenomena or providing vague and straightforward solutions to them in an attempt to conceal some of their controversial aspects. Such moves may have a system-justifying function of supporting the *status quo* by redirecting the public attention towards some purported wrongdoers to blame, deflecting blame from society's problems and distracting from genuine threats (Jolley *et al.* 2018). Moreover, using stereotyped representations based on essentialist and prescriptive assumptions to depict foreign countries or people creates and reinforces symbolic boundaries across cultures (Pickering 2001) and may intensify hate speech and discrimination in society (van Dijk 2002; van Leeuwen, Wodak 1999).

⁵ *Disinformation* refers to false, incomplete, or misleading information spread with a malevolent intent. On the contrary, the term *misinformation* is typically employed to describe false information disseminated without the intent to deceive the addressee (Wung *et al.* 2019). The term *fake news* has a more complex history. In the 19th century it was applied to yellow journalism and sensational news (Li, Su 2020), while in the 1990s it started to be used to describe televised comedic programs devoted to political satire (i.e. *The Daily Show*) (Ross, Rivers 2018). The term rose to prominence with new nuances during the 2016 American Presidential Election, when it was weaponised by Donald J. Trump in his negative portrayal of news media. In the current understanding of the term, the expression refers to news that is either wholly false or contains deliberately misleading elements. However, Li and Su (2020) point out that, given its deployment in different partisan contexts with a consequent negative attribution, the term can now be considered a “floating signifier” (Laclau 2005a).

Through their mediatised institutional role, politicians have the power to exert a strong influence on the beliefs and actions of citizens (van Dijk 2002, 2013). Moreover, during an emergency, they are also the preferential source of information for the citizens and are assumed to set the example regarding policy measures (Kahn 2020; Lilleker *et al.* 2020).

This study sets itself within the Critical Discourse Analysis research paradigm, which sees politics and political discourse as social practices and aims at systematically investigating power relations and ideologies embedded in discourse and unveiling the role that the micro-level structures of discourse may play in such reproduction of power, dominance, and inequality at the macro-level (Chilton 2004; Fairclough 2010; van Dijk 1993, 2001; Wodak 2015).

Conceptual Metaphor Theory (CMT) (Lakoff, Johnson 1980) and van Dijk's (2002, 2006, 2013) socio-cognitive framework inform our analysis of the rhetorical response to the COVID-19 pandemic in the discourse of the two right-wing populist leaders, Donald J. Trump and Boris Johnson.

In CMT, metaphors are structuring principles of thought that organise most of our experiences through mappings,⁶ creating ontological correspondences between entities from one familiar (source) domain and those from an unfamiliar (target) knowledge domain, and language presents evidence of the metaphorical nature of our conceptual system (Lakoff 2008; Lakoff, Johnson 1980).

Van Dijk's approach studies the relationship between discourse and society, arguing that it is cognitively mediated. In his framework, social and discourse structures can only be related through the mental representations of language users, in both their roles as individuals and as social beings. In this line of research, the linguistic structures of texts that contribute to their discursive component are interpreted and explained in terms of underlying, socially shared beliefs and ideologies, considering how they influence people's mental models (van Dijk 2002, 2006, 2013). Finally, the extent to which and how such discourses and their underlying cognitions are socially and politically functional in the (re)production and spread of ideological polarisation is investigated.

Van Dijk (2002, 2006, 2013) outlines several linguistic and discursive dimensions in which the system of domination can be linguistically enacted:

⁶ An example of metaphorical mapping is LOVE IS A JOURNEY, that goes from the source domain JOURNEY to the more abstract target domain LOVE, thereby creating ontological correspondences between entities such as travellers, vehicles, or destinations with lovers, relationship, or relationship difficulties. In CMT, mappings are conventionally written in capital letters with the mapping from source to target domain being presented in the reverse order, as TARGET IS SOURCE (Lakoff, Johnson 1980).

- At the macro speech-act level, with a focus on positive acts related to the in-group and the negative ones of the out-group.
- At the level of topic selection, with an emphasis on positive topics about the in-group coupled with a focus on negative topics about the out-group.
- At the micro-level of discourse, where positively connoted words are selected to talk about ‘us’ while pejorative words are chosen for ‘them’.
- At the syntactic level, de-emphasising negative acts by oneself while drawing attention to the opponent’s acts.
- At the global level of schemata or frames (Fillmore 1982), narrative argumentation is tailored to reinforce the dominant ideology. Frames are unconscious and often automatic mental structures that enable us to understand reality and shape our ideas and concepts. All words are associated with conceptual frames, which, in turn, depend critically on deep frames entrenched in our minds and constitute our moral worldview, shaping our ideas of what is morally right and wrong. The more they are activated through word repetition and reinforced, the more they become entrenched in people’s minds, pre-empting the activation of the opposite frame, blocking relevant concerns if those concerns are outside the scope of the frame, eventually constraining people’s worldview (Lakoff 2006, 2014).
- At the rhetorical level, devices such as metaphor, metonymy, hyperbole, euphemism, and irony are highly effective in underlining the ‘us’ *versus* ‘them’ dichotomy leading to the emergence of specific mappings. Metaphor is undoubtedly the most widely employed rhetorical figure and is particularly effective in political discourse. Not only is it used to simplify and make issues more intelligible, stir emotions and bridge the gap between the logical and the emotional, but, Charteris-Black (2011) argues, it is also effective for its ability to resonate with latent symbolic representations at our unconscious level. Moreover, it frames the debate, thus setting the political agenda (Lakoff 2014), and contributes to the formation of covert ideologies through myth-making by offering persuasive representations of social groups and social issues.

4. Data presentation and methodology

For the purpose of investigating the rhetorical response to COVID-19 of former American President Donald J. Trump and current United Kingdom Prime Minister Boris Johnson, two corpora were created, which include public speeches and press conferences of the two leaders about the COVID-19 pandemic, or in which the pandemic was one of the macro-topics. The

texts were retrieved from the Miller Center Archive of US Presidential Speeches and the UK Government website. In addition, tweets from the two accounts, @realDonaldTrump and @BorisJohnson, were collected by querying for specific keywords, namely *covid*, *coronavirus*, *virus*, *pandemic*, *emergency* and *crisis*, excluding retweets. The period under investigation ranged between February 2020 and November 2020. Each corpus includes approximately 40.000 words, and taken together with the tweets, the data available offer an overview of the stance adopted by the two leaders.

While the paper adopts a qualitative methodology, in order to keep the two corpora balanced from a quantitative point of view, the time frame goes up to November 2020. This choice does not merely have to do with the changing political situation following the election of Joe Biden as the new American President but is also practical. In January 2021, Trump's social media accounts, including Twitter, Facebook, and Instagram, were permanently suspended, and the previous data was made unavailable except on other web repositories following the Capitol Hill riots by a mob of Trump's supporters and his accusation of having fomented the protests. Data from Trump's past tweets were thus searched through the Trump's Twitter Archive.

A few remarks are in order to clarify the choice of including data from Twitter in the analysis. Social media have proven strategic for populist politicians to increase their visibility, stress their message and reach a broader and diversified target audience while engaging in permanent campaigning (Engesser *et al.* 2017). It is since Donald Trump's 2016 campaign that their role as a new arena for political propaganda has become undisputed.

Trump constantly relied on Twitter as a preferred channel over press conferences due to his disdain for the alleged "fake news media" (see Footnote 5) since his 2015 candidacy. As President, he kept using his private account to disseminate his ideology in a coarse and straightforward language (Moffitt 2016; Ostiguy, Roberts 2016), while media channels constantly reported his tweets as news (Demata 2018).

In turn, as a media-savvy journalist, Boris Johnson is well aware of the strategic role of social media platforms in maximising political consensus, primarily since much of the Brexit political campaigning revolved around them (Brändle *et al.* 2021). As a result, his account regularly reports his activities as Prime Minister conjointly with his official Downing Street account, while he also relies on Twitter to increase visibility and spread his ideology through simple hashtags like #GetBrexitDone, #Stayathome, or #BuildBackBetter.

This paper adopts a qualitative methodology combining insights from van Dijk's (2002, 2006, 2013) socio-cognitive research framework and CMT (Lakoff 2014; Lakoff, Johnson 1980).

Drawing on such a theoretical combination, the critical discourse analysis presented below aims to examine how the COVID-19 pandemic is constructed in the political discourse of the two politicians, exploring the key argumentative frames in terms of a) responsibility attribution, b) cohesion-creating strategies, and c) policy-making. First, the speeches and tweets selected were carefully read and then examined to discover the main discourse patterns implemented, starting from the relevant metaphorical mappings, argumentative frames (Fillmore 1982; Lakoff 2014) and an analysis of the lexicon and the syntactic structure of discourse. Relevant metaphors were also cross-checked with those present on the MetaNet web repository (UC Berkeley).

5. Analysis

Donald Trump and Boris Johnson have often been cited as examples of controversial management of the COVID-19 pandemic (Gerbaudo 2020; Mudde 2020). In what follows, it will be argued that, despite their intermittent success in handling the crisis, both leaders, through different trajectories, communication genres and with specific rhetorical moves, exploited the emergency and their rhetorical response to it in the performance of a “crisis within the crisis”, based on Moffitt’s (2015) framework, as discussed in Section 2.1.

5.1. Donald Trump’s rhetorical response to COVID-19

Despite relying on scientists’ advice according to *The Politician Prominence Model* outlined by Kahn (2020), including renowned Dr Anthony Fauci, Trump’s assertions were often at odds with the physician, showing a radical downplaying of the danger.

- (1) We have it totally under control. It’s one person coming in from China, and we have it under control. It’s going to be just fine. (Trump, 22/01/2020)

In fragment (1) from an interview of January 2020, when the first coronavirus cases were attested in the US, Trump framed the virus as an external force entering the country, licensing the mapping NATIONS ARE CONTAINERS, and indicating China as the source, even mitigating the power of the threat.

- (2) Many call it a virus, which it is. Many call it a flu. What’s the difference? (Trump 13/06/2020)
- (3) [...] As the weather starts to warm and the virus hopefully becomes weaker, and then gone. Great discipline is taking place in China, as President Xi strongly leads what will be a very successful operation. We are working closely with China to

- help! (Trump Twitter 10/02/2020)
- (4) The vast majority of Americans: The risk is very, very low. Young and healthy people can expect to recover fully and quickly if they should get the virus. (Trump 11/03/2020)

When the seriousness of the disease was already well known, during a campaign speech in June 2020 (2), he downplayed the virus as mere flu, while in (3), he suggested that its strength would diminish with the heat. In his simplification of the pandemic situation, the virus is presented as simply “going away” as an invader or an unwanted guest, thus licensing again the NATIONS ARE CONTAINERS mapping typical of anti-immigration discourse (Charteris-Black 2006). Moreover, in (4), during a televised message to strengthen emergency measures, Trump contradicted healthcare experts, arguing that only older people were at risk while there was no risk for the others, thus expressing an unscientific unsubstantiated remark.

Trump seldom recommends social distancing or other mitigation strategies to minimise the risk of contagion. At the same time, more emphasis is placed on deflecting responsibility for the crisis and ascribing it to some wrongdoer outsider with possible special interests in hurting the people (Jolley *et al.* 2018). Conversely, every action against the pandemic is described as a successful government measure to protect the people.

- (5) So, the Coronavirus, which started in China and spread to various countries throughout the world, but very slowly in the U.S. because President Trump closed our border, and ended flights, VERY EARLY, is now being blamed, by the Do-Nothing Democrats, to be the fault of “Trump”. (Trump Twitter 28/02/2020)

In (5), China is blamed for spreading the virus, while Trump's first measure to lower the risks of contagions is increasing border control, highlighting the view of COVID-19 as a foreign enemy and an invader (NATIONS ARE CONTAINERS and PANDEMIC IS WAR). Moreover, this excerpt displays Trump's shifting attitude towards China. While in (3), following some crucial economic deal, he had portrayed his relationship with China in favourable terms, as soon as infection cases started increasing in the US and across the globe, he turned to the blame-game against China.

This tweet works as a self-promotional strategy for Trump as a strong and capable leader, framing the US as a safe country thanks to himself, who, as commander-in-chief, acted quickly and efficiently to protect the American people (PRESIDENT IS A CHILDCARE PROVIDER, an entailment of GOVERNMENT IS A CHILDCARE PROVIDER and GOVERNMENT IS A PARENT). At the same time, rhetorical polarisation can be envisaged as the Democrats are portrayed as inadequate for leadership, “do nothing” instead of people of action.

- (6) We are getting great marks for the handling of the CoronaVirus pandemic, especially the very early BAN of people from China, the infectious source, entering the USA. Compare that to the Obama/Sleepy Joe disaster known as H1N1 Swine Flu. Poor marks, bad polls - didn't have a clue! (Trump Twitter 10/05/2020)
- (7) The third action I'm taking today will also provide additional support for Americans who are unemployed due to the China virus. (Trump 08/08/2020)

In (6), dehumanising and objectifying language is used about China and, consequently, Chinese people framed as infectious. Blame is laid on them for the virus, while they are stigmatised as contagious and people to remove. At the same time, he self-celebrates his management of the COVID-19 crisis as opposed to the ineffective response of the previous (Democratic) Administration to another pandemic. This comparison is strategic, as Biden, nicknamed “Sleepy Joe” by Trump, will be his primary opponent in the presidential election. Hence, he discredits Biden’s image as a strong leader. Finally, in (7), the phrase “China virus”, a distinctive feature of Trump’s rhetorical response to the pandemic, is employed. Trump ascribed China as acting duplicitously and with hidden motives, infecting the world with a severe disease, and depriving honest American citizens of their jobs. Such derogatory phrase, sometimes replaced by the ridiculing expression *Kung flu* that Trump used twice in his campaign speeches,⁷ is not merely designed to blame China for spreading the virus. Conversely, it is also related to a feud between the two superpowers on economic grounds. This is borne out by the fact that Trump often criticised China for gaining an unfair competitive advantage in international trade even before the pandemic.

Framing a virus as foreign defines “we-ness” in a nationalist and nativist sense and leads to the stereotypical representation of foreigners, implicitly validating elements of an existing social order or cultural hierarchy (Pickering 2001), intensifying their sense of otherness. Following Trump’s usage of such phrases and hashtags on Twitter, an alarming increase in racial discrimination and racially motivated violence against Asian-Americans online and offline was reported (Hswen *et al.* 2021), while anti-Chinese sentiment and hate speech were also directed to people of other Asian heritage due to prejudiced homogenisation that conflates otherised minorities as “all the same”. Moreover, arguing that the virus is foreign may imply that only people of specific origin are at risk. Such polarising rhetoric was ultimately responsible for delayed testing in the first part of the pandemic and led to the rapid rise of contagions (WHO 2022a).

⁷ “Oh, it’s COVID. It’s this again. By the way, it’s a disease without question, has more name than any disease in history. I can name, “Kung Flu”. I can name 19 different versions of its names. Many call it a virus, which it is. Many call it a flu, what’s the difference?” (Rally Speech in Tulsa, Oklahoma 20/06/2020)

In constantly self-promoting every measure implemented to address the pandemic and celebrating every improvement as the positive result of his own action to protect the country, Trump strategically exploits the crisis to discredit opponents on multiple grounds and takes advantage of growing discontent following lockdown measures. This allows him to refocus the debate on reopening the country and getting back to normal.

- (8) Totally Negative China Virus Reports. Hit it early and hard. Fake News is devastated. They are very bad (and sick!) people! (Trump Twitter 13/10/2020)
- (9) @NYGovCuomo should get his puppet New York prosecutors, who have been illegally after me and my family for years, to investigate his incompetent handling of the China Virus, and all of the deaths caused by this incompetence. It is at minimum a Nursing Home Scandal - 11,000 DEAD! (Trump Twitter 03/09/2020)
- (10) This election is a choice between a TRUMP RECOVERY or a BIDEN DEPRESSION. It's a choice between a TRUMP BOOM or a BIDEN LOCKDOWN. It's a choice between our plan to Kill the virus – or Biden's plan to kill the American Dream! (Trump Twitter 27/10/2020)

The primary enemy that he targets is certain media outlets labelled “fake news” in his trademark style (Ross, Rivers 2018) in (8). This phrase refers to the liberal media channels and press alleged to distort figures about lowering infection rates and withdrawing data to damage Trump's reputation.

Moreover, the tweet in (9) displays Trump's strategy of laying the blame on the state level for the mishandling of the pandemic. He singles out Democratic governors (and mayors) for the rise in contagions and deaths in Blue areas. While Democrats had already been framed as incapable in (5) and (6), in excerpt (10), he finally focuses on his direct opponent in the Presidential race, politicising the fight against the pandemic in ‘us’ *versus* ‘them’ terms, as a war between the Republican candidate (himself) and the Democratic one (ELECTION IS WAR and NATIONAL POLITICS IS A BATTLEFIELD). In his coarse style, the onomatopoeic word *boom* symbolically frames an upward vertical movement. At the same time, Democrats are accused of wanting to keep the country under permanent lockdown, fostering depression as opposed to recovery (downward vertical movement), thus damaging the economy (WELLBEING IS VERTICALITY) and disrupting the American dream. Hence, by downplaying the health costs of the pandemic and emphasising its economic costs, Trump presents himself as the saviour of the US economy.

Despite its rhetorical strength and unifying potential (Charteris-Black 2011), in Trump's rhetoric, the American dream, suggesting that any motivated individual can reach any social position regardless of origin, race, or gender, becomes a divisive trope. The contrast between economic *boom* and *lockdown* and between *recovery* and *depression* hints at the two competing visions of the trope. While the Democratic Party wholeheartedly embraced a focus on equal rights and social cohesion, Republicans, and

Trump, in particular, crafted a personal gain and economic prosperity narrative for “the forgotten men and women of the country”.

Another significant element of Trump’s narrative of the COVID-19 pandemic is his reliance on war rhetoric and war metaphors. War metaphors are pervasive in discussing political and health issues (Charteris-Black 2021; Filardo-Llamas 2021; Flusberg *et al.* 2018; Olza *et al.* 2021; Semino 2020), where they have the potential to increase people’s perception of problems as serious and urgent to tackle, generating a collective sense of responsibility. Although representing a war of contrasting points of view is a common strategy in election times, political leaders usually experience an uptick in popularity and support in times of crisis, a phenomenon usually referred to as the “rally round the flag” effect (Mueller 1970).

- (11) With the courage of our doctors and nurses, with the skill of our scientists and innovators, with the determination of the American People, and with the grace of God, WE WILL WIN THIS WAR. When we achieve this victory, we will emerge stronger and more united than ever before! (Trump Twitter 28/03/2020)
- (12) We will ultimately and expeditiously defeat this virus. (Trump 11/03/2020)
- (13) The Invisible Enemy will soon be in full retreat! (Trump Twitter 10/04/2020)

Specific action words belonging to the war semantic field can be observed in examples (11) to (13), such as *win*, *achieve*, *emerge*, *defeat*, and *retreat*. Moreover, the virus is framed as an enemy and, more specifically, an invisible one since this is a different and symbolic war (PANDEMIC IS WAR). When metaphorical mappings are established (Lakoff, Johnson 1980), ontological correspondences between entities from one domain to the other are created, such as between the virus and the enemy (13), health professionals and an army on the frontline, while scientists are war strategists (11), and eliminating the virus corresponds to winning the war, as in (11) and (12). The creation of these correspondences enables Trump to stress his role as commander-in-chief, determined to overcome the pandemic.

5.2. Boris Johnson’s rhetorical response to COVID-19

Like Trump, Boris Johnson has often been criticised for initially downplaying the virus, described as a mild disease even when the number of contagions was rapidly increasing worldwide.⁸

- (14) I am deeply, spiritually reluctant to make any of these impositions, or infringe anyone’s freedom. (Johnson 22/09/2020)

⁸ “Let me be absolutely clear that for the overwhelming majority of people who contract the virus, this will be a mild disease from which they will speedily and fully recover as we’ve already seen.” (Johnson, 03/03/2020)

Despite several strategic changes in his stance, he persisted in this zigzagging attitude even in the following months, expressing reluctance for draconian measures to limit contacts and the spread of contagion, as implemented in many other countries, not to infringe people's freedom, thus licensing the GOVERNMENT IS A STRICT FATHER mapping, an entailment of the GOVERNMENT IS A PARENT mapping (14) (Lakoff 2016).

(15) Stay alert. Control the virus. Save lifes. (Johnson 10/06/2020)

(16) #StayatHome #ProtecttheNHS #SaveLifes. (Johnson 14/06/2020)

Since the outset of the pandemic, the United Kingdom has adopted measures distinctive from other countries, initially relying on the controversial concept of herd immunity (WHO 2020; Yong 2020). As observed in Section 5.1., Trump hardly ever provided guidelines for the population while simplifying (and underrating) the extent of the risk. Conversely, Johnson's pandemic narrative is based on simplifying the advised response to the crisis through very straightforward directions, in the form of imperative sentences that became slogan-like memorable hashtags on both his Twitter and the government accounts, as in (15) and (16). Despite their directness and action-orientedness, however, expressions such as *protect the NHS*, or *control the virus* are vague and hardly helpful in clarifying people what to do, leaving it to common sense. Moreover, these expressions indicate a shift in responsibility to individual citizens following UK Conservative rhetoric that citizens rather than the State are the responsible parties in public life. While these elements are meant as unifying guidelines for the population in the name of a common goal, people not aligned with that ideology are unlikely to agree with them. Consequently, what had been designed as a unifying message did not have the expected cohesion-creating power (Mintrom *et al.* 2021).

War rhetoric, an extensive feature of Boris Johnson's pandemic narrative, is, on the contrary, one of the main people-building strategies, fostering a sense of "we-ness" in pursuing a common goal.

(17) Yes this enemy can be deadly, but it is also beatable – and we know how to beat it, and we know that if as a country we follow the scientific advice that is now being given we know that we will beat it. (Johnson 27/03/2020)

As with Trump, the virus is framed as an enemy (NATION IS A CONTAINER, and PANDEMIC IS WAR). However, unlike Trump, Johnson does not exhibit unscientific behaviour or distrust of experts (*we follow the scientific advice*). On the contrary, relying on advice from medical experts, according to *The Politician Prominence Model* (Kahn 2020), he often praises

healthcare workers and scientists as the heroes of the pandemic, as in (17) and (18), like soldiers on the frontline.

- (18) We can turn the tide within the next 12 weeks. We can send #coronavirus packing in this country, but only if we take the required steps to reduce the peak. Once we've achieved that, then the scientific progress that we are making will really come into play. (Johnson Twitter 19/05/2020)

Casual language defying conventions in Johnson's typical eccentric style (Flinders 2019; Moffitt 2016) is apparent in (18) with the expression *we can send coronavirus packing* in a variation of the 'flattening the curve' metaphor (Charteris-Black 2021), in which abstract measurement by numbers is represented by a visual image using the convention of a line graph. Such metaphor is also visually activated by the expression *turn the tide*, associating the virus with a natural force (PANDEMIC IS A NATURAL FORCE).

- (19) We're getting better at testing. This crisis is so difficult because the enemy is invisible. The answer is to remove the cloak of invisibility to identify the virus, and to be able to know which of us is carrying it and who has actually had it and got over it. (Johnson Twitter 19/05/2020)
- (20) If this virus were a physical assailant an unexpected and invisible mugger, which I can tell you from personal experience it is, then this is the moment when we have begun together to wrestle it to the floor. (Johnson 27/04/2020)

War rhetoric and the reference to an invisible enemy can be observed in (19) and (20). The phrase *invisible enemy* is intended to arouse emotions of fear related to the virus's ability to mutate, multiply and invade, all unseen by the human eye, that is relying on the weapon of its cloak of invisibility (Charteris-Black 2021). In excerpt (20), however, the focus shifts to a crime frame where the virus is described as a physical assailant and an invisible mugger, which requires a more robust physical response (*wrestle it to the floor*) to be overcome, thus licensing the mapping VIRUS IS PHYSICAL COMBAT.

- (21) We will support jobs. We will support incomes. We will support businesses. We will help you protect your loved ones. We will do whatever it takes. (Johnson Twitter 17/05/2020)

Excerpt (21) aims to counterbalance the idea of "responsible citizens" fighting the virus on their own based on vague but straightforward slogans, suggesting that the government is going to support them against the economic impact of the pandemic, thus activating the GOVERNMENT IS A CHILDCARE PROVIDER/NURTURANT FATHER metaphorical mapping also related to the GOVERNMENT IS A PARENT mapping (Lakoff 2016). This message, which may recall Mario Draghi's speech pronounced in his

office as the ECB President in 2012, when he promised to do “whatever it takes” to save the Euro, helps Johnson present himself as a leader with the right intentions and integrity. Here, the reiteration of the syntactic structure and of the verb *support* convey strength and determination of the government to protect the citizens in all respects (jobs, incomes, business, and the personal sphere).

War rhetoric and references to common myths and elements fostering national pride have a unifying function in Johnson’s rhetorical response to COVID-19. Much of Johnson’s war rhetoric has been associated with Winston Churchill’s World War II rhetoric, a symbol of national resolve and unifying leadership to withstand foreign invasion.

- (22) We will beat it together we will come through this all the faster and the United Kingdom will emerge stronger than ever before. (Johnson 27/04/2020)
- (23) We will get through this, this country will get through this epidemic, just as it has got through many tougher experiences before if we look out for each other and commit wholeheartedly to a full national effort. (Johnson 19/03/2020)
- (24) I know we can succeed because we have succeeded before. (Johnson 22/09/2020)

Excerpt (22) recalls a well-known excerpt from Churchill’s “We shall fight on the beaches” speech⁹ delivered at the House of Commons on June 4, 1940, where repetition in the structure, use of unifying *we*, and volitional *will* are instrumental in delivering the view of Johnson as a new wartime leader and creating common ground.

Finally, fragments (23) and (24) reference the myth of British exceptionalism assuming British people’s presumed uniqueness and moral superiority. This idea adopted as a unifying element by Leavers during the Brexit campaign was also at the basis of UK policy decisions in the fight against COVID-19. Patriotic references to British resilience and strength are made to recall past victories and successes, potentially including wars or even the Brexit referendum (DIPLOMACY IS WAR and PANDEMIC IS WAR) that Johnson endorsed. The combination of war rhetoric and references to unifying elements of national pride enables Johnson to frame his rhetorical response to COVID-19 in a nationalist sense and the United Kingdom as a nation choosing its own path and “walking alone”.

⁹ “We shall go on to the end, we shall fight in France, we shall fight on the seas and oceans, we shall fight with growing confidence and growing strength in the air, we shall defend our Island, whatever the cost may be, we shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender.” (W. Churchill 1940)

6. Conclusions

In the rhetorical response to the COVID-19 pandemic of former American President Donald J. Trump and United Kingdom Prime Minister Boris Johnson, some common discursive patterns and practices emerge, which testify to a similar populist style according to Moffitt's (2015, 2016) framework. Both politicians simplified the complexity of the pandemic, downplaying its impact, relying on common sense and straightforward but vague slogan-like language to spread their message across traditional and social media channels, and offering simple action-oriented solutions as strong leaders. At the same time, they both sent controversial messages to the citizens, either by disparaging the scientific community with unscientific remarks, even after having chosen advice from medical experts as a form of self-legitimation (Trump), or not abiding by the rules that they had established (like wearing a face mask, or complying with lockdown regulations), and setting the model example (Johnson).

The analysis of their rhetorical framing of the pandemic in terms of a) responsibility attribution, b) people-building, and c) policy-making, however, reveals different discourse patterns consistent with the leaders' political agenda and with each country-specific contingencies, namely the American Presidential Election later that year and preserving a flourishing economy (which in turn might lead to a rise in electoral votes) for Trump, and boosting a sense of national unity (and uniqueness) in a nationalist sense following the Brexit referendum, for which the UK had just finalised the withdrawal agreement after years of negotiations and polarising debates, for Johnson.

As contexts of collective stress and insecurity due to the uncertain and mutable situation, crises also offer exploitation opportunities for populist politicians to 'set the stage' (Moffitt 2016, pp. 131) and gain a competitive advantage in the political arena. Whilst gaining consensus by pointing at inefficiencies by the establishment may be easier for populist politicians in opposition (Taggart 2000; Zaslove 2008) by stressing their role as outsiders and 'men of the people', populists in power need to resort to a different strategy to preserve the legitimacy of the *status quo* and boost their appeal.

Our analysis reveals that through different trajectories and across communicative channels, both Trump and Johnson dramatised the COVID-19 crisis, exploiting the pandemic situation to perform a "crisis within the crisis" by linking the contingent situation to a broader framework and reframing the debate as society-related in a broad sense (Moffitt 2016).

Trump exhibits the prototypical traits of right-wing populist leaders, namely a dichotomous view of society between 'the people' and 'the elite' (that for Trump are his political opponents, or the media termed 'fake-news' media) (Mudde 2004; Mudde, Rovira Kaltwasser 2017) but also between

legitimate citizens in a nativist sense and outsiders, coupled with the use of coarse politically incorrect language and common sense rhetoric (Moffitt 2016). In his rhetorical response to the pandemic, he displays all six elements of Moffitt's (2015) framework. First, he elevates the pandemic as a world conflict in which China is the designed culprit alleged to act duplicitously and with hidden motives spreading the virus across the world. This enables him to deflect blame for any fault and popularise the distorted idea of the virus as foreign, using the same scapegoating language that he relied on in his anti-immigration propaganda (Lorenzetti 2020). Radically simplifying and polarising the political terrain, he singles out different types of enemies alleged to go against the interest of 'the people'. He delegitimises his political opponents as inadequate and unfit for leadership, and the press, alleged to distort and downplay the effectiveness of his responses to the emergency, thus reinforcing his 'us' *versus* 'them' populist rhetoric. While offering simple solutions to a complex issue, he perpetuates the sense of crisis as a political battle of Republicans *versus* Democrats and Trump *versus* Biden.

On the other hand, Johnson does not exhibit all the typical traits of a right-wing populist leader (Margulies 2019). Having been a professional politician for two decades, he can hardly claim to be a 'man of the people', nor does he speak about an evil elite. Flinders (2019) labels Johnson's form of populism as 'Upper-crust Populism', referencing its peculiar British and upper-class character. He advocated his nationalist no-deal Brexit in the name of the people's will, thus matching an emphasis on popular sovereignty, one of the main features in Mudde's (2004) definition of populism as a thin-centred ideology.

However, his main populist traits lie in what Moffitt (2016) defines as the performative aspects of populism, including the demonstration of bad manners, as seen in the rejection of political conventions and polite discourse, usage of outlandish comments, and calculated provocations. Unlike Trump, in his rhetorical response to COVID-19, Johnson did not blame dangerous others for the pandemic. However, he was also able to strategically exploit the crisis for self-legitimation. Offering simple solutions and presenting himself as an upright leader (although not always abiding by the rules) with daily televised messages of updates, Johnson refocused the debate on UK's uniqueness, resilience and presumed exceptionalism as a cohesion-building strategy. By carefully crafting a rhetorical narrative in which the country, starting from the citizens up to NHS standing united, could overcome the pandemic, he reinforced the role of the UK as "walking alone" in a nationalist sense. Such dramaturgic strategy was also meant to distract the attention from the multiple faults in the UK's response to the virus in the first part of the pandemic.

Combined with the discursive strategies of ‘us’ *versus* ‘them’ polarisation outlined by van Dijk (2002, 2006, 2013) at multiple levels of discourse, metaphor, with its power to stir emotions, frame the debate by eliminating alternative points of view, and simplifying understanding of complex issues (Charteris-Black 2011; Lakoff, Johnson 1980; Lakoff 2014) proved strategic in the rhetorical response to the pandemic of the two politicians. Table 1 summarises data from recurrent patterns in the data analysed from the two corpora.

SOURCE DOMAIN	Metaphorical Mappings in Trump’s COVID-19 Discourse	Metaphorical Mappings in Johnson’s COVID-19 Discourse
CONTAINMENT	NATION IS A CONTAINER licensing the more specific mapping PANDEMIC IS INVASION	NATION IS A CONTAINER PANDEMIC IS A NATURAL FORCE
WAR	PANDEMIC IS WAR ELECTION IS WAR NATIONAL POLITICS IS A BATTLEFIELD	VIRUS IS PHYSICAL COMBAT related to PANDEMIC IS WAR DIPLOMACY IS WAR
FAMILY	GOVERNMENT IS A PARENT licensing the more specific mappings GOVERNMENT IS A CHILDCARE PROVIDER and PRESIDENT IS A CHILDCARE PROVIDER	GOVERNMENT IS A PARENT licensing the more specific mappings GOVERNMENT IS A STRICT FATHER and GOVERNMENT IS A CHILDCARE PROVIDER/NURTURANT FATHER
VERTICAL MOVEMENT	WELL-BEING IS VERTICALITY related to GOODNESS IS VERTICALITY	

Table 1
Metaphorical Mappings in Trump’s and Johnson’s rhetorical responses to COVID-19.

Several source domains drive the discourse for both politicians, often licensing similar or identical metaphorical mappings, which, however, may be differently deployed in their rhetorical narratives. A pervasive source

domain is CONTAINMENT, licensing the NATION IS A CONTAINER mapping employed by both politicians to create ontological correspondences between the virus and an invader (PANDEMIC IS INVASION). At the same time, Trump relied on it to frame the pandemic using the same rhetorical tropes as those of his anti-immigration discourse (Lorenzetti 2020). For Johnson, CONTAINMENT as a source domain is used to represent the pandemic as a natural force, like a tide that may be blocked or a curve that may be flattened (PANDEMIC IS NATURAL FORCE).

However, the WAR source domain is the most widely employed by the two politicians while playing a significant role in the rhetoric of many political leaders and the media worldwide. For Trump, the war scenario was strategic in framing his multiple enemies, the virus, China (PANDEMIC IS WAR), Democrats, the Congress, and the media (NATIONAL POLITICS IS A BATTLEFIELD) and his direct opponent in the presidential election (ELECTION IS WAR). People-building or creating cohesion among the citizens is possible for Trump only by excluding and singling out wrongdoers alleged to have betrayed the people.

Johnson also consistently relies on war rhetoric and war metaphors, referencing the virus as an enemy, an invisible antagonist but one that can be defeated. However, unlike Trump, he does not attempt to stress and increase perceived fractures in society or shift the blame. Conversely, metaphorical mappings like PANDEMIC IS WAR or DIPLOMACY IS WAR for him have a strong cohesion-building function through a scenario in which each Briton, from the average citizen up to doctors and nurses like soldiers on the frontline, can play their part to accomplish a common goal and regain national freedom.

Another related mapping he relies on is VIRUS IS PHYSICAL COMBAT, treating the virus as an assailant that must be wrestled to the floor. Vague references to past national successes and victories that may potentially include World Wars I and II, but also the Brexit referendum and the idea of British exceptionalism add to this. Moreover, lexical and structural choices that recall Winston Churchill's War rhetoric, a symbol of national resolve and strong leadership, enable Johnson to present himself as another wartime leader of a country ready to "walk alone" in a nationalist sense.

The contrast between Republicans and Democrats is highlighted in Trump's corpus also by the VERTICAL MOVEMENT source domain contributing to the metaphorical WELL-BEING IS VERTICALITY mapping, instrumental for the leader to shift the blame on Democrats for impoverishing the citizens by keeping them under lockdown, and refocus the debate on reopening the country to save the economy.

Furthermore, the FAMILY source domain is critical for both leaders' self-legitimation strategies. It enables them to emphasise their role as strong leaders who offer easy solutions to protect the citizens (CHILDREN) from the crisis, either by simply closing borders and focusing on security (PRESIDENT IS A CHILDCARE PROVIDER) or promising financial support (GOVERNMENT IS CHILDCARE PROVIDER/NURTURANT FATHER) as opposed to imposing unwanted restrictions (GOVERNMENT IS A STRICT FATHER).

The article complements and corroborates existing works on the strategic use of crisis in populist discourse (Bennett 2019; Forchtner, Özvatan 2022; Zappettini, Krzyżanowski 2019) and the growing body of research on COVID-19 metaphors (Charteris-Black 2021; Filardo-Llamas 2021; Olza *et al.* 2021; Semino 2020). The data analysed and many similar discursive patterns adopted, including metaphorical mappings, highlight that the two politicians embody two variations of the same overarching populist style (Moffitt 2016). Moreover, the analysis demonstrates how populists are prone to exploit critical situations to dramatise their message for self-legitimation, *status quo* maintenance and gaining competitive advantage. Finally, comparative findings highlight that, while both leaders initially adopted a similar intermittent attitude in tackling the COVID-19 emergency, still relying on the 'rally around the flag' effect (Mueller 1970), scapegoating strategies and blame-games without consistent cohesion-building strategies, including setting a model example, did not prove to be winning political strategies in the long run.

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References

- Ajzen I. 1988, *Models of Human Social Behaviour and Their Application to Health Psychology*, in "Psychology and Health" 13 [4], pp. 735-739.
- Arditi B. 2007, *Politics on the Edges of Liberalism: Difference, Populism, Revolution, Agitation*, Edinburgh University Press, Edinburgh.
- Austin J.L. 1962, *How to Do Things with Words*, Oxford University Press, Oxford.
- Barr R.R. 2009, *Populists, Outsiders and Anti-Establishment Politics*, in "Party Politics" 15 [1], pp. 29-48.
- Bauman Z. 2012, *Liquid Modernity*, Polity, London.
- Bennett S. 2019, 'Crisis' as a Discursive Strategy in Brexit Referendum Campaigns, in "Critical Discourse Studies" 16 [4], pp. 449-464.
- Bieber F. 2020, *Global Nationalism in Times of the COVID-19 Pandemic*, in "Nationalities Papers" 50 [1], pp. 13-25.
- Boseley S., Giuffrida A., Davies C., Chrisafis A. and Grytsenko O. 2018, *Rightwing Populists Ride Wave of Mistrust of Vaccine Science*, in "The Guardian" December 21 2018. <https://www.theguardian.com/world/2018/dec/21/rightwing-populists-ride-wave-of-mistrust-of-vaccine-science> (10.10.2021).
- Brändle V.K., Galpin C. and Trenz H.-J. 2021, *Brexit as 'Politics of Division': Social Media Campaigning after the Referendum*, in "Social Movement Studies" 21 [1-2], pp. 234-253.
- Canovan M. 1981, *Populism*, Junction Books, London.
- Canovan M. 1999, *Trust the People! Populism and the Two Faces of Democracy*, in "Political Studies" 47 [1], pp. 2-16.
- Chadwick N. 2003, *The Hybrid Media System. Politics and Power*, Oxford University Press, Oxford.
- Charteris-Black J. 2006, *Britain as a Container: Immigration Metaphors in the 2005 Election Campaign*, in "Discourse & Society" 17 [5], pp. 563-581.
- Charteris-Black J. 2011, *Politicians and Rhetoric. The Persuasive Power of Metaphor*, Palgrave Macmillan, London.
- Charteris-Black J. 2021, *Metaphors of Coronavirus. Invisible Enemy or Zombie Apocalypse*, Palgrave Macmillan, London.
- Chilton P. 2004, *Analysing Political Discourse: Theory and Practice*, Routledge, London.
- Coman I.A., Elsheikh D., Gregor M., Lilleker D. and Novelli E. 2021, *Introduction: Political Communication, Governance, and Rhetoric in Times of Crisis*, in Lilleker D., Coman I.A., Gregor M. and Novelli E. (eds.) *Political Communication and COVID-19. Governance and Rhetoric in Times of Crisis*, Routledge, London, pp. 1-15.
- Demata M. 2018, "I think that maybe I wouldn't be here if it wasn't for Twitter.": Donald Trump's Populist Style on Twitter, in "Textus" XXX [1], pp. 67-90.
- De Pryck K. and Gemenne F. 2017, *The Denier-in-Chief: Climate Change, Science and the Election of Donald J. Trump*, in "Law Critique" 28 [2], pp. 119-126.
- Eberl J.-M., Huber R.A. and Greussing E. 2021, *From Populism to the "Plandemic": Why Populists Believe in COVID-19 Conspiracies*, in "Journal of Elections, Public Opinion and Parties" 31 [S1], pp. 272-284.
- Edelman M. 1964, *The Symbolic Uses of Politics*, University of Illinois Press, Urbana/Chicago, IL.
- Edelman M. 1971. *Politics as Symbolic Action: Mass Arousal and Quiescence*, Academic Press, New York, NY.

- Edelman M. 1977, *Political Language. Words that Succeed and Policies that Fail*, Academic Press, New York, NY.
- Engesser S., Ernst N., Esser F. and Büchel F. 2017, *Populism and Social Media: How Politicians Spread a Fragmented Ideology*, in “Information, Communication & Society” 20 [8], pp. 1109-1226.
- Eysenbach G. 2002, *Infodemiology: The Epidemiology of (Mis)information*, in “The American Journal of Medicine” 113 [9], pp. 740-745.
- Eysenbach G. 2020, *How to Fight an Infodemic: The Four Pillars of Infodemic Management*, in “Journal of Medical Internet Research” 22 [6], pp. 1-6.
- Fairclough N. 2010, *Critical Discourse Analysis. The Critical Study of Language*, Routledge, London.
- Filardo-Llamas L. 2021, *From the War on Covid-19 to Political Wars. Metaphor as a Mechanism of Polarization in the Early Stages of the 2020 Pandemic*, in Filardo-Llamas L., Morales-López E. and Floyd A. (eds.) *Discursive Approaches to Sociopolitical Polarization and Conflict*, Routledge, London, pp. 192-212.
- Fillmore C.J. 1982, *Frame Semantics*, in The Linguistic Society of Korea (ed). *Linguistics in the Morning Calm*, Hanshin Publishing Company, Seoul, pp. 111-137.
- Flinders M. 2019, *Not a Brexit Election? Pessimism, Promises and Populism ‘UK-Style’*, in Tonge J., Wilks-Heeg S. and Thompson L. (eds.) *Britain Votes: The 2019 General Election*, Oxford University Press, Oxford, pp. 225-242.
- Flusberg S.J., Matlock T. and Thibodeau P.H. 2018, *War Metaphors in Public Discourse*, in “Metaphor & Symbol” 33, pp. 1-18.
- Forchtner B. and Özvatan Ö. 2022, *De/legitimising EUrope through the Performance of Crises. The Far-Right Alternative for Germany on “climate hysteria” and “corona hysteria”*, in “Journal of Language and Politics” 21 [2], pp. 208-232.
- Freedman M. 1996, *Ideologies and Political Theory: A Conceptual Approach*, Clarendon Press, Oxford.
- Gardini, G. (ed.) 2020, *The World Before and After COVID-19. Intellectual Reflections on Politics, Diplomacy and International Relations*, European Institute of International Studies Press, Salamanca.
- Gerbaudo P. 2020, *Coronavirus Embarrassed Trump and Bolsonaro. But the Global Right will Fight Back*, in “The Guardian”, April 1 2020. <https://www.theguardian.com/commentisfree/2020/apr/01/populist-right-coronavirus> (10.10.2021).
- Greenaway L. 2020, *Group Threat*, in Jetten J., Reicher S.D., Haslam S.A. and Cruwys T. (eds.) *Together Apart. The Psychology of COVID-19*, SAGE, London, pp. 61-67.
- t’ Hart P. 1993, *Symbols, Rituals and Power: The Lost Dimensions of Crisis Management*, in “Journal of Contingencies and Crisis Management” 1 [1], pp. 36-50.
- Hawkins K.A. and Rovira Kaltwasser C. 2017, *The Ideational Approach to Populism*, in “Latin American Research Review” 52 [4], pp. 513-528.
- Hofstadter R. 1963, *Anti-Intellectualism in American Life*, Knopf, New York, NY.
- Hswen Y., Xu X., Hing A., Hawkins J.B., Brownstein J.S. and Gee G.C. 2021, *Association of “#covid19” versus “#chinesevirus” with Anti-Asian Sentiment on Twitter: March 9-23 2020*, in “AJPH” 11 [5], pp. 956-964.
- Jetten J., Reicher S.D., Haslam S.A. and Cruwys T. 2020, *Together Apart. The Psychology of COVID-19*, SAGE, London.
- Jolley D., Douglas K.M. and Sutton R.M. 2018, *Blaming a Few Bad Apples to Save a Threatened Barrel: The System-Justifying Function of Conspiracy Theories*, in “Political Psychology” 39 [2], pp. 465-478.

- Kahn L. 2020, *Who's in Charge? Leadership during Epidemics, Bioterror Attacks, and Other Public Health Crises*, Praeger Security International, Santa Barbara, CA.
- Katsambekis G. 2017, *The Populist Surge in Post-Democratic Times: Theoretical and Political Challenges*, in "The Political Quarterly" 88 [2]: pp. 202-210.
- Kennedy J. 2019, *How Populists Spread Vaccine Fear*, in "Politico" May 07 2019. <https://www.politico.eu/article/how-populists-spread-vaccine-fear/> (10.10. 2021).
- Klinger U. and Svensson J. 2015, *The Emergence of Network Media Logic in Political Communication: A Theoretical Approach*, in "New Media & Society" 17 [8], pp. 1241-1257.
- Laclau E. 2005a, *On Populist Reason*, Verso, London.
- Laclau E. 2005b, *Populism: What's in a Name?*, in Panizza F. (ed.) *Populism and The Mirror of Democracy*, Verso, London, pp. 32-49.
- Lahsen M. 2013, *Anatomy of Dissent: A Cultural Analysis of Climate Skepticism*, in "American Behavioral Scientist" 57 [6], pp. 732-753.
- Lakoff G. 2006, *Thinking Points. Communicating Our American Values and Vision*, Farrar, Straus and Giroux, New York, NY.
- Lakoff G. 2008, *The Contemporary Theory of Metaphor*, in Ortony A. (ed.) *Metaphor and Thought*, Cambridge University Press, Cambridge, pp. 202-251.
- Lakoff G. 2014, *The All New Don't Think of An Elephant! Know Your Values and Frame the Debate*, Chelsea Green Publishing, White River Junction, VT.
- Lakoff G. 2016, *Moral Politics. How Liberals and Conservatives Think*, The University of Chicago Press, Chicago, IL.
- Lakoff G. and Johnson M. 1980, *Metaphors We Live By*, University of Chicago Press, Chicago, IL.
- Lee M.J. 2006, *The Populist Chameleon: The People's Party, Huey Long, George Wallace, and the Populist Argumentative Frame*, in "Quarterly Journal of Speech" 92 [4], pp. 355-378.
- Li J. and Su M.-H. 2020, *Real Talk About Fake News: Identity Language and Disconnected Networks of the US Public's "Fake News" Discourse on Twitter*, in "Social Media+Society" 6 [2], pp. 1-14.
- Lilleker D., Coman I.A., Gregor M. and Novelli E. (eds.) 2020, *Political Communication and COVID-19. Governance and Rhetoric in Times of Crisis*, Routledge, London.
- Lorenzetti M.I. 2016, *Crafting an Effective Message for the Masses, or the Art of Populism: An Analysis of New Populist Rhetoric from a Textual Perspective*, in Degani M., Frassi P. and Lorenzetti M.I. (eds.) *The Languages of Politics/La politique et ses langages* vol.1, Cambridge Scholars Publishing, Newcastle upon Tyne, pp. 125-157.
- Lorenzetti M.I. 2018, *A Cross-linguistic Study of New Populist Language*, in Kranert M. and Horan G. (eds.) *Doing Politics. Discursivity, Performativity and Mediation in Political Discourse*, John Benjamins, Amsterdam, pp. 153-177.
- Lorenzetti M.I. 2020, *Anti-Immigration Rhetoric in Italy and in the USA: A Comparative Perspective*, in Demata M. and Mariano M. (eds.) *Anglo-American Relations in the Age of Globalization: Risks and Opportunities*, Collane@unito, Torino, pp. 97-121.
- Margulies B. 2019, *Understanding Boris Johnson's Appeal: Performative Rebelliousness, Impishness, and Indiscipline*, in "LSE British Politics and Policy Blog". <https://blogs.lse.ac.uk/politicsandpolicy/the-appeal-of-boris-johnson/> (10.10.2021).
- Merkley E. and Loewen P.J. 2021, *Anti-intellectualism and the Mass Public's Response to the COVID-19 Pandemic*, in "Nature Human Behaviour" 5, pp. 706-715.
- MetaNet, University of California, Berkeley. <https://metanet.icsi.berkeley.edu/metanet/>

- Mintrom M, Rublee M.R., Bonotti M. and Zech S.T. 2021, *Policy Narratives, Localisation, and Public Justification: Responses to COVID-19*, in “Journal of European Public Policy” 28 [8], pp. 1219-1237.
- Mitroff I. 2004, *Crisis Leadership*, Wiley & Sons, Hoboken, NJ.
- Moffitt B. 2015, *How to Perform Crisis: A Model for Understanding the Key Role of Crisis in Contemporary Populism*, in “Government and Opposition” 50 [2], pp. 189-217.
- Moffitt B. 2016, *The Global Rise of Populism. Performance, Political Style and Representation*, Stanford University Press, Stanford, CA.
- Mondon A. and Winter A. 2020. *Reactionary Democracy. How Racism and the Populist Far Right Became Mainstream*, Verso, London.
- Motta M. 2018, *The Dynamics and Political Implications of Anti-Intellectualism in the United States*, in “American Politics Research” 46 [3], pp. 465-498.
- Mudde C. 2004, *The Populist Zeitgeist*, in “Government and Opposition” 39 [3], pp. 541-563.
- Mudde C. 2017, *Populism: An Ideational Approach*, in Rovira Kaltwasser C., Taggart P., Ochoa Espejo P. and Ostiguy P. (eds.) *The Oxford Handbook of Populism*, Oxford University Press, Oxford, pp. 27-47.
- Mudde C. 2019, *The Far Right Today*, Polity, London.
- Mudde C. 2020, *Will the Coronavirus ‘Kill Populism’? Don’t Count on It*, in “The Guardian”, March 27 2020. <https://www.theguardian.com/commentisfree/2020/mar/27/coronavirus-populism-trump-politics-response> (10.10.2021).
- Mudde C. and Rovira Kaltwasser C. 2017, *Populism. A Very Short Introduction*, Oxford University Press, Oxford.
- Mueller J. 1970, *Presidential Popularity from Truman to Johnson* in “American Political Science Review” 64 [1], pp. 18-34.
- Núñez Garcia Saucó A. 2020, *Old and New Order*, in Gardini G.L. (ed.) *The World Before and After COVID-19. Intellectual Reflections on Politics, Diplomacy and International Relations*, European Institute of International Studies Press, Salamanca, pp. 7-10.
- Olza I., Koller V., Ibarretxe-Antuñano I., Pérez-Sobrino P. and Semino E. 2021, *The #ReframeCovid Initiative. From Twitter to Society via Metaphor*, in “Metaphor and the Social World” 11[1], pp. 98-120.
- Ostiguy P. and Roberts F. 2016, *Putting Trump in Comparative Perspective: Populism and the Politicization of the Sociocultural Low*, in “The Brown Journal of World Affairs” XXIII [1], pp. 25-50.
- Oxford English Dictionary* (OED) 2022, Oxford University Press, Oxford. <https://www.oed.com/>
- Panizza F. 2005, *Introduction: Populism and the Mirror of Democracy*, in F. Panizza (ed.) *Populism and The Mirror of Democracy*, Verso, London, pp.1-31.
- Papaioannou K., Pantazi M. and van Prooijen J-V. 2022, *An Arena of Angry Minds? Unravelling the Relationship between Populism and Belief in Conspiracy Theories: The Role of Cynicism, Powerlessness, and Zero-Sum Thinking*, in “POPULISMUS” Working Papers 13. <http://www.populismus.gr>.
- Pickering M. 2001, *Stereotyping: The Politics of Representation*, Palgrave Macmillan, London.
- Ritzer A. and Dean P. 2015, *Globalization. A Basic Text*, Blackwell, Chichester.
- Ross A.S. and Rivers D.J. 2018, *Discursive Deflection: Accusation of “Fake News” and the Spread of Mis- and Dis-Information in the Tweets of President Trump*, in “Social

- Media + Society” 4 [2], pp. 1-12.
- Ross A.S. and Rivers D.J. 2020, *Donald Trump, Legitimation and a New Political Rhetoric*, in “World Englishes” 39 [130], pp. 623-637.
- Semino E. 2021, “*Not Soldiers but Fire Fighters*” – *Metaphors and Covid-19*, in “Health Communication” 36 [1], pp. 50-58.
- Snowden F.M. 2019, *Epidemics and Society: From the Black Death to the Present*, Yale University Press, New Haven, CT.
- Stavrakakis Y. 2014, *The Return of ‘the People’: Populism and Anti-Populism in the Shadow of the European Crisis*, in “Constellations” 21, pp. 505-517.
- Stavrakakis Y. and Katsambekis G. (eds.) 2020. *Populism and the Pandemic: A Collaborative Report 7*, in “POPULISMUS Interventions”.
<http://www.populismus.gr/interventions/>.
- Strömbäck J. 2008, *Four Phases of Mediatization: An Analysis of the Mediatization of Politics*, in “Journal of Press/Politics” 13 [3], pp. 228-246.
- Sutton R.M. and Douglas K.M. 2020, *Conspiracy Theories and the Conspiracy Mindset: Implications for Political Ideology*, in “Current Opinion in Behavioral Sciences” 34, pp. 118-122.
- Taggart P. 2000, *Populism*, Open University Press, Buckingham.
- Taggart P. 2002, *Populism and the Pathology of Representative Politics*, in Mény Y. and Surel Y. (eds.) *Democracies and the Populist Challenge*, Palgrave Macmillan, London, pp. 62-80.
- Timsit A. 2021, *British Government’s Early Pandemic Response was a Historic Public Health Failure, Lawmakers Say*, in “The Washington Post” October 12 2021.
<https://www.washingtonpost.com/world/2021/10/12/uk-coronavirus-pandemic-response-historic-mistakes-inquiry/> (12.10.2021).
- Trump’s Twitter Archive. <https://www.thetrumparchive.com/> (22.10.2021).
- van Aelst P. Shaefer T. and Staney J. 2012, *The Personalization of Mediated Political Communication: A Review of Concepts, Operationalizations and Key Findings*, in “Journalism” 13 [2], pp. 203-220.
- van Dijk T. 1993, *Principles of Critical Discourse Analysis*, in “Discourse & Society” 4 [2], pp. 249-283.
- van Dijk T. 2001, *Critical Discourse Analysis*, in Tannen D., Hamilton H.E. and Schiffrin D. (eds.) *The Handbook of Discourse Analysis*, Blackwell, London, pp. 352-371.
- van Dijk T. 2002, *Discourse and Racism*, in Goldberg D.T. and Solomos J. (eds.) *A Companion to Racial and Ethnic Studies*, Blackwell, London, pp. 145-159.
- van Dijk T. 2006, *Discourse and Manipulation*, in “Discourse & Society” 17 [2], pp. 359-383.
- van Dijk T. 2013, *Ideology and Discourse*, in Freedman M., Tower Sargent L. and Stears M. (eds.) *The Oxford Handbook of Political Ideologies*, Oxford University Press, Oxford, pp. 175-196.
- van Leeuwen T. 2008, *Discourse and Practice. New Tools for Critical Analysis*, Oxford University Press, Oxford.
- van Leeuwen T. and Wodak R. 1999, *Legitimizing Immigration Control: A Discourse-Historical Analysis*, in “Discourse Studies” 1 [1], pp. 83-118.
- van Zoonen L. 2012, *Epistemology: Changing Truth Claims in Popular and Political Culture*, in “European Journal of Communication” 27 [1], pp. 56-67.
- WHO 2020, <https://www.who.int/news-room/q-a-detail/herd-immunity-lockdowns-and-covid-19> (10.10.2021).
- WHO 2022a, <https://covid19.who.int/> (13.06.2022).

- WHO 2022b, *Global Excess Deaths Associated with COVID-19, January 2020-December 2021*, <https://www.who.int/data/stories/global-excess-deaths-associated-with-covid-19-january-2020-december-2021> (05.05.2022).
- Wodak R. 2015, *The Politics of Fear. What Right-Wing Populist Discourses Mean*, SAGE, London.
- Wondreys J. and Mudde C. 2020. *Victims of the Pandemic? European Far-Right Parties and Covid-19*, in “Nationalities Paper” 50 [1], pp. 86-103.
- Wung L., Morstatter F., Carley K.M. and Liu H. 2019, *Misinformation in Social Media: Definition, Manipulation, and Detection*, in “ACM SIGKDD Explorations Newsletter” 21 [2], pp. 80-90.
- Yong E. 2020, *The U.K.’s Coronavirus ‘Herd Immunity’ Debacle*, in “The Atlantic” March 16 2020. <https://www.theatlantic.com/health/archive/2020/03/coronavirus-pandemic-herd-immunity-uk-boris-johnson/608065/> (10.10.2021).
- Zappettini F. and Krzyżanowski M. 2019. *The Critical Juncture of Brexit in Media & Political Discourses: from National-Populist Imaginary to Cross-National Social and Political Crisis*, in “Critical Discourse Studies” 16 [4], pp. 381-388.
- Zaslave A. 2008, *Here to Stay? Populism as a New Party Type*, in “European Review” 16 [3], pp. 319 – 336.

Primary Sources

- Churchill W. “We shall fight on the beaches” (London, 04/06/1940) <https://winstonchurchill.org/resources/speeches/1940-the-finest-hour/we-shall-fight-on-the-beaches/>
- Boris Johnson’s Twitter Account @BorisJohnson <https://twitter.com/borisjohnson> (20.10.2021)

Boris Johnson’s Speeches

- Prime Minister's statement on coronavirus (COVID-19): March 3, 2020
- Prime Minister's statement on coronavirus (COVID-19): March 9, 2020
- Prime Minister's statement on coronavirus (COVID-19): March 12, 2020
- Prime Minister’s statement on coronavirus (COVID-19): March 23, 2020
- Prime Minister’s statement in Downing Street: April 27, 2020
- Prime Minister's statement on coronavirus (COVID-19): May 10, 2020
- Prime Minister's statement on coronavirus (COVID-19): May 24, 2020
- Prime Minister's statement to the House on COVID-19: June 23, 2020
- Prime Minister's statement on coronavirus (COVID-19): July 31, 2020
- Prime Minister's statement on coronavirus (COVID-19): September 22, 2020
- UN Speech: September 26, 2020
- Prime Minister's statement on coronavirus (COVID-19): October 12, 2020
- All Speeches <https://www.gov.uk/search/news-and-communications?page=19&people=boris-johnson> (22.10.2021)

Donald J. Trump’s Speeches

- Interview with CNBC’S Joe Kernen at the World Economic Forum in Davos, Switzerland – January 22, 2020 <https://www.cnbc.com/2020/01/22/cnbc-transcript-president-donald-trump-sits-down-with-cnbc-joe-kernen-at-the-world-economic-forum-in-davos-switzerland.html> (12.03.2022)
- Statement on the Coronavirus – March 11, 2020
- Press Conference about the Coronavirus – March 13, 2020

Coronavirus Task Force Briefing – April 13, 2020

Press Briefing with the Coronavirus Task Force – April 15, 2020

Task Force Briefing on the Coronavirus Pandemic – April 23, 2020

Address at West Point Graduation – June 13, 2020

Campaign Rally in Tulsa, Oklahoma – June 20, 2020

Remarks at Salute to America – July 4, 2020

Press Conference on Executive Orders – August 8, 2020

Labor Day Press Conference – September 7, 2020

All Speeches <https://millercenter.org/the-presidency/presidential-speeches> (22.10.2021)

ANTI-VACCINATION CONSPIRACY THEORIES AND THEORISTS

Analysis of a Corpus of Offline and Online Argumentative Texts in the *Guardian* and the *Daily Mail*

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Abstract – The present paper explores the discourses of and about anti-vaccination conspiracy theories in two national British newspapers, the *Guardian* and the *Daily Mail*, following a corpus-assisted Critical Discourse Studies approach. The analysis focuses on the frequency and usage of the lemma *conspiracy* in articles dealing with the controversy surrounding the measles, mumps, and rubella vaccine in the UK; both traditional, printed genres like editorials and letters to the editor and newer, social media genres like comments posted on the two newspapers’ Facebook pages are investigated. The results show that conspiratorial beliefs concerning the science and politics of vaccination are widely discussed both offline and online; however, the noun phrases *conspiracy theory* and *conspiracy theorist* have a marked negative connotation and are mainly used by their opponents as insults. Supporters may avoid or refute these labels and the stigma attached to them, or they may reclaim their use to underline their feeling of superior knowledge compared to the general population, who has allegedly been brainwashed by the establishment’s propaganda. Moreover, the analysis of conversations unfolding on Facebook confirms the antagonising quality of such interactions, where the interlocutors’ only aim is to defend their pre-existing point of view from the other side’s attacks. Discourses of and about anti-vaccination conspiracy theories thus deviate from scientific and health communication to express strong ideological positionings and ultimately to create and defend identities.

Keywords: MMR vaccine; anti-vaccination; conspiracy theories; critical discourse studies; corpus linguistics.

1. Introduction

1.1. *Anti-vaccination conspiracy theories and the MMR vaccine controversy*

Conspiracy theories (CTs) have been defined by Sunstein and Vermeule (2009, p. 275) as “an effort to explain some event or practice by reference to the machinations of powerful people, who attempt to conceal their role”.

Among the most common CTs, Bergmann (2018) mentions the theory of a deep state, alternative explanations for the assassination of John Fitzgerald Kennedy and for 9/11, and also CTs involving diseases and medicine:

One of the most popular CTs claims that a cure for cancer actually exists but is being suppressed by the government; another involves a cover-up in the UK, in which authorities were obscuring knowledge of childhood cancer levels being ten times the country's average along the North Wales coast. A similar theory maintains that scientists and politicians were covering up the knowledge that mercury in vaccines causes autism, something that has long been scientifically debunked. (Bergmann 2018, p. 36)

The present paper deals specifically with anti-vaccination CTs and the claim that vaccines cause autism; indeed, although it is true that not every anti-vaccination claim fits this definition, CTs seem to feature prominently in anti-vaccination discourses. Among the many authors who have studied the problem, Kata (2010, pp. 1712-1713) has included CTs in her list of the most frequent themes expressed in anti-vaccination websites, and according to her study, anti-vaccination CTs involve:

- Accusations of a cover-up, where information about vaccines is purposefully concealed by regulatory bodies.
- Widespread suggestions that vaccination is motivated solely by a quest for profit, with governments, vaccine manufacturers, and doctors secretly benefitting from vaccination's harmful side-effects.
- Admiration for doctors and scientists who speak against vaccines, coupled with the belief that pro-vaccine doctors are either afraid, ignorant, or in denial as to the true dangers of vaccination.
- Claims to possess privileged knowledge that the medical establishment is willingly ignoring, and the consequent promotion of alternative sources of knowledge like personal intuition.
- Theories that vaccines are being used as a means for population control or to manipulate genetic information.

Moreover, CTs are characterized by a so-called self-sealing quality, that accounts for the fact that they are “1) resistant and in extreme cases invulnerable to contrary evidence, and 2) especially resistant to contrary evidence offered by the government” (Sunstein, Vermeule 2009, p. 223). CTs thus become a closed explanatory system of unverifiable truths, as conspiracy theorists tend to incorporate any evidence that is offered to them in their counter-narrative (Bergmann 2018, p. 56). This is particularly important when talking about CTs revolving around diseases and medicine, because 1) scientific consensus is built around evidence, and 2) public health policies based on said consensus, like vaccination, are offered to the general

population via the state (in the UK as well as other countries). Consequently, believers in CTs may antagonize these policies on principle, and it may be very difficult to dissuade them with arguments centred around scientific evidence.

The controversy surrounding the combined measles, mumps, and rubella (MMR) vaccine in the UK is a case in point. In 1998, an article by Andrew Wakefield and colleagues was published in the prestigious medical journal *The Lancet*, where the authors claimed to have found a possible correlation between the measles virus (and thus, the measles vaccine) and autism. Andrew Wakefield further ventured to suggest that the triple vaccine may not be safe, and that single shots would be preferable. The hypothesis was later debunked by several major scientific studies; the journal, as well as most of Wakefield's colleagues, retracted the paper, and Wakefield himself was found guilty of scientific misconduct and struck off the British Medical Register. Nevertheless, his 1998 study sparked a controversy over the safety and effectiveness of vaccines, with anti-vaccination positions being adopted by prominent public figures and celebrities and a massive number of articles and comments being written in newspapers and on social media, which significantly undermined confidence in and uptake of the vaccine; furthermore, the then Prime Minister Tony Blair was heavily criticised because he refused to disclose whether his son Leo had received the jab (Stöckl, Smajdor 2017). Wakefield's suggestions were also later conflated with claims that vaccines contain toxic ingredients, like mercury, which can cause harmful side effects or autism in children (for an overview of the controversy, see for example: Boyce 2006; Deer 2020; and Fitzpatrick, 2004). Therefore, the MMR vaccine-autism controversy in the UK offers a suitable case study to explore the dynamics of vaccination discourses, vaccine hesitancy, and the role played by conspiratorial thinking in their formation and spreading (see also Numerato *et al.* 2019, who examined the MMR controversy as the starting point for the modern-day wave of anti-vaccination sentiments and CTs).

1.2. The MMR vaccine controversy in a changing media landscape

The MMR vaccine controversy arose at a time when the media landscape was being enormously changed by the advent of the Internet. Both Web 1.0 and especially Web 2.0 have influenced the way readers experience a text, allowing them to simultaneously consume and produce contents, communicating interactively with a potentially global audience (Herring 2013). Social media such as Facebook, Twitter, or Instagram have considerably enlarged the possibilities for participation and exchange, so that

new patterns of interaction have been created both horizontally, among social peers, and vertically, between users and established institutional hierarchies (Demata *et al.* 2018). Clearly, traditional mass media also offer ways for interaction and exchange between readers and the newspapers' editorial board as well as among readers: letters to the editor, for example, are one way through which readers can comment directly on a news topic, and they predate the advent of the internet. They have been studied as primarily argumentative texts “designed to convince readers of the acceptability of a point of view” (Richardson 2007, p. 150); Boyd (2018, p. 3) also mentions them as one (albeit limited) opportunity for readers to engage with a newspaper. However, the advent of the Internet and of social media has undoubtedly offered an unprecedented opportunity for a massive and freer audience participation, where readers' comments rarely undergo an editorial, gatekeeping process before and after publication.

Thus, as virtually unlimited amounts of information of any kind can be accessed faster and easier than ever before, the dynamics of scientific and health communication have been changing, too, with both positive and negative results. If, on the one hand, it has become potentially easier for scientists and doctors to reach out to their patients, and for patients to find doctors and supporting communities with whom to share their concerns, on the other hand, misinformation and disinformation have found fertile ground to thrive online. It is indeed rather easy to post unverified, misleading, or false contents on the Internet. Additionally, users who engage in conversation with one another on social media like Facebook are at an increased risk of being trapped into so-called echo-chambers and confirmation niches; these have been defined by Zummo (2018a, p. 231) as “a polarised community formed of users who select information in accordance with their system of beliefs [...] a sort of echo-system in which the truth value of information is not salient, and what matters is whether the information fits in one's narrative”. Once again, this process is not new nor unique to the internet: a printed newspaper's readership is often defined by its editorial stance and agenda, made explicit and legitimized through editorials and opinion pieces where the newspaper's values are openly discussed. However, the advent of the internet and of social media seems to have once again exacerbated this process. Indeed, in further analysing the construction of these confirmation niches in online comments on vaccination, Zummo (2017, 2018a, 2018b) confirms that the online (Facebook) environment tends to strengthen participants' confirmation biases, configuring a discursive space where people engage in a kind of thrust-and-parry conversation, opposing each other on principle. This risk is arguably amplified in the case of CTs, due to their previously mentioned self-sealing nature and their intrinsic refusal of (governmental) authority.

1.3. Theoretical and methodological framework

The aim of the present study is to examine the ways in which anti-vaccination CTs are argued and discussed in the press, both by journalists and by their public, following a corpus-assisted Critical Discourse Studies (CDS) approach (see, among others: Baker 2006; KhosraviNik, Unger 2016; Unger *et al.* 2016). This CDS approach allows the researcher to describe the linguistic phenomena characterising these interactions as social practices, that in turn can shed light on wider social and cultural changes in society. The use of corpora and of corpus-analysing tools is paramount to a quantitative examination of a large number of articles that can be then refined through careful qualitative readings of smaller portions of text. This arguably reduces bias in the analysis, avoiding the risk of ‘cherry-picking’ data that confirm the researcher’s pre-existing beliefs (Baker 2006, pp. 10-12). In the present paper, the analysis of the texts is carried out using the SketchEngine software (Kilgariff *et al.* 2004, 2014).

Since the paper focuses specifically on vaccine-related CTs, the analysis is aimed at pinpointing those elements in the text that (explicitly or implicitly) refer to conspiratorial thinking and conspiratorial beliefs. More specifically, it focuses on the lemma *conspiracy* (which can be used to pre-modify either the noun *theory* or the noun *theorist*) by looking first at its frequency of occurrence, and second, by retrieving concordances that are used to explore the contexts in which it occurs. A qualitative close reading of some of these occurrences is then used to refine and test some insights about its meaning(s) in context.

Special attention is paid to comments posted on Facebook, seen as one main tool for user participation and exchange. However, in order to avoid the digital dualism denounced by Jurgenson (2012), and to account for the integration of offline and online contents in contemporary society, the corpus includes also argumentative genres of the traditional printed press, namely editorials and letters to the editor. As argued in the previous section, these share some characteristics with Facebook comments; therefore, their combined analysis should help to shed some light on the way proponents as well as opponents of anti-vaccination CTs strategically use language to legitimise their views and de-legitimise their opponents’, hence helping to assess more precisely the role played by computer-mediated-communication (CMC) in the legitimation and spreading of anti-vaccination CTs.

2. Corpus building and preliminary observations

The corpus collected comprises editorials and letters to the editor from the *Guardian* and the *Daily Mail*. The *Guardian* is one of the leading British

broadsheets, with a liberal stance, whereas the *Daily Mail* is a conservative tabloid that was chosen because it covered the MMR vaccine scare extensively and was one key publication in the spreading of anti-vaccination sentiments (see, for example: Boyce 2006; Stöckl, Smajdor 2017). Moreover, the focus on newspapers with a nation-wide coverage (instead of militant publications expressing overtly anti-vaccination views) could help to highlight the fact that CTs “are no longer – if they ever were – phenomena found primarily on the fringes of society” (Bergmann 2018, p. 7), on the contrary, they are more common and widespread than is usually thought.

Relevant texts were retrieved from the database NexisUni using the keywords “MMR vaccin* AND autism” (the wildcard served to obtain both *vaccine* and *vaccination* in their singular as well as their plural forms; the connector AND was used to look for articles where the two issues are discussed simultaneously), filtering first for editorials and then for letters to the editor. No time span was set; however, all articles published in 2020 and 2021 were excluded from the present analysis, because it was felt that the advent of the COVID pandemic heavily affected discourses about vaccination in ways that would warrant a separate discussion. The texts thus obtained were downloaded in .txt format and then uploaded into the corpus analyser SketchEngine. The general composition of the corpus of editorials and readers’ letters can be seen in Table 1; Figure 1 and Figure 2 show, respectively, the temporal distribution of the articles retrieved for the corpus of editorials and for the corpus of readers’ letters.

Editorials	
Guardian	
Total number of texts	Total number of tokens
36	27.890
Daily Mail	
Total number of texts	Total number of tokens
8	5.440
<i>Total number of texts: 44</i>	
<i>Total number of tokens: 33.330</i>	
Letters to the editor	
Guardian	
Total number of texts	Total number of tokens
8	1.115
Daily Mail	
Total number of texts	Total number of tokens
11	10.280
<i>Total number of texts: 18</i>	
<i>Total number of tokens: 11.395</i>	

Table 1
General composition of the corpus of editorials and of the corpus of readers' letters.

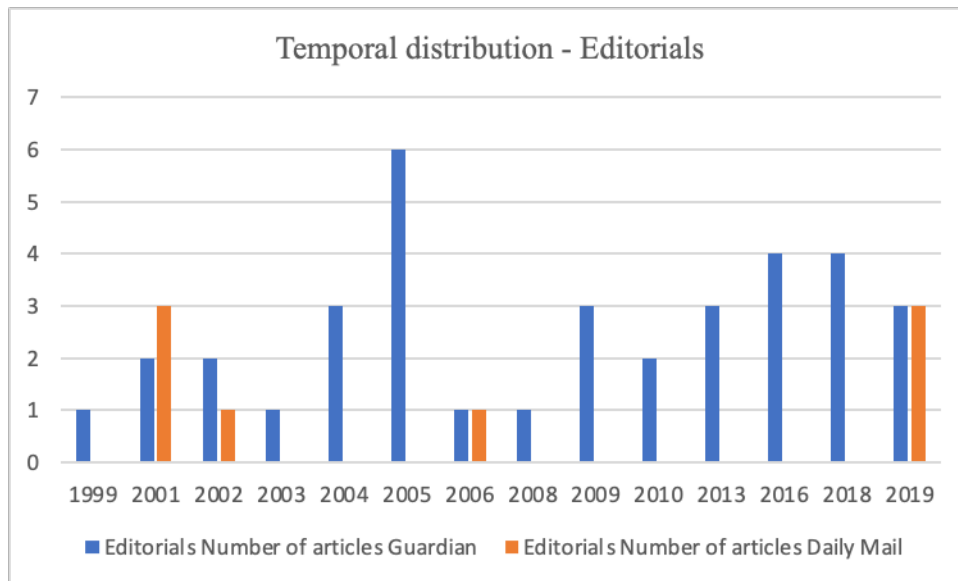


Figure 1
Temporal distribution of articles in the corpus of editorials.

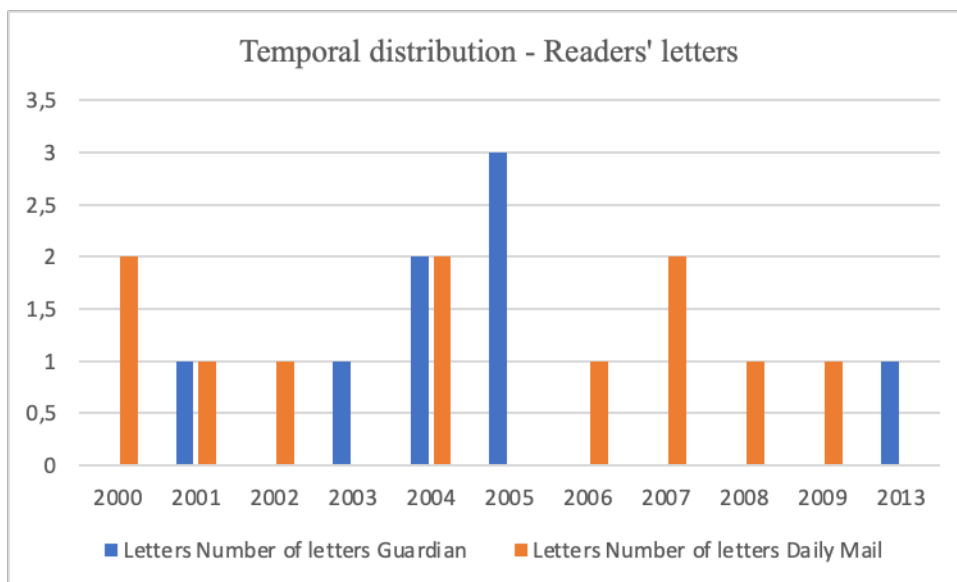


Figure 2
Temporal distribution of articles in the corpus of readers' letters.

A second corpus was then assembled by looking at the two newspapers' Facebook pages. Relevant articles were retrieved using the search function allowed by Facebook, once again inserting the keywords *MMR vaccine and autism*. This search gave a significant number of articles, some of which did not appear to be directly relevant to the issue at hand; therefore, a manual scanning of all the results was carried out to exclude unrelated texts. Once this process was completed, the comments posted underneath the selected articles were copied and pasted onto a .txt file (thus eliminating the profile pictures) and anonymised (that is to say, the names of both authors of comments and of the people tagged in the comments were deleted).¹ Note that all comments were selected, except when there were more than 1000 comments under one single post: in these cases, "more relevant comments" were retrieved through the appropriate filter allowed by the Facebook site. The researcher chose to remain a passive observer and never to interact with the commenters. A separate file was then created for each post and uploaded on the corpus analyser SketchEngine.² Unfortunately, it was not possible to

¹ It is worth pointing out here that the newspapers' Facebook pages display the same articles which are available on their websites, so that, when users click on the post, they are immediately redirected to the main website. The comments under study, on the other hand, are a feature specific to the social media site. Although they appear immediately under the post they refer to, it is often difficult to ascertain whether the poster actually read the original article before writing; moreover, discussions on Facebook comments often develop autonomously and may deviate considerably from the original topic. Therefore, although they maintain ties with the original newspaper article, they may also be studied as separate texts.

² Despite the existing rules of conduct for researchers studying online, publicly available data (e.g., Association of Internet Researchers' guidelines), their use still involves ethical challenges;

keep extra-linguistic data such as hyperlinks, images, and GIFs, therefore the analysis focused on the strictly linguistic aspect of the comments, aware that much of their meaning can be nonetheless conveyed through these graphic, multimodal signs. The general composition of the corpus of Facebook comments can be seen in Table 2, while Figure 3 shows the temporal distribution of the posts included in the analysis.

Facebook comments	
Guardian	
Total number of texts	Total number of tokens
34	549.234
Daily Mail	
Total number of texts	Total number of tokens
20	340.810
<i>Total number of texts: 54</i>	
<i>Total number of tokens: 890.044</i>	

Table 2
General composition of the corpus of Facebook comments.

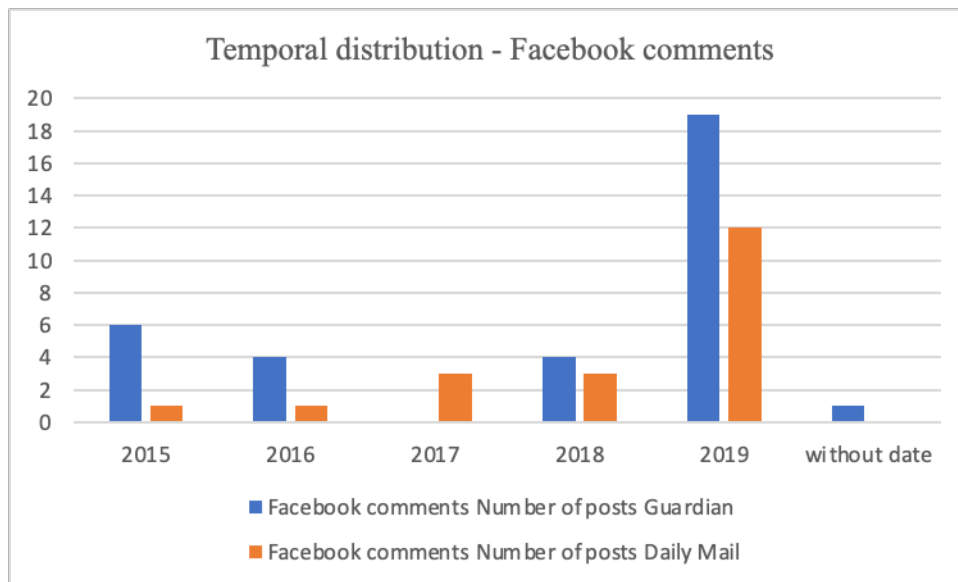


Figure 3
Temporal distribution of Facebook posts.

It is immediately evident that the subcorpus of *Daily Mail* editorials is significantly smaller than the subcorpus of *Guardian* editorials, while the

although there is a generally low expectation of privacy for Facebook comments, the data for the present study were thoroughly anonymised, deleting both users' names and profile pictures.

opposite is true for the subcorpus of readers' letters. Moreover, the offline corpus (made of editorials and readers' letters) is much smaller than the online corpus (made of Facebook comments). The *Daily Mail* subcorpus of Facebook comments also consists of fewer words than its *Guardian* counterpart. This is why normalized frequencies – and not raw frequencies – are used here to compare lemmas across the various subcorpora.³

3. Results and discussion

3.1. *Conspiracies in letters to the editor and editorials*

As a first step, a search for the lemma⁴ *conspiracy* was launched in the different subcorpora, and it was found that it never appears in letters to the editor and only sporadically in the editorials. The raw as well as the normalized frequencies are reported in Table 3.

Subcorpus	Raw frequency	Normalized frequency
Guardian editorials	10	0.35
Daily Mail editorials	2	0.36

Table 3

Raw and normalized frequencies of *conspiracy* in the offline subcorpora.

Before starting with the analysis of the occurrences of the lemma *conspiracy* in editorials, however, a close reading of letters to the editor was carried out in order to understand whether the notion of anti-vaccination CTs was truly absent, or rather was expressed or implied using different terms.

This reading revealed that conspiratorial ideas were indeed suggested and oftentimes supported, albeit without explicitly labelling them as such. See, for instance, the ensuing examples (mostly from the *Daily Mail*), where writers hold the belief that vaccination is profitable for both the government and the pharmaceutical industry, and that these financial interests are systematically favoured over the citizens' wellbeing. Consequently, the

³ Raw frequencies consider the number of times a word appears in a corpus, as opposed to normalized frequencies or frequencies per million words, which are useful to compare corpora of different sizes. In the present paper, it was decided not to maintain the default normalized frequency calculated by the SketchEngine, because the subcorpora consist of less than 1 million words. The normalized frequency was instead calculated using the formula: (raw frequency count / number of words in the text) x 1,000, following Biber et al. (1999).

⁴ Searching for a lemma instead of a word allows us to obtain all its possible forms, in this case the singular form *conspiracy* as well as the plural form *conspiracies*.

authors criticise the decision of the National Health Service not to offer single injections instead of the triple MMR vaccine (all emphases are mine):⁵

1. It's *penny pinching* that brought about the problem of a three-in-one coverall. (*Daily Mail* reader letter, 16th April 2000)
2. Rather than hanging on to the MMR programme *out of financial expediency*, I'd urge Mr Blair to instigate countrywide provision of single jabs. (*Daily Mail* reader letter, 13th August 2001)

In the following extract, the writer claims that the Government must have secret knowledge on vaccines and their side effects:

3. There were three brands of the vaccine introduced in the UK in 1988. Two of those were withdrawn from use in September 1992. At the time the government *announced* that this was merely a "change in supply", although subsequently the government *has admitted* that these vaccines were causing, in some instances, encephalitis. (*Guardian* reader letter, 7th November 2005)

Most importantly, readers may also raise suspicions of wilful cover-ups:

4. When we realised there were problems after our son's injection, *there was a cover-up* with doors hastily shut in our faces. (*Daily Mail* reader letter, 16th April 2000)
5. Bring back single vaccines and *stop another thalidomide cover-up*. (*Daily Mail* reader letter, 23rd April 2000)

Consequently, Andrew Wakefield and the doctors who back him are considered heroes, brave enough to fight a hostile powerful establishment and a draconian government for the sake of protecting their patients, as in:

6. I was dismayed and angry to read that Dr Peter Mansfield is to be summoned before the General Medical Council (GMC) disciplinary hearing. This man is unselfishly putting himself on the line so that parents can have a choice between single vaccines or MMR. *To be treated in this dictatorial manner is monstrous*. (*Daily Mail* reader letter, 13th August 2001)
7. *How despicable that Dr Wakefield stands trial* for trying to identify the stomach and bowel disease that we believe was triggered by the vaccine. (*Daily Mail* reader letter, 23rd July 2007)

The very same concerns are also expressed in editorials; see, for example, the following instances:

⁵ It is worth noting here that single doses of the measles, mumps, and rubella vaccines have not been approved by the NHS because there is no reliable scientific evidence that they are safer than the triple injection; furthermore, they unnecessarily stretch the time gap between vaccinations, leaving children unprotected and vulnerable to said diseases for longer periods. For further information on combined vaccines, see for example: <https://vk.ovg.ox.ac.uk/vk/combination-vaccines-and-multiple-vaccinations> (28.09.2021).

8. It doesn't inspire confidence when *witchhunts* are mounted against doctors who express doubts over MMR. It isn't reassuring when GPs are given *financial incentives* to inoculate as many children as possible with the triple jab. [...] And what of the politicians, with their reputation for *dissimulation and deceit*? (*Daily Mail* editorial, 8th February 2002)
9. The daily *deceptions* practised by the most eminent scientists [...] It's left to non-scientists to try to *drag the data we need to see* into the public domain. (*Guardian* editorial, 24th February 2004)
10. The case has the whiff about it of a *medieval inquisition*, called to defend *the orthodoxy of the establishment against the heresy of an independent mind*. [...] Even Tony Blair, though publicly committed to the triple vaccine, seems to have private doubts. What else would explain why he has refused to tell MPs if his son Leo has been given it? (*Daily Mail* editorial, 13th June 2006)

Although these examples do not explicitly use the term *conspiracy*, their content is in line with the themes found by Kata (2010), which were discussed in Section 1.1. of the present paper.

A closer linguistic analysis of these examples further reveals how these conspiratorial beliefs are linguistically constructed and hinted at. For instance, Example 3 displays a skilful combination of reporting verbs with opposite meanings: *announce* is a metapropositional assertive verb (Caldas Coulthard 1994, p. 306), whereas *admit* could be considered a metapropositional expressive verb underlining the reticence, on the part of the government and the scientific community, to disclose their knowledge. Example 9 exploits the idea of a collective *we* to create a dichotomy US-THEM (Wodak 2015), where 'we' are the people, and 'they' are the scientific and political establishment. However, the most striking feature common to all these sentences is possibly the highly emotional language, especially when talking about Andrew Wakefield and his followers, with adjectives like *dismayed*, *angry*, *monstrous*, and *despicable*, and nouns like *witchhunt* and *inquisition*. Emotion is here used as a discursive strategy to emphasise the points that are considered argumentatively more relevant; this is a characteristic of the so-called 'post-truth' society, where appeals to emotion (and idiosyncratic beliefs) are considered more important to shape public opinions than hard facts and evidence (see for example: d'Ancona 2017).

These examples suggest that conspiratorial beliefs may indeed be more common than is usually thought, also because they are often expressed in seemingly rational – and therefore considered more legitimate – terms. Conversely, when conspiracies are explicitly discussed in the editorials, they are almost invariably criticised and condemned. Most interestingly, social

media and the Internet are often blamed for allowing anti-vaccination CTs to spread, as in:

11. You don't see articles in newspapers arguing that vaccination causes autism any more, but that doesn't matter in an era of *social media*. Mainstream scientists who want to demolish the *conspiracy theories* and bad science and explain how the evidence stacks up in favour of vaccines are talking into a vacuum. (*Guardian* editorial, 22nd August 2018)
12. *Social media* is a maelstrom of *conspiracy theories* which we must debunk with evidence and calm reason. (*Daily Mail* editorial, 10th October 2019)

A further step of the study will therefore be the analysis of the frequency and contexts of occurrence of the lemma *conspiracy* in Facebook comments.

3.2. *Conspiracies in Facebook comments*

The frequency of the lemma *conspiracy* in the subcorpus of Facebook comments reveals that it is more common in the online corpus than in the offline subcorpus; moreover, it is much more frequent in comments posted by *Guardian* Facebook readers than in comments posted by *Daily Mail* Facebook readers. Raw and normalized frequencies are shown in Table 4.

Subcorpus	Raw frequency	Normalized frequency
Guardian Facebook comments	332	0.60
Daily Mail Facebook comments	71	0.20

Table 4

Raw and normalized frequencies of the lemma *conspiracy* in the online subcorpora.

A preliminary reading of the concordance lines of the lemma allowed the researcher to divide the concordances into a supporting or an opposing stance, that is to say, into users affirming the existence of a conspiracy and users criticising the idea. This classification process was often straightforward; however, there were also instances in which the meaning of the concordances was dubious, and in these cases, the uncertainty was solved by reading the larger portion of text where the lemma appeared. If this still was not sufficient, the concordance was marked as 'unclear' and excluded from further analyses. Some concordances were also excluded, as a close reading revealed that they were not related to the topic of anti-vaccination CTs. This datum is interesting, because it suggests that comments on social

media often tend to deviate from the topic of the original post; nevertheless, it was deemed appropriate to exclude these instances from the present linguistic analysis for reasons of space. Table 5 shows the number of pro- and anti-CTs concordances for each subcorpus.

Subcorpus	Pro-CTs concordances	Anti-CTs concordances	Total	Excluded concordances
Guardian Facebook comments	50	205	255	76
Daily Mail Facebook comments	5	58	63	8

Table 5
Pro- and anti-CTs concordances in Facebook comments.

It appears that the lemma is used in most cases by opponents of CTs, both by *Guardian* and *Daily Mail* commenters. A preliminary reading of the actual concordances also shows that these opponents use the noun phrases *conspiracy theory/ies* and *conspiracy theorist/s* mainly to summarise anti-vaccination positions, in order to criticise or ridicule them. Indeed, three major themes expressed by opponents of CTs, that were common to comments both in the *Guardian* and in the *Daily Mail*, were identified:

- Truth judgments, i.e., the idea that anti-vaccination CTs are false and unscientific.
- Moral judgments, i.e., the idea that anti-vaccination CTs are dangerous to individuals as well as to society as a whole.
- Dysphemisms, i.e., derogatory judgments about the people who believe and spread anti-vaccination CTs.

They are expressed using a variety of linguistic items, including adjectives, nouns, and complex phrases; some of these expressions also appeared in the keyword list, thus testifying to their frequent usage:

- Truth judgments: *false; not true; untrue; myth; disproved; bogus; pseudoscience; anti-science; unscientific; scientifically inaccurate; scientific and medical illiteracy; CTs have zero credibility; it is not (real) research; it is not a reputable/peer reviewed source; nonsense.*
- Moral judgments: *CTs do real harm/are harmful/have done much damage; CTs are threats; CTs endanger people; CTs are lies/are fraudulent; fear mongering; propaganda.*
- Dysphemisms: *stupid; moron/s; (willfully) ignorant; idiot/s; nut/s; nutter/s; nutty; crazy; crackpot; foil-hat; tin-hat; insane; paranoid;*

lunatic/s; dumb; retarded; low-IQ; submental; whacko/s; thickos; ridiculous; rubbish; gullible; garbage; bullshit; crap; unreasonable; conspiracy theorists are the worst; conspiracy theorists think they're smarter.

Table 6 lists some examples of the usage of these expressions in context.⁶ These instances also show that the three themes can be often intertwined.

Theme	Examples
Truth judgments	<p>13. The problem is, people with no medical knowledge are reading things on the internet that are <i>simply not true</i>, and conspiracy theories abound. (<i>Guardian</i>)</p> <p>14. You made a badly informed decision, based on <i>lies, pseudo science and crackpot</i> conspiracy theories. (<i>Guardian</i>)</p> <p>15. I choose not to believe conspiracies. lol PS It is a <i>myth</i> that vaccines cause disease. (<i>Daily Mail</i>)</p> <p>16. Years of investigation shouldn't be shaded by <i>stupid untrue</i> conspiracies. (<i>Daily Mail</i>)</p>
Moral judgments	<p>17. Conspiracy theorists have done <i>so much damage</i>. (<i>Guardian</i>)</p> <p>18. Conspiracy theorists are prepared to <i>lie, cheat, and endanger people ...</i> (<i>Guardian</i>)</p> <p>19. Internet conspiracy theories <i>do real harm</i>. (<i>Daily Mail</i>)</p>
Dysphemisms	<p>20. Can we stop with the <i>stupid</i> conspiracies already? (<i>Guardian</i>)</p> <p>21. Hey <i>anti-vaccination morons</i>, how on earth is it a conspiracy by 'big pharma'? (<i>Guardian</i>)</p> <p>22. There's way to many <i>idiots</i> who believe in conspiracy theories and make up <i>complete crap ...</i> (<i>Daily Mail</i>)</p> <p>23. You're the one who's putting children and society as a whole in danger by being <i>a retarded idiot who spreads conspiracy theories and nonsense</i> and doesn't bother to find out how vaccines work. (<i>Daily Mail</i>)</p>

Table 6
Examples of comments by opponents of anti-vaccination CTs.

Although the first two themes may be considered attempts to delegitimise conspiratorial ideas by relying on proven scientific facts or shared moral values, examples in the third category address the users' authority, accountability, and ultimately, their identity. The dysphemisms used are often taboo words, or nouns belonging to the semantic sphere of cognitive disabilities and impairments that are re-semanticised as insults. Even though this may well be a symptom of the ableism inherent in modern Western

⁶ Note that the comments are here reported as they appear on the Facebook site, meaning that original spelling or grammar mistakes are maintained, as are the profanities.

societies (see for example: Nario-Redmond 2020), in the case of CTs, terms denoting mental illnesses may also be linked to earlier descriptions that tended to focus on the element of paranoia, thus depicting conspiracy theorists as “mentally ill” (Bergmann 2018, pp. 53-55). Whatever their origins, these dysphemisms arguably polarise the discussion, demonstrating that commenters do not want to change anti-vaccinators’ minds, but rather isolate them and their views. The general effect is the creation of an in-group of people who do not believe in anti-vaccination CTs, as opposed to an outgroup of conspiracy theorists; the in-group thus refutes and de-legitimises anti-vaccination CTs through a direct attack on the out-group’s identities and telling rights. One further strategy to de-legitimise believers in anti-vaccination CTs is to liken them to flat-earthers, as in the following:

24. *Anti-vaxxers, like flat-earthers, are conspiracy-loving dipshits. (Daily Mail)*

Consequently, the comments written in response by proponents and supporters of CTs are often extremely self-defensive; this defence almost invariably involves refuting the label of ‘conspiracy theorist’ and the stigma attached to it. Once again, this is done in three main ways:

- By straightforwardly denying supporting conspiratorial ideas.
- By stating that one’s beliefs are true and correspond to objective facts, and therefore are not CTs.
- By scathingly or ironically dismissing accusations.

Table 7 lists some examples of these discourses.

Theme	Examples
Denial	<p>25. <i>I am not suggesting</i> that there is a conspiracy. Medicine companies however are extremely powerful ... (Guardian)</p> <p>26. <i>I'm not saying</i> it ts a conspiracy or that it’s just about profit. But profit is a main motivator ... (Guardian)</p> <p>27. My belief is that as yet not enough work has been done on this area of research, ie the measles vaccine, to ensure that the process is safe ... <i>i have never suggested</i> that there is <u>any</u> conspiracy by anyone anywhere ... (Daily Mail)</p>
Truth claim	<p>28. <i>It’s been proven</i> now that this CDC coverup <i>is no conspiracy theory</i>. (Guardian)</p> <p>29. <i>That’s not conspiracy theory madness</i>. It’s truly frightening. (Guardian)</p> <p>30. <i>No conspiracies just facts</i>. (Daily Mail)</p>

Dismissal	<p>31. It's not called being a conspiracy theorist, <i>it's called being wise.</i> (<i>Guardian</i>)</p> <p>32. Clever of them really. Discrediting any questioning of what they lay out as the 'truth' in one fell swoop. Leavings <i>us 'conspiracy theorists'</i> 😏 looking like the loonies, whilst allowing <i>the 'educated'</i> 😏😏 to bask in their own all knowing smugness. (<i>Guardian</i>)</p> <p>33. I think they are making our kids sick with vaccinations and then benefiting from treatment as well. Just my opinion. <i>Guess I'm just a conspiracy theorist. Lol</i> Just don't think they are looking out for us is all. (<i>Daily Mail</i>)</p>
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Table 7
Examples of comments by supporters of anti-vaccination CTs.

Themes 1 and 2 are in line with Bergmann's remarks that "the term conspiracy theory is far from being a neutral analytical concept [...] it is a pejorative label slapped on other people's explanations that are perceived to be bogus. People usually don't refer to themselves as conspiracy theorists. In effect, the term is an insult" (2018, p. 50). However, the label may also be reclaimed by people who use it to endorse their feeling of uniqueness and superiority over mainstream society, as in the examples belonging to theme 3.

More specifically, emoticons are used in Example 32 to disambiguate the pragmatic value of the scare quotes, to clarify the fact that the author is using the labels *conspiracy theorists* and *educated* sarcastically. Similarly, the Internet acronym *lol* (i.e., laughing out loud) is used in Example 33 to further underline the ironic meaning of the preceding sentence, thus strengthening the author's dismissal of previous accusations by other commenters. Conversely, the same acronym is used in Example 15 by an opponent of anti-vaccination CTs as a discursive marker suggesting a patronising interpersonal stance: according to Kiesling (2009), this patronising stance serves to suggest contemporaneously certainty about one's own knowledge, while pointing to the interlocutor's lack of power (see also Knoblock 2020, p. 522).

Another interesting characteristic, common to both Facebook comments and the previously analysed offline texts, is the linguistic construction of a dichotomy US-THEM, which is diffuse, but variable: for example, the author of comment 20 uses the first person plural pronoun *we* to mean either 'people who do not believe in CTs' or 'we as a society'; the second person singular pronoun *you* is also frequently used to engage in a direct dialogic exchange with another commenter (as in Examples 14 and 23). Other users sometimes construct a 'they' group including "conspiracy theorists" (17, 18), or choose to directly address the entirety of their opponents, as in 21 ("Hey, anti-vaccination morons ..."). Proponents of anti-

vaccination CTs, on the other hand, use the third person plural pronoun *they/them* to mean either the scientific/political establishment conspiring against citizens (as in 33) or the people who reject their CTs (as in 32).

Finally, it is worth noticing that many supporters of CTs who deny being conspiracy theorists use concessive conjunctions or adverbs such as *however* (25) and *but* (26) to introduce their claims, thus shifting the pragmatic understanding of the term *conspiracies*, in an effort to legitimise them by re-framing them as rational doubts and reasonable suspicions. As a matter of fact, the precise meaning of the noun phrase *conspiracy theory* as opposed to *conspiracy* is also sometimes dialogically negotiated among interlocutors who oppose or support anti-vaccination positions, as in the following interaction:

USER 1: There's no such thing as conspiracy theories... Apart from the Zimmerman telegram, watergate, mk ultra, project cointelpro, iran-con..... And whatever else they don't tell you. You'd be naive not to believe in them..

USER 2: There's a difference between conspiracies (Watergate, Cointelpro, Zimmerman, Iran-Contra) and conspiracy theories (flat-earthery, chemtrails, anti-vax). Confusing them is dangerous.

USER 3 (responding directly to USER 2): until they are proved they are all called theories then some are proved and those become the conspiracies. (*Guardian*)

User 3's 'a posteriori' judgement on the CTs' truth value, however, is not included in Bergmann's (2018, p. 49) distinction between a 'conspiracy' and a 'conspiracy theory', nor is User 1's implied premise of the existence of obscure, conspiring forces; rather, this definition stresses the theories' elements of verifiability and plausibility, together with their scope and identifiable motives:

Katherine K. Young and Paul Nathanson (2010) identify four features of every real conspiracy: first, they are coordinated acts of groups, 'not actions of isolated individuals'; second, they have 'illegal or sinister aims, not ones that would benefit society as a whole'; third, these are 'orchestrated acts, not a series of spontaneous and haphazard ones'; and fourth, they are plots made with 'secret planning, not public discussion.' As Mark Fenster (1999) noted, while a conspiracy refers to an act, CTs refers to perception. [...] History is full of generally dismissed conspiracies later proving to be true—for example, the Watergate scandal. Still, the term conspiracy theory is commonly only reserved for unproven explanations of malignant covert plots. Customarily, it is therefore not applied when discussing plausible explanations of clandestine plots. Furthermore, the term is typically limited to explanations of large scale or dramatic social and political events, such as the 9/11 attacks, distribution of AIDS, the death of Diana or of the Bilderbergers ruling the world.

It is interesting to notice that these definitions (by Facebook users and scholars alike) tend to conflate CTs involving diseases and medicine with CTs about political, foreign affairs. This demonstrates once again that discussions about anti-vaccination CTs have little to do with health communication, and more to do with ideological positionings towards the establishment and the elites, be they political or intellectual.

4. Concluding remarks

The present paper has explored the discourses of and about anti-vaccination CTs in two nation-wide British newspapers, the *Guardian* and the *Daily Mail*, following a corpus-assisted CDS approach. The collected corpus comprises articles dealing with the MMR vaccine-autism controversy belonging to both traditional, printed genres like editorials and letters to the editor, and newer, social media genres like comments posted on the two newspapers' Facebook pages; the analysis has focused on the frequency and contexts of occurrence of the lemma *conspiracy*. The results have shown that conspiratorial beliefs concerning the science and politics of vaccination are widely discussed both offline and online, with special attention devoted to alleged cover-ups by the government and the scientific establishment, who may be aware of the vaccines' potentially harmful side effects but continue to profit from their selling and distribution. However, these conspiratorial beliefs are not always discussed explicitly in terms of CTs (especially in the offline corpus of editorials and letters to the editor), probably because the noun has a marked negative connotation, with the phrase *conspiracy theorist* primarily used as an insult. Consequently, people who maintain conspiratorial ideas are often careful to avoid this derogatory label, as they try to frame their suspicions in more rational, and therefore legitimate, terms. However, some of them may reclaim the term to underscore their feeling of superior knowledge compared to the general, 'mainstream' population, who has allegedly been hoodwinked, or brainwashed, by the establishment's propaganda.

The linguistic analysis of these interactions, especially those that take place online on Facebook, reveals that opponents of anti-vaccination CTs sometimes try to delegitimise antagonistic opinions through reliance on scientific data, but they more often attack their interlocutors' morality, accountability, and telling rights, resorting to general judgments about their theories' truth value or even to name-calling, with a widespread use of dysphemisms and taboo words. As for supporters of CTs, despite their refusal of the 'conspiracy theorist' label, they often promote unverifiable, unscientific, and anti-intellectualist views, and appear to be impervious to logical argumentation and discussion. Therefore, interactions assume a

thrust-and-parry, antagonistic quality whereby the interlocutors' only aim is to defend their pre-existing point of view from the other side's attacks.

The study has several limitations. First, the corpus analysed is small in size and limited in scope, comprising only three text genres from only two British newspapers. Consequently, no general claims can be made as to the common nature and prevalent characteristics of discourses of and about anti-vaccination CTs. Second, a more detailed analysis of the corpus's concordances and collocations could shed further light on the varying discursive strategies adopted by supporters and opponents of anti-vaccination CTs. Despite these shortcomings, the analysis helps to clarify the implied conversational and pragmatic meanings of potentially polysemous labels, such as that of *conspiracy theorist*, especially when their pragmatic meaning is heavily context-dependent, as in the case of ironic or sarcastic comments. Moreover, the CDS approach viewing discourse as a social act allows the researcher to understand that anti-vaccination CTs have really become an issue of identity, and that publicly accepting or refusing them has become a choice of self-representation made by speakers towards others, rather than an informed decision based on scientific facts and effective health communication. As such, discourses for or against CTs become carriers of two wider, and in some respects opposing systems of social and cultural values – in a word, two conflicting ideologies.

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References

- Baker P. 2006, *Using Corpora in Critical Discourse Analysis*, Bloomsbury, London.
- Bergmann E. 2018, *Conspiracy and Populism: The Politics of Misinformation*, Palgrave Macmillan.
- Biber, Douglas, Stieg Johansson, Geoffrey Leech, Susan Conrad, and Edward Finegan, 1999, *Longman Grammar of Spoken and Written English*, Longman, London.
- Boyce T. 2006, *Health, Risk and News: The MMR Vaccine and the Media*, Peter Lang, New York.
- Boyd M.S. 2018, *Critical Discourse Analysis and the Editorial 2.0: News Reception and User-generated Comments in Discourses about (Im)migration*, in “Altre Modernità” 10 (2018), pp. 1-22.
- Caldas-Coulthard C. 1994, *On reporting reporting: The representation of speech in factual and factional narratives*, in Coulthard M. (ed.), *Advances in Written Text Analysis*, Routledge, London, pp. 295-308.
- D’Ancona M. 2017, *Post Truth: The New War on Truth and How to Fight Back*, Random House.
- Deer B. 2020, *The Doctor Who Fooled the World: Science, Deception, and the War on Vaccines*, Scribe Publications.
- Demata M., Heaney D. and Herring S.C. 2018, *Language and Discourse in Social Media: New Challenges, New Approaches*, in “Altre Modernità” 10 (2018), pp. I-X.
- Fitzpatrick M. 2004, *MMR and Autism: What Parents Need to Know*, Routledge, London/New York.
- Herring S.C. 2013, *Discourse in Web 2.0: Familiar, Reconfigured, and Emergent*, in Tannen D. and Tester M. (eds.), *Discourse 2.0: Language and New Media*, Georgetown University Press, Washington, DC, pp. 1-25.
- Jurgenson N. 2012, *When atoms meet bits: social media, the mobile web and augmented revolution*, in “Future Internet” 4 [1], pp. 83–91. doi:10.3390/fi4010083.
- Kata A. 2010, *A post-modern Pandora’s box: Anti-vaccination misinformation on the Internet*, in “Vaccine” 28, pp. 1709-1716.
- KhosraviNik M. and Unger J.W. 2016, *Critical Discourse Studies and Social Media: Power, Resistance and Critique in Changing Media Ecologies*, in Wodak R. and Meyer M. (eds.), *Methods of Critical Discourse Studies*, 3rd Edition, Sage, London, pp. 206-233.
- Kiesling S.F. 2009, *Style as stance*, in: Jaffe A. (ed.), *Stance: Sociolinguistic Perspectives*, Oxford University Press, Oxford, pp. 171–194.
- Kilgariff A., Rychly P., Smrz P. and Tugwell D. 2004, *The Sketch Engine*, in “Proceedings of the 11th EURALEX International Congress”, Lorient, France, pp. 105-116
- Kilgariff A., Baisa V., Bušta J., Jakubiček M., Kovář V., Michelfeit J., Rychly P. and Suchomel V. 2014, *The Sketch Engine: ten years on*, in “Lexicography ASIALEX”, 1 [1], pp. 7-36.
- Knoblock N. 2020, *Negotiating Dominance on Facebook: Positioning of Self and Others in Pro- and Anti-Trump Comments on Immigration*, in “Discourse & Society” 31 [5], pp. 520-539.
- Nario-Redmond M.R. 2020, *Ableism: The Causes and Consequences of Disability Prejudice*, Wiley Blackwell.

- Numerato D., Vochočová L., Vaclav S. and Macková, A. 2019, *The vaccination debate in the “post truth” era: social media as sites of multi-layered reflexivity*, in “Sociology of Health & Illness” 41 [S1], pp. 82-97.
- Richardson J.E. 2007, *Analysing Newspapers: An Approach from Critical Discourse Analysis*, Palgrave Macmillan.
- Rogers T. 2020, *Differences Between Broadsheet and Tabloid Newspapers*, in “ThoughtCo”. www.thoughtco.com/broadsheet-and-tabloid-newspapers-2074248 (28.09.2021).
- Stöckl A. and Smajdor A. 2017, *The MMR debate in the United Kingdom: vaccine scares, statemanship and the media*, in Holmberg C., Blume S. and Greenough P., *The Politics of Vaccination: A Global History*, Manchester University Press, pp. 239-259.
- Sunstein C.R., & Vermeule A. 2009, *Conspiracy theories: Causes and cures*, in “Journal of Political Philosophy” 17, pp. 202–227.
- Unger J.W., Wodak R. and Khosravi-Nik M. 2016, *Critical Discourse Studies and Social Media Data*, in Silverman D., *Qualitative Research*, Sage, chapter 17.
- Wodak R. 2015, *The Politics of Fear: What Right-Wing Populist Discourses Mean*, Sage, London.
- Zummo M.L. 2017, *A Linguistic Analysis of the Online Debate on Vaccines and Use of Fora as Information Stations and Confirmation Niche*, in “International Journal of Society, Culture & Language” 5 [1], pp. 44-57.
- Zummo M.L. 2018a, *Posting for Consensus, Sharing Consensus. The Case of Migrants on Facebook, Ideological Views and Echo Chambers*, in “Textus” 31 [1], pp. 218-237
- Zummo M.L. 2018b, *The Linguistic Construction of Confirmation Niches in Online Comment Sequences*, in “Altre Modernità”, 10 (2018), pp. 107-123.

SCIENCE-RELATED POPULISM AND SOCIAL ACTORS IN MARTIN GEDDES' EARLY REPRESENTATIONS OF COVID-19

A Case Study

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Abstract – This article focuses on five blogs written by British conspiracy theorist Martin Geddes, available on his personal website. The blogs were written from March to December 2020 and represent an early testimony of COVID-19 scepticism. The article aims to analyse Geddes' conspirational counter-narrative of the coronavirus syndemic by focusing on four elements: the generic characteristics of the corpus, Geddes' construal of ethos, his texts' connection to the theoretical framework of science-related populism and, lastly, the representation of select social actors in the corpus and how such representation sustains Geddes' conspirational arguments. These elements provide insight into the idiom of conspiracy theorists and their construction of counter-information and counter-knowledge.

Keywords: COVID-19; science-related populism; ethos; social actor theory; critical discourse analysis.

1. Introduction

The COVID-19 syndemic¹ has been both the first event of historical magnitude to be “experienced by the entire world at the same time” (Milanović 2020) and “the first epidemic in history in which people around the world have been collectively expressing their thoughts and concerns on social media” (Aiello et al. 2021, p. 1). The syndemic has also facilitated a disinformation crisis (Vériter et al. 2020) and the prospering of conspiracy thinking, i.e. theories “ranging from the well-known ‘Big Pharma’ and the non-existence of the virus to claims of microchips in vaccines, the stealing of

¹ This article refers to COVID-19 as a syndemic, rather than a pandemic or an epidemic. A term originally coined by medical anthropologist Merrill Singer, a syndemic goes beyond “the notion of disease clustering in a location or population, and processes of biological synergism among co-dwelling pathogens” since it “points to the determinant importance of social conditions in the health of individuals and population.” (2003, p. 428) Singer also notes that the “sociopolitical context of sufferers' health is critical.” (2003, p. 428) Singer has also recently written on the interaction between the concept of syndemic and that of structural violence in the context of COVID-19 (2021).

personal information, and the implementation of 5G to decimate the population” (Carrion-Alvarez and Tijerina-Salina 2020). In order to counter the spread of disinformation and facilitate compliance with safety measures, it is of the utmost importance to analyze conspirational discourses.

This article focuses on five blogs from well-known British conspiracy theorist Martin Geddes’ personal website, www.martingeddes.com. According to the established anti-fascist campaigning organisation “HOPE not hate”, Geddes is “by far the most significant British figure in the world of orthodox QAnon.”² Geddes’ five blogs were chosen for two reasons: firstly, they were the only COVID-19-related blogs he wrote in 2020 and represent precious evidence of early COVID-19 scepticism; secondly, after several of his social media have been shut down, Geddes’ personal website has remained the only stable outlet for his conspirational views.³

The analysis presented here aims to describe a conspiracist’s ethos in the context of the COVID-19 syndemic, to read the corpus in the light of the science-related populism framework (Mede and Schäfer 2020), and to illustrate the representation of select social actors (van Leeuwen 2008) in the context of a conspirational narrative of COVID-19. In order to reach these aims, the analysis is articulated in four steps: firstly, an introduction to the corpus and its generic characteristics is provided; secondly, the construction of Geddes’ ethos in the corpus is investigated; thirdly, the epistemological paradigm of science-related populism is introduced and Geddes’ texts are shown to subscribe to its logic; lastly, Geddes’ counter-narrative of the syndemic is read as social action and his representation of select social actors is offered. For the purpose of the following analysis, a keyword in context analysis has been carried out using the #LancsBox⁴ software.

2. Genre: blogging and social media

The corpus consists of five texts (9880 tokens, 2937 types, and 2735 lemmas), which are contained in the “News and Updates” section of Geddes’ website:

² “UK QAnon Social Media Influencers”, available here: <https://hopenothate.org.uk/chapter/uk-qanon-social-media-influencers/> (last accessed on 10 February 2022). QAnon is a conspiracy theory that first appeared online in October 2017 and claimed that President Trump was fighting against a secret Democratic deep-state that trafficked children (Bloom and Moskalenko 2021). Since then it has grown exponentially and transformed into a cult-like movement.

³ Geddes’ Twitter account @martingeddes was suspended in January 2021. Patreon suspended Geddes in October 2020.

⁴ #LancsBox is the Lancaster University corpus toolbox, freely downloadable here: <http://corpora.lancs.ac.uk/lancsbox/download.php>

- “On pandemics, panics and propaganda” (17 March 2020)
- “COVID-1984: the medical cures with no media bite” (28 April 2020)
- “Coronagate: the scandal to end all scandals” (4 May 2020)
- “The wars of perception of heaven and hell” (8 August 2020)
- “GAME framework applied to face masks and brand communication” (11 December 2020)

These texts present several characteristics of blogs.

In their pioneering study, Miller and Shepherd claim blogs present three most common features: they are chronologically organized, contain links to sites of interest on the web, and provide commentary on the links (2004, p. 6). Geddes' texts reflect such a claim: they are arranged chronologically, they contain hypertextual links to content of interest (usually either as a background to Geddes' topic or as supporting evidence to his argument), such content is further referenced and commented upon. Moreover, chronology presents the conventional reverse order as well as timestamping, which contribute to fostering an expectation of updates (Miller and Shepherd 2004, p. 8).

Miller and Shepherd further discuss the voyeurism afforded by blogs as a genre and the web as a medium (2004, pp. 2-6). They analyse the co-occurrence of voyeuristic and exhibitionist tendencies in Western culture, which are amplified by the technological affordances of the web and promoted by concurring social forces: firstly, the pursuit of un-mediated truth and authenticity in a media-driven world; secondly, a constant need for excitement; thirdly, the need for involvement (2004, p. 4). Web-based genres, such as blogs, meet these socially driven needs. Geddes' texts are in line with two of these needs: authenticity and community building. As for authenticity, Geddes, a telecoms consultant, writes blogs that not only claim to offer the truth, but also aim to debunk false information offered by the established media. In the corpus, Geddes states that “Decades of psychological warfare via the media have divided society.”⁵ He writes of “information warfare” and “strategic deception” (*Pandemics*) and claims that “the corporate media is involved in a full-on war against objectivity.”⁶

Geddes' authenticity agenda in his blogs is complemented by the increasing politicization of online discourse facilitated by the emergence of social media. KohsraviNik observes how social media have produced “the claim to empowerment of ordinary citizens, re-connection with politics, [and]

⁵ Martin Geddes, “On Pandemics, Panics, and Propaganda”, available at <https://www.martingeddes.com/on-pandemics-panics-and-propaganda/> (last accessed 10 February 2022). All further quotations are indicated in brackets in the text as *Pandemics*.

⁶ Martin Geddes, “The Wars of Perception of Heaven and Hell”, available at <https://www.martingeddes.com/the-wars-of-perception-of-heaven-and-hell/> (last accessed 10 February 2022). All further quotations are indicated in brackets in the text as *Wars*.

grassroots mobilisation” (KhosraviNik 2017, p. 62). Geddes’ blogs manifest a belief in grassroots mobilisation and a revolt against the traditional media’s “monopoly over discursive power” (KhosraviNik 2017, p. 63). Geddes writes of “a lockdown of the free flow of knowledge”⁷ and promotes his attempts at bypassing censorship⁸ through crowd-funding and self-publishing. Such behaviour embodies the discursive power of the participatory web, “fluid, changeable, and circular” (KhosraviNik 2017, p. 63), whereby users are consumers, producers, and distributors of content (prosumers). The web allows prosumers to fact check and carry out research independently bypassing the established channels for the gatekeeping and spreading of information. Geddes’ call for empowerment materializes in several claims regarding the public’s right to access information and carry out research independently (*COVID-1984*).

Community building is also a part of Geddes’ blogging: his consistent use of the pronoun “we” (61 occurrences in the corpus) conveys the existence of an in-group of likeminded people; this is complemented by the use of “you” (49 occurrences) to address an audience bound by similar values and reading him across multiple platforms. Online community building is further implemented by traffic boosting and content sharing strategies: Geddes blogs frequently and consistently; he proselytizes by offering email subscription to a newsletter and he adds social sharing buttons at the bottom of every blog (e.g. Facebook, Twitter, and Google+), he further employs a social sharing tool (sharethis.com) allowing users to share content simultaneously over Facebook, Twitter, and LinkedIn. In addition, Geddes shows awareness of his loyal audience by direct addresses. For example, he closes a blog on being banned by Twitter with the following: “I will soon make announcements here on where to find my ideas and shared content in future [*sic*].”⁹

Community building also happens through Geddes’ referencing of social media content written by others: this shows not only the tendency to build blogs as hypertexts (Miller and Shepherd 2004), but also Geddes’ subscription to what KhosraviNik calls “*regimes of popularity building*” (2017, p. 62). These are due to the technological affordances of new media such as liking, tagging, and sharing content. The hypertextual nature of Geddes’ texts further realizes what KhosraviNik (2017) calls echo chambers: in social media, echo chambers are the result of the algorithmic manipulation of newsfeeds so that users are presented with content which mirrors and

⁷ Martin Geddes, “COVID-1984: the medical cures with no media bite” at <https://www.martingeddes.com/covid-1984-the-medical-cures-with-no-media-bite/> (last accessed 10 February 2022). All further quotations are indicated in brackets in the text as *COVID-1984*.

⁸ See “Make Censorship History” at <https://www.martingeddes.com/make-censorship-history/> (last accessed 10 February 2022).

⁹ See “The end of an era: I have been banned by twitter” at <https://www.martingeddes.com/the-end-of-an-era-i-have-been-banned-by-twitter/> (last accessed on 5 October 2021).

reinforces their beliefs. “[L]ike-minded users would predominantly see each other’s reactions, news, links, commentaries” (KhosraviNik 2018, p. 10). This has brought about the predominance of beliefs, feelings, and likes over facts, arguments, and logic (KhosraviNik 2017, p. 63). Blogs and news websites also push for interaction and the sharing of content among like-minded prosumers: Geddes provides content that is shareable across multiple platforms and cites social media material that presents views similar to his own. He also has recourse to sources subscribing to political agendas that are in line with his, in a sort of circular motion.

Geddes writes blogs that draw both from traditional blogging and from the technological affordances of social media: the corpus is highly hypertextual and thereby echoes similar content, it facilitates content sharing, it is both personal and aimed at community building, it aims at debunking COVID-19 narratives pushed by traditional media and offering the “truth” about the virus and the syndemic.

3. The Construction of Ethos in the Corpus

In what follows, ethos is intended as “the character or emotions of a speaker or writer that are expressed in the attempt to persuade an audience.”¹⁰ In addition, ethos is here understood as increasingly bound to the credibility and personality of the speaker and, as such, realized through textual as well as non-textual strategies of self-representation and self-construal (Amossy 2001, pp. 3-5).

Geddes’ ethos-building first manifests in the titles to his blogs and is inextricably connected with his conspirational stance: “On pandemics, panics and propaganda” shows awareness of two basics of rhetorical success, alliteration and trinomials. The repetition of word-initial sounds and the juxtaposition of these three nouns introduce Geddes’ sophistication and indicate the implied connection between pandemic, propaganda and panic. “COVID-1984: the medical cures with no media bite” provides a reference to George Orwell’s *Nineteen Eighty-Four*, therefore expanding on the propaganda theme and insinuating the idea of covert citizen control, while introducing education and reading as part of Geddes’ ethos; the alliterating “medical” and “media” introduce the opposition between the media and the possibility of obtaining truthful information concerning COVID-19 through the media. “Coronagate: the scandal to end all scandals” cites Watergate and hyperbolizes the political scandal, introducing Geddes’ taste for wordplay. “The wars of perception of heaven and hell” has Blakean echoes (i.e. *The Marriage of Heaven and Hell*) and thematizes perception as relevant to

¹⁰ See the entry for “ethos” at www.britannica.com (last accessed 10 February 2022).

interpreting the syndemic and questioning the “new normal”. This confirms Geddes’ sophistication and education. “GAME¹¹ framework applied to face masks and brand communication” offers the application of a management model to communicating face masks and the “new normal”, and reinforces Geddes’ credibility as a communications and business consultant. A remarkable first impression, these titles establish Geddes as sophisticated and well-read, a professional who is not afraid of dabbling in controversy and expressing extreme ideas.

Geddes’ ethos transpires in the texts thanks to the consistent use of the first person singular and plural. A key word in context search carried out using #Lancsbox shows 31 occurrences of the pronoun “I” and 61 occurrences of the pronoun “we”. First person narration serves to realize a strong authorial voice, personalise content, create a sense of familiarity and closeness, and give the impression of a unique perspective on events. In the corpus, “I” is generally used to identify Geddes as author, as provider of counter-information, and to convey intellectual honesty and disinterestedness. For instance, Geddes shares his status as author when writing: “I was going to title this essay ‘Hydroxychloroquine: does it cure CONS.’”¹² An example of counter-information is: “As I understand it, this total inversion of right and wrong, fact and fiction, is the essence of the Satanic doctrine” (*Wars*). Intellectual honesty is conveyed through the first-person pronoun “I” and the copular verb “am” followed by an adjective phrase: this is used to establish credentials and make remarks on COVID-19 credible; for example, in sentences such as “I am copiously qualified to comment...” (*COVID-1984*) or “I am, however, quite well versed in...” (*Pandemics*), as in the following:

It is not my competence to talk about viruses, plagues, or pandemics *per se* [*sic*]. I am, however, quite well versed in media manipulations and unpicking insanities. So let me offer you my best understanding of how to make sense of our situation. Consider this a framework for rational reasoning, not a final answer. (*Pandemics*)

Geddes begins by establishing intellectual honesty: he has no qualifications to discuss medical matters. The ironic use of “per se” anticipates the subsequent argument: medical matters can be discussed on multiple levels, and while one level is merely scientific and best left to experts, another level is the media representation of medical matters. Geddes self-represents as a

¹¹In the blog, Geddes explains that GAME stands for Goals, Audience, Medium, Expression (<https://www.martingeddes.com/game-framework-applied-to-face-masks-and-brand-communications/>).

¹²Martin Geddes, “Coronagate: the scandal to end all scandals”, available at <https://www.martingeddes.com/coronagate-the-scandal-to-end-all-scandals/> (last accessed 10 February 2022). All further quotations are indicated in brackets in the text as *Coronagate*.

telecommunications expert, “well versed in media manipulations”, and in so doing he reframes the syndemic as a representational issue. Moreover, Geddes’ media expertise can offer readers a rational framework to make sense of the situation. The implication is that his readers, too, can understand and discuss medical matters within a rational framework delineated by Geddes.

Another example is:

I have no qualifications in medicine whatsoever, so I have zero opinion to offer on plagues and cures. What I am copiously qualified to comment upon is the media reaction to COVID-19, and whether this is a reasonable reflection of reality. (*COVID-1984*)

Once again, the denial of medical qualifications gives way to a *de facto* separation of COVID-19 from medical considerations, and a reframing of the syndemic within the boundaries of media discourse and representation.

Geddes’ use of “we” is more insistent than his use of “I”: “we” disrupts the “I”-“you” binary and establishes commonality of experience. “We” tends to occur in sentences conveying either the tentative knowledge of the virus and its true origins or the drastic changes the syndemic has imposed. For instance:

we cannot know if we are dealing with a single medical phenomenon or multiple ones (e.g. pneumonia due to chronic pollution, biowarfare using multiple vectors, immune system harm due to medication). (*Panics*)

Geddes casts doubt on the virus and manifests scepticism at a collective level. Furthermore, Geddes protests against the curtailment of personal freedoms, once again speaking on behalf of a group: “we are experiencing a lockdown of the free flow of knowledge, as well as of people” (*COVID-1984*).

While Geddes’ expression of personal identity (“I”) serves him to establish credentials and create trust; his use of “we” is expressive of social identity (Steffens and Haslam 2013) and the construction of shared dissidence in the face of COVID-19 restrictions. This strategic use of we-referencing language (29 occurrences of “us”, 22 of “our”) also contributes to the building of Geddes’ ethos: his expertise as media consultant is combined with his sense of belonging to a group and his ability to represent that group’s scepticism and unwillingness to accept the media and academic elite narrative of the syndemic.

In the corpus, Geddes actively tries to craft a sense among followers that they are part of the same group (Steffens and Haslam 2013), he builds a sense of “us”, a shared predicament, and therefore acts as an entrepreneur of identity:

The virus is mutating and lacks a stable genetic base. We don't even have tests at this point with reliable false positive/negative rates, since we don't know the mutation rate and profile. (*Coronagate*)

The sense of a lack of reliable information concerning the virus is described as a collective experience. Geddes internalizes the collective as part of his sense of self (Steffen and Haslam 2013) and behaves as ambassador of common worries and a common counter-politics. In other instances, Geddes advocates the reconstruction of a sense of commonality and common purpose: “Decades of psychological warfare via the media have divided society, we need to get back on the same page” (*Pandemics*).

Geddes achieves the construction of ethos in the corpus by establishing credentials, developing strong authorship and representing both the self and the collective as part of his sense of self.

4. Science-related Populism and the Corpus

Geddes' ethos and his scepticism concerning COVID-19 are best read as a result of the epistemological rupture signified by science-related populism. Science-related populism builds on the scholarly interest in political populism and acknowledges the relevance of studying “the linkage between populism and the production and communication of knowledge” (Ylä-Anttila 2018, p. 357). But while populism stages a conflict between a corrupt establishment and a virtuous people, science-related populism is founded on the conflict between a common-sense-driven people (the “ordinary people”) and the corrupt representatives of established science (“the academic elite”).

Science-related populism concerns the production of scientific knowledge, that is why ‘the people’ and ‘the elite’ must be understood in epistemological terms, rather than political, economic, or cultural (Mede and Schäfer 2020, p. 480). According to science-related populism, the ordinary people are epistemologically homogenous; they rely on common sense and gut feeling to make sense of phenomena and events: “commonsensical reasoning is the most—or even only—legitimate mode of thinking because it rests on authentic everyday experience.” (Mede and Schäfer 2020, p. 481) The academic elite detain epistemological hegemony, the uncontested power to determine what is correct and incorrect behaviour in relation to science and health. However, the academic elite offer information that is perceived as “elusive, ephemeral, divided, [and] contested” (Waisbord 2018, p. 20) and, ultimately, ineffective, which is mostly due to established science often being hedged and conditional. Moreover, the academic elite is perceived to disregard the “simple, naturalistic, and reliable epistemology of ordinary

people” (Mede and Schäfer 2020, p. 481).

The conflict sketched above produces two fundamental epistemic claims: decision-making sovereignty and truth-speaking sovereignty (Mede and Schäfer 2020, pp. 481-483). Ordinary people contest the academic elite’s claim to the production of knowledge and the elite’s power to “shape research agendas, allocate funding, develop study designs or, in turn, curtail research in fields that are seen as problematic” (Mede and Schäfer 2020, pp. 482). The people further accuse the academic elite of pursuing research in fields that are deemed irrelevant, such as climate science and gender studies (Mede and Schäfer 2020, p. 482). The academic elite are also seen as eluding public control and ignoring the interests of ordinary people. Truth-speaking sovereignty concerns the academic elite’s right to make truth claims; they disregard the quotidian wisdom of ordinary people and ignore their common-sense epistemology. The people believe in everyday experience and common sense as the purveyors of knowledge and therefore oppose what they understand as obscure methodology.

Geddes’ texts showcase the fundamental opposition at the basis of science-related populism. There are several attacks on established science in the corpus, some of which are *ad hominem*. Geddes accuses Dr Anthony Fauci and Dr Deborah Birx – two well-known top coronavirus response coordinators in the US – of having a financial interest in the pandemic. He also reports the words of Fauci’s former employee who speaks of “bullying and scientific fraud” (*COVID-1984*). Accusations are supported by Twitter evidence.¹³ Geddes’ attack on Dr Birx reads: “Dr Deborah Birx stands on stage and says it is policy to count all deaths *with* COVID-19 positive tests as being *from* the virus, and yet there’s no media scandal in this inflation of the numbers.” (*COVID-1984*) This is a common accusation that science-related populists level at established science. Experts have often explained the reasoning behind the calculation of COVID-19 casualty numbers (e.g. Oliver 2021; Slater et al. 2020), but this continues to be addressed as “number inflation” (Boyle 2021).

Geddes also targets the WHO, the epitome of established science and the foremost official COVID-19 information provider:

The WHO has infamously changed its tune on issues like human-to-human transmissibility of this virus. What they also did recently was delete a tweet that says infection doesn’t guarantee future immunity, since the virus mutates. (*COVID-1984*)

¹³ Geddes refers to Dr. Judy A. Mikovitz’s Twitter account and a tweet in which she levels accusations at Dr. Fauci: <https://twitter.com/DrJudyAMikovits/status/1251660406021656577> (last accessed 15 February 2022).

Through such statements, Geddes questions the trustworthiness of the information provided by scientists and institutions, in line with science-related populists. The latter generally subscribe to alternative epistemologies that question the establishment's production of knowledge, its methods, and its authority to make decisions and claims about "true" knowledge. In addition, science-related populists deny "the disinterestedness and objectivity of organized science" (Mede and Schäfer 2020, p. 478).

Geddes propounds an alternative epistemology that "attempts to replace established knowledge with seemingly better (but still scientific) "counterknowledge." (Mede and Schäfer 2020, p. 478). For instance, he lists several "potential treatments and cures for COVID-19" (*COVID-1984*): "hydroxychloroquine (HCQ), azithromycin, and zinc in combination (for early stage); ivermectin (for late stage); chlorine dioxide; ethanol vapour inhalation; UV light (from within the body as well as outside); nicotine; stem cell therapy; high dose vitamin C; vitamin D; famotidine". About these options, he writes: "It's no secret that there are multiple potential treatments and cures for COVID-19. Plausible ones I have noted in my online research" (*COVID-1984*). The implication of this is twofold: on the one hand, the availability of well-known and cheap remedies while the "fear-mongering" media push "ventilators, veils, and vaccines" (*COVID-1984*), on the other hand, a belief in independent online research as a credible method for shortlisting treatments for a previously unknown pathogen. This, too, is in line with science-related populism, as it both celebrates and legitimises common-sense and freedom from established knowledge authorities.

Geddes advocates the use of hydroxychloroquine which has "decades of safe use with well-known and modest risks like nausea and heart rhythm changes" (*COVID-1984*). However, he mistakenly classes arrhythmia as a modest risk. His focus is on a study showing that the use of hydroxychloroquine to treat COVID-19 patients is ineffective and lethal, and which he claims is an example of trial rigging. By advocating the use of hydroxychloroquine and claiming that its widespread use is being sabotaged by the scientific establishment and the media, Geddes indicts mainstream science.

One more element to Geddes' questioning of established scientific paradigms is his use of sources. He supports his arguments and claims by setting up a composite referencing system. His references and his sources are unconventional and non-academic. In some instances, Geddes has recourse to figures and data, two of the tenets of established scientific authoritativeness: "under 4% of deaths in Italy are due to COVID-19 alone" (*COVID-1984*). This claim's hypertextual source is an article from the independent pro-Trump news website www.thegatewaypundit.com, titled "Latest Numbers from Italy Prove Dr. Fauci and Dr. Birx Are Needlessly Destroying US

Economy.”¹⁴ The article reports statements and figures from Ned Nikolov’s Twitter account (@NikolovScience). The account has now been suspended. Both sources – a partisan news website and a Twitter account – are non-establishment and offer data that counter official media information. A second set of references in the corpus follows this pattern: “One researcher estimates a loss of 10 years of productive life for each COVID-19 death” (*COVID-1984*), and again, “I listened to a BBC Radio 4 broadcast where the news journalist said he had investigated whether any therapies existed behind [President Trump’s] words” (*COVID-1984*). On the one hand, both statements lack hyperlinks with actual sources, on the other, their vagueness (“one researcher”, “a BBC Radio 4 broadcast”, “the news journalist”) expresses an increasing banalization of sources, whereby personal narratives or hearsay replace institutional, reliable scientific data. A third referencing option sees Geddes advancing claims that lack references altogether, for example: “...this information was public and known to Dr. Fauci and his colleagues...” (*Coronagate*).

This reinforces Geddes’ publicly stated contempt for the *modus operandi* of the traditional media and established science, while it also advances his subscription to science-related populist stances.

5. Social Actor Theory and the Corpus: assimilation, association, and nomination in Geddes’s texts

Social actor theory methodologically complements critical discourse analysis. Its foremost representative is Theo van Leeuwen, whose *Discourse and Practice* aims at drawing “a socio-semantic inventory of the ways social actors can be represented” (2008, p. 23). Social actor theory has been used to analyse a plethora of phenomena such as the discourse of immigration (van Leeuwen 2008; Martínez Lirola 2016), corporate social responsibility (Bernard 2018), the analysis of collective identity (Koller 2009), and the production of ELT textbooks (Rashidi and Ghaedsharafi 2015). The theory has not been previously used in discussing the syndemic and the texts produced by COVID-19 sceptics.

Geddes’s arguments in the corpus identify a binary opposition between two main actors, the ordinary people and the academic elite, but his counter-narrative of the syndemic contains the representation of several different social actors. The following is a sample analysis of social actor representation in Geddes’ texts and is not intended to be exhaustive. The aim is to present three of the most relevant representational techniques in the corpus:

¹⁴ See <https://www.thegatewaypundit.com/2020/04/latest-numbers-italy-prove-dr-fauci-dr-birxneedlessly-destroying-us-economy/> (last accessed 3 October 2021).

nomination, assimilation, and association (2008). These prove crucial because they inform the representation of the academic elite, of the media, and of COVID-19 casualties, all three social actors are instrumental in Geddes’ conspirational construal of the syndemic.

Van Leeuwen classifies nomination as formal and semi-formal (2008, p. 41): formal nomination occurs when people are nominated by surname alone; semi-formal nomination occurs when people are nominated by name and surname. Moreover, since nomination is a powerful tool for identification, the agenda behind nominating some social actors and collectivizing others always needs questioning and investigating (van Leeuwen 2008, p. 40). Geddes’ instances of nomination are both formal and semi-formal, and sometimes titulated through the addition of standard titles, for instance “Dr. Fauci” and “Dr. Deborah Birx”. Further examples of nomination include the semi-formal “Bill Gates”. Geddes generally uses nomination to indict the academic elite, as is the case with Fauci and Birx, or the elite *tout court*, as with Bill Gates who, Geddes writes, “stands to make handsome profits from vaccines.” (*COVID-1984*) Further nominations concern the World Health Organisation, accused of censorship and of advocating a COVID-19 vaccine narrative that disregards risks (*COVID-1984*). Geddes also nominates Trump (figure 1), but in this case nomination has a celebratory function: in occurrences 1 and 2, Trump is nominated as an authoritative source of scientific information, occurrence 2 in particular is a reference to Trump’s notorious “disinfectant” *faux pas*, which Geddes interprets as a reference to chlorine dioxide, whose effectiveness as a treatment for COVID-19 he believes to have been censored by the media. (*COVID-1984*) In occurrences 3 and 4, Trump is nominated as a victim of media misrepresentation and political scheming.

1	CORPUS Ged	its spread has been wildly counter-profitable. President Trump	mentioned that light therapy might be a
2	CORPUS Ged	so their priorities seem rather twisted. Likewise President Trump	mentioned “disinfectant”, which is an allusion to
3	CORPUS Ged	his leadership team spied on the incoming Trump	administration, and launched a coup attempt via
4	CORPUS Ged	News” and “Fake Science”— over issues like Trump	and COVID— are fully explicable within the QAnon cosmology,

Figure 1
#LancsBox KWIC search results for “Trump”.

In line with science-related populism’s propounding of an “us VS them” dichotomous worldview, Geddes’ insistence on nomination alternates with the use of deictics, specifically, the third person plural personal pronoun “they”, which tends to refer to the establishment, either the scientific establishment or the media.

Geddes generally uses “they” in anaphoric referencing (figure 2). Some occurrences refer to established health institutions, for example occurrence 15, which refers to the American Food and Drug Administration. Occurrences 6 and 12 both refer to the World Health Organisation whose



“credibility is open to question” (*COVID-1984*), but which is understood as “the sole global authority and any dissent from their official line will have [...] content censored.” (*COVID-1984*) Many other references concern the mainstream social and traditional media, a key element in the corpus: occurrence 4 refers to “social media”, accused of engaging in “(unlawful) editorialising and censorship” (*COVID-1984*). Occurrence 9 refers to Twitter, accused of deleting every mention of Jordan Sather, an advocate of chlorine dioxide, and the *New York Times* and *Business Insider*, accused of “discrediting [Sather] and this treatment as ‘bleach’” (*COVID-1984*).

1	CORPUS Ged	any media reports at face value, for	they	are never terrain, and at best misleading
2	CORPUS Ged	to counter such a foreseen act? Well,	they	would take measures to infiltrate their enemy.
3	CORPUS Ged	senior members of the criminal cabal surrender,	they	Quarantine themselves to a military prison. This
4	CORPUS Ged	includes the major social media platforms, since	they	also frequently engage in (unlawful) editorialising and
5	CORPUS Ged	without any serious inquiry as to why	they	are suffering COVID-19 death notifications (not the
6	CORPUS Ged	like human-to-human transmissibility of this virus. What	they	also did recently was delete a tweet that says
7	CORPUS Ged	the US Surgeon General has specifically said	they	are neither necessary nor effective. So why
8	CORPUS Ged	small sample of people with co-morbidities (so	they	could all be about to die of
9	CORPUS Ged	him and this treatment as bleach. Methinks	they	do protest too much! Yet putting oxygen
10	CORPUS Ged	if these treatments work for COVID-19, but	they	do objectively exist. Vitamin D deficiency seems
11	CORPUS Ged	from Bakersfield, CA who went on record to say	they	felt the data didn't support the lockdown
12	CORPUS Ged	is open to question, yet YouTube insists	they	are the sole global authority and any
13	CORPUS Ged	like SARS from replicating in the body.	They	have withheld this important information from the
14	CORPUS Ged	emotionally comfortable and avoids awkward dilemmas. But	they	don't actually believe it. We went to
15	CORPUS Ged	FDA issue restrictions on a drug like	they	have with hydroxychloroquine. We've been told we're
16	CORPUS Ged	being left to rot and die, since	they	lack family as advocates due to isolation
17	CORPUS Ged	other causes, including old age? Where did	they	go? Where's the public outcry at the
18	CORPUS Ged	Those in the cave complex may understand	they	even have a choice of shadow plays
19	CORPUS Ged	choice of shadow plays to watch, but	they	are never given enough understanding to exit
20	CORPUS Ged	the Satanic doctrine. Each cave dweller thinks	they	live in The Truth*, clinging on to
21	CORPUS Ged	who talks of exiting the cave complex:	they	are probably violent extremists and part of
22	CORPUS Ged	full-on war against objectivity at present. and	they	are not in the least bit ashamed
23	CORPUS Ged	subjection of the public to false narratives	they	perceive is genuine is smashed by the
24	CORPUS Ged	faked reality. No matter how deeply	they	are buried. There's a heavenly irony to
25	CORPUS Ged	neutral announcement of a sad necessity (which	they	have been coerced into performing), and towards
26	CORPUS Ged	wrongly) being positioned as a safety issue:	they	are not a feature of the service
27	CORPUS Ged	presenting masks as good news, as if	they	are now offering free drinks onboard. But
28	CORPUS Ged	of several brands, like Nike and NFL.	They	have aligned themselves to extreme left-wing causes
29	CORPUS Ged	situation. Is this really the brand image	they	want? Badly implemented safety feature treated with
30	CORPUS Ged	been a sign to awake customers that	they	aren't keen on masks, without having to

Figure 2
#LancsBox KWIC search results for “they”.

“Media” is the most frequent lexical word in the corpus with 59 occurrences (figures 3 and 4). Its quantitative relevance is expressive of Geddes’ belief in the media’s role in the syndemic.

1	CORPUS Ged	I am, however, quite well versed in	media	manipulations and unpicking insanities. So let me
2	CORPUS Ged	centred on narrative supremacy via the mass	media.	On one side we have factions that
3	CORPUS Ged	system harm due to medications). OCoronavirusO	media	label isn't the same as the OcoronavirusO
4	CORPUS Ged	should be VERY reluctant to take any	media	reports at face value, for they are
5	CORPUS Ged	in play, with an enlarged map: " The	media	has been hyping this virus, when the
6	CORPUS Ged	has covertly ruled over us. The maba	media	has been used as a tool to
7	CORPUS Ged	homes. You seize covert control over the	media	to signal a toilet paper shortage (something
8	CORPUS Ged	reality. Decades of psychological warfare via the	media	have divided society, and we need to
9	CORPUS Ged	way. ? COVID-1984: The medical cures with no	media	bite I have no qualifications in medicine
10	CORPUS Ged	copiously qualified to comment upon is the	media	reaction to COVID-19, and whether this is
11	CORPUS Ged	or overreach? In particular, is the mass	media	performing its function of holding power (to
12	CORPUS Ged	only is the answer OnO, but the	media	is actively promoting agendas that go against
13	CORPUS Ged	article, Othe mediaO includes the major social	media	platforms, since they also frequently engage in
14	CORPUS Ged	a rational scientific basis, and whether the	media	is doing its job in questioning them
15	CORPUS Ged	pursuing alternatives. When we look at the	media	coverage, both in the UK and US,
16	CORPUS Ged	India, are not mentioned. His foundation funds	media	companies like the BBC, creating a conflict
17	CORPUS Ged	as beingEfromEthe virus, and yet thereOs no	media	scandal in this inflation of the numbers.
18	CORPUS Ged	but this is not seen by the	media	as being problematic or newsworthy. The WHO
19	CORPUS Ged	was no need for anyone in the	media	to remind you of that). The public
20	CORPUS Ged	ironically the traditionalEcovering of slavesN by this	media	fear-mongering. Yet there is scant evidence of
21	CORPUS Ged	are the public not told by the	media	their effort is likely wasted, and to
22	CORPUS Ged	are concerned with here is whether the	media	is giving the public an accurate picture
23	CORPUS Ged	completely effectiveO. How does the US corporate	media	cover this promising news? It waits until
24	CORPUS Ged	by omission, and deeply unethical. Furthermore, extra	media	articles suddenly appeared trying toEcast doubt on
25	CORPUS Ged	pretty low! The collective effect of these	media	articles meant that search engines were flooded
26	CORPUS Ged	and a trial at Cedars-Sinai hospital. The	media	reaction? Their explanatory video was immediately deleted
27	CORPUS Ged	failure to disclose this information discredits these	media	institutions as commentators on this subject. In
28	CORPUS Ged	is subtly pointing to the work the	media	hasn't brought into your attention. I don't
29	CORPUS Ged	isn't this censorship of lockdown debate a	media	scandal? The WHO's credibility is open to
30	CORPUS Ged	So many questions, and yet so few	media	answers. You don't need to be a
31	CORPUS Ged	mediaOs list of priorities! In particular, the	media	isn't answering the call for cheap and
32	CORPUS Ged	the money to understand why the mass	media	is in lockstep with Big Pharma N

Figure 3
#LancsBox KWIC search results for "media".

33	CORPUS Ged	biggest source of income. The US corporate	media	will never bite the hand the feeds
34	CORPUS Ged	reality. Time to end this Medical Mafia	Media	Party. Coronagate: the scandal to end all
35	CORPUS Ged	many in the pharma business, the corporate	media,	and in government. The size of the
36	CORPUS Ged	particular. * Tens of millions of dollars to	media	companies like NPR, EThe Guardian, and the BBC,
37	CORPUS Ged	Guardian, and the BBC, to ensure the	media	was bought off. It is OdonatedO in
38	CORPUS Ged	Clinton Foundation. Remdesivir: a false hope The	media	has been hyping this drug from Gilead,
39	CORPUS Ged	starker than in this case. The US	media	knows who pays the piper and thus
40	CORPUS Ged	exposure of massive medical fraud enabled by	media	collusion will likely follow from it, for
41	CORPUS Ged	the public needs to end immediately so	media	companies are no longer conflicted by their
42	CORPUS Ged	ObamaOs FBI and DoJ holdovers. A corrupt	media	has covered up for a corrupt government,
43	CORPUS Ged	their actions in court. Those in the	media	who have knowingly connived to hype the
44	CORPUS Ged	will trigger a deep reform our medical,	media,	and government institutions. If those reforms are
45	CORPUS Ged	society and its power base N banking,	media,	academia, and IT. On the surface of
46	CORPUS Ged	establishment in their creation of the modern	media	industry. We are endlessly marketed OscientificO schemes
47	CORPUS Ged	individual belief. In the world of social	media	and artificial intelligence algorithms, we can deliberately
48	CORPUS Ged	To sustain the conflict agenda the mass	media	needs division, and frequently manufactures it where
49	CORPUS Ged	harmonious, cannot be honestly communicated. The corporate	media	is involved in a full-on war against
50	CORPUS Ged	a failure of OobjectivityO by the mainstream	media	thatOs a willful departure from reality by
51	CORPUS Ged	failure to successfully champion the truth. The	media	mogul owners of PlatoOs Cave Complex define
52	CORPUS Ged	which involve the complicity of the mass	media	Specifically, we know that President Obama and
53	CORPUS Ged	through a fearmongering and corrupt medics and	media	Yet Ivermectin, Budesonide, and Hydroxychloroquine have all
54	CORPUS Ged	Heaven is not a cavern in the	media	complex at all, it is the objective
55	CORPUS Ged	casual glance to see how the mass	media	refuses to deal with the actual merits
56	CORPUS Ged	surrounding hard evidence of widespread criminality and	media	collusion and cover-up. The QAnon phenomenon is
57	CORPUS Ged	QAnon phenomenon is positioned by the criminal	media	as an insane alternative sub-realityEwithinEtheir OUniverse O of
58	CORPUS Ged	is a very specific taboo: there cannotEeverEbe	media	discussion of the identity of Q. For
59	CORPUS Ged	Even within the OordinaryO print and online	media,	I have noticed many brands unnecessarily updating

Figure 4
#LancsBox KWIC search results for "media".

Geddes’s main contention is that the media are misrepresenting COVID-19 in order to serve a secret political-ideological agenda (e.g. occurrences 1, 4, 5 in figure 3; occurrences 37, 38, 40 in figure 4). He represents the “media” through nomination, by addressing specific news outlets for instance, and through assimilation. Assimilation is the sociosemantic category whereby social actors are represented as groups rather than as individuals (van Leeuwen 2008, 36-38). Geddes represents the media through a subcategory of assimilation, collectivization, realized through the use of the definite article and the collective noun “media”. Collectivization implies that

mentions of specific news or social media outlets are less recurrent in the corpus; the collective “media” signal agreement (van Leeuwen 2008, p. 38) and appear as a homogenous category, disinformation in its shared practice.

The other form of assimilation in connection with the media is aggregation. Aggregation places emphasis on numbers and statistics and is realised through “definite or indefinite quantifiers which either function as a numerative or as the head of the nominal group” (van Leeuwen 2008, p. 38). Aggregation is highly effective because “[...] the majority rules [...] through mechanisms such as opinion polls, surveys, marketing research, etc.”; therefore, facts and figures tend to be unquestioned. Geddes uses aggregation to counter the COVID-19 death toll spread by the media which, he believes, is meant to manufacture panic. Aggregation is thus not employed to designate the “media” per se, but in order to offer a numerical counter-narrative regarding COVID-19 casualties. An example of aggregation is as follows: “there are an estimated 18,000 excess dead from cancer in the UK (due to delayed diagnosis and treatment) – 150,000 dead in UK [*sic*] from lockdown.” (*Coronagate*) These numbers are introduced by the following statement: “The death toll from COVID-19 increasingly looks small compared to those from lockdown.” (*Coronagate*) The by-products of COVID-19 appear worse than the virus by virtue of aggregation; moreover, the enormity of the numbers serves to hide the lack of a source for the data. Representing non-COVID-19 casualties as staggering numbers supports Geddes’ argument against restrictions.

Another example of aggregation concerns the use of hydroxychloroquine (HCQ): “65,000 patients using [HCQ] long-term for other conditions resulted in 20 COVID-19 infections and zero deaths.” (*Coronagate*) A staunch supporter of HCQ, Geddes offers data to support two statements: that HCQ works as a treatment for COVID-19, and that both science and the media wish to hide this fact. His source is the aforementioned www.gatewaypundit.com website, which redirects to a now-unavailable article from the Italian newspaper *Il Tempo*.¹⁵

One last noteworthy representational device is association, which “refers to social actors or groups of social actors [...] which are never labelled in the text [...] [Rather] than being represented as stable and institutionalized, the group is represented as an alliance which exists only in relation to a specific activity or set of activities” (van Leeuwen 2008, p. 38). This is the case of the following example: lying about the syndemic and the virus “is a crime against humanity, and encompasses many in the pharma business, the corporate media, and in government.” (*Coronagate*) Geddes successfully employs parataxis to draw the connection between Big pharma, the media,

¹⁵ <https://www.thegatewaypundit.com/2020/04/media-lied-people-died-italian-study-finds-incredible-prophylaxis-results-patients-hydroxychloroquine/> (last accessed 8 December 2021).

and politics: the trinomial signals association, whereby the three elements listed appear as naturally belonging to the same group. A further example is: “If we bring people to justice, and truly learn the lessons from it, it will trigger a deep reform of our medical, media, and government institutions.” (*Coronagate*) Using another trinomial, Geddes associates science, the media, and the government to form a group of institutions in need of reform, the subtext being that they are seriously flawed.

6. Conclusion

This article reads Geddes’ texts in the light of an epistemological paradigm shift towards a way of obtaining and disseminating knowledge that is growingly independent of experts. Geddes is a telecoms expert and a conspiracy theorist, whose views of the syndemic are highly controversial. Geddes’ texts have been shown to draw from the generic features of blogs and social media; in particular, Geddes’ community building strategies have been proven to rely on the logic of “regimes of popularity building” (KhosraviNik 2017, p. 62) and to be expressive of a reconnection with politics and the belief in citizen empowerment (KhosraviNik 2017, p. 62). Geddes’ construction of ethos in the corpus has been seen as expressive of sophistication, education, and rhetorical savvy. The corpus has also been shown to reflect science-related populism in its sharp critique of the academic elite and scientific epistemology, as well as in Geddes’ belief in independent research and alternative sources of knowledge. Lastly, the article has discussed the representation of social actors in the corpus: a focus on assimilation, association, and nomination, has shown how Geddes succeeds in using language to further his own ideological agenda.

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References

- Aiello L.M., Quercia D., Zhou K., Constantinides M., Šćepanović S., Joglekar S. 2021, *How epidemic psychology works on social media: evolution of responses to the COVID-19 pandemic*, in "Humanities and Social Sciences Communications" 8, pp. 1-15.
- Amossy R. 2001, *Ethos at the Crossroads of Disciplines: Rhetorics, Pragmatics, Sociology*, in "Poetics Today" 22 [1], pp.1-23.
- Bernard T. 2018, *The Discursive Representation of Social Actors in the Corporate Social Responsibility (CSR) and Integrated Annual (IA) Reports of Two South African Mining Companies*, in "Critical Approaches to Discourse Analysis Across Disciplines" 10 [1], pp. 81-97.
- Bloom M., Moskalenko S. 2021, *Pastels and Pedophiles: Inside the Mind of QAnon*, Stanford University Press, Stanford.
- Boyle P. 2021, *How are COVID-19 Deaths Counted? It's complicated*, in "The Association of American Medical Colleges", <https://www.aamc.org/news-insights/how-are-covid-19-deaths-counted-it-s-complicated>.
- Carrion-Alvarez D., Tijerina-Salina P.X. 2020, *Fake News in COVID-19: A Perspective*, in "Health Promotion Perspectives" 10 [4], pp. 290-291.
- KhosraviNik M. 2017, *Right-Wing Populism in the West: Social Media Discourse and Echo Chambers*, in "Insight Turkey" 19 [3], pp. 53-68.
- KhosraviNik M. 2018, *Social Media Techno-Discursive Design, Affective Communication and Contemporary Politics*, in "Fudan Journal of the Humanities and Social Sciences", 11, pp. 427-442.
- Koller V. 2009, *Analysing Collective Identity in Discourse: Social Actors and Contexts*, in "Semen – Revue de sémio-linguistique des textes et discours" 27, <https://journals.openedition.org/semen/8877>.
- Lirola Martínez M. 2017, *Linguistic and Visual Strategies for portraying Immigrants as People Deprived of Human Rights*, in "Social Semiotics" 27, pp. 21-38.
- Mede N. G., Schäfer M. S. 2020, *Science-related Populism: Conceptualizing populist demands towards science*, in "Public Understanding of Science" 29 [5], pp. 473-491.
- Milanović B. (2020) *The first global event in the history of humankind*. "IPS – International Politics and Society", <https://www.ips-journal.eu/topics/democracy/the-first-global-event-in-the-history-of-humankind-4848/>.
- Miller C.B., Shepherd D. 2004, *Blogging as Social Action: A Genre Analysis of the Weblog*, in Gurak, L. Antonijevic, S. (eds.), *Into the Blogosphere: Rhetoric, Community, and the Culture of Weblogs*, University of Minnesota Libraries, Minneapolis, pp. 1-21.
- Oliver D. 2021, *Mistruths and Misunderstandings about COVID-19 Death Numbers*, in "The BMJ" 372 [352], pp. 1-2.
- Rashidi N., Ghaedsharafi S. 2015, *An Investigation into the Culture and Social Actors Representation in Summit Series ELT Textbooks within van Leeuwen's 1196 Framework*, in "SAGE Open" 5 [1], pp. 1-10.
- Singer, M., Clair, S. 2003, *Syndemics and Public Health: Reconceptualizing Disease in Bio-Social Context*, in "Medical Anthropology Quarterly" 17 [4], pp. 423-441.
- Singer, M., Rylko-Bauer, B. 2021, *The Syndemic and Structural Violence of the COVID Pandemic: Anthropological Insights on a Crisis*, in "Open Anthropological Research" 1, pp. 7-32.

- Slater T. A. et al. 2020, *Dying “due to” or “with” COVID-19: A Cause of Death Analysis in Hospitalised Patients*, in *Clinical Medicine*, 20, pp. 189-190.
- Steffens N.K., Haslam N.A. 2013, *Power Through ‘Us’: Leaders’ Use of We-Referencing Language Predicts Election Victory*, in “PLoS One” 8 [10], pp. 1-6.
- Van Leeuwen, T. 2008, *Discourse and Practice: New Tools for Critical Discourse Analysis*, Oxford University Press, Oxford.
- Vériter, S. L., Bjola, C., and Koops J. A. 2020, *Tackling COVID-19 Disinformation: Internal and External Challenges for the European Union*, in “The Hague Journal of Diplomacy” 15, pp. 569-582.
- Waisbord S. 2018, *The elective affinity between post-truth communication and populist politics*, in “Communication Research and Practice” 4 [1], pp. 17–34.
- Ylä-Anttila, T. 2018, *Populist knowledge: “Post-truth” repertoires of contesting epistemic authorities*, in “European Journal of Cultural and Political Sociology” 5 [4], pp.356-388.

“DON’T MASK THE TRUTH” Analyzing Anti-Mask Discourses Advanced by a ‘Trusted Expert’ and Activists Acting On- and Offline

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Abstract – This paper investigates how health-related disinformation and conspiracy theories (CTs) about masks were constructed in the US in the roughly eighteen months since the COVID-19 outbreak was declared a pandemic. It examines the anti-mask discourses propagated by different actors using different media – renowned conservative radio talk-show host Rush Limbaugh, users who signed an online petition against school mask mandates, and anti-mask activists speaking at Board of education meetings – to create a more comprehensive view of the processes involved in the delegitimization of scientific, political, and mediatic authority, and the development and perpetuation of alternative truths. These discourses were analyzed principally by means of critical discourse analysis (CDA), and specifically the strategies of self- and other-presentation (Reisigl, Wodak, 2001; van Dijk 2000; Wodak 2011) and of (de)legitimation (Reyes 2011; van Leeuwen 2007). Findings suggest that these anti-mask actors leveraged extant conspiratorial beliefs and distrust of authorities to foster anti-mask sentiment, cast doubt on the interests served by key political and scientific figures, and question the veracity of the information imparted by left-leaning news networks, government institutions, and the scientific community, undermining trust in health recommendations.

Keywords: conspiracy theories and disinformation; COVID-19; critical discourse analysis; infodemic; social media communication.

“We in this country have somehow gotten all fractured into a hyperpolarized, politicized view that never should have been mixed with public health. It’s been ruinous. And history will judge harshly those people who have continued to defocus the effort and focus on conspiracies and things that are demonstrably false.”
Dr. Francis Collins, National Institutes of Health

1. Introduction

At the start of the COVID-19 pandemic, the message to the American public on face-coverings was inconsistent and conflicting. Healthcare professionals and government officials first made public remarks apropos the inefficiency of masks (Zimmerman 2020), driven by concerns that a civilian rush for masks would compromise their availability for medical providers. On 29

February 2020, for instance, the US Surgeon General Jerome Adams tweeted: “Seriously people – STOP BUYING MASKS! They are NOT effective in preventing general public from catching #Coronavirus, but if healthcare providers can’t get them to care for sick patients, it puts them and our communities at risk!”. Then, while the Center for Disease Control (CDC) recommendation in early April 2020 for the American people to don masks in public places resulted in an immediate increase in outdoor mask-wearing (Brenan 2020), the change in health behavior was hampered by key media and political figures – not least Donald Trump – whose publicly proclaimed views contradicted official recommendations. Public health messages contrasted with those emanating from some media personalities and political leaders which, as held by Romer and Jamieson (2020, p. 1), “made it difficult for the health community to satisfy a key precondition of public preventive behavior—communicate a consensus that such action is needed”.

The uncertainty surrounding the public understanding of the utility of masks and the immediate access to enormous amounts of information online sowed fertile ground for the creation and dissemination of conspiracy theories (henceforth, CTs) aimed at advancing an anti-mask stance during the COVID-19 pandemic (See Douglas, Sutton 2015; Grimes 2020). In their recent, yet already seminal, paper, Douglas et al. (2019) define CTs as “attempts to explain the ultimate causes of significant social and political events and circumstances with claims of secret plots by two or more powerful actors” (p. 4). In the medical sphere, CTs can undermine advances in disease prevention and eradication by compelling people to dismiss scientific consensus and mainstream medicine. Indeed, studies on medical CTs have found that individuals who endorsed CTs were more likely to avoid traditional medicine and are less likely to engage with medical professionals (Oliver, Wood 2014). It therefore follows that research that seeks to gain better understandings of CTs can not only contribute to more effective means of counteracting disinformation but also to promote healthier, science-based behaviors.

The present paper aims to investigate the construction and uptake of health-related disinformation and CTs about masks, which have fueled the debate surrounding recommendations and mandates implementing their use in the American context. It examines the anti-mask discourses propagated by different actors – a renowned conservative, online users, and offline activists – and using different media – radio, social media, and Board of education meetings – in the roughly eighteen months since the start of the COVID-19 pandemic (from March 2020 to August 2021) to create a more comprehensive view of the processes involved in the delegitimization of scientific, political, and mediatic authority, and the development and perpetuation of alternative truths.

2. CTs, CDA, and COVID-19 communication

Research dedicated to understanding disinformation and CTs has burgeoned in the last decade, shedding insights into the causes and consequences of this communication. In their interdisciplinary review of studies on CTs, Douglas et al. (2019) report that individuals are lured by CTs when they fulfill epistemic, existential, and social psychological motives, reflective of individuals’ desire for subjective certainty, control, and a positive self-/group-image, respectively. In their account of how CTs appeal to believers, spread, and motivate collective action, Franks et al. 2013 sustain that CTs ‘denormalize’ the dominant framing of an event; that is, they challenge authoritative discourses and expert knowledge, and introduce alternative truths. The spread of CTs is favored when CTs anchor threatening events in terms of long-established narratives and familiar motifs that result in blame of outgroups, usually stigmatized minorities or powerful elites (Franks *et al.* 2013). Moreover, belief in CTs appears to be strongest when events are so significant that prosaic explanations seem unsatisfactory, when people feel powerless and seek a sense of control, and when people feel that their group is undervalued or under threat (Douglas *et al.* 2019).

The COVID-19 outbreak – as a “global pandemic that caused two million deaths within its first twelve months and still showed no signs of abating” (Bruns *et al.* 2021, p. 2) – presented the perfect conditions for CTs and disinformation to mushroom. This scenario was only exacerbated by the infodemic – or when a slew of information, including false or misleading information, inundates digital and physical environments – ushered in by the COVID-19 pandemic. As maintained by Grimes (2020, p. 1), “despite having access to an enormous amount of information at our fingertips, this same freedom allows poisonous fictions to aggressively perpetuate”. During the COVID-19 pandemic, the first of its kind in the social media era, people’s incessant search for answers provided ideal terrain for the creation and proliferation of disinformation and CTs that assign blame for the health emergency on scapegoats and foment public antagonism towards them (Bruns *et al.* 2021).

Recent research has investigated CTs and disinformation embedded in COVID-19 communication. Studies that have employed critical discourse analysis (CDA) – defined as “a type of discourse analytical research that primarily studies the way social power abuse, dominance, and inequality are enacted, reproduced, and resisted by text and talk in the social and political context” (van Dijk 2001, p. 352) – have highlighted the role of power and ideology in different discourses about the pandemic. Focusing on media discourse, Abbas (2021) critically analyzes the politicization of COVID-19 vaccines in selected reports from the *Global Times* and *The New York Times*

by examining the discourse strategies used in Chinese and American media. The analysis revealed that the *Global Times* represented Chinese vaccines favorably and American vaccines unfavorably, while *The New York Times* did the opposite, indicating that the vaccines were politicized for ideological aims.

Within a volume dedicated to the communication of COVID-19, Fuchs (2021) studied four popular social media artefacts that advanced CTs about Bill Gates in the context of COVID-19. In his analysis, Fuchs (2021) first identified passages from the artefacts for each of the seven main dimensions of CTs he outlines in an earlier chapter (pp. 118-119), or:

- (i) Secret domination: There is a secret group's sinister plan for (world) domination. There is a secret master who pulls the strings behind the scene of those who are officially in power.
- (ii) Concealment: The secret group conceals its interests, plans and actions.
- (iii) Personalisation: [CTs] do not conceive of domination as structure but as specific persons and groups of persons.
- (iv) Friend/enemy scheme: The secret group is opposed to the interests of 'the people'.
- (v) Violence: [...] [CTs] have fascist potentials that can result in the call for or execution of violence and terror against the perceived enemies.
- (vi) Rational irrationality: Followers of [CTs] constantly search for indicators of conspiracies that they join together with suspicions, allegations, baseless arguments, prejudices, speculation, superstition and mysticism that are not open to rational questioning and debate [...]
- (vii) Determinism: [CTs] rule out the existence of unintentionality and chance. For them, every action is motivated by a conscious, sinister plan [...]

Then, he applied CDA to uncover how ideology is communicated. Analysis of the material revealed that a series of discursive elements were used, including: false logical inference, the topoi of threat and numbers, unsubstantiated claims, the friend/enemy scheme used to pit an anonymous group of 'they' – often personalized as Bill Gates – against 'the people', and *argumentum ad hominem*.

In a subsequent chapter, Fuchs (2021) applied content analysis and critical discourse analysis of 2847 user comments made to seven social media postings that advance COVID-19 CTs to explore how users react to the spread of CTs on social media. Zeroing in on comments that supported the CTs, the findings of the quantitative content analysis revealed that the most common reasons on which users draw for this support fell into the friend/enemy scheme (52.5%), personalization (37.5%), and secret domination (23.2%) subdimensions. Within the friend/enemy scheme, the main ideological strategy, the most named enemies were Bill Gates (59.1%), the media (10.2%) and the state/government (9.3%), and CDA showed that

the construction of enemies within CTs is achieved by negative moral predications (*argumentum ad hominem*). Furthermore, in the COVID-19 CTs under study, Fuchs (2021, p. 215) found “the claims that members of an elite conduct crimes against humanities by allegedly planning to kill, poison, control or monitor humans via vaccines”.

The present paper aims to add to the insights that this recent research has yielded by exploring the discourses created and propagated by three different sets of anti-mask activists communicating their viewpoints to different audiences on different platforms in the American context. The first actor on which this paper focuses is Rush Limbaugh, one of the most prominent conservative media personalities who espoused an anti-mask message on his popular radio show at the onset of that COVID-19 pandemic. Douglas and Sutton (2015, p. 99) maintain that “when people are unsure of the facts and lack the necessary knowledge and skills to interpret data themselves, they understandably turn to trusted experts to guide their opinions and behaviors”. The mask-related content of Limbaugh’s radio show serves as a focal example of the way in which CTs and disinformation are produced by a ‘trusted expert’ on mainstream media. The second focus of this study is anti-mask activists expressing their opposition to school-based mask mandates. Of these, one set of activists acted online by signing an anti-mask petition and justifying their action to the former governor of New York, and one set acted off-line by speaking at their local Board of Education meetings against mask mandates.

3. Methodology

3.1. Research Aims and Design

This research project concerns itself with how anti-mask messages are communicated and how ideologies stemming from anti-mask content operate. To better understand these phenomena, the study takes on a three-pronged perspective to the analysis of anti-mask discourses, as illustrated in Table 1. That is, three sets of data sources are studied that correspond with different actors – or a media personality, online users, and off-line activists – in different settings – via media (radio), online and off-line – to audiences with varying degrees of agreement with an anti-mask viewpoint – a large sympathetic audience, a vociferous pro-mask political figure, and a local government body. Multiple sets of data permit insight into how particular types of interaction articulate together, such as consideration of the extent to which the discourses propagated by Rush Limbaugh, a ‘trusted expert’, were

taken up by those who were against school-based mask mandates acting on- and offline.

RQs	Actor(s)/setting	Data Source	Analysis
How is anti-mask discourse constructed and advanced by a ‘trusted expert’?	Rush Limbaugh on his radio show, March-October 2020	Transcriptions of 7 episodes of ‘The Rush Limbaugh Show’	CDA
How are anti-mask stances articulated within the school-based mask mandate debate on- and offline?	Online users who signed the Change.org petition “UnMask Our Children!”, May 2021	890 comments (21,971 tokens)	Corpus analysis CDA
	Community members at Board of Ed meetings of 3 Long Island (NY) school districts, August 2021 (offline)	Transcriptions of speeches delivered by 15 anti-mask speakers	CDA

Table 1.

3.2. Data Sources: Rationale and Collection

3.2.1. Rush Limbaugh

The rhetoric of renowned conservative media icon Rush Limbaugh in many ways defined American right-wing populist discourses for decades until his death in February 2021. His show, ‘The Rush Limbaugh Show’, broadcast by around 600 local radio stations, was the number-one commercial talk show on American radio that attracted millions of listeners each week in the period under study. Thus, he can be considered a ‘trusted expert’ for countless Americans. Transcripts dedicated to the issue of masks were retrieved by searching for ‘mask’ and ‘masks’ in the online archives of the radio show found at <https://www.rushlimbaugh.com/>. Seven episodes were selected which aired on the following dates in 2020: 11 March, 20 April, 15 May, 27 May, 14 July, 17 July, and 2 October.

3.2.2. Anti-mask activists

The second and third sets of data refer to the New York-based movement against mask mandates in schools. New York state was selected for several reasons. First, it was the first US state to experience a COVID-19 outbreak in March 2020 and, consequently, to implement a mask mandate. Then, former New York State Democratic Governor Andrew Cuomo was one of the most vociferous opponents of the Trump-led federal pandemic response and he

received widespread praise for his handling of the crisis early in the coronavirus response efforts.

The emphasis is on school settings because school-based mask mandates were the sites of some of the most contentious mask debates even within liberal-leaning states such as New York. Two New York state mask policies concerning pupils are relevant. In May 2021, the announcement that fully vaccinated individuals no longer needed face coverings in most public places coincided with a new recommendation that kids over the age of two were required to wear masks while at daycare and day camps. Then, the emergency regulation, issued on 27 August 2021 by the New York State Health Department under the direction of Governor Kathy Hochul – who took office after Cuomo’s resignation – indicated that “any person who is over age two and able to medically tolerate a face-covering may be required to cover their nose and mouth with a mask or face-covering when [...in] schools”. In September 2021, New York State was one of 16 states to have instated a mask mandate for schools before the start of the 2021/22 school year.

Within this context, the first data source is the ‘reasons for signing’ provided by supporters of the Change.org petition “UnMask Our Children!”¹, addressed to former Governor Cuomo, during a twenty-four-hour period from 21 to 22 May 2021. These dates were selected because they were the first days in which the petition was opened immediately following updated mask guidelines. The 890 comments posted in response to the ‘reasons for signing’ prompt constitute a small 21,971-token corpus.

The second set of data is comprised of the debates that unfolded during select meetings of the Boards of Education of three Long Island, New York school districts – Locust Valley Central School District (LVCSD), Massapequa School District (MSD), and Smithtown Central School District (SCSD) – held in August 2021. These districts were selected because the mask debates that ensued during board meetings and/or the Board’s reluctance to abide by mask mandates were covered by the local news (e.g., Goldberg 2021; News 12 Staff 2021; Thorne 2021). The streamed recording of three Board of Education meetings, one in each district, were retrieved on their respective school district websites and transcribed, and the analysis considered 15 speakers who expressed anti-mask stances in speeches delivered during these meetings.

¹ <https://www.change.org/p/andrew-m-cuomo-unmask-our-children/>.

3.3. Data Analysis Procedure

This study takes on a CDA approach. CDA aims to gain a better understanding of pressing social problems through discourse analysis, and it takes the perspective of those suffering most from these issues (van Dijk 1993). The social problem that this paper is interested in and driven by is the perpetuation of disinformation and CTs during the global pandemic because they present obstacles to science-based prevention measures, and they negatively impact health outcomes of their believers. In fact, research conducted in the US has revealed that individuals who feel politically powerless were more likely to hold conspiracy beliefs, which is related to a reduced likelihood of embracing public health recommendations such as mask wearing (Romer, Jamieson 2020, See also Jamieson, Albarracín 2020). As poignantly stated by Fuchs (2021, p. 123), “COVID-19 conspiracy theories are a necrophilic ideology, an ideology of death that advances death and increases the number of deaths”.

The present study takes a discourse analytical approach to the study of ideology, where CTs form a particular type of ideology (Fuchs 2021). Van Dijk (2006, p. 120) defines ideologies as “foundational beliefs that underlie the shared social representations of specific kinds of social groups” that are at the basis of discourse and other social practices. Ideological discourse is generally organized by a broad strategy that expresses the positive presentation/action of Us in which ‘our good things’ and ‘their bad things’ are emphasized, and the negative presentation/action of Them in which ‘our bad things’ and ‘their good things’ are de-emphasized (van Dijk 2006). At this macro-analytical level, the epistemic underpinning of the present research centers on the ‘us’ versus ‘them’ binary in which the former is constituted by anti-mask activists, anti-mask ‘trusted experts’, and those who oppose mask recommendations and mandates, and the latter is constituted by pro-mask individuals and institutions (mediatic, scientific and governmental) and those who comply with mask recommendations and mandates.

In terms of the micro-analysis, the analysis of selected transcripts of aired episodes related to masks of Rush Limbaugh’s radio show, the “UnMask Our Children!” comment corpus, and the transcripts of the 15 responses spoken during the Board of Education meetings aimed to explore the discursive strategies used to advance anti-mask stances, usually situated within greater COVID-19-related CTs and disinformation. In examining the strategies of self- and other-presentation (Reisigl, Wodak, 2001; van Dijk 2000; Wodak 2011), it focused on the categories of argumentation moves and persuasive strategies detailed in van Dijk’s (2000) and Reisigl and Wodak’s (2001) work on the analysis of (anti-)racist interventions but applied to anti-mask (and the related anti-science, anti-government, anti-Left, and anti-

media) discourses, and drew on the strategies of legitimation detailed in van Leeuwen (2007), and expanded upon in Reyes (2011). It also took heed of the seven main dimensions of CTs identified by Fuchs (2021) that underpin their logic.

While CDA is the primary approach employed in this study, the comment corpus afforded the opportunity to apply a corpus-assisted discourse study approach. The corpus was first cleaned for typos and spelling errors (e.g., the spelling of the verb breathe was corrected from ‘breath’). Then comparative keyword analysis was performed on the corpus using the online text analysis tool Sketch Engine against the US domain .us subcorpus of the reference corpus English Web Corpus (enTenTen) 2020, which is constituted by roughly 1.3 billion tokens from texts collected from the Internet between 2019 and 2021. This reference corpus was selected because it matched the language variety (American English), geographical context (US) and time frame of the comment corpus. Next, Sketch Engine was used to generate the most frequently occurring 3-4 token lexical bundles using the n-gram tool. The concordance tool was used to see both the keywords and lexical bundles in their original context, which granted the possibility to perform discourse analysis.

4. A ‘Trusted Expert’: Rush Limbaugh’s conservative discourses on mask use

On 11 March 2020, Rush Limbaugh reassured the listeners of his radio show and said that they need not be alarmed by the onset of the COVID-19 emergency:

[...] All of this panic is just not warranted. This, I’m telling you, [...] I’ve told you that this virus is the common cold. When I said that, it was based on the number of cases. It’s also based on the kind of virus this is. Why do you think this is ‘COVID-19’? This is the 19th coronavirus. They’re not uncommon. Coronaviruses are respiratory cold and flu viruses. There is nothing about this, except where it came from, and the itinerant media panic that — you can’t blame people reacting the way they’re reacting, if they pay any, even scant attention to the media. (11/03/2020)

Here, Limbaugh presented himself as a ‘trusted expert’ who provided a consistent message to his audience concerning the mild nature of the virus. In so doing, he set up a friend/enemy scheme in which he was positioned as someone whom people should listen to and trust (“I’m telling you”, he stated, to emphasize that his words were true) in contrast with the media whose coverage of the virus produced “all of this panic”. Notwithstanding the claim

that he could be trusted, the radio host actually provided inaccurate information (the novel coronavirus was neither “the common cold” nor “not uncommon”) and he based his assertions on partial data (the actual “number of cases” was not yet known at the time and/or mushroomed soon thereafter) and flawed logic (the ‘19’ in COVID-19 is not an ordinal number).

Limbaugh maintained that one way in which the media fomented panic was with their mask wearing behavior. During the 20 April 2020 episode, he charged that the liberal media deployed the mask as a “symbol of fear”:

The mask is the symbol of fear, the sign that you’re at risk, the sign nothing is going to get better. [...] ‘Can you explain to me why TV people doing outdoor shots with nobody nearby are wearing masks? The cameraman’s the only person nearby, and they can be over six feet away.’ I think it’s precisely to create the image of fear. They’re wearing a mask [...] because, I tell you, how they’ve been ordered to behave by their boss. I mean, if the people that employ you tell you to wear a mask out there, that’s what you’re gonna do. I know CNN’s not wearing a mask. Their people are not wearing masks. [...] But it is clear that the mask is a symbol of fear, and when you see various people suggesting that we may now have masks as part of our public lives for the rest of our lives? Uh, why? Why? What happened to the simple question of, “Why?” (20/04/2020)

According to Limbaugh, the reporters of the left-leaning mainstream media network CNN were not engaging in mask wearing when they were not on air. They wore masks in front of the cameras because they are told to do so “precisely to create the image of fear”. Limbaugh fashioned a CT about masks in which a group – whose secrecy is determined with ambiguous “their boss” and “various people” – orders public actors how to behave and tells ordinary citizens how to act for a secret motive, or propagating fear (Fuchs 2021). In so doing, the radio host invited his audience to question the reasons that govern mask wearing behaviors and policies, and suggested that a powerful group is using masks to instill fear and to manipulate the populace.

Limbaugh also employed this approach to instigate distrust of politicians and the scientific community. For instance, Limbaugh honed in on former Democratic NY governor Andrew Cuomo’s aggressive COVID-19 containment response:

Do you think Andrew Cuomo knows what’s best for you? He put this little quarantine around New Rochelle. I mean, it’s just, this is just — too much of this, to me, appears to be made-to-order for objectives that have long been held by the American left, the Democrat Party, the media, what have you. (11/03/2020)

Limiting contact among people by creating a containment area around a community where a pathogen has proliferated widely (such as New Rochelle)

is a science-based approach to thwart the spread of disease. Yet, Limbaugh cast doubt on the reason for the containment measure, using the logic of concealment and personalization. Andrew Cuomo might have publicly stated that his policies were created to protect the people from this new threat, but this was (allegedly) a lie: these policies were actually “made-to-order” to serve the longstanding interests of liberals, Democrats, and the media. These health mandates were therefore part of a “conscious, sinister plan” (Fuchs 2021, p. 119), personalized by Cuomo.

With reference to the scientific community, on 5 May 2020 Limbaugh asked his audience: “have you noticed that, despite [declining COVID-19 cases], more and more people are starting to wear masks? Government people, scientists, doctors, the white lab coat crowd. So why would this be?”. With this question, the radio host rejects a rational explanation for continued mask wearing despite decreasing case numbers (e.g., as effective tools, masks should be worn until the virus is fully contained) in favor of an irrational, secretive reason for mask-wearing. He proceeded with the following:

Dr. Fauci [...] said face masks are largely security theater and of no use to the healthy. Dr. Russell Blaylock, a neurosurgeon, has written an editorial addressing healthy people wearing masks to protect themselves from COVID-19 and his advice is: “Don’t. If you’re healthy, do not wear the mask.” First, Blaylock says, there is no scientific evidence that it is effective against COVID-19 transmission. Pro-science people should care about this. [...] and yet, as the number of cases is flattening now, here come all these people increasing the wearing of masks in the health community. It’s almost as though they don’t want you to get the message that the news on the virus might be improving. (15/05/2020)

In this excerpt, to delegitimize the utility of masks, Limbaugh first harnessed the inconsistency in mask-related messaging at the onset of the pandemic by referencing director of the National Institute of Allergy and Infectious Diseases (NIAID) Dr. Anthony Fauci’s outdated remarks that masks were no more than ‘security theater’², which reflected neither Fauci’s stance in May 2020 nor the updated CDC guidance concerning masks³. Then, he referred to an article entitled “Neurosurgeon Says Face Masks Pose Serious Risk to Healthy People” from the right-wing news provider *PJ Media*, which has touted CTs⁴. While Limbaugh did not disclose the dangers of mask wearing

² On 8 March 2020, Dr. Fauci stated that “there’s no reason to be walking around with a mask”.

³ ‘Security theater’ is a concept coined by Schneier (2003) to describe security countermeasures meant to provide the feeling of improved security while doing little or nothing to improve reality.

⁴ Suggestive that the website touts conspiratorial beliefs, two editor’s notes on the article read as follows: “Want to support PJ Media so we can keep telling the truth about China and the virus

included in the article (but did so elsewhere), he cited Dr. Russell Blaylock by name and profession to legitimize the speaker, in terms of his authoritative role and medical expertise (van Leeuwen 2007), and his belief that masks are ineffective. This ‘expert’, however, has advanced many CTs that proliferate views inconsistent with the scientific consensus (Zollo *et al.* 2017). Limbaugh had recourse to the fallacy of mentioning authorities to support his case against masks (van Dijk 2000) by referring the obsolete opinion on masks of Dr. Fauci, who is a generally recognized expert, alongside the opinion of a conspiracy theorist who was framed, misleadingly, as a respected member of the scientific community. Claiming support for his standpoint by referring to these ‘expert’ opinions (incorrectly) implies that wearing masks is not an effective health measure. For Limbaugh, it follows that, since it is acting in contrast to these ‘expert’ opinions, the health community is intent on concealing the truth by portraying an inaccurately dismal view of the epidemiological situation, achieved via mask wearing.

Limbaugh repeated his attack on the scientific community during his 17 July episode, again by citing the words of a doctor framed as an authority figure and ‘expert’. He read the contents of a Facebook post by a “well-known climatologist” who cites an unnamed friend who is “an expert in immunology, epidemiology, and a couple other medical-ologies”. This anonymous ‘expert’ stated both that “the public wearing masks is probably doing more harm than good” and told the story of a woman who contracted Legionnaires’ disease from mask wearing but whose doctors had misdiagnosed her with COVID-19. By reading the post that contained both reference to an ‘expert’ of the medical community and the woman’s story, Limbaugh provides different forms of evidentiality, a strategy intended to “convey objectivity, reliability and hence credibility” (van Dijk 2000, p. 217), to defend the point that masks are harmful. Nonetheless, as in the example above, this is a fallacy because while Limbaugh presents his sources as competent ‘experts’, “the appeal to an authority is always fallacious if the respective authority is not competent or qualified, if she or he is prejudiced or if she or he is quoted inaccurately” (Reisigl, Wodak, 2001, p. 72).

The radio host also said that the medical community had “a COVID-19 bias”, a bias borne from alleged government funding for patients hospitalized with COVID-19. He stated:

It’s unfortunate, it’s very sad, but if there is money to be made — this is how climate change gets expanded and extended. You corrupt every scientist in it by giving them money for coming to certain decisions and going public with

they unleashed on the world?” and “Help PJ Media keep reporting on leftists using COVID-19 as an excuse for big government power grabs”.

their opinions on climate change. You pay them to do so, and you’re gonna corrupt them. And it’s happening now with COVID-19. (17/07/2020)

With this affirmation, the radio host marries climate change skepticism with COVID-19 skepticism, alleging that the medical community is corrupted to serve the purposes of the government. However, there is no proof that climate change scientists or COVID-19 researchers are being corrupted. As maintained by Fuchs (2021, p. 98) in describing rational irrationality, “conspiracy theory believers take phenomena that have no connection to a certain event or unrelated phenomena as proof for the existence of a conspiracy”. By connecting two baseless claims, Limbaugh employs the strategy of other-presentation to depict the scientific community as corrupt, money-hungry, and easily bought, therefore undermining the objectivity of scientific findings and the validity of claims made by the health community.

Rush Limbaugh advanced the theory that talk of the gravity of the pandemic and support of containment measures including mask wearing were instrumentalized by the media, the Left, and the health community to instill fear and subvert the Right. He stated that Democrats wanted the populace to believe the following: “Republicans are doing this to you. Conservatives are doing this. You’re right to be afraid. Donald Trump is the reason you’re afraid” (14/07/2020). Limbaugh maintained:

[The Democrats’] demand for masks is political. Everything is political. They hope to capitalize on the image they’re creating that we’re all about to die -- that we’re all very, very near being wiped out -- and only those who wear masks are gonna be safe and only Democrats advocating the wearing of masks care about people. If you don’t wear a mask, then you don’t care. (27/05/2020)

In short, for Limbaugh, the use of masks was not being advocated to “stop the spread” of COVID-19 but mask use was being extolled by Democrats for political reasons and to marginalize and delegitimize the opposition on moral grounds. He also alleged that Democrats fashioned “a liberal definition of a COVID death” which “included young people who died of alcohol poisoning, gunshots, and drug overdoses” to inflate COVID-19 case numbers in key states in the 2020 Presidential election, such as Florida “a state that Biden certainly needs to win” (14/07/2020). Thus, Democrats were hyping the COVID-19 epidemic to hurt Trump – “to portray Trump as incompetent, uncaring, has no compassion” (17/07/2020) – and ultimately have him lose the election. In so doing, Limbaugh not only situated Democrats as manipulative in their attempts to undermine Trump and conservatives, but he also sowed mistrust in the pandemic numbers reported: “it’s a recipe for corruption. So we don’t even know these numbers in Florida are accurate, and yet nobody’s questioning them” (14/07/2020).

Limbaugh also chastised those who believe this (allegedly) flawed information. In a 14 July episode, Limbaugh cited an article entitled “Millennials think their risk from COVID-19 is exponentially more than the true threat” (Horowitz 2020) from the *Conservative Review*, an online publication whose editor-in-chief is radio show host and right-wing conspiracy theorist Mark Levin (Abramson 2017). Limbaugh charged that millennials are “paralyzed in fear” about the pandemic even though “this cowering and fearful and almost giving up in the face of this enemy, COVID-19 [...] isn’t who we are” and is “un-American” (14/07/2020). Elsewhere he achieved a similar effect by labeling Democrats as pessimists and Republicans as optimists. Pessimism becomes negative other-presentation because, in contrast with hard work which evokes the all-American ‘work ethic’ motif, it “is easy” and “doesn’t take any work” (15/05/2020). This line of reasoning not only pit the left against the right and millennials against the older generation, but it designated the latter groups as more agentic, assertive, and ultimately more American than the former.

Across these episodes of his radio show analyzed in this study, Rush Limbaugh constructed a virtually seamless conspiratorial narrative about the pandemic in which the media, the Left, and the scientific community were the enemy and the mask served a key symbolic role. Limbaugh’s narrative was constructed by means of delegitimization tactics and negative other-presentation of respected authorities, *argumentum ad verecundiam*, or the fallacious appeal to conspiratorial ‘experts’ and to unqualified, unnamed, or misquoted authorities, and unsubstantiated anecdotal accounts to undermine scientific consensus. Woven into this narrative were several dimensions characterizing CTs including the friend/enemy scheme, concealment, rational irrationality. With varying levels of explicitness, Limbaugh suggested that the media, the Left, and the scientific community had benefits to be made in terms of money (corruption) and political gains (the 2020 elections) by depicting COVID-19 as a national emergency that was graver than it actually was. They conspired together to dupe the people and undermine Trump, and they strove to do so, in secrecy, by using and advocating for masks. Reporters and members of the health community wore masks on air (and allegedly not off camera), and politicians instituted and advocated public health measures like mask wearing to provide a manifest reminder of the virus. Through masks they instilled fear to exert control over the populace and by positioning themselves on the moral high ground. In turn, the American people (liberals and millennials) who believed and/or sided with these groups – and accepted mask mandates and engaged in mask-wearing behavior – were at best victims of their manipulations and at worst un-American.

5. The Mask Debate about School-aged children

5.1. Justifying support for the “UnMask Our Children!” petition

The first set of data analyzed in this section is the corpus of comments written by supporters of the May 2021 Change.org petition “UnMask Our Children!”. A corpus-based comparative keyword analysis provides the most salient terms that characterized the comments, while the analysis of the most frequent lexical bundles in context serves as a springboard to unveil the strategies users employed to argue against mask mandates.

5.1.1. Comparative keyword analysis

Comparative keyword analysis was conducted to generate the list of keywords contained in Table 2. The top 40 keywords are arranged by their ‘keyness’, or a statistic determined by a Log-likelihood calculation performed by the Sketch Engine software.

Item	Score	Item	Score
unmask	1472.515	pandemic	91.355
mask	898.867	wear	90.467
vaccinate	454.814	insanity	78.602
Cuomo	427.879	suffocate	77.825
COVID	365.996	mandate	71.352
spreader	246.335	power-hungry	70.62
breathe	241.129	unhealthy	70.568
ridiculous	231.266	strong-arm	69.089
maskless	170.734	insane	68.056
grandkid	144.287	inhumane	67.603
plandemic	129.153	disgusting	66.463
overreach	127.193	illogical	65.436
normalcy	122.011	asinine	63.472
kid	118.868	anti-science	63.157
daycare	116.81	germ	62.316
NYS	113.482	detrimental	58.975
bullshit	107.495	absurd	58.557
toddler	102.505	traumatize	58.118
unvaccinated	97.783	unnecessary	56.724
unmuzzle	91.588	outweigh	55.181

Table 2
Comparative keyword analysis – “UnMask Our Children!” comment corpus (focus) v. .us subcorpus of enTenTen20 corpus (ref.).

It comes as no surprise that within the “UnMask Our Children!” comment corpus some of the keywords with the highest scores are iterations of terms related to masks and mask wearing (e.g., ‘unmask’, ‘mask’, ‘maskless’, ‘wear’), COVID-19 (‘COVID’, ‘pandemic’), the mask mandate and its proponent (‘mandate’, ‘Cuomo’), and the audience and setting targeted by the mandate (‘kid’, ‘daycare’, ‘toddler’). Of interest is the presence of the terms ‘vaccinate’ and ‘unvaccinated’, with the former figuring very high in the keyword list. When the lemmas are seen in context, an overwhelming majority of comments instance the vaccine as a reason to unmask children, since the existence of a vaccine should mitigate the severity of the virus and warrant a reduction in protective measures⁵. Vaccine-skeptical beliefs transpire in this argumentation, as follows:

- (a) If the “vaccine” works, then those who are at the greatest risk are protected [...]
- (b) [...] if I vaccinate them with an experimental “vaccine” I’ll be allowed to unmask them [...]

The authors of excerpts (a) and (b) use scare quotes around the word vaccine to draw scrutiny to the term and cast doubt on the truthfulness of its effectiveness in providing protection from the virus (a) and its safety (b) (also suggested by “experimental”). The scare quotes imply a skepticism towards vaccines that undermines the strength of the argument supplied by the commenters that vaccines justify mask removal for kids.

The keyword list also displays the presence in the corpus of terms, and primarily adjectives, that relate to sense (or lack thereof), including: ‘ridiculous’, ‘bullshit’, ‘insane/insanity’, ‘illogical’, ‘asinine’, ‘absurd’, as well as ‘anti-science’. When seen in context, these evaluative attributions of negative traits are used by commenters to present pro-mask advocates and policies as unreasonable and irrational. In contrast, terms that indicate the sensible or rational nature of mask opponents do not transpire as keywords, suggesting that negative other-presentation was a move that was more frequently employed than positive self-presentation (van Dijk 1993) in the comment corpus.

Another set of terms that can be grouped by related semantic meaning are those linked to negative effects of masks. Most of these lemmas refer to adverse physical effects on people donning masks, or the inability to breathe well (‘breathe’, ‘suffocate’), lack of hygiene (‘disgusting’), and exposure to other infections (‘unhealthy’, ‘germ’). The latter in particular occasions the

⁵ For instance, one commenter wrote “Children have been unmasked this entire time and are now surrounded by vaccinated adults” and another stated: “[...] Now that there is a vaccine and you have about 60% of NY vaccinated at this point you need to release the mask off these children”.

conspiratorial belief that masks themselves cause illness, which positions the mask as not only ineffective but harmful. Other terms are used to argue that the mask is a means of torture or psychological manipulation, as suggested by ‘detrimental’ ‘unmuzzle’, ‘inhumane’ and ‘traumatize’, which elicit emotive effects such as fears and anxieties (Reyes 2011) and invoke the topos of threat (Wodak 2011) in their implication that the mask has detrimental effects, quashes human rights, and traumatizes school-age children.

Lastly, several terms evoke conspiracy theories related to the opportunities that the pandemic afforded to political institutions. For instance, ‘plandemic’ relates to the prominent conspiracy theory related to COVID-19 that the pandemic was a planned and/or fraudulent scheme. ‘Overreach’ evokes the conspiratorial belief that institutions are using the pandemic to usurp power and act unconstitutionally, while ‘power-hungry’ is a negative attribution that conveys institutional desire for control over the populace and for the accumulation of power. Together, these terms question whose interests are being served by the state government and politicians advancing mask mandates in schools.

5.1.2. *Lexical bundles*

The analysis of the most frequently occurring 3-4 token lexical bundles from the “UnMask Our Children!” corpus sheds insights on the arguments that users cited most to justify their opposition to mask mandates. Three of the most frequently used multi-word expressions in the small corpus were: ‘enough is enough’, ‘is child abuse’, and ‘follow the science’. The first bundle – ‘enough is enough’ – is suggestive of the desire to present a state of affairs as untenable, in this case the unacceptability of masking children, and to compel the reader to reject the status quo. Examples of occurrences of this bundle in the corpus follow:

- (c) **Enough is enough.** There’s no reason for this to continue ANY longer.
- (d) I have a 14 and 10 year old that have been masked for a year and a half. **Enough is enough!!**
- (e) Because we are killing our children...**enough is enough**
- (f) **Enough is enough.** End this mask torture for our kids!!!
- (g) This is ridiculous! Our children will get sick just from wearing the mask ALL DAY!
Enough is enough.

In all these cases, the expression is used as a single reinforcement measure at the start or end of the utterance. For the commenters, the reasons for which the situation can no longer be tolerated and, therefore, ‘enough is enough’, range from the duration of the pandemic and containment measures (excerpts

c) and d)), and mask-related risks to children's health and wellbeing (excerpts e), f) and g)). Masking children is equated to murder, torture, and engendering illness, thus evoking conspiracy theories and fallacies in the form of extreme case formulations – “formulated in starkly exaggerated terms” (van Dijk 2000) – about the effects of long-term mask use among children.

Similarly, the lexical bundle ‘is child abuse’ was used to define mask wearing for children. This hyperbole, which gives rise to an emotional response, legitimizes the anti-mask stance in terms of evoking concern for children and the fear of hurting them (Reyes 2011). As shown in the three comments below, this bundle often occurred alongside affirmations that advance the conspiratorial belief that a hidden scheme underlies the mask mandate:

- (h) For 9 months I have been standing up in front of our school board demanding to free our kids' faces!!!! It's nothing but dictatorship!!!! Masking up healthy children **is child abuse**!!!! Masks serve no purpose!!
- (i) Cuomo only doing this at this point as a means to force vaccinationno vax then you wear the muzzle. This **is child abuse**! This is not the height of the PLANdemic, so why now Cuomo? [...]
- (j) Masks on our children **is child abuse**. They have a 99.97% survival rate. This is about control!

For the authors, masks are useless (“serve no purpose”, h), punitive and dehumanizing (“muzzle”, i), and unnecessary due to the high survival rates among children (j). By designating the mask in these ways, the authors define what it is not: masks are not medical tools effective in the prevention and mitigation of the spread of COVID-19 and, therefore, for the protection of the health and wellbeing of school-aged children. Thus, there is an alternative truth driving state government mask mandates. Masks are promoted as part of a sinister plan and a government ploy to enact a “dictatorship” (h) and seize citizen rights, to obtain “control” (j) over the people, and to coerce people to undergo inoculations within the “PLANdemic” (i).

Additionally, comments (h), (i), and (j) all appeal to numerical facts or statistics directly (“9 months” and “99.97% survival rate”) or indirectly (“the height of the PLANdemic”). This can be interpreted as a manifestation of the topos of numbers (“if sufficient numerical / statistical evidence is given, a specific action should be performed” Wodak 2011, p. 44). It is a legitimization strategy, since these numerical references serve as indicators of knowledge and accuracy that evoke expertise and authority, emphasize objectivity, and ultimately aim to strengthen credibility (Reyes 2011; van Dijk 2000).

The lexical bundle ‘follow the science’, instead, serves as a

delegitimization tactic. It calls into question mask mandates on the grounds that they counter voices of expertise, scientific research, and facts, synecdochally represented by the term “science”.

- (k) Why mask kids? Adults are the carriers! Stop the madness and **follow the science!**
- (l) I am signing this petition because I **follow the science**. Masks do not stop Coronavirus.
- (m) **Follow the science** Cuomo: read it carefully- MASKS DON’T MAKE A DIFFERENCE SO GET THEM OFF MY CHILDREN!

In the above examples, the authors cite different claims – the higher occurrence of the virus among adults (k), as well as the fallible nature (l) and uselessness (m) of masks – to support their anti-mask stance. These comments do not detail specific forms of evidentiality, or “how or where [they got] the information” (van Dijk 2000, p. 217), but instead appeal to the vague concept of “science” as evidence of their (often baseless) claims.

In summary, the analysis of keywords and lexical bundles suggests that these anti-mask advocates acting online label pro-mask positions as nonsensical and “anti-science” (in contrast with their own “science”-backed standpoint), and even detrimental both in terms of individual freedoms and health outcomes. Like Rush Limbaugh, these users rejected the view of mask as a medical tool, and they ignored the scientific evidence widely available on the health-related benefits of mask wearing in May 2021, at the time of the petition. There is also evidence of the uptake of the conspiratorial belief that the mask was mandated by liberal institutions to claim power and exert control over the populace.

5.2. Board of Education meetings

The present section focuses on how anti-mask activists argued in opposition to in-school mask mandates at Board of Education meetings held in August 2021.

5.2.1. Topos of fear and the safeguard of liberties

The most frequent rationale that anti-mask respondents at these meetings occasioned in support of their stance was rooted in the protection of their autonomy, rights, and freedoms. The speaker of excerpt n), for instance, charged that individual choice, human rights, and human dignity were being stripped by political institutions who decided to impose mask mandates for politicized ends:

- (n) Clearly replacing individual choice with collective mandates has politicized this issue and polluted the science. This is not science. Politics forcing healthy children into mask wearing is an affront to the rights we hold over our bodies and our basic human dignity. (LVCSD, 17/08/21)

This speaker both echoes Rush Limbaugh's claim that "[the Democrats'] demand for masks is political" (27/05/2020) and frames the effects of mask wearing in a negative and grossly exaggerated form, reminiscent of the aforescribed charge by the online petition commenters that the mask "is child abuse". They situate refusal to wear masks as a rebuff of heavy-handed involvement by the government in individuals' health (Wong, Claypool 2021; also emblemized by anti-maskers co-opting of the pro-choice slogan "My body, My choice").

Other speakers – as illustrated in excerpts o) and p) – used the 'slippery slope' argument to claim that complying with the mask mandate is "only the beginning" (excerpt p) and would eventually lead to the surrender of other human rights and freedoms.

- (o) If we allow to take to have a rights removed at this moment there's going to be the day that your kids are going to belong to the government and not to us (LVCSD, 17/08/21)
- (p) The inalienable right for each and every human being to choose what is best for their own health and that of their children is being attacked and challenged. We are witnessing the greatest takeover of our basic human rights and medical freedoms. The masks are only the beginning, a mere test of our servitude and compliance. (LVCSD, 17/08/21)

Resonant with excerpt n), the conceptualization of mask mandates as a grave affront to rights and freedoms is also attained via hyperbolic assertions – having one's children belong not to parents but to the government (excerpt o) – and superlatives – mask mandates are "the greatest takeover of our basic human rights and medical freedoms" (excerpt p). Thus, these speakers rely on the topos of threat to argue against mask mandates. The actual, concrete threat – or the spread of COVID-19 in schools – is supplanted by a fabricated, unsubstantiated threat to rights and liberties.

In line with the specter of the threat to freedom, another speaker (excerpt q) situated opposition to mask mandates as part of the American plight for civil rights and tradition of civil disobedience, on par with the American Revolution, the end of slavery, and the women's rights movement.

- q) We need to teach these kids what's right and what's right is when you stand up [against] something that's wrong. If we didn't dump tea in the Boston Harbor - okay? - and stand up against what they were doing, the British, we would never be a country. If we were never stood up and fought against slavery, where hundreds of thousands of black and white people died, what would this country look like? If women didn't stand

up for their equal rights. What would this country look like? (SCSD, 03/08/21)

Here, in citing defining moments American history, the speaker relies on the topos of history (“because history teaches that specific actions have specific consequences, one should perform or omit a specific action in a specific situation” Wodak 2011, p. 44) to link protests against mandated masking with American ideals and identity. In so doing, the speaker legitimizes the anti-mask standpoint on the basis of the authority of tradition (van Leeuwen 2007) – to “stand up [against] something that’s wrong”, or mask mandates, is the American way and “what’s right” – regardless of the reason(s) the policies were put in place.

5.2.2. *Voices of ‘expertise’ and the topos of numbers*

Many speakers base their argumentation on the ‘fallacy of authority’. That is, some speakers presented themselves as authorities or experts, when they were not (*argumentum ad verecundiam*; Reisigl, Wodak 2001). Specifically, several speakers cited their personal experiences to support their anti-mask stances. For instance, one speaker suggested the false claim that mask wearing during the COVID-19 pandemic is not necessary because they did not wear a mask at large social gatherings and did not contract the virus⁶. This fallacious argumentation casts doubt on the veracity of well-documented containment measures and scientific consensus.

A recurrent mechanism utilized by speakers to convince their audience of the validity of their anti-mask stance was to introduce themselves as professionals in various fields with explicitly cited years of experience. Speakers included medical personnel such as a physician assistant and a nurse, a science teacher, a guidance counselor, and a child psychiatrist, and they used their role to project themselves as authorities on masking. In fact, each of these speakers cited reasons closely tied to their professions to frame their anti-mask argumentations, as in the following examples:

- r) In recent years, there's been a big push for social emotional learning and as a guidance counselor I know how important this is. There is no way a child can learn socially or emotionally if most of their faces are covered all day. (LVCSO, 17/08/21)
- s) Children have come into my ER with severe impetigo on their face. Do you know what impetigo is? Lesions caused by a staph infection from the moisture and dirt that gets under their mask. (LVCSO, 17/08/21)

⁶ “This summer I attended many social gatherings and public events [where there...] were thousands of people and [...] I didn't wear a mask nor did anybody I was around wore a mask. We were all perfectly fine”, LVCSO, 17/08/21.

In these two excerpts, the speakers, a guidance counselor excerpt (r) and a nurse in excerpt (s), emphasize the knowledge they are privy to (“I know how important this is” and “Do you know what impetigo is?”) because of their professions. However, notwithstanding their professional experience, their claims are largely false. Recent research has debunked the speaker of excerpt (r)’s claim that “there is no way a child can learn socially or emotionally” with masks, and has agreed that face covering use is feasible even with children with autism spectrum and attention-deficit disorders (e.g., Aaronson *et al.* 2021). With reference to excerpt (s), while some studies have indeed raised safety concerns regarding prolonged mask-wearing (e.g., Aerts *et al.* 2020, Muley 2020), the benefits of masks in the mitigation of disease transmission are now widely accepted in the global medical community.

The anti-mask activists who spoke at Board of Education meetings also supported their standpoint with “reference to authorities considered to be or passed off as being competent, superior, sacrosanct, unimpeachable and so on” (Reisigl, Wodak 2001; p. 72). Dr. Fauci, a recognized expert on infectious diseases, was repeatedly cited. However, these citations drew on Dr. Fauci’s initial statements on the inefficiency of masks⁷, a stance which he later reversed, and conspiracy theories that falsely attributed words to him.⁸ In the attempt to back their position that COVID-19 does not exist⁹ and masks are therefore unnecessary, one speaker read a detailed email that a man named Adam Gaertner wrote to Dr. Fauci, though Gaertner is not a medical expert (Rouan 2020). These appeals to authority are therefore fallacious because they refer to unqualified individuals (like Gaertner) and inaccurate quotations of competent experts.

In arguing that a small number of children had fallen ill with COVID-19, speakers also provided statistics and other numerical evidence. For instance, one speaker at the Smithtown Central School District Board of Education meeting declared: “children are not super spreaders. They have a statistically 0% chance of death or serious illness from COVID” (03/08/21). The reference to a specific percentage is a legitimization strategy that enhances credibility since “numbers and statistics are the primary means in our culture to persuasively display objectivity. They represent the facts

⁷ “[In] February of 2020 [Dr. Fauci] wrote this [...] The typical mask you buy in the drugstore is not really effective in keeping out the virus which is small enough to pass through the material” (MSD, 8/18/21).

⁸ “Dr Fauci did a study on the Spanish flu of 1918 and he said: ‘We discovered that people didn’t die of the Spanish flu in 1918 what they died of was wearing the mask and developing bacterial pneumonia’” (MSD, 8/18/21).

⁹ “We had this fake lockdown and nobody has been able to isolate the virus that doesn’t exist” (MSD, 8/18/21).

against mere opinion and impression” (van Dijk 2000, p. 222). In addition to making the speaker sound more credible and objective, this use of numbers can be seen as an inverse *topos* of numbers. If the *topos* of numbers argues something is dangerous because of large numbers (Reisigl, Wodak 2001), then citing low numbers argues that something – in this case COVID-19 – is not dangerous, and donning masks is not warranted. However, speakers also resorted to numbers to substantiate baseless claims, as in the following: “more data exists supporting the harm the mask wearing [causes] the children and the 2% decrease in cases” (SCSD, 03/08/21).

5.2.3. *Masks and Vaccines*

Although we might have expected frequent manifestations of vaccine-skepticism, only one of fifteen speakers expressed an anti-vaccine stance. Instead, four anti-mask speakers argued against mask mandates by placing the onus on adults who have not been vaccinated against COVID-19.

In all, anti-mask advocates speaking at Board of Education meetings relied on the *topoi* of fear and numbers to argue that mask mandates were grave violations of liberties. A recurrent strategy utilized by speakers to legitimize their anti-mask stance was to occasion either their professional roles or experiences or the statements and views of ‘experts’ with varying degrees of qualifications. These argumentation moves were fallacious because they backed false claims, cited unqualified individuals or reported inaccurate quotations and uncorroborated data.

6. Discussion and Conclusions

On 14 January 2022, the CDC released a statement that declared that “masking is a critical public health tool to prevent the spread of COVID-19, and it is important to remember that any mask is better than no mask”. This unequivocal and unwavering pro-mask declaration differs starkly from the muddled messages about masking emanating from officials at the start of 2020. Indeed, the start of the COVID-19 pandemic was marred by uncertainty and confused the public’s understanding of the utility of masks. This fueled a heated debate concerning mask-wearing and led to the proliferation of disinformation and CTs that emerged at the onset of the pandemic and continued to thrive throughout the COVID-19 era.

This paper aimed to provide insights into the discourses of different anti-mask activists using different media who were addressing different audiences. In contrast with the conflicting nature of health messaging in the first months of the health emergency, the first actor, conservative radio host

Rush Limbaugh, became a ‘trusted expert’ who conveyed a consistent message: COVID-19 was a mild virus instrumentalized for nefarious reasons by institutions and groups for financial and political aims. Although Limbaugh drew on false data, flawed logic, outdated remarks, and CTs, he neatly organized his narrative around the theme of fear, for which masks served as the most powerful and visible symbol. As masks were assigned this symbolic meaning, the radio host chipped away at the belief in the actual utility of these medical tools to protect oneself and others from the virus. He created ‘alternative truths’ to the medical and epidemiological purpose of masks, facilitating the propagation and acceptance of further conspiratorial beliefs not only related to how they are deployed for political manipulation but also to their adverse effects on wearers.

The analysis of how online users and speakers at Board of Education meetings justified their opposition to school-based mask mandates suggests that they were resonant with and likely influenced by the renowned radio host, whose episodes about masks aired the year prior. Online users and speakers formulated their arguments in starkly exaggerated terms, such as stating that masking is a form of child abuse and an affront to human dignity. These agents drew on similar (de)legitimization strategies and fallacious argumentation used by Limbaugh, such as appealing to unqualified or misquoted ‘expert’ voices, citing articles from conspiratorial publications or debunked sources, and relying on the topos of threat to alert listeners and readers that the mask endangers health, puts liberties in peril, and traumatizes school-age children. Like the radio host, they ignored the scientific consensus, rejected the view of mask as a useful medical tool, and occasioned conspiratorial beliefs that the mask was instrumentalized by institutions to claim power and exert control. Interestingly, only some commenters and speakers joined conspiratorial beliefs related to the vaccines to their mask argument, with a majority stating that the effectiveness of inoculations makes masks unnecessary. Also, while Rush Limbaugh suggested that individuals who believed institutional messaging were unAmerican, a speaker at a Board of Education meeting situated mask opposition within the American tradition of civil disobedience.

The similarity in the strategies used and the content contained in the discourses of these different sets of actors indicates that CTs and disinformation have common characteristics, as identified in Fuchs (2021), and likely suggests that ‘trusted experts’ like Rush Limbaugh were pivotal in the formulation and dissemination of falsehoods about masks. Together, these actors put forth the notion that unlike their opponents, anti-masks activists are ‘in the know’ and not subject to what they view as the disinformation promulgated by mainstream media. They held that, since masks are an inefficient and useless tool to contain the spread or protect the populace from

COVID-19, it followed that the recommendation to wear masks was not a protective expedient but a measure put into place for other – political and/or ideological – reasons. They shared the attempt to denormalize the dominant, science-based framing of mask mandates as a science- and research-based health recommendation in favor of a narrative that propagates the nefarious aims of governmental, scientific, and mediatic institutions.

This paper opened with the words of former National Institutes of Health director Dr. Francis Collins who noted that “a hyperpolarized, politicized view” fractured the United States, impacted public health, and has been “ruinous.” Conspiratorial claims are ideological and conceal the facts (Fuchs 2021). Opponents of protection measures such as mask mandates do not only endanger their lives but also the lives of others. One in five American adults said wearing a face mask was “harmful” in September 2020 (Hamel *et al.* 2020), and poignantly, the politically powerless are more likely to believe CTs and they are less likely to embrace public health recommendations such as mask wearing (Romer and Jamieson 2020), with obvious implications on health outcomes. While it is likely, as Dr. Collins holds, that “history will judge harshly those people who have continued to defocus the effort and focus on conspiracies and things that are demonstrably false”, a better understanding of CTs and disinformation can give us the tools to recognize, dismantle, and counteract these falsehoods, beginning from influential sources who act as ‘trusted experts’, and to safeguard health and wellbeing for all.

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References

- Aaronson B., Glick S.N., Kirk C.J., et al. 2021, *Assessment of Feasibility of Face Covering in School-Aged Children With Autism Spectrum Disorders and Attention-Deficit/Hyperactivity Disorder*, in “JAMA Netw Open” 4 [5]:e2110281.
- Abbas A.H. 2021, *Politicizing COVID-19 Vaccines in the Press: A Critical Discourse Analysis*, in “Int J Semiot Law”, advance online publication.
- Abramson A. 2017, *President Trump's Allies Keep Talking About the 'Deep State.' What's That?*, in “Time”. <https://time.com/4692178/donald-trump-deep-state-breitbart-barack-obama/> (15.12.2021).
- Aerts O., Dendooven E., Foubert K., et al. 2020, *Surgical mask dermatitis caused by formaldehyde (releasers) during the COVID-19 pandemic*, in “Contact Dermatitis” 83, pp. 172-173.
- Brenan M. 2020, *Americans' Reported Use of Face Masks Surges in Past Week*, in “Gallup”. <https://news.gallup.com/poll/308678/americans-reported-face-masks-surges-past-week.aspx> (12.09.2021).
- Bruns A., Harrington S., Hurcombe E. 2021, *Coronavirus Conspiracy Theories: Tracing Misinformation Trajectories from the Fringes to the Mainstream*, in Lewis M., Govender E., Holland K. (eds.), *Communicating COVID-19*, Palgrave Macmillan, Cham.
- Douglas K.M., and Sutton R.M. 2015, *Climate change: Why the conspiracy theories are dangerous*, in “Bulletin of the Atomic Scientists” 71 [2], pp. 98–106.
- Douglas K.M., Uscinski J.E., Sutton R.M., et al. 2019, *Understanding Conspiracy Theories*, in “Political Psychology” 40, pp. 3-35.
- Fairclough N. and Wodak R. 1997, *Critical discourse analysis*, in Van Dijk T.A. (ed.), *Discourse as Social Interaction*, SAGE, London, pp. 128-147.
- Franks B., Bangerter A., and Bauer M.W. 2013, *Conspiracy theories as quasi-religious mentality: An integrated account from cognitive science, social representations theory, and frame theory*, in “Frontiers in Psychology” 4 [424], pp. 1-12.
- Fuchs C. 2021, *Communicating COVID-19*, Emerald Publishing Limited, Bingley.
- Goldberg J., 2021, *Massapequa school officials say they won't mandate masks for students this year*, in “Fox 5 NY”. <https://www.fox5ny.com/news/massapequa-school-officials-say-they-wont-mandate-masks-for-students-this-year> (08.09.2021).
- Grimes D.R. 2020, *Health disinformation & social media*, in “Science & Society” 21, pp. 1-4.
- Habgood-Coote J. 2019. *Stop talking about fake news!*, in “Inquiry” 62 [9-10], pp. 1033-1065.
- Hamel L., Kearney A. and Kirzinger A. et al. 2020, *The Role of Misinformation, and Views on A Potential Coronavirus Vaccine*, in “Kaiser Family Foundation”. <https://www.kff.org/coronavirus-COVID-19/report/kff-health-tracking-poll-september-2020/> (08.09.2021).
- Horowitz D. 2020. *New study: Millennials think their risk from COVID-19 is exponentially more than the true threat*, in “Conservative Review”. <https://www.theblaze.com/conservative-review/horowitz-new-study-millennials-think-risk-COVID-19-exponentially-true-threat> (08.09.2021).
- Jamieson K.H., Albarracín D. 2020. *The relation between media consumption and misinformation at the outset of the SARS-CoV-2 pandemic in the US*, in “Harvard Kennedy School (HKS) Misinformation Review” 1 [2], pp. 1-22.

- Kearney M.D., Chiang, S.C., and Massey P.M. 2020, *The Twitter origins and evolution of the COVID-19 "plandemic" conspiracy theory*, in "Harvard Kennedy School (HKS) Misinformation Review" 1 [3], pp. 1-18.
- Kahane L.H. 2021, *Politicizing the Mask: Political, Economic and Demographic Factors Affecting Mask Wearing Behavior in the USA*, in "Eastern Econ J" 47, pp. 163-183.
- News 12 Staff 2021, *Locust Valley School Board vows to fight state school mask mandate*, in "News 12 Long Island". <https://longisland.news12.com/locust-valley-school-board-vows-to-fight-state-school-mask-mandate> (08.09.2021).
- Muley P. 2020, *'Mask Mouth'-a Novel Threat to Oral Health in the COVID Era—Dr Pooja Muley*, in "Dental Tribune South Asia". <https://in.dental-tribune.com/news/mask-mouth-a-novel-threat-to-oral-health-in-the-COVID-era/> (08.09.2021).
- Oliver J.E., and Wood T.J. 2014, *Medical conspiracy theories and health behaviors in the United States*, in "JAMA Internal Medicine" 174 [5], pp. 817–818.
- Romer D. and Jamieson K.H. 2020, *Conspiracy theories as barriers to controlling the spread of COVID-19 in the U.S.*, in "Social Science and Medicine" 263, pp. 1-8.
- Reyes A. 2011, *Strategies of Legitimization in Political Discourse: From Words to Actions*, in "Discourse & Society" 22 [6], pp. 781-807.
- Rouan R. 2020, *Fact check: No, email to Fauci doesn't contain origin of a 'coronavirus bioweapon'*, in "USA Today". <https://eu.usatoday.com/story/news/factcheck/2021/06/03/fact-check-email-fauci-doesnt-contain-origin-coronavirus/7511931002/> (08.09.2021).
- Schneier B., 2003, *Beyond Fear*, Springer, New York.
- Thorne K., 2021, *NYS Health Dept. issues universal mask mandate for schools, 2 LI school districts reviewing mandate*, in "ABC 7 NY". <https://abc7ny.com/masks-in-school-emergency-regulation-regulation-new-york-state-department-of-health/10983301/> (08.09.2021).
- van Leeuwen T., 2007, *Legitimation in Discourse and Communication*, in "Discourse & Communication" 1 [1], pp. 91-112.
- van Dijk T.A. 1993, *Principles of critical discourse analysis*, in "Discourse and Society" 4 [2], pp. 249-283.
- van Dijk T.A. 1998, *Ideology: A Multidisciplinary Approach*, SAGE, London.
- van Dijk T.A. 2000, *The Reality of Racism*, in Zurstiege G. (ed.), *Festschrift für die Wirklichkeit*, VS Verlag für Sozialwissenschaften, pp. 211-225.
- van Dijk T.A. 2006, *Ideology and discourse analysis*, in "Journal of Political Ideologies" 11 [2], pp. 115-140.
- van Leeuwen T. 1993, *Genre and field in critical discourse analysis*, in "Discourse and Society" 6 [1], pp. 81-106.
- van Leeuwen T. 2007, *Legitimation in Discourse and Communication*, "Discourse & Communication" 1 [1], pp. 91-112.
- Wodak R. 2011, *The Discourse of Politics in Action*, Palgrave Macmillan, Basingstoke.
- Wong J. and Claypool E., 2021, *Narratives, masks and COVID-19: A qualitative reflection*, in "Qualitative Social Work" 20 [1-2], pp. 206-213.
- Zimmerman A., 2020, *The Precautionary Principle in Mask-Wearing*, in "Voices in Bioethics", <http://www.voicesinbioethics.net/COVID19/2020/3/30/the-precautionary-principle-in-mask-wearing-when-waiting-for-explicit-scientific-evidence-is-unwise-1> (08.09.2021).
- Zollo F., Bessi A., Del Vicario M., et al. 2017, *Debunking in a world of tribes*, in "PLoS ONE" 12 [7], e0181821.

DISCOURSES OF PUBLIC HEALTH-RELATED CONTROVERSIES

A Comparison between the Conspiracist Video *Plandemic* and the VIOXX Medical Scandal

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Abstract – Conspiracy theories related to public health have been proliferating since the outbreak of the 2020 COVID-19 pandemic. The release of the viral *Plandemic* video interview, where former National Cancer Institute scientist Judy Mikovits alleges that US public health institutions have planned and profited from the pandemic, falls within this phenomenon. The appeal of *Plandemic* potentially draws on documented episodes of unethical behaviour on the part of scientists and health institutions, raising questions as to what analogies and differences may exist between the representation of public health conspiracy theories and that of actual cases of medical science misconduct. To address these questions, the present study applies a qualitative, discourse analytical approach to compare *Plandemic* with a 2005 PBS interview to FDA Associate Director of Drug Safety-turned-whistleblower David Graham, whose work was instrumental in uncovering serious and sometimes fatal health risks linked to the use of painkiller Vioxx, withdrawn in 2004. Drawing on the assumption that both Mikovits and Graham used language to promote their standpoints, which inevitably involves a degree of persuasion and ideology, the analysis focuses on linguistic and textual features that can be used to convey ideological messages – such as lexical choices, actor representation, recurring themes, coherence and evidentiality – identifying and comparing them across the two interviews. Results reveal some points in common, for instance in the representation of involved actors, as well as profound differences involving, for example, argumentation and evidentiality strategies. The concluding section thus elaborates on how these results raise further questions concerning how close and credible the two interviews may be perceived by recipients who do not engage in fact-checking.

Keywords: Health communication; Conspiracy Theories; Discourse analysis; Scientific Misconduct; COVID-19.

1. Introduction

Misinformation and disinformation have become a major challenge in our globalised and hyper-connected societies. Although the production of inaccurate and/or false information has always existed in human communication, the way people produce, share and consume information over the internet – and particularly through social media – has contributed to

creating an environment where large amounts of information, both accurate and inaccurate, spreads rapidly and widely. Verifying this information has thus become less and less feasible, favouring the circulation of unverified rumours, inaccurate messages and misleading claims, which can have serious societal consequences. For example, mis- and disinformation are thought to have played a role in the outcome of the 2016 Brexit referendum in the UK, as well as in the 2016 US presidential elections (Rose 2017). Conspiracy theories (henceforth CTs) constitute an important component of the misinformation and disinformation we are potentially exposed to through our online interactions. Douglas *et al.* define CTs as

[...] attempts to explain the ultimate causes of significant social and political events and circumstances with claims of secret plots by two or more powerful actors [...] While often thought of as addressing governments, conspiracy theories could accuse any group perceived as powerful and malevolent (Douglas *et al.* 2019, p. 4).

As forms of unverified, misleading information, CTs can deeply affect the societies where they spread. They were, for instance, at the basis of the infamous Capitol Hill riot on 6th January 2021, where protesters alleged, among other things, that the outcome of the 2020 US Presidential elections had been massively rigged (Williamson 2021). CTs often underlie anti-vaccination beliefs too, which pose serious threats to public health (Lazić, Žeželj 2021). Yet, the impact of misinformation and disinformation on public health has become even more evident since the outbreak of the 2020 COVID-19 pandemic, still ongoing at the time of writing this paper. The pervasive scientific uncertainty around the disease and the novel coronavirus which causes it gave rise to several controversies about the nature of the emergency and the best ways to respond to it. Conspiracist accounts, challenging mainstream discourses produced by institutions and scientific communities, flourished in this context, contributing to the polarisation of ongoing debates and to the creation of powerful counter-discourses that had an impact on, among others, COVID vaccine hesitancy rates, as well as on the perceived gravity of the emergency and the consequent adoption of preventive behaviours (van der Linden *et al.* 2020, p. 2).

A glaring example of pandemic-related CTs is the *Plandemic* video, a 26-minute documentary/interview that centres around “the notion that the COVID-19 pandemic was planned or fraudulent” and draws on claims by “discredited former National Cancer Institute scientist Dr. Judy Mikovits”¹

¹ In 2006, Mikovits was research director at a US private research centre called Whittemore Peterson Institute (WPI). That year, she co-authored a paper in *Science* which was, however, retracted in 2011. In the same period, WPI filed suit against Mikovits for allegedly removing laboratory notebooks and keeping other proprietary information. She was later briefly arrested

(Kearney *et al.* 2020), cast as “a brave insider claiming to lay bare corporate power corrupting the US government” (McGreal 2020; more on the content of this interview is specified in Section 3). *Plandemic* was posted on several platforms including Facebook, YouTube and Vimeo on 4th May 2020 by its creator, Mikki Willis, a little-known film producer who also appears in the video as Mikovits’s interviewer. Although YouTube and Facebook had removed the video by 5th May (Culliford 2020), new copies of it continued to be posted there and elsewhere online.² In the following week, it gathered more than eight million views and generated countless posts on social media, becoming a mainstream phenomenon with a large following (Frenkel *et al.* 2020).

In the video, Mikovits is represented as a heroic whistleblower, with scientific expertise and first-hand experience of the public health and drug industry systems, whose generalised corruption and criminal conduct she is courageously determined to expose and fight against. While it may be popular among conspiracy theorists, this type of narrative pattern is by no means exclusive to them. In fact, accounts of people calling out corruption, abuse or malpractice within powerful organisations do appear in the media (see, for example, Cohen 2013). The Me Too movement, for instance, went viral after a group of women dared to speak about sexual harassment episodes on the part of influential film producer Harvey Weinstein, who was then found guilty of rape and criminal sexual act (Donegan 2020). More closely related to public health is the story of Jeffrey Wigand, a US biochemist who in the 1990s disclosed damning information about health-damaging practices by tobacco company Brown & Williamson, which filed a lawsuit against him and wrongly discredited him (see Brenner 2004).³ More in general, claims about corruption, abuse and malpractice in public health institutions cannot be completely dismissed. In the US, for example, the corruptive influence of the drug industry over public health and government institutions has played a key role in the rise of the opioid crisis (McGreal 2020). These and other episodes in more and less recent history testify to the actual existence of secret plots, corruption and criminal behaviours within systems with a large influence on the lives of many people.

Providing deeply rooted precedents in the public opinion, these episodes may contribute to making CTs easier to accept and believe.

on felony charges apparently related to the WPI lawsuit, but all criminal charges were eventually dropped by prosecutors (Enserink, Cohen 2020).

² The video used in this analysis was retrieved from <https://www.bitchute.com/video/TsbMDWB6R98v/> (27.09.2021).

³ Wigand’s story became internationally known when it was told in the 1999 movie *The Insider*. The dossier produced to discredit him was proven to be false (Levin, Weinstein 1999). The lawsuit against him was dismissed as a condition of a historic 1997 settlement whereby cigarette makers agreed to economically compensate 40 US states for smoking-related illnesses and radically change the way cigarettes are marketed in the US (Broder 1997).

Accordingly, it might be possible that products like *Plandemic*, conceived of as a challenge to mainstream discourses on health and science, somehow draw on the representations of episodes of actual corruption and/or whistleblowing as they are presented in the media. The possible elements of comparability between the languages used in these domains has been, to my knowledge, under-investigated so far. The primary aim of this exploratory study is thus to compare, from a discourse-analytical perspective, *Plandemic* to media coverage of a verified public health scandal. A specific case study, namely the Vioxx scandal, was chosen for this comparison, since it features both scientific misconduct and a whistleblower who exposed some wrongdoing by public health institutions and the drug industry. Vioxx (commercial name for rofecoxib) was an anti-inflammatory drug produced and marketed by pharmaceutical giant Merck & Co. It was heavily advertised in the late 1990s-early 2000s, and became extremely popular in the US, but its use turned out to increase the risk of dangerous cardiovascular events such as strokes or heart attacks. Merck removed Vioxx from the market in 2004 (Solomon 2009), but studies indicating its extremely dangerous side effects had emerged way before then (Horton 2004). In fact, the company had promoted studies containing skewed data to make the drug appear safe; moreover, leaked documents suggested that Merck executives had tried to prevent knowledge of the cardiovascular effects from going public. The US Food and Drug Administration (FDA), which had initially approved the drug and should have monitored its safety, was also guilty of a deplorable delay in taking action: prior to the withdrawal of Vioxx, epidemiologist David Graham, Associate Director of Drug Safety at the FDA, had conducted a study that showed the dangers connected to the drug. But when he warned of those risks, his senior managers within FDA tried to discredit and silence him, essentially protecting Merck (Wilson 2016). As the company's legal liability grew – it ended up facing almost 30,000 lawsuits over the concealment of the adverse effects of the drug (McGoey 2009) – two federal investigations were conducted to find out whether Merck had violated criminal laws (see PBS 2004), and the FDA's failure to prevent numerous cases of cardiovascular problems was denounced by Graham's Senate testimony in 2004.⁴ Graham released an interview to the *NOW on PBS* TV program, which aired in January 2005⁵, where he answered host David Brancaccio's questions on his experience as an FDA whistleblower.

⁴ A transcript of the testimony is available at <https://www.finance.senate.gov/imo/media/doc/111804dgttest.pdf> (27.09.2021).

⁵ Although the video of the interview is not available online, a transcript of it was retrieved at https://web.archive.org/web/20160304210442/https://www.pbs.org/now/transcript/transcriptNOW101_full.html (27.09.2021). Moreover, short clips of the interview, broadcast within a subsequent *Now on PBS* report, can be seen as part of a video uploaded on YouTube – see <https://www.youtube.com/watch?v=YdVAglcQcLI> (27.09.2021).

In comparing discursive features characterising this interview (henceforth the Vioxx interview) to those found in *Plandemic*, neither the truthfulness of Graham's claims – supported by scientific evidence and US federal investigations – nor the groundlessness of Mikovits' claims – exposed by various debunking efforts (e.g., Enserink, Cohen 2020) are being questioned. Instead, the two interviews are considered and analysed as representations of the public health-related controversies they are part of. Against this backdrop, the following research questions were formulated:

- RQ1: how are the people identified as whistleblowers and their claims discursively constructed in the two interviews?
- RQ2: what similarities – if any – and differences – if any – can be identified between the above-described discursive practices in the two interviews?

In the following section, an overview of the background supporting the present analysis is provided, and the concepts and methods underlying it are outlined in Section 3. Section 4 features the results of the analysis, discussed in Section 5 to provide some preliminary answers to the RQs above; further research questions arising from the discussion are also suggested.

2. Background for the analysis

This study explores possible analogies and differences between the reporting of scientific misconduct and the communication of public health CTs, as they appear in popular media products. For the purposes of the study, this subject matter can be situated at the intersection of multiple themes and phenomena.

One is the public communication of controversial scientific knowledge, when a conflict is created or perceived between actors involved in the production and reception of this knowledge. In the case of Vioxx, the scientific knowledge produced about it by its manufacturer Merck was made to certify that the drug was safe, and this was further sanctioned by the FDA. Graham and his studies challenged that established knowledge, and were in turn criticised and discredited, until Graham's results, ultimately validated, emerged in the public sphere as well as in federal investigations. This prompted doubts about the scientific conduct and reliability of Merck as well as of the FDA. In *Plandemic*, Mikovits challenged established scientific knowledge regarding a series of medical science issues, including AIDS treatment, COVID-19 treatment and vaccine production. Her message spread virally online, possibly eliciting suspicion and utter distrust in public health institutions and personalities. In both cases, concern is raised over the reliability and authority of long-standing scientific institutions, and the whistleblower is shown questioning that authority through their own

expertise and knowledge. As disputes over controversial scientific knowledge unfold it is not only scientific concerns which are at stake; economic and political interests are also implicated. In this sense, both Graham's and Mikovits's claims and stances, along with the self-image they promote, are, at least in part, political.

The fact that their interviews are published as a TV product and web video respectively, both aimed at lay audiences, calls for the acknowledgement of an important phenomenon which often affects the public communication of controversial scientific knowledge, namely science mediatisation. Mediatisation entails the adoption of strategies to attract the audience's attention, and may allow communicators to advocate their views in ways that would not be possible in specialised communication, especially during highly politicised debates (Konkes 2021, p. 476). For example, they may use multimedia content that is more evocative and entertaining rather than suitable to visualise technical data in an accurate way; or they may be able to express ideas or provide information about their work before it undergoes peer review.

Another element worth considering in relation to these debates, where conspiracist attitudes can flourish, are the communicative features of CTs. In their extensive literature review on CTs, Douglas *et al.* (2019, pp. 13-17) point out that these theories may represent a coping strategy for some groups during important, potentially threatening events, which favours CT communication and circulation. As for conspiracist communication itself, the authors found it to be characterised by a mostly negative sentiment and an extreme polarisation – which also emerges when CT supporters and opponents interact. Basically, conspiracist communication is mostly focused on arguing against those regarded as conspirators than on proposing solutions to the issues addressed. Douglas *et al.*'s review suggests that communication within conspiracist communities is more civil but not necessarily rational. At the same time, CT promoters “are careful to appear rational and open minded” (Douglas *et al.* 2019, p. 16), and their voice can be perceived as more authoritative, confident and manipulative than that of CT opponents.

Most of the above-mentioned research on CT communication attempted at identifying features of conspiracist messages by means of comparisons with anti-conspiracist ones – two opposed views which seem impossible to reconcile. Given how polarised conspiracy-related topics are, it might thus be argued that opposite factions respond to opposite notions of knowledge and knowledge production. Hence the idea, also relevant to the present study, that conspiracism exists as part of a particular type of knowledge that challenges official accounts and is generally stigmatised, despite having become increasingly mainstream in recent years (Barkun 2016), as also shown by *Plandemic*'s success. Lakoff (2015) wrote about a subset of this counter-knowledge, namely that kind developed by parents who

refuse to vaccinate their children. He did not describe this knowledge as an utter, irrational rejection of science, but rather as a multiplication of sources of authority besides traditional scientific institutions, whereby traditional knowledge gatekeepers disappear. Lakoff attributed the emergence of this counter-knowledge to the relatively recent acknowledgement of the threats posed by the very same scientific and technological innovation that was supposed to solely improve human life standards, but sometimes does the opposite. This can lead to distrust in official experts' authority, capacity – and I would add willingness – to manage those threats. This distrust clearly emerges both in Graham's and in Mikovits' messages (see Section 4). Indeed, Lakoff's account problematizes the distinction between scientific discourses and conspiracist counter-discourses, which is also a major concern in this study.

Whistleblowing is another key theme in both the episodes analysed in this study, and is closely linked to distrust in scientific institutions. The concept of whistleblowing began to emerge in the 1970s and has received attention in various scholarly fields, including law, management, public administration, sociology, psychology and health sciences (Gagnon, Perron 2019, p. 1). Ash (2016, p. 29) defined whistleblowing in health and social care as “acts of speaking out to raise concerns about the standard, legality and probity of practice in health and social care, [...] whether these matters are raised inside or outside the organization.” Gagnon and Perron (2019, p. 1) claimed that whistleblowing is “a challenge to the authority structure of the [target] organization, but it is not deviance per se”; they point out that whistleblowing “usually provides valuable information to improve organizational effectiveness and public safety” (Gagnon, Perron 2019, p. 1). Indeed, whistleblowers enjoy legal protection in a number of countries, including the US.⁶ In the public sphere and through the media, they can be perceived as heroic figures, standing out from the crowd to defend good causes against powerful oppressors, although they often experience life-long damage to their professional and personal lives, often being discredited and suffering profound isolation especially before their claims prove to be true (Ash 2016, pp. 11-13). This compelling narrative of heroism appears in both Graham's and Mikovits's (self-)representations. In this sense, this study is not so much an assessment of how different science-based discourse against scientific misconduct and CT-based discourse are, as it is an attempt to juxtapose the two. By comparing them, it seeks to problematise the boundaries between them, highlighting similarities and overlaps – which seem to have been so far overlooked – as well as differences. This comparison aims at showing how a story of actual wrongdoing in the US public health system may have discursive features that are taken up by public

⁶ See <https://oig.justice.gov/hotline/whistleblower-protection> (28.09.2021).

health CT supporters to reinforce their views. It is indeed argued here that conspiracist claims might draw part of their appeal and communicative success from the existence and public representation of acknowledged cases of misconduct; developing an understanding of the possible connections between the discourses under examination might thus foster our awareness of such phenomena and provide a starting point to develop tools to address the spread of false information about science and public health.

3. Methodology

In approaching these two case studies from a discourse analytical perspective, it is important to note that independently of how reliable or well-founded a message is, the language used in it can never be considered completely objective nor neutral. Rather, it is the result of linguistic choices which necessarily select some aspects of reality and understate others (Stubbs 1998). In fact, any communicative event – including the communication of scientific information – needs to be regarded as a social practice which takes place in a specific social context: it thus becomes “a tool for social action” (Bhatia *et al.* 2008, p. 1) and therefore plays a role in people’s way to understand and act within the world. With the aid of their hosts and external excerpts shown during the interviews, both Graham and Mikovits use language to cast themselves and their claims as trustworthy, coming from expertise, authority, and the willingness to speak the truth and protect public health against powerful corrupted organisations, accused of neglecting and damaging people’s health without scruple.

More specifically, in *Plandemic* Mikovits accuses Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases (NIAID), together with other high profile public health officials and their institutions, of colluding with the drug industry to prevent the research on and spread of effective treatments for various diseases, including AIDS and COVID-19, to profit from patents for their own treatments. She moreover claims that people have been deceived on the origins and nature of the pandemic by the US government. In contrast, the *PBS Now* interview with Graham starts after a short introduction by the host and brief excerpts featuring other people involved in the scandal; according to the transcript, external clips featuring Brancaccio or other speakers adding details to the story are interposed between different parts of the interview. During the interview, Graham talks about his study on Vioxx and the damage caused by the drug to the health and life of many people; he describes the attempts by the FDA to prevent him from making his results public and elaborates on his status as a whistleblower; he also claims that the FDA sees the drug industry, rather than

US citizens, as their “client”, whereby drug safety is systematically overlooked in favour of quick drug approval.

Both speakers defend themselves and promote their own set of beliefs in a politicised, high-stake conflict within a mediated context. An ideological component can therefore be identified, especially concerning the ideas the two interviewees articulate about the way some US public institutions operate. Consequently, the language used in the two interviews was used not only to inform, but also to persuade and – in some cases – manipulate recipients.

Considering these aspects, van Dijk’s account of how language structures can serve as a tool to promote ideology (van Dijk 2003) seemed to provide a suitable starting point for the analysis. Van Dijk defined ideology as a system of fundamental beliefs held by a social group and its members, which they use to give meaning to the world and as the basis of their social practices; ideologies affect people’s use of language, and at the same time language use affects how people learn and modify ideologies (van Dijk 2003, pp. 14 -17). As they affect and are affected by ideologies, linguistic structures and choices can reflect a speaker/writer’s intention to influence – and sometimes bias – people’s understanding of an event, an action or a piece of communication. According to van Dijk, this happens at a cognitive level, when the speaker/writer targets recipients’ mental models – individual schematic structures that form the basis for people’s interpretation of reality – and makes them more coherent with certain interests and values. If this process is repeated, systematised and wide-ranging, as can happen in mass media online and offline environments, then what is affected is not simply personal mental models, but social representations – that is, stable, general and socially shared beliefs such as knowledge, attitudes, ideologies, norms and values (van Dijk 2006). According to van Dijk, attempting to influence someone’s understanding of reality may take the form of persuasion, when interlocutors are free to accept or not the persuader’s arguments. However, when interlocutors are unable to understand – typically because they lack the necessary knowledge – the real intentions and beliefs held by the speaker/writer, who acts upon them and against their interest to promote his/her own interests, then manipulation, rather than persuasion, is taking place (van Dijk 2006). The boundary between persuasion and manipulation is fuzzy and context-dependent. Accordingly, the two can be carried out through similar discursive strategies, with extremely different outcomes. While persuasion is undoubtedly present in both the Vioxx interview and *Plandemic*, Mikovits made various misleading claims exploiting her authoritative position as a member of the scientific community. These claims are likely to have skewed some viewers’ interpretation of the pandemic in a way that may make Mikovits appear as a heroine, but did not certainly aid

public health, especially amid the pandemic. I therefore argue that manipulation is more clearly at play in *Plandemic*.

Van Dijk (2003) describes various linguistic features that tend to be used to convey ideological messages. These operate at different levels – e.g., meaning, clause structure, sentence structure, text structure, and rhetoric strategies. Accordingly, an analysis of and comparison between the transcripts⁷ of the two interviews was performed by considering these features. The transcript of *Plandemic* includes 4,036 words; the transcript of the Vioxx interview consists of 3,539 words including speaker names introducing turns. Both full texts were manually scanned for each of the features considered (see list below), which were identified, classified and described, and subsequently compared across the interviews. Due to space limitations, the results described below cover a selection of potentially ideological linguistic features which includes:

- A polarising opposition between “us” (which groups the speaker and the people who support their ideology) and “them” (those who oppose the speaker’s ideology).
- Consequently, an ideological square, whereby the positive aspects of the “us” group and the negative aspects of the “them” group are emphasised, while the negative aspects of “us” and the positive aspects of “them” are de-emphasised.
- The lexical choices made by the speakers (e.g., whether a recurring reference to specific semantic fields, such as murder, money or corruption, was observed).
- The presence of recurring themes, possibly relying on prominent lexical choices (see above) (e.g., the idea that the drug industry and/or public health institutions prioritise profit over public safety).
- The way social actors involved in the stories are mentioned and represented. To explore this aspect, van Leeuwen’s system to describe the representation of social actors (van Leeuwen 1996) was used as a reference. This system provides a sociosemantic inventory of a set of possible choices speakers of English can make to refer to people. It incorporates sociological and critical aspects – for instance, how personal/impersonal or how generic/specific the reference is – as a starting point, to then explain the ways in which choices are realised linguistically – by assessing, for instance, whether an indefinite pronoun, a proper noun or a professional title are used. One of the aspects addressed by van Leeuwen is the role social actors are given – namely,

⁷ While the Vioxx interview transcript was retrieved online (see Footnote 5), the *Plandemic* transcript was obtained through a speech recognition and transcription software called Dragon Professional and then manually revised.

“who is represented as ‘agent’ (‘Actor’), who as ‘patient’ (‘Goal’) with respect to a given action?” (van Leeuwen 1996: 43). In articulating this point, the analysis also draws upon Systemic Functional Linguistics (Halliday, Mathiessen 2004) by referring to its participant roles, since they offer a comprehensive and detailed set of categories which I found could be effectively combined with social actor representation categories.

- The way sentences and concepts are made coherent and connected through more or less logical links (e.g., the use of conjunctions such as *so*, *if*, *because* to express cause-consequence links; or the juxtaposition of statements to implicitly suggest some kind of logical connection).
- The way speakers provide evidence to support their claims (for instance, by quoting relevant documentation, by showing clips external to the interview, or by relying on the speaker’s authority).
- The use of ambiguous and/or vague language (e.g., generic quantification through words such as *many*, *thousands* or *millions* rather than providing a specific number; reference to people whose identity or specific responsibility is not spelled out; or the omission of agents when passive verbs are used).

These items do not represent completely separate categories but rather interconnected ones, as reflected by the results detailed below.

4. Results

4.1. *Polarising categorisation and characterisation of actors involved*

A basic distinction is created in both interviews between Graham/Mikovits, portrayed as positive/good, and those whom they denounce as wrongdoers, and who (allegedly, in the case of *Plandemic*) tried to silence them, portrayed as negative/bad. In the Vioxx case, wrongdoers are mainly FDA officials and members of Merck; in *Plandemic*, they include a wider network of US public health institutions – mainly the NIAID – and some of their high-profile officials and researchers – in particular Anthony Fauci. While conflicts and significant differences between whistleblowers and wrongdoers do exist in both cases, they nonetheless appear to have been cast in a somewhat simplified and polarising way, and thus portrayed as stable, without accounting for complexity nor ambiguousness in their behaviour. Occasionally during the interviews, the whistleblower’s positive categorisation extends to people who were damaged by the wrongdoers or agree with and/or support the whistleblowers, including the audience, who is invited to sympathise with them. This type of grouping is comparable to an

“us vs them” dynamic, in line with the above-mentioned ideological square: “us” is represented by whistleblowers and their supporters and “them” stands for the wrongdoers. In the examples below, the use of pronouns emphasises this contrast.

- (1) CAROLINE NEVELS [mother of a woman who died from Vioxx side effects]: All Merck cared about was what they were making. They made billions of dollars off of Vioxx. And billions of dollars would never bring my daughter back. They got money for that. And I lost my daughter. (*Now on PBS*)
- (2) GRAHAM: [...] So I was putting them in a bad position by saying that something more needed to be done. (*Now on PBS*)
- (3) MIKOVITS: Uhm, for, for five years if I went on social media, if I said anything at all, they would find new evidence, and, and put me back in jail. (*Plandemic*)

4.1.1. Representations of whistleblowers

In the Vioxx story, Graham is introduced by the host of the program as “the whistleblower at the Food and Drug Administration with a civics lesson from hell”. This defines Graham’s heroic and virtuous character since the beginning of the interview, and projects a teacher’s role onto him, so that the audience can expect not only to be informed by him, but also to learn from him about shady (“from hell”) details over those he blames. Later in the introductory part of the interview, Graham’s professional identity is revealed with some detail:

- (4) BRANCACCIO: [...] Doctor David Graham has been working at the FDA for 20 years. He's a senior official in the FDA's Office of Drug Safety [...]. (*Now on PBS*)

His full name and title are provided, and his long experience at FDA (“20 years”, “senior official”) is mentioned to signify authority as a high-profile scientist. Throughout the interview, he is generally referred to as “Graham”, a formalising reference (i.e., consisting of surname-only, van Leeuwen 1996, p. 53) that conveys a respectful and detached attitude towards him. From a systemic functional perspective, Graham is attributed active Actor, Sayer and Senser participant roles (Halliday, Mathiessen 2004, p. 260) in several clauses, being the subject of predicates such as “was finishing up his own Vioxx study”, “told his managers” and “wanted to tell the world”. This underlines his agency as a critically-thinking individual with specific competences and the courage to voice his concerns. In other cases, he is passivised (van Leeuwen 1996, p. 44) by being attributed Goal participant roles (Halliday, Mathiessen 2004, p. 180) as the FDA, it is said, “went after

him”, or “warned him” in response to his objections to Vioxx safety. Passivation is also applied to Graham’s claims (e.g., his “presentation” and “concerns” in Example 5): this, together with the remark, later in the interview, that Graham “began fearing for his job”, emphasises the professional, rather than personal, aspect of the whole story.

- (5) BRANCACCIO: Graham's bosses tried to tone down his presentation. Internal FDA e-mails, obtained by *NOW*, called Graham's concerns, "unnecessary," and, "particularly problematic," and warned him about his study's, "strong language." (*Now on PBS*)

Mikovits is generally referred to as “Dr Mikovits”; the repeated inclusion of the professional title together with the formal reference enhances Mikovits’ status as a scientist, thus contributing – even more than in the Vioxx interview – to the construction of her authority. The opening of *Plandemic* places great emphasis on her professional achievements:

- (6) WILLIS: Dr. Judy Mikovits has been called one of the most accomplished scientists of her generation. Her 1991 doctoral [sic] thesis revolutionized the treatment of HIV-AIDS. At the height of her career, Dr. Mikovits published a blockbuster article in the journal *Science*. (*Plandemic*)

The agent-less passive verb “has been called” makes the ensuing characterisation appear more objective and impersonal, although also vague, since it does not specify its source. The superlative “one of the most accomplished”, the verb “revolutionise”, and the expressions “at the height of her career” and “blockbuster article” all create an image of unquestioned academic excellence and success – a much more markedly positive depiction than Graham’s. On the one hand, she appears as the Actor or Sayer in structures like “you made a discovery”, “you sit here [in this interview]”, “you are naming names”, framing her as a strong, fearless, heroic figure. On the other hand, she appears in passivising Goal roles such as “you were arrested”, “you were put under a gag order”, “I was held in jail” and “their attempt to silence you”. It can be observed that these processes overall refer to more extreme intimidations than in Graham’s case; these are furthermore directed at Mikovits as a person rather than a scientist. This can also be observed when Willis utters (7) while introducing Mikovits; he then tells Mikovits that “they did everything in their powers to destroy your life” and asks (8).

- (7) WILLIS: For exposing their deadly secrets, the minions of big Pharma waged war on Dr. Mikovits, destroying her good name, career and personal life. (*Plandemic*)

- (8) WILLIS: [...] I have to ask, how do you sit here with the confidence to call out these great forces and not fear for your life [...]? (*Plandemic*)

Again, these strong remarks concern Mikovits as a person more than her scientific contributions, and may sound like an extreme version of those made about Graham's situation.

4.1.2. Representations of Wrongdoers

Reference to the wrongdoers is overall less specific in the Vioxx case than in *Plandemic*. Apart from the appearance of Merck chairman Raymond Gilmartin, shown before the interview announcing the withdrawal of Vioxx in a press release, no other Merck nor FDA representative is directly mentioned. Proper names are never used for these people, and the plural is preferred, so that people in FDA who opposed Graham's work are generally called "managers" or "FDA officials". As with Graham's representations, these lexical choices reflect their professional activity rather than any personal trait. On one occasion (9), nominalisation ("reaction", "rejection", "criticism") is combined by Graham with objectivation, the metonymic representation of an actor by means of an object (van Leeuwen 1996, p. 59) – in this case the actor's utterances ("response") and activity ("management"). He uses this combination to describe how his managers at FDA responded to his willingness to share information on the dangers of Vioxx.

- (9) GRAHAM: The response of management was just one of negative reaction. And rejection. And criticism. (*Now on PBS*)

Furthermore, collectivising references (van Leeuwen 1996, p. 49) were often used, framing the FDA and Merck as homogeneous entities, as in "FDA" or "agency" and "Merck", "company" or "drug maker" respectively. These entities are mostly activated through the attribution of Actor roles in various processes, as in (10) and (11).

- (10) BRANCACCIO: [...] the company [Merck] introduced Vioxx with great fanfare, hailing it as one of a new generation of remarkably safe and powerful painkillers. (*Now on PBS*)
 (11) BRANCACCIO: [...] the FDA continued to refuse to release the full text of his study. But the agency did share it with Merck [...]. (*Now on PBS*)

Overall, these types of reference and transitivity structures allowed Graham and other speakers in the interview to avoid directly mentioning personal responsibilities, as well as to stress the idea that the problems exposed characterise the entire drug market, approval and safety systems, whose organisations are directly responsible through their deliberate actions.

Likewise, *Plandemic* contains some collectivising references referring to wrongdoers. Abstraction, i.e., the representation of an actor by means of reference to a quality (van Leeuwen 1996, p. 59), also appears, as in (8) with “these great forces” and (12), with “propaganda”. This allows the speaker to be less specific about the identity of the wrongdoers while conveying a powerful message about their homogeneity and their negative qualities, in line with the ideological square.

- (12) MIKOVITS: It’s beyond comprehension how a society can be so fooled that the types of propaganda continue to where they’re just driving us to hate each other. (*Plandemic*)

However, *Plandemic* also contains individualised and nominated (van Leeuwen 1996, p. 52) reference to some wrongdoers, identified with their proper name. This is particularly frequent with Anthony Fauci, at the centre of Mikovits’ allegations. He is nominated and semi-formalised – (with both first name and surname, cf. van Leeuwen 1996, p. 53) when first introduced by Willis in (13).

- (13) WILLIS: Anthony Fauci [...] the man who is heading the pandemic task force was involved in a cover-up.” (*Plandemic*)

There is no reference to Fauci’s professional background – no professional title is uttered before his name and he is referred to as “the man”, rather than “the scientist” or similar functionalising options (van Leeuwen 1996, p. 54), which would draw attention to his scientific/institutional activity. This semi-formalised de-titulated reference is maintained by both Willis and Mikovits throughout the interview, as opposed to the formal titulation used for Mikovits (See Section 4.1.1). As in the Vioxx interview, wrongdoers are mostly attributed Actor roles, which underlines their direct responsibility in misconduct. On more than one occasion, Mikovits builds associations of actors, grouping them as if they acted together, but mentioning them separately, as in (14) and (15).

- (14) MIKOVITS: Heads of our entire HHS colluded and destroyed my reputation and the Department of Justice and the FBI sat on it. (*Plandemic*)
- (15) MIKOVITS: [...] that virus was spread through, because of the arrogance of a group of people, and it includes Robert Redfield, who is now the head of CDC, right along with Tony Fauci [...]. (*Plandemic*)

Plandemic is thus characterised by a mixture of specific and vague references to wrongdoers, represented as colluding in various ways. The variety of actors and collaborations mentioned is much wider here than in the Vioxx interview.

Some lexical choices made to represent wrongdoers are similar between the Vioxx interview and *Plandemic*. One of these choices relies on the fact that wrongdoers are deemed responsible for the death of large numbers of people (although no individual member of this category directly committed any murder). Consequently, the semantic fields of death and murder are used to express their culpability. For instance, the adjective “deadly” is used in reference to the consequence of wrongdoers’ actions (16) by Brancaccio and to wrongdoers’ “secrets” (7) by Willis.

- (16) BRANCACCIO: When government regulators cozy up to the industries they regulate, the results can be deadly. (*Now on PBS*)

Likewise, “guaranteed homicide”, uttered by Graham in (17), is in a way mirrored by the recurring allegation Mikovits makes in utterances like (18) and (19).

- (17) GRAHAM: It's guaranteed homicide, because you're going to hurt thousands, tens of thousands, of people. It's a mathematical certitude. (*Now on PBS*)
- (18) MIKOVITS: What he [Fauci]’s saying is absolute propaganda, and the same kind of propaganda that he's perpetrated to kill millions since 1984. (*Plandemic*)
- (19) MIKOVITS: And they’ll kill millions, as they already have with their vaccines. There is no vaccine currently on the schedule for any RNA virus that works. (*Plandemic*)

As observed elsewhere in the analysis, linguistic choices in *Plandemic* appear amplified and less specific than in the Vioxx interview, as shown in this case by the difference in the number of victims, larger and vague in *Plandemic*. Moreover, although strong expressions are used by both Graham and Mikovits, the former does not directly attribute “homicide” to wrongdoers, while the latter directly assigns the Actor’s role to the wrongdoers.

Another lexical domain associated with wrongdoers in both interviews is that of moral failure and unethical behaviour, whereby whistleblowers and, occasionally, other actors aligned with them, take on the role of moral judges. (20) and (21) exemplify how this judgement is carried out in the Vioxx interview, with “cynical and untruthful” in (21) bearing some resemblance to Mikovits’s “arrogance” in (15).

- (20) BRANCACCIO: [...] an insider says the FDA has formed an unholy alliance with the very industry it's supposed to regulate. (*Now on PBS*)
- (21) GRAHAM: It [adding precautionary language on serious side effects to the Vioxx package insert] had zero impact. So every time FDA says ‘we have managed the risk of a drug by labeling, by instituting a labeling change’, FDA is being, I think, in my view, cynical and untruthful with the American people. (*Now on PBS*)

In a key point in the interview, shown in (22), Graham recalls an anecdote to juxtapose his own work ethics with his manager's mentality, thus supporting the ideological square and emphasising the moral distance between him and the wrongdoers.

- (22) GRAHAM: A former manager of mine from the Office of Drug Safety told me that industry was our client. And when I said to him, 'No, the public is my client,' he said I was wrong and it was industry. And my response back to him was, 'Industry may be your client but it will never be my client.' (*Now on PBS*)

The theme of moral failure is tightly connected to that of corruption and greediness, particularly because in both stories wrongdoers are said to make big profits from their misconduct. Merck's strong marketing campaign and its earnings from Vioxx sales are mentioned in the initial part of the interview segment. For instance, (23) combines specific reference to the sums of money involved with the use of "blockbuster", at the same time a specific drug market term and a recognisable informal word indicating success in the book or film industry. Additionally, a metaphorical definition of "blockbuster drug", namely "a cash cow", is provided, clearly pointing to economic interests. Statements like (23) thus contribute to constructing the company as a greedy actor with no interest in patients' safety.

- (23) BRANCACCIO: "Drug maker Merck was spending over \$100 million a year marketing Vioxx, hoping to make it what's known in the trade as a "blockbuster drug"-in other words, a cash cow. [...] Those efforts paid off. It wasn't long before Vioxx became one of the most widely prescribed drugs in the world, ringing up 2 ½ billion dollars a year in sales." (*Now on PBS*)

Similarly, in *Plandemic*, Fauci and other actors are accused of profiting from their misconduct. In (24), for example, the adverbial "big time" is repeated twice in combination with the noun phrase "millions of dollars", reiterating the idea of a wide-ranging, massive conspiracy that involves large sums of money. As opposed to the Vioxx case, no specific estimate is provided, and the circumstances of these fundings are also vague. Rather, a generic "everybody else" and "the investigators that committed the fraud" are said to have received and still receive funds indefinitely.

- (24) MIKOVITS: "He [Anthony Fauci] directed the cover-up, and in fact everybody else was paid off, and paid off big time, millions of dollars in funding from Tony Fauci, Tony Fauci's organization, National Institute of Allergy and Infectious Disease. These investigators that committed

the fraud continued to this day to be paid big time by the NIAID.”
(*Plandemic*)

One more theme appearing in both stories and relating to the wrongdoers’ side of the ideological square consists in remarks about current legislation which is deemed by the whistleblower to both prove the existence of and contribute to wrongdoers’ corruption. (25) shows how these remarks appear in the Vioxx interview, with Brancaccio introducing the Act in question, followed by Graham’s interpretation of it.

- (25) BRANCACCIO: “[...] the "Prescription Drug User Fee Act." The law was passed in response to industry complaints that the FDA wasn't approving drugs fast enough. Part of the deal? The drug companies agreed to start paying the FDA to speed up the approval process.
GRAHAM: It worsened a culture within FDA that was already bad to start with, that said, ‘We will approve drugs, and we will approve them quickly and we won't pay attention to safety.’ (*Now on PBS*)

In *Plandemic*, Mikovits calls for the repeal of the 1980 Bayh-Dole Act, which “provided blanket permission for performers of federally funded research to file for patents on the results of such research and to grant licenses for these patents, including exclusive licenses, to other parties” (Mowery *et al.* 2001, p. 102). In the interview, Bayh-Dole is said to have “destroyed science” and favoured conflicts of interest. This is overall a hyperbolic statement, especially when compared to (25). At the same time, Mikovits’ appeal and (25) may fulfil a similar function in attributing to existing legislation, and thus indirectly to those who approved it, a key role in the process of systemic corruption at the centre of their story.

4.2. Coherence and argumentation

The way the two interviews seem to construct the effectiveness and appeal of the message they deliver does not only involve the polarisation of actors and the themes associated with them; the arrangement of sentences, the connections established between them and the way they are constructed as believable and true also play a role.

The Vioxx interview is overall coherent: the story is built as a linear sequence of events, where causes and consequences are generally made clear to the audience through the use of items such as conjunctions. For instance, the exchange in (26) features several connected events with a subsequent explanation of the underlying logic provided by Brancaccio and Graham together. The use of conjunctions such as “so”, “but”, “if”, “then” and specifications such as “that would be the goal” guides the audience in their interpretation of the events. Moreover, Graham reproduces his own version of FDA officials’ line of reasoning through direct speech at the end of (26),

as he does elsewhere in the interview. This strategy allows him to effectively convey his message by actively constructing wrongdoers in a way that, although possibly simplistic, is unequivocally in line with the ideological square.

(26) BRANCACCIO: Graham began fearing for his job. So he got a lawyer through a whistleblower protection group called the Government Accountability Project. But that didn't stop the FDA. Soon his lawyer was getting calls from anonymous FDA officials warning that Graham wasn't to be trusted.

GRAHAM: My understanding is that they were representing themselves as whistleblowers to blow the whistle on me as a whistleblower.

BRANCACCIO: So the whistleblower protection people maybe might not help you or something. That would be the goal.

GRAHAM: If we can knock the Government Accountability Project out so that he doesn't have a lawyer, well, good, then we're going to be able to fire him as quickly and as easily as we want. (*Now on PBS*)

In few cases, Graham's replies are strategically not fully coherent with Brancaccio's questions. In (27), for instance, the host points out a common complaint over the FDA's *modus operandi*. Graham seems at first to confirm Brancaccio's observation ("Right"), but instead of saying whether the complaint is in fact justified, he simply re-states Brancaccio's message ("that is a complaint"). He then proceeds to give his own explanation about the origin of that complaint, which reframes it as expressing the drug industry's interest. This reframing makes the complaint irrelevant to public health and strengthens Graham's position. However, Brancaccio insists: he makes his original interpretation of the complaint more specific by mentioning its possible consequences for cancer patients, and asks his question explicitly ("It's not true though?"). Once more, Graham reformulates the whole scenario ("let's put it this way"): he avoids directly addressing Brancaccio's example and question, placing the focus on a different problem, which supports his concerns over the FDA.

(27) BRANCACCIO: [...] I read articles that say that the FDA is slow in approving drugs, that the big problem that you all have over there is bureaucratic foot dragging, keeping important new treatments away from people who need it desperately.

GRAHAM: Right, that is a complaint. I think where that complaint originates from is probably from the pharmaceutical industry.

BRANCACCIO: It's not true though? Even cases of drugs that might be necessary to help someone's cancer from progressing?

GRAHAM: Well, let's put it this way. If you look at most of the drugs that get approved on the marketplace, most of them aren't offering a true therapeutic advance. (*Now on PBS*)

On the whole, *Plandemic* approaches coherence in a very different way from the Vioxx interview: its amplified, emphatic claims and the multiplicity of plots allegedly exposed set a clearly polarised scene, where it is easy to distinguish between good and evil actors. However, the basis upon which such distinction relies are less clear: *Plandemic*'s accounts are articulated with little argumentation and coherence; some key logical links, definitions and explanations are omitted, which means it is up to the audience to work them out. (28), uttered by Mikovits in response to the question reported in (8) above, clearly conveys a sense of urgency through simple cause-effect links expressed by “because” and a conditional sentence, where the effects expressed in the main clause build up to an all-encompassing, apocalyptic scenario (“we can forget humanity”).

- (28) MIKOVITS: because if we don't stop this now, we cannot only forget our Republic and our freedom, but we can forget humanity, because we'll be killed by this agenda. (*Plandemic*)

However, such far-reaching assertions are not discursively substantiated: in the interview, Mikovits never establishes a connection between what she reports and the US republic; nor she indicates which type of freedom and whose freedom is at stake, nor addresses how “humanity” as a whole may be at risk and killed. The use of the semantic domain of murder combined with the inclusive use of “we” in a Goal participant role in (28) is never elaborated on; the noun “agenda” is vague, as are Mikovits's further explanations of it within the interview. Thus, the audience is potentially left with a strong sense of threat and little information on where exactly that threat comes from. (30) features the story at the basis of one of Mikovits's accusations against Fauci. Considering the overall unfolding of the story, Mikovits' claim that Fauci and Gallo despotically pursued their own interests emerges clearly. However, whether the episode really took place or not, incoherence can be observed if Mikovits's account is examined in more detail. The adversative “but”, connecting the beginning of the story with “Tony Fauci and Robert Gallo were working together...”, does not really reveal much of Fauci and Gallo's goals and how they diverged from the study Mikovits took part in. Moreover, it is not explained what a “confirmatory” study is, nor what that study was supposed to confirm. Therefore, the audience is not made aware of what “all the credit” obtained by Gallo is about. Most interestingly, the clause “and of course patents are involved” is vague enough to strongly associate the theme of greediness to Fauci and Gallo, framing it as obvious (“of course”), without revealing any information about which patents were involved.

- (29) MIKOVITS: [...] I was part of the team that isolated HIV from the saliva and blood of the patients from France, where Luc Montagnier had originally isolated the virus. [...] This was a confirmatory study, but

Tony Fauci and Robert Gallo were working together then to spin the story in a different way. At that time Dr. Ruscetti was out of town and Tony Fauci says, uhm, you know, 'we understand that you have a paper in press and we want a copy of it' and I said 'yes, there is a paper in press and it's confidential, and no I will not give you a copy of it' and he started screaming at me. Then he said 'give us the paper right now or, or you'll be fired for insubordination' and I just said 'I'm sure when Dr. Ruscetti gets back you can have a conversation' and so Frank comes back, you know, several weeks later and is really bullied into giving Fauci the paper. Fauci holds up the publication of the paper for several months while Robert Gallo writes his own paper and takes all the credit, and of course patents are involved. This delay of the confirmation, you know literally lead to spreading the virus around, you know, killing millions.

4.3. Evidence

Evidence for the claims made in the Vioxx interview often appears to be based in official and/or solid data: for example, Brancaccio gives specific information on Merck's spending and earnings concerning Vioxx (see Example 23); Merck's internal documentation is cited to show that the company was aware of the risks connected to Vioxx well before it was withdrawn; internal FDA emails dismissing Graham's concerns are mentioned (30) and quoted (see Example 5). In some cases, Graham uses direct speech to recall words he was told by FDA managers (31).

- (30) GRAHAM: [...] it [the FDA's negative reaction] was present in the e-mails and everything else I received [...]. (*Now on PBS*)
- (31) GRAHAM: [...] a week before Vioxx came off the market, senior managers within FDA were saying to me, "Why on earth did you study Vioxx and heart attack anyway?" (*Now on PBS*)

At one point, shown in (32), Brancaccio introduces a survey suggesting that a number of other scientists – like Graham – have concerns over FDA policies. This represents another piece of evidence in favour of Graham's credibility. External clips featuring other speakers interposed between different parts of the interview are also shown as supporting evidence (see Example 1).

- (32) BRANCACCIO: [...] he [Graham] sure has a lot of support. This is a survey recently released by the Department of Health and Human Services [...]. It found 2/3's of FDA scientists have concerns about the agency's efforts to monitor the safety of drugs once they're on the market.

External clips are also found in *Plandemic* as supporting evidence for Mikovits's claims. Some of them are recognisable as excerpts from press

conferences held by the White House on COVID-19 during the pandemic, or as speeches given by Fauci on other official occasions; some seem to come from TV news reports; some possibly come from the web, and mostly show people presenting themselves as medical staff. However, whereas information on the sources used and the people appearing in external clips is found in the Vioxx interview, it is never provided in *Plandemic*. Therefore, although its conspiracist message is confirmed in its external clips, recipients cannot access any further information on their context and reliability. As in the Vioxx interview, moreover, reference is made to other medical professionals who share Mikovits's views – specifically, on COVID-19. In (33) and (34), Mikovits and Willis speak as direct witnesses of this; the reliability of their claims ultimately depends on how much viewers trust them, since they do not provide any way to verify these statements nor the external clips supporting them.

- (33) MIKOVITS: So if you're not testing and you don't have evidence of infection, and if you walked in there today, you know, they'd call it COVID-19, and, and we hear this from the doctors and nurses who are upset. (*Plandemic*)
- (34) WILLIS: I've seen so many doctors online that have made their own webcam videos, just perplexed by the protocol that the CDC had given them. (*Plandemic*)

(35) shows the only instance when Mikovits refers to a published scientific paper (whose front page, title and author appear on screen), using it as evidence that influenza vaccines favour COVID-19 infections, although any such effect was excluded by the author of the paper (Wolff 2020).

- (35) MIKOVITS: A publication last year with the military who had been vaccinated with influenza were more susceptible to coronaviruses. Coronaviruses are in every animal. So if you've ever had a flu vaccine, you were injected with coronaviruses.

Lack of cohesion as well as coherence can be observed in the absence of clear logical and referential links between the three sentences in (35), which are nonetheless uttered as if the third one was a natural conclusion of the previous ones. Firstly, the presence of coronaviruses in flu vaccines, mentioned in the third sentence is not explained by the previous ones, despite the use of the conjunction “so”; secondly, the relevance of animals and their coronaviruses to flu vaccination is not indicated. As for the use of direct speech to provide evidence, it was also found in *Plandemic*, as shown in (29). In general, neither Mikovits nor Graham reveal much about the context of the reported conversations. As shown elsewhere in the analysis, however, *Plandemic* offers an amplified, extreme perspective on its story. The episode

recalled in (29) features a magnified portrayal of Fauci as a wrongdoer through direct speech, which is quite far from the less explicit remarks reported in (31). Fauci indeed explicitly gives orders (“give us the paper right now”), makes a threat (“or you'll be fired for insubordination”) and does that while “screaming” at Mikovits.

Both interviews – *Plandemic* more often than the Vioxx interview – feature claims whose credibility is taken for granted, as it derives from the scientific authority the interviewees are entrusted with since they are first introduced. One example of this from the Vioxx interview is the beginning of (21), where the statement “It had zero impact” is not hedged nor mitigated in any way, and does not follow from any argument. Another example is (36): “I guarantee you” at the beginning indicates Graham’s competence and confidence; “any company” extends his statement to a universal scope; what follows is more of a political and moral judgement than a scientific one, without hedging or mitigation. The final metaphor (“the FDA [...] has become a factory”) takes the theme of public corruption to its extreme. Hedging does, however, take place elsewhere the interview – see, for example “I think” and “in my view” in (21) and (27).

- (36) GRAHAM: I guarantee you that any company faced with the prospect of being brought out into the public as not being in favor of product safety after the FDA thought there was a problem, they would capitulate. You have the bully pulpit. The FDA won't use that bully pulpit because FDA views industry as the client. FDA is there to serve its client industry, and it is not there to serve the public. FDA is an institution that has become a factory for the approval of new drugs and safety is not a consideration. (Now on PBS)

Unhedged, categorical statements are extremely frequent in *Plandemic*. Note, for instance, (19), where Mikovits declares with extreme confidence that millions of people have been killed by “their vaccines” (again, without specifying which vaccines she is referring to). The consideration she adds about vaccines against RNA viruses is also not accompanied by any hedge nor reference. (37) is another example of how she shows confidence (“I’m sure”) exploiting her status as a scientist to confirm the laboratory origins of the novel coronavirus. Later in the interview, Willis asks her about the possibility that wrongdoers are preventing effective COVID-19 treatments in order to push their own patented remedies and profit from them. Her answer, shown in (38) appears beyond criticism, thanks to “absolutely”, “that’s fair to say”, and “exactly”.

- (37) MIKOVITS: Oh yeah, it... I'm sure it occurred between the North Carolina laboratories, Fort Detrick U.S. Army Research Institute of Infectious Diseases and the Wuhan laboratory. (*Plandemic*)

- (38) MIKOVITS: Absolutely, that's fair to say, and that's exactly what's going on in COVID-19. The game is to prevent the therapies until everyone is infected and push the vaccines knowing that the flu vaccines increase the odds by 36% of getting COVID-19. (*Plandemic*)

Although some similarities emerged in the way evidence is provided in these two interviews, profound differences are also there; these and the other findings described in Section 4 are further discussed in relation to the research questions in Section 5.

5. Discussion and conclusions

In response to RQ2, the analysis detailed in Section 4 uncovers several common elements as well as some marked differences between the Viox interview and *Plandemic*. Considering that – beyond the relation they bear to reality – neither of them can be considered completely neutral nor free from ideology, the first common aspect observed is a polarised representation of the actors involved in the stories, which partly answers RQ1. In this representation, two categories of actors are identified, namely positive/good actors – mainly the whistleblower and their supporters – and negative/evil actors – the wrongdoers called out by the whistleblower. Therefore, a sort of ideological square (see Section 4.1) to sustain this actor characterisation is built. In both interviews, whistleblowers are represented from the start as knowledgeable and authoritative, thanks to their scientific background. Their self- and overall representation is in line with the positive image whistleblowers enjoy in the public sphere, that of heroes who pursue the truth and public interests and suffer retaliation and silencing for doing so. As knowledgeable and authoritative individuals with a strong sense of social and medical ethics, they are given the power to express valid judgements on scientific issues – which makes them the main knowledge providers during the interview – as well as on the moral and political questions comprised in their stories. Whistleblowers also acquire these roles and qualities through the representation of wrongdoers as homogeneous, powerful and corrupted entities, completely uninterested in public safety and health (in the case of *Plandemic*, in freedom and humanity itself), responsible for the death of many people, and greedy for more power and money.

These features reflect several themes, which can be subsumed under the idea of vested interests preventing public health to function properly because of powerful elites deliberately acting against public interests. This notion has considerable appeal in the public sphere, and may therefore form part of long-standing social representations (see Section 3), which the two interviews – each in its own way – may have affected in their audiences, in

both cases making health institutions and drug makers appear less trustworthy. This polarised representation of involved actors is necessarily simplistic, as it can only consider some aspects of more complex realities. What also seems to emerge from this polarised, simplified view in both stories is an idea of scientific research as mostly leading to unambiguous, indisputable conclusions – facts which had always been there for science to uncover, and which the whistleblower dares to reveal. In cases such as the Vioxx investigation, Graham’s conclusions did end up being accepted as accurate by the scientific community; what’s more, concerns over the drug turned out to have been raised before his study, and to have been secretly acknowledged by Merck too. This does not imply, however, that research results can always only be interpreted in one way, and that whether an interpretation is commonly acknowledged always depends on the scientists’ skills and integrity, or on vested interests getting in the way of truth. While this way of conceiving of science is in keeping with stories like *Plandemic* and the Vioxx case, it can be misleading. Uncertainty and debate are in fact essential and unavoidable in science, as are human factors such as mistakes, inherent limitations in our way to experience reality, as well as personal interests and power dynamics (Latour 1987). However, the way scientific knowledge develops and is validated within the scientific community is not usually included in the public image of science. This may contribute to major issues when it comes to distinguishing claims made by scientists like Graham from those made by conspiracy theorists like Mikovits who, incidentally, bases her own authority upon the very same scientific education, training and research system she despises.

Going back to the level of discourse and representation, despite sharing some elements, the two interviews are also profoundly different. Firstly, they differ in the scope and intensity of their polarising actor representation, as well as in the way whistleblowers’ claims are put forward. On the one hand, the Vioxx interview tends to deliver contextualised and overall specific information; although strong and direct claims are made, hedges are also used, and while Brancaccio is generally in accord with Graham’s account, on occasion he monitors and checks Graham’s statements (see Example 27). On the other hand, *Plandemic* offers an extreme, overstated and at times hyperbolic perspective on its story: from the “great forces” being unleashed against “our Republic”, “our freedom” and “humanity”, to the “millions” killed by Fauci and the NIAID, *Plandemic* producers craft its message in apocalyptic tones. At the same time, speakers do not hedge, mitigate nor contextualise much of what they say, often offering what appears to be a vague and superficial representation of events. Moreover, Willis never questions Mikovits’s claims.

Secondly, the two interviews differ in the way stories and observations unfold. The Vioxx interview overall features coherent explanations. On the contrary, *Plandemic* tends to overlook coherence: compelling messages on wicked conspiracies are thrown at the public without much attention to how events and actors are connected within the story. On the whole, *Plandemic* appears to be much less informative than it claims. Rather, elements of manipulative discourse emerge, given that a type of communication which is carried out in unclear or abstruse ways on topics that are not familiar to the recipients may be geared towards impaired or partial understanding, which is an indicator of manipulation (van Dijk 2006, p. 366). Differences also emerge in the way evidence is provided to support Graham's and Mikovits's claims, which is closely linked to specificity, contextualisation and coherence. The Vioxx interview generally features information on the sources of evidence used, be it a survey, an FDA internal email, words uttered by Merck's CEO, etc. Evidence is not provided for some of Graham's claims, since his authority is constructed as an indicator of reliability. The same happens with Mikovits in *Plandemic*, although to a greater extent, given the frequency of unsubstantiated claims promoted by her. Moreover, *Plandemic* does not feature information on the sources of evidence it uses, making them hardly retrievable and thus relatively difficult to verify.

In conclusion, the above-described analogies and contrasts identified between these two representations of scientific misconduct provide a preliminary and partial answer to the research questions asked in the introduction, as discussed in this section. Since the present analysis consists in a qualitative investigation of verbal language as applied to two case studies, it has clear limitations: its results cannot be generalised to the representation of scientific misconduct or CTs in medicine as a whole; it does not take the non-verbal, multimodal aspects of the interviews into account; and it only comprises a fraction of all the discursive features that could potentially be analysed. However, it hopefully shed some light into the connections existing between the discourses surrounding the two stories. It certainly may raise questions on how similar or different the two interviews would appear to recipients who do not engage in fact-checking – the default situation when people are exposed to media content. Another set of questions may be asked about the possibility, if any, that the analogies between the representations of the two stories stand out more than their differences in the mind of recipients, so that they are perceived as comparable and maybe related.⁸ Although the present study cannot provide an answer to these questions, it may favour a more informed approach to them, calling attention

⁸ It is worth mentioning that the video containing clips from the Vioxx interview mentioned in Footnote 5 was published on a YouTube channel called "Vax Not", which also features antivaccination and conspiracist content.

to how more or less tenable challenges to hegemonic actors in public health are articulated in powerful counter-discourses, whereby CTs may exploit actual public health scandals.

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References

- Ash A. 2016, *Whistleblowing and ethics in health and social care*. Jessica Kingsley Publishers, London/Philadelphia.
- Barkun M. 2015, *Conspiracy theories as stigmatized knowledge*, in “Diogenes” 62 [3-4], pp. 114-120.
- Bhatia V.K., Flowerdew J., and Jones R.H. 2008, *Approaches to Discourse Analysis*, in Bhatia V.K., Flowerdew J., and Jones R.H. (eds.), *Advances in Discourse Studies*, Routledge, London/New York, pp. 1-18.
- Brenner M., 2004, April 1 (first published May 1996), *The Man Who Knew Too Much*, in “Vanity Fair”. <https://www.vanityfair.com/magazine/1996/05/wigand199605> (27.09.2021).
- Broder J.M. 1997, June 21, *Cigarette Makers in A \$368 Billion Accord to Curb Lawsuits And Curtail Marketing*, in “The New York Times”. <https://www.nytimes.com/1997/06/21/us/cigarette-makers-in-a-368-billion-accord-to-curb-lawsuits-and-curtail-marketing.html> (27.09.2021).
- Cohen D. 2013, August 14, *10 famous/infamous whistleblowers*, in “Politico”. <https://www.politico.com/gallery/2013/08/10-famous-infamous-whistleblowers-001083?slide=0> (27.09.2021).
- Culliford E. 2020, May 8, *Facebook, YouTube remove 'Plandemic' video with 'unsubstantiated' coronavirus claims*, Reuters. <https://www.reuters.com/article/us-health-coronavirus-tech-video-idUSKBN22K077> (27.09.2021).
- Donegan M. 2020, February 20, *Harvey Weinstein went from untouchable to incarcerated. Thank #MeToo*, in “The Guardian”. <https://www.theguardian.com/commentisfree/2020/feb/24/harvey-weinstein-untouchable-guilty-thank-me-too> (27.09.2021).
- Douglas K.M., Uscinski J.E., Sutton R.M., Cichocka A., Nefes T., Ang C.S. and Deravi F. 2019. *Understanding Conspiracy Theories*, in “Political Psychology”, 40 [1] pp. 3–35.
- Enserink M., Cohen J. 2020, May 8, *Fact-checking Judy Mikovits, the controversial virologist attacking Anthony Fauci in a viral conspiracy video*, in “Science”. <https://www.science.org/news/2020/05/fact-checking-judy-mikovits-controversial-virologist-attacking-anthony-fauci-viral> (28.09.2021).
- Frenkel S., Decker B. and Alba D. 2020, May 21, *How the 'Plandemic' Movie and Its Falsehoods Spread Widely Online*, in “The New York Times”. <https://www.nytimes.com/2020/05/20/technology/plandemic-movie-youtube-facebook-coronavirus.html> (27.09.2021).
- Gagnon M., and Perron A. 2019, *Whistleblowing: A concept analysis*, in “Nursing & Health Sciences” 22 [2], pp. 381-389.
- Halliday M.A.K. and Matthiessen M.I.M. 2004, *An Introduction to Functional Grammar*, Hodder Arnold, London/New York.
- Horton R. 2004, *Vioxx, the implosion of Merck, and aftershocks at the FDA*, in “The Lancet” 364 [9450], pp. 1995-1996.
- Kearney M.D., Chiang S.C. and Massey P.M. 2020, *The Twitter origins and evolution of the COVID-19 “Plandemic” conspiracy theory*, in “Harvard Kennedy School Misinformation Review” 1 [3]. <https://misinforeview.hks.harvard.edu/article/the-twitter-origins-and-evolution-of-the-covid-19-plandemic-conspiracy-theory/> (29.09.2021).

- Konkes C. and Foxwell-Norton K. 2021, *Science communication and mediatised environmental conflict: A cautionary tale*, in “Public Understanding of Science” 30 [4], pp. 470-483.
- Lakoff A. 2015, *Vaccine politics and the management of public reason*, in “Public Culture”, 27 [3], pp. 419-425.
- Latour B. 1987, *Science in Action: How to Follow Scientists and Engineers Through Society*, Harvard University Press, Cambridge, MA.
- Lazić A., and Žeželj I. 2021, *A systematic review of narrative interventions: Lessons for countering anti-vaccination conspiracy theories and misinformation*, in “Public Understanding of Science” 30 [6], pp. 644-670.
- Levin M., Weinstein H. 1999, October 30, *Tobacco Firm Assails Film’s Allegation*, in “Los Angeles Times”. <https://www.latimes.com/archives/la-xpm-1999-oct-30-mn-27824-story.html> (27.09.2021).
- McGoey L. 2009, *Pharmaceutical Controversies and the Performative Value of Uncertainty*, in “Science as Culture” 18 [2], pp. 151-164.
- McGreal C. 2020, May 14, *A disgraced scientist and a viral video: how a Covid conspiracy theory started*, in “The Guardian”. <https://www.theguardian.com/world/2020/may/14/coronavirus-viral-video-Plandemic-judy-mikovits-conspiracy-theories> (29.09.2021).
- Mowery D. C., Nelson R. R., Sampat B. N., and Ziedonis A. A. 2001, *The growth of patenting and licensing by US universities: an assessment of the effects of the Bayh–Dole act of 1980*, in “Research policy” 30 [1], pp. 99-119.
- PBS (Public Broadcasting Service) 2004, *Investigation into Painkiller Vioxx* (Transcript). <https://www.pbs.org/newshour/show/investigation-into-painkiller-vioxx> (27.09.2021).
- Rose J. 2017. *Brexit, Trump, and post-truth politics*, in “Public Integrity” 19 [6], pp. 555-558.
- Solomon D. H. 2009, *Book Review: Poison pills: The untold story of the Vioxx drug scandal*, in “The Journal of Clinical Investigation” 119 [3], p. 427.
- Stubbs M. 1998, *Language and the Mediation of Experience: Linguistic Representation and Cognitive Orientation*, in F. Coulmas (ed.), *The Handbook of Sociolinguistics*, Blackwell, pp. 358-373.
- van der Linden S., Roozenbeek J. and Compton J. 2020, *Inoculating Against Fake News About COVID-19*, in “Frontiers in Psychology” 11, pp. 1-7
- van Dijk T.A. 2003, *Ideología y discurso*, Ariel, Barcelona.
- van Dijk T.A. 2006, *Discourse and manipulation*, in “Discourse & Society” 17 [3], pp. 359-383.
- van Leeuwen T. 1996, *The representation of social actors*, in Caldas-Coulthard C.R. ad Coulthard M. (eds.), *Texts and Practices. Readings in Critical Discourse Analysis*, Routledge, London, pp. 32-70.
- Williamson E. 2021, January 27, *Rioters Followed a Long Conspiratorial Road to the Capitol*, in “The New York Times”. <https://www.nytimes.com/2021/01/27/us/politics/capitol-riot-conspiracies.html?action=click&module=RelatedLinks&pgtype=Article> (27.09. 2021).
- Wilson M. 2016, *The New England Journal of Medicine: commercial conflict of interest and revisiting the Vioxx scandal*, in “Indian Journal of Medical Ethics” 1 [3], p. 167.
- Wolff G.G. 2020, Letter to the Editor, in “Vaccine” 38 [30], p. 4651.

INSTITUTIONAL COMMUNICATION CONCERNING THE COVID-19 PANDEMIC A Critical Discourse Analysis of WHO Director- General's Speeches

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Abstract – During the ongoing COVID-19 pandemic, institutional communication has been playing a crucial role. For instance, WHO (World Health Organization) has been involved in criticism concerning information related to the origins of the pandemic delivered or not in due time.¹ Starting from this assumption, the study is aimed at investigating the WHO Director-General communication concerning news related to the pandemic through the analysis of speeches delivered by Dr Tedros Adhanom Ghebreyesus, the WHO Director-General, from 22nd January to 29th May 2020. From a methodological perspective, the approach of Critical Discourse Analysis will be adopted with particular emphasis on semantic / syntactic relations. Furthermore, the representation of social actors will be explored in order to better understand the roles played by both WHO and China in the news concerning the pandemic. In short, this work will try to explore the processes involved in the communication concerning the pandemic and the representations of the roles played by both WHO and China in order to understand legitimation strategies enacted by these two social actors.

Keywords: discourse; power; legitimation; pandemic; social actors.

1. Introduction

The World Health Organization (WHO) has been involved in criticism concerning information related to the origins of the pandemic. Some accusations came from Human Rights Watch director Ken Roth, who said WHO was responsible for "institutional complicity" when it gave credence to some of Beijing's early claims about the outbreak: "WHO has absolutely refused as an institution to say anything critical about China's cover-up of human-to-human transmission, or its ongoing refusal to provide the basic evidence, [...]. What we need is an honest, vigorous inquiry rather than further deference to China's cover-up efforts"²). One diplomatic observer in

¹ <https://foreignpolicy.com/2020/04/02/china-coronavirus-who-health-soft-power/>.

² <https://www.france24.com/en/live-news/20210329-who-and-china-a-healthy-relationship>.

Geneva said that WHO had let China do the preliminary investigative work on its own, and then control the terms of the investigation while some Member States decided not to criticize this situation. Former US president Donald Trump famously slammed WHO over its relationship with Beijing. He accused the WHO of being a "puppet of China" and even covering up the initial outbreak of the virus. Based on these assumptions, this study is focused on the analysis of speeches delivered by Dr Tedros Adhanom Ghebreyesus, the WHO Director-General, from March to May 2020. In particular, the corpus includes 76 speeches delivered from 22nd January to 29th May 2020. Specifically, attention will be devoted to the sections of speeches where involvement of China in the outbreak of the pandemic along with the measures adopted by Chinese institutions are mentioned. In section (2), a literature review concerning the relationship between persuasion and discourse will be introduced along with reference to studies on power entangled with discourse (Van Dijk 2006; Fairclough 2000; Van Leeuwen, Wodak 1999; Fowler 1991). In section (3), corpus and methodology will be specified. The focus will be on the detailed features of discourse including the semantic and syntactic dimensions along with lexical choice.

In the Analysis section, the investigation of speeches will be provided from a CDA perspective. In short, the study will attempt to answer two main research questions: 1) How is the relationship between WHO and Chinese institutions operationalized through discourse?; 2) How are social actors – WHO and Chinese institutions – represented through discourse?

2. Literature review

The pandemic is not only a biological and a social reality, or even a health reality that combines the biological and the social, it is also a discursive reality (Maingueneau 2021, p. 146). In particular, crisis is viewed as a complex phenomenon that – in its prevalence, disruptiveness and (appearance of) inevitability – is both socially produced and discursively constituted (De Rycker, Mohd Don 2013). Discourse and power relations have been previously investigated in the institutional communication related to the pandemic. For instance, press conferences have been explored and defined as standard platforms for institutional representatives to communicate all the news concerning the pandemic crisis through the media. Thus, starting from the assumption that press conferences clearly represented explicit political intentions (Bhatia 2006; Fairclough 2000), ideologies and power relations between World Health Organization vs. Chinese Ministry of Foreign Affairs were explored in previous studies when the news concerning the pandemic were communicated (Tay 2022). It is necessary to point out that what mainly deals with power relations and the relationship between

persuasion/manipulation and discourse is legitimation, intended as the most relevant procedure enacted to legitimate actions and persuade or manipulate people's minds. Four categories of legitimation have been identified in the literature (Van Leeuwen, Wodak 1999; Fairclough 2003). In particular, authorization is legitimation by reference to the authority of tradition, custom, law, and of person in whom some kind of institutional authority is vested.

Rationalization, instead, is legitimation by reference to the utility of institutional action, and to the knowledge society has constructed to endow them with cognitive validity (Fairclough 2003, p. 98). Furthermore, legitimation can be enacted by moral evaluation, which means reference to value systems. Finally, mythopoesis is legitimation conveyed through narrative. In a previous study on crisis discourse related to the pandemic (Musolff *et al.* 2022), legitimation was investigated in relation to public health management, which was conceptualized as a war. A further point under discussion was the relevance of information management entangled with the discourse of Authority. This point is fundamental in this study. During the pandemic, the most relevant news concerning the pandemic was released through speeches. Thus, WHO Director-General was the most reliable institution committed to deliver the correct information about the COVID-19 pandemic. From this perspective, it is possible to assert that Dr Tedros Adhanom Ghebreyesus had the power to communicate the most relevant and updated news about the spread and the origins of the virus. Thus, previous studies concerning the relationship between discourse and power in the media (Fowler 1991) will be taken into account with particular attention to transitivity (Halliday 1994; Fairclough 2003). Transitivity has been analysed in terms of syntactic variations underlying involvement of actors (e.g. their responsibility, agency, etc.). This concept necessarily involves the representations of social actors who can be activated or passivated in the texts. In particular, they may be Actors in processes or the Affected or Beneficiary. Furthermore, they may be included or excluded or, more simply, mentioned somewhere in the text. Finally, they can be represented personally or impersonally, by name or in terms of class or category (Fairclough 2003, pp. 145-146). Starting from these theoretical assumptions, a further point investigated in the study will concern strategies through which social actors are represented.

3. Corpus and Methodology

The corpus includes 76 speeches delivered from 22nd January to 29th May 2020. (<https://www.who.int/director-general/speeches>). The choice of the time span was due to the need to focus on the actual attitudes and actions

communicated by WHO from the very beginning of the spread of the pandemic. It is important to point out that all the speeches concerning the pandemic delivered during this time span have been investigated. Methodology is based on Critical Discourse Analysis (Van Dijk 2006; Fairclough 2012, 2003; Van Leeuwen, Wodak 1999). In particular, discourse structures and moves at various levels of discourse will be applied to the examples reported. More specifically, attention will be focused on semantic macrostructures, local speech acts, local meanings, local syntax, lexical choices and rhetorical features. More specifically, semantic relations including Causal, Conditional, Temporal, Additive, Elaboration, Contrastive / Concessive ones will be explored in order to analyse legitimation in a more detailed way. As Berger and Luckmann (1996) assert, legitimation provides the explanations and justifications of the main elements of the institutional tradition. Furthermore, as mentioned in the previous paragraph, transitivity will be investigated through the analysis of the roles played by social actors as activated or passivated in the text.

4. A qualitative investigation according to a CDA perspective

The analysis mainly focuses on excerpts of relevant speeches where it is possible to focus on the actual 'viewpoint' held by WHO concerning the involvement of China in the pandemic from a general perspective. In particular, semantic and syntactic patterns will be investigated. More specifically, as asserted in the previous sections, the investigation concentrated on those phrases where China is explicitly mentioned. The following example is an extract from the 22nd January speech delivered by WHO Director:

- 1) I was very impressed by the detail and depth of China's presentation. I also appreciate the cooperation of China's Minister of Health, who I have spoken with directly during the last few days and weeks. His leadership and the intervention of President Xi and Premier Li have been invaluable, and all the measures they have taken to respond to the outbreak. There was an excellent discussion during the committee today, but it was also clear that to proceed, we need more information. For that reason, I have decided to ask the Emergency Committee to meet again tomorrow to continue their discussion, and the Chair, Dr Houssin, has agreed with that request. The decision about whether or not to declare a public health emergency of international concern is one I take extremely seriously, and one I am only prepared to make with appropriate consideration of all the evidence. Our team in China is working with local experts and officials to investigate the outbreak. (22nd January 2020) (emphasis added).

The speech starts with a macro speech act (e.g. *I was very impressed by the detail and depth of China's presentation. I also appreciate...*) consisting in putting a strong emphasis on China's 'effective actions'. Firstly, he is referring to the online presentation made earlier by China representatives on the same day. Appreciation of China's Minister of health is also mentioned by the Director whose leadership and measures adopted to face the outbreak are defined as 'invaluable', which is an adjective with a very positive connotation in its superlative value. A superlative adjective (e.g. *excellent*) is also employed to refer to the discussion that occurred between the Director and the Emergency Committee. If the semantic / syntactic patterns are observed, a causal relation is introduced by '*for that reason*', which focuses on the decisions made by the Director concerning the need to put off the declaration of a public health emergency of international concern. This decision is motivated by the fact that the Director needs more information about the situation everyone is living in. It is interesting to note that this decision should have derived from the discussion that occurred with the committee on the same day, which has been defined as 'excellent'. The superlative seems to refer to the implicit efforts made by both the Director and the Committee to try to come up with a solution. An intensifier is also applied to commitment by the Director to make the right decision (e.g. the decision [...] is one I take extremely seriously). Furthermore, Additive relations alternate with some Contrastive ones (Fairclough 2012, 2003). In particular, the Director emphasizes positive values applied to Chinese leadership while focusing on the measures taken ("[...] the intervention of President Xi and Premier Li have been invaluable, and all the measures they have taken to respond to the outbreak").

Conversely, contrastive relations are found when WHO expresses uncertainty concerning further decisions to be made in the future (There was an excellent discussion during the committee today, but it was also clear that to proceed, we need more information). From a semantic perspective, a clear instance of semantic relation of purpose is observable. The purpose mentioned in the speech above – not making a decision concerning the declaration of a public health emergency of international concern – is legitimated through Authorization. The extract shows a clear reference to people involved in that decision, who adopted the most appropriate and precious measures to face the outbreak of the pandemic. Authorization is frequently found along with superlatives in the following speech delivered by the Director on the following day:

- 2) Good evening once again to everyone in the room, and to everyone online. Once again, I'd like to thank Dr Didier Houssin, who has done a superb job of leading the Emergency Committee through what was a very complex deliberation. My thanks again to all the members of the committee for their time, expertise and full commitment. I am not declaring a public health

emergency of international concern today. As it was yesterday, the Emergency Committee was divided over whether the outbreak of novel coronavirus represents a PHEIC or not. Make no mistake. This is an emergency in China, but it has not yet become a global health emergency [...]. Let me talk about what we know. We know that this virus can cause severe disease, and that it can kill, although for most people it causes milder symptoms. We know that among those infected, one quarter of patients have experienced severe disease. We know that most of those who have died had underlying health conditions such as hypertension, diabetes or cardiovascular disease that weakened their immune systems. We know that there is human-to-human transmission in China, but for now it appears limited to family groups and health workers caring for infected patients. At this time, there is no evidence of human-to-human transmission outside China, but that doesn't mean it won't happen. There is still a lot we don't know. We don't know the source of this virus, we don't understand how easily it spreads, and we don't fully understand its clinical features or severity. WHO is working with our partners night and day in China and the other affected countries, at the regional level and here at headquarters to fill the gaps in our knowledge as quickly as possible. It is likely that we will see more cases in other parts of China and other countries. China has taken measures it believes appropriate to contain the spread of coronavirus in Wuhan and other cities. We hope that they will be both effective and short in their duration (23rd January 2020).

The speech starts with appreciation of Dr Houssin's job, which is defined 'superb'. The Director also emphasizes commitment, expertise and time devoted to the management of the pandemic by the committee. Then, parallelisms consisting in repetitions concentrating on what the Director knows in contrast with something he doesn't know are found. They are aimed at justifying the absence of decision concerning the declaration of a public health emergency of international concern. From a semantic and syntactic perspective, a contrastive relation (Fairclough 2003, pp. 89-90) is built up through paratactic constructions, as contrasting coordinate sentences (we know [...] / we don't know [...]) express the amount of knowledge about the pandemic in terms of human transmission, spread of infections outside China but also a more substantial lack of knowledge concerning the source of the virus, its detailed features, the way it spreads. Thus, syntactic parallelism seems to put the emphasis on the reason why the decision to declare a public health emergency of international concern has not been made yet. Contrastive relations are also found when the Director focuses on the 'emergency' situation more explicitly (This is an emergency in China, but it has not yet become a global health emergency) or when human-to-human transmission is discussed (We know that there is human-to-human transmission in China, but for now it appears limited to family groups and health workers caring for infected patients). Later, the Director reassures the hearer about the efforts made in collaboration with China thanks to partners on site. Finally,

commitment by China to contain the spread of the virus is emphasized. The following speech is the third one from the beginning of the pandemic:

- 3) As you know, I have just returned from China. Yesterday we had the opportunity to meet with President Xi Jinping, Minister of Health Ma Xiaowei and Minister of Foreign Affairs Wang Yi. Prior to my visit I was in almost daily contact with Minister Ma, to discuss the response to the outbreak and how WHO can support it, because we need to focus on the epicentre of the outbreak. Managing the epidemic at the epicentre helps to prevent the outbreak spreading to the rest of the world. During my visit, we had a series of very candid discussions, based on mutual understanding. Our discussions focused on continued collaboration on containment measures in Wuhan, public health measures in other cities and provinces, conducting further studies on the severity and transmissibility of the virus, and sharing data and biological material. I was very encouraged and impressed by the President's detailed knowledge of the outbreak, and his personal involvement in the response. This was for me very rare leadership. In his words, the measures they have taken are good not only for China but for the rest of the world. Premier Li has also been on the ground in Wuhan to understand the outbreak and direct the response. China's efforts to contain the outbreak at the epicentre have been essential for preventing the further spread of the virus. China identified the pathogen in record time and shared it immediately, which led to the rapid development of diagnostic tools. They are completely committed to transparency, both internally and externally. And they have agreed to work with other countries who need their support. For example, the cases in Germany reported yesterday originated with a Chinese woman who travelled from Shanghai to Germany for professional purposes. She was asymptomatic on arrival but became ill shortly before taking her return flight to China. After her return to China she was tested and found to be positive, as were her parents, who had visited her from Wuhan prior to her departure. Chinese authorities immediately notified their counterparts in Germany, who were able to take prompt action. (29th January)

Authorization and lexical choice with a positive connotation are the most relevant discourse features employed by the Director in the speech above. It is particularly interesting to note the use of the adjective 'candid' to define the discussions that occurred during the Director's visit in China. 'Candid' usually refers to something related to honesty. (<https://www.collinsdictionary.com>). This value is confirmed by 'mutual understanding' during the talk he had with Chinese institutions. In particular, the Director is mentioning meetings with authorities and contacts with relevant institutions involved in the management of the outbreak. The main semantic relations found in the speech are mainly related to Addition and Elaboration. For instance, while focusing on discussion he had with Chinese authorities ([...] we had a series of very candid discussions, based on mutual understanding), the Director needs to provide further clarification about them

(Our discussions focused on continued collaboration on containment measures in Wuhan, public health measures in other cities and provinces, conducting further studies on the severity and transmissibility of the virus, and sharing data and biological material). A similar Exemplification strategy is found when he focuses on ‘Chinese efforts to contain the outbreak’ as the latter are specified by the next sentences (China identified the pathogen in record time and shared it immediately, which led to the rapid development of diagnostic tools). Addition is found, instead, when collaboration with other countries is mentioned, (And they have agreed to work with other countries who need their support). In short, through the exploration of the processes found in the speeches, it is possible to infer that the processes of ‘doing’ mainly emerge as the most relevant ones. Both WHO and China are represented as social actors committed to do as much as possible to fight the spread of the virus. Semantic and syntactic patterns revealed the need by WHO to communicate exhaustive news concerning the pandemic including active cooperation with China, transparency related to discussions with China and Chinese commitment to fight the spread of the virus and share information with WHO. In particular, an explicit reference is made to the moral behaviour adopted by China in terms of ‘transparency’ and cooperation with other countries. Furthermore, Authorization in terms of appreciation of actions provided by people involved in the management of the pandemic is found. In short, it is possible to assert that legitimation is mainly conveyed here in terms of Authorization and Rationalization. As mentioned in the ‘Literature section,’ the latter expresses legitimation by reference to the utility of institutional action, (Van Leeuwen, Wodak 1999; Fairclough 2003, p.98).

In his speeches, the Director tries to convey that WHO is an institution committed at fighting the pandemic in a very efficient way through constant relations and discussion with China and detailed exchange of information with public Authorities.

4.1. The representation of social actors

As mentioned above, in this section, the representation of social actors will be explored with attention to the Process Types and circumstances found in the corpus under scrutiny (Halliday 1994; Fairclough 2003). In particular, with regard to Circumstances, Process Types fall into two main groups: Material and Verbal Processes. The following table summarises these concepts:

Process type	Key participants	Circumstances
Material	Actor, Affected	Time, Place; Purpose, Reason, Manner, Means
Verbal	Actor	
Mental	Experiencer, Phenomenon	Time, Place, Reason
Relational (1)	Carrier, Attribute	
Relational (2)	Token, Value	
Existential	Existent	

Table 1
 Representation of processes, participants and circumstances (adapted from Fairclough 2003: 141).

In all the examples investigated so far, cooperation between WHO and Chinese institutions is strongly emphasized. In particular, through his speeches, WHO-Director general represents Chinese institutions as very active social actors ready to make any effort to manage the pandemic and stop its spread. Moreover, they are seen as excellent and honest communicators, who disclose relevant information to WHO-Director clearly and honestly with no difficulty related to mutual understanding. On the other hand, WHO-Director self-represents himself as a social actor committed to his active role as a co-operator with China to face the pandemic but also as a representative of an institution which is not always aware of what is happening. He communicates uncertainty concerning the right decision to be made and knowledge of detailed information about the virus. What is repeatedly communicated by WHO is surely the constant cooperation with China and its institutions, as can be easily observable in the short extracts from the following examples:

- 4) Finally, our advance team in China has made good progress in working out the composition of the team and the scope of its work. We hope to have more news to announce soon (12th February)
- 5) We're working with our Chinese counterparts on these issues, and this is also part of the scope of work for the WHO-led joint mission with China (14th February)
- 6) The international team of experts now on the ground in China is working with Chinese counterparts to better understand those gaps and improve our understanding of the outbreak (17th February)
- 7) Twice a week we have a call with clinical experts who are treating patients with COVID-19, including front-line workers in China (20th February)
- 8) I would like to thank the People's Republic of China, Portugal and Viet Nam for their recent contributions to WHO's Strategic Preparedness and Response Plan. (27th April 2020)

The processes involved in the examples above can be classified as some Material ones. In particular, they are represented by the active role played by WHO Director and WHO members or experts in terms of work and cooperation with Chinese counterparts. In particular, in (4) the main structure of the examples above is represented by the pattern (ACTOR (our advance team) + MATERIAL PROCESS (has made good progress)). This process is better specified by a further MATERIAL PROCESS (working out) followed by an AFFECTED participant (the composition of the team. In (5), instead two main ACTORS are found, represented by ‘we’ and ‘our Chinese counterparts’. The process here is mainly intransitive. Similar structures are found in (6) and (7) where the two main ACTORS are represented by ‘The international team of experts’ cooperating with ‘Chinese counterparts’ (example 6) and by ‘clinical experts’ working with WHO. Conversely, in (8) the structure found corresponds to ACTOR (I)+MATERIAL PROCESS (would like to thank) + AFFECTED (the People’s Republic of China, Vietnam and Portugal).

In the following example, ACTORS are represented by both WHO and CHINA, who are committed to ask for and provide information respectively:

- 9) The following day, New Year’s Day, WHO asked China for more information under the International Health Regulations, and activated our Incident Management Support Team, to coordinate the response across headquarters, and our regional and country offices. [...] China provided information to WHO through a face-to-face meeting in Beijing, and through WHO’s Event Information System established under the International Health Regulations. (8th May 2020)

In this case, the typical structure is ACTOR+VERBAL PROCESS+AFFECTED (WHO asked China for more information; China provided information.

A further structure commonly found in the corpus under scrutiny is represented by China as the main ACTOR followed by a MATERIAL PROCESS+ AFFECTED:

- 10) China reported 143 cases. Most cases continue to be reported from Hubei province, and 8 provinces have not reported any cases in the last 14 days. Outside China, 2055 cases were reported in 33 countries. Around 80% of those cases continue to come from just three countries. (5th March 2020).

As can be observed above, ‘reporting’ is the main MATERIAL PROCESS referred to communication of data concerning some new infections. Some other MATERIAL PROCESSES are represented by verbal phrases denoting an active participation by China in terms of introduction of emergency

measures:

- 11) China, Italy, Japan, the Republic of Korea, the United States of America and many others have activated emergency measures. (9th March)
- 12) [...] the measures China and other countries have taken have given us a fighting chance of containing the spread of the virus (21st February 2020)

In (12), the activation of emergency measures by China has contributed to fight the spread of the virus, as asserted by WHO. This is a further example of collaboration between WHO and China.

Thus, through the investigation of processes and participants found in the conversation between WHO and China, it is possible to assert that cooperation with China seems to be the feature mostly emphasized by WHO in terms of factual cooperation and constant communication with Chinese experts and institutions.

5. Concluding remarks

In order to summarize the main points investigated in the paper, it would be useful to come back to the research questions mentioned in the Introduction section. The first one mainly concerned the discourse representation of the relationship between WHO and Chinese institutions. From the investigation described in the sections above, it is possible to observe a macro speech act enacted by WHO consisting in putting a strong emphasis on China's 'effective actions.' The latter mainly consist in making any effort to face the pandemic and conducting a constant and honest communication in cooperation with WHO's Director. Authorization is a further category frequently used to legitimate decisions made (or not made) or to communicate lack of detailed information concerning the pandemic. The second research question was related, instead, to representation of social actors through the speeches. WHO had the power to represent Chinese institutions as some very active social actors committed to manage the pandemic and communicate with WHO clearly and honestly. On the other hand, the Director represents WHO and himself as actors committed to their active role as co-operators with China. Notwithstanding, insecurity concerning the right decision to be made and knowledge of detailed information about the virus are further features found in the speeches. In short, starting from the outcomes of the study, it is surely possible to assert that all the strategies found in the speeches including the use of Material Processes and Actors actively involved in managing the pandemic along with Authorization seem to enhance credibility in the audience and legitimate WHO - Director's actions.

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References

- Bathia A. 2006, *Critical Discourse Analysis of Political Press Conferences*, in “Discourse & Society”, 17[2], pp.173-203.
- Berger P. and Luckmann T. 1966, *The Social Construction of Reality*, Penguin, Harmondsworth.
- Chouliaraki L. 2005, *The Soft Power of War: Legitimacy and Community in Iraq War Discourses*, in Special issue of “Journal of Language and Politics” 4 [1], pp.1-10.
- De Rycher A. and Mohd Don Z. 2013, *Discourse and Crisis- Critical perspectives*. John Benjamins Publishing Company, Amsterdam
- Fairclough N. 2012, *Critical Discourse Analysis*, in Gee J.P and Handford M. (Eds.), *The Routledge Handbook of Discourse Analysis*, Routledge, London, pp. 9-20.
- Fairclough N. 2000, *Language and Neo-Liberalism*, in “Discourse & Society” 11[2], pp. 147-148.
- Fairclough N. 2003, *Analysing Discourse*, Routledge, London.
- Fowler R. 1991, *Language in the News. Discourse and Ideology in the Press*, Routledge, London.
- Maingueneau D. 2021, *Discourse Analysis Faced with the Coronavirus Crisis: A Few Thoughts*, in “Bakhtiniana”, São Paulo, 16 [4], pp. 146-161.
- Martín R.L.M. and Van Dijk T.A. 1997, *There Was a Problem, and It Was Solved: Legitimizing the Expulsion of Illegal Migrants in Spanish Parliamentary Discourse*, in “Discourse & Society” 8 [4], pp. 523-566.
- Musolff A., Breeze R., Kondo K. and Vilar-Lluch S. 2022, *Pandemic and Crisis Discourse. Communicating COVID-19 and Public Health Strategy*, Bloomsbury Publishing, London.
- Tay D. 2022, *COVID-19 Press Conferences Across Time: World Health Organization vs. Chinese Ministry of Foreign Affairs*, in Musolff A., Breeze R., Kondo K. and Vilar-Lluch S. (eds.), *Pandemic and Crisis Discourse. Communicating COVID-19 and Public Health Strategy*, London, Bloomsbury Publishing.
- Van Dijk T. 2006, *Discourse and Manipulation*, in “Discourse & Society” 17 [3], pp. 359-383.
- Van Leeuwen T.J. and Wodak R. 1999, *Legitimizing Immigration Control: A Discourse Historical Analysis*, in “Discourse Studies” 1 [1], pp. 83-118.

Websites

- <https://www.who.int/director-general/speeches> (22/10/2021).
- <https://foreignpolicy.com/2020/04/02/china-coronavirus-who-health-soft-power/>(22/10/2021).
- <https://www.france24.com/en/live-news/20210329-who-and-china-a-healthy-relationship> (22/10/2021).
- <https://www.collinsdictionary.com> (12/05/2022).
- <https://www.who.int/director-general/speeches> (07/06/2022).

RUMOR HAS IT **The COVID-19 Infodemic as the Repository of Conspiracy**

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Abstract - Access to the right information, at the right time and through trustworthy sources, is not only critical but necessary, especially during health-related emergencies such as the current COVID-19 pandemic which has forced billions of people into isolation. During this worldwide phenomenon, digital access to information has been at its highest, but it has also posed new challenges such as the surge of an *infodemic* (Zarocostas 2020) or an overabundance of information generated by the practices of eliciting and disseminating half-truths and conspiracy theories especially via independent or alternative media outlets (Del Vicario *et al.* 2019). By focusing on the US media landscape, this study intends to explore the critical workings of such platforms, and provide evidence of how they support and intensify the infodemic phenomenon by acting as *seed sources* or primary online providers of (mis)information with direct access to secondary sources such as social media accounts and other knowledge-sharing platforms. In particular, the study argues that these *seed sources* appeal to the constitutional principle of freedom of expression to justify a conspiratorial representation of COVID-19 disseminated in its many variants, namely fake news, rumors, scams, stigma, magical cures, and alarming conspiracy claims. By drawing from critical discourse studies, and social semiotics theory (van Leeuwen 2005), and by adopting a multimodal discourse analysis approach (Kress, van Leeuwen 2020; Machin, Mayr 2012; Ledin, Machin 2018), the study investigates a corpus of linguistic and other semiotic resources collected from the *London Real* and its affiliated *Digital Freedom Platform*, both held responsible for the dissemination of the highly contested *Plandemic* video series containing conspiratorial content accused of influencing public opinion (Del Vicario *et al.* 2016; Kulshrestha *et al.* 2017).

Keywords: infodemic; seed source, alternative media; plandemic; conspiracy; COVID-19.

*I do not agree with everything you say
but I will defend to the death your right to say it.*
(Brian Rose, CEO of the London Real Platform. <https://londonreal.tv/>).

1. Introduction

In democratic societies, freedom of speech is universally acknowledged as a fundamental human right. At the same time, freedom to express one's opinion is not an absolute right and comprises a system of limitations.

Particularly in this age of digital communication, every democracy has such a system in place to identify, discern, and establish what counts as a robust exchange of ideas or a deliberate and defamatory diffusion of falsehoods.

Whether you are a citizen or an organization, protecting the right to have a voice and being able to exercise this right responsibly¹ is the notion underpinning the debate about the different dimensions of information disorder, including the conspiratorial dimension associated with the COVID-19 pandemic. By specifically focusing on media representations of COVID-19, this study argues that the principle of freedom of expression is overtly and regularly flouted by alternative media networks by contributing to the *infodemic* phenomenon. The term *infodemic*, coined by combining the terms *info* and *epidemic*, was introduced in 2003,² and refers to a surge-like proliferation or an “overabundance of information, some accurate and some not” (Zarocostas 2020, p. 676), of news reports, interviews, films, podcasts, and social media posts, elicited and disseminated in a relatively short amount of time via a plurality of channels³ (Zarocostas 2020; Del Vicario *et al.* 2016; Vosoughi *et al.* 2018; Alam *et al.* 2020).

Finding trustworthy sources that deal with COVID-19 developments is particularly challenging, especially considering the public’s widespread behavior of relying primarily on online news. Indeed, going online for this kind of information during a period of crisis often generates collective feelings of distrust and anxiety as people are immediately confronted with overwhelming and confusing reports. While this virtual process of collective sensemaking⁴ can be used by the general public as an effective coping strategy in dire times, it also exacerbates the challenge of distinguishing trustworthy health guidance from bogus information. Since the onset of the pandemic in the early months of 2020, mainstream media have regularly provided information-seeking audiences with daily COVID-related updates. Yet, alongside these more dependable sources, several unregulated media outlets have also played a powerful role as information contributors. Identified in this context as *seed sources*, these alternative outlets are primary suppliers of (mis)information with direct access to multiple and independent

¹ Introduction to the European Convention on Human Rights – Collected texts, Council of Europe Publishing, Strasbourg, 1994 by Jean-François Renucci. [https://www.echr.coe.int/LibraryDocs/DG2/HRFILES/DG2-EN-HRFILES-01\(2005\).pdf](https://www.echr.coe.int/LibraryDocs/DG2/HRFILES/DG2-EN-HRFILES-01(2005).pdf) (6.5.2021).

² www.washingtonpost.com. *When the Buzz Bites Back* by David J. Rothkopf Sunday, May 11, 2003; Page B01. https://moodle2.units.it/pluginfile.php/334512/mod_resource/content/1/Rothkopf%20%20When%20the%20Buzz%20Bites%20Back.pdf (6.9.2021).

³ World Health Organization, 2020. Coronavirus Disease 2019 (COVID-19) Situation Report – 13. Geneva, Switzerland. <https://www.who.int/publications/m/item/situation-report---13> (6.9.2020).

⁴ How a Crisis Researcher Makes Sense of Covid-19 Misinformation by Kate Starbird, 9 March 2020. <https://onezero.medium.com/reflecting-on-the-covid-19-infodemic-as-a-crisis-informatics-researcher-ce0656fa4d0a> (17.5.2020).

online environments, mainly forged by a handful of conspiratorial theorists whose determination is to reframe the events of this global pandemic according to a conspiratorial agenda (Zollo 2019).

The alternative online media network investigated in this study comprises the *London Real* (LR) platform and its spin-off *Digital Freedom Platform* (DFP),⁵ both considered carriers of misinformation and conspiracy claims related to COVID-19.⁶ The study argues that the LR platform best represents how news from a single *seed source* spreading to other sources can become viral, and potentially influence public opinion by tapping into their general understanding of specific issues. Indeed, according to studies, acceptance of new information is conditional on the people's prior attitudes as they are more likely to accept information confirming what they already believe, and reject information contradicting it, especially when this regards health-related beliefs (Flynn *et al.* 2017; Jakesch *et al.* 2018). Based on this assumption, the study intends to provide evidence that the LR achieves this powerful infodemic-inducing goal by carefully packaging their dangerous information as news bites that contain familiar and often persuasive emotional language, storytelling features, and credible details accompanied by recognizable and relatable visual data.

As a *seed source* and early provider of COVID-19 news, the LR's mission is to "transform humanity into a fully empowered, conscious and cooperative species."⁷ The platform owns multiple accounts on Facebook, Instagram and Twitter, and carries out activities consisting of hosting and disseminating highly controversial programming whose content is then copied and pasted onto other privately-owned social media accounts (Del Vicario *et al.* 2016; Kulshrestha *et al.* 2017). *Plandemic* and *Plandemic Indoctrination* (henceforth *Plandemic 1* and *Plandemic 2*) are just two of the many documentary interviews published on the LR, and are perhaps the manifesto of conspiracy and the repository of the main categories of infodemics, ranging from fake news and rumors to censorship claims to full-fledged conspiracy theories. Yet, it seems that these short films remain largely unknown to the general public due to the many bans placed by YouTube and other social media networks; a quick look at the content explains the reasoning behind this decision. What is exposed is a visual representation of conspiracy formulated as an about-face view of the official information regarding the origin of the pandemic. It is a view that spins a different narrative which eschews evidence supported by mainstream science,

⁵ <https://londonreal.tv/about/>. For all further references, the LR was last accessed on September 25, 2021.

⁶ <https://www.politifact.com/article/2020/aug/18/fact-checking-plandemic-2-video-recycles-inaccurat/> by Daniel Funke.

⁷ <https://londonreal.tv/about/>.

and is therefore capable of triggering an infodemic. The study intends to shed light on these aspects, with a special focus on the involvement of *Plandemic* conspiracy thinkers, antivaxxers, and COVID-19 deniers whose voices belong to researchers, doctors, humanitarian activists and other members of the general public. These voices are not only heard in the videos, but they also populate the pages of a large number of social media accounts which, in their function as repositories of *seed source* information, continue to spread COVID-related misinformation. Samples from these ancillary sources are not included in the study's corpus due to limitations of space, but their function as information spreaders can be easily assumed from the discussion regarding the responsibility of *seed sources* in the creation of a COVID-19 infodemic.

The methodological approach to the analysis of *Plandemic 1 and Plandemic 2* draws on the principles of critical discourse analysis (CDA) (Fairclough 2003; Wodak 2009), and applies the social semiotic tools afforded by multimodal critical discourse analysis (MCDA) (Kress and van Leeuwen 2020; Machin, Mayr 2012; Ledin, Machin 2018) to investigate a body of data consisting of video transcripts, correlated screenshot images and viewer comments. Regarding the comments, within this infodemic system of dissemination, they represent an authentic and base-level response as they provide insight into the general perception of COVID-19 news originating from alternative and independent media sources.

1.1. Research Questions

The present study is driven by the assumption that by invoking freedom of expression, COVID-19 conspirators report information that often goes unchecked with the ultimate aim of producing a COVID-related infodemic. This hypothesis is at the core of the following research questions:

1. What is an infodemic and how does it originate?
2. What are some predominant infodemic categories of conspiracy?
3. What is a *seed source* and what role does it play in the infodemic dissemination system?
4. Why are the *Plandemic* videos considered *seed sources* of conspiracy?
5. How are linguistic and multimodal resources exploited in the *Plandemic* videos to construe conspiracy narratives?

2. Freedom of speech and freedom of the press vs. misinformation: an unresolved conundrum

While freedom of speech and freedom of the press are the cornerstones of democracy,⁸ they are also at the center of heated debates for the reason that establishing the limits and boundaries of what constitutes the notion of ‘freedom’ is often challenging. For example, determining how far these limits can be overextended to include a plurality of counter-hegemonic voices often entails going up against the danger of committing an act of censorship (Mouffe 1999; Cammaerts 2007). In other words, disputes are often sparked when measures designed to obstruct harmful information while safeguarding freedom of expression can result in discouraging legitimate and productive confrontational conversations. During this health emergency, for instance, protecting the people’s right to news updates seems to have triggered the need to control the rise of an *infodemic* with the justification of keeping the wrong kind of information from circulating. Indeed, news consumption has increased drastically in countries such as the US, bringing along the emergence of conspiracy narratives. Yet, freedom of speech and freedom of the press matter and must be guaranteed by experts who have been trained to report the truth on the life of a nation.⁹

2.1. Infodemics as the spreader of misinformation and conspiracy

Misinformation is false or inaccurate information that is spread with the clear intent of misleading the general public (Vosoughi *et al.* 2018). Inherently dangerous, this information can make its way into mainstream discourse¹⁰ and potentially lead to high-risk behavior, such as the attempt to self-administer COVID-19 treatments by drinking bleach (Figure 1)¹¹ or taking anti-malarials and anti-vermin medication.

⁸ https://www.law.cornell.edu/constitution/first_amendment (1.5.2021).

⁹ <https://ideas.ted.com/why-freedom-of-the-press-is-more-important-now-than-ever/> by Patrick D'Arcy (1.6.2021).

¹⁰ Ethical Journalism Network. (2020). https://ethicaljournalismnetwork.org/?s=fake+news&post_type=post (1.8.2021).

¹¹ https://www.euro.who.int/_data/assets/pdf_file/0010/437608/Alcohol-and-COVID-19-what-you-need-to-know.pdf (1.5.2021).



Figure 1

WHO Tweet <https://twitter.com/WHO/status/1246779780822859776>.

The abundance of misinformation has especially led to the construal of hard-to-eradicate conspiracy theories and secret plots regarding the origin of the virus and possible cures. Infodemics thrive on this kind of information during public emergencies, especially if mainstream media fail to appease the public's feelings of anxiety and uncertainty (Douglas *et al.* 2019). The increased polarization of American media,¹² even on matters that go beyond the current health emergency, such as presidential elections, anti-racism protests, and other devise events (Alam et al. 2021), is one of the reasons behind public distrust, but it is also one of the main arguments used by alternative media sources in their attempt to satisfy the public's curiosity, and restore a threatened sense of security and control over what they regard as the truth (Kruglanski *et al.* 2021). The LR, for example, vows to “provide access to the truth, celebrating different views, perspectives and insights as well as promoting financial freedom.”¹³

2.2. The role of alternative media outlets in the COVID-19 Infodemic.

The LR is an online platform providing on-demand programs running on the *londonreal.tv* website.¹⁴ Starting out as a podcast in 2011, the platform's aim has always been to offer an alternative and independent perspective on some controversial issues by conducting mainly one-on-one interviews with a diverse range of guests that includes business gurus, science experts and health officials. The LR covers topics as diverse as business, health and fitness, science, and technology, and adopts a style that is very similar to that of TED Talks,¹⁵ with a stage, dark settings, an audience, and a host-speaker (Figure 2), and a very similar mission statement that substitutes TED's *ideas worth sharing with people worth listening to*.¹⁶

¹² <https://news.gallup.com/poll/321116/americans-remain-distrustful-mass-media.aspx> (21.3.2021).

¹³ <https://londonreal.tv>.

¹⁴ <https://londonreal.tv/>. London Real - Transform Yourself.

¹⁵ <https://www.ted.com/> (29.3.2021).

¹⁶ <https://www.google.com/search?q=london+real+and+people+worth+listening+to&aq=lo&aq=chrome.0.69i59l2j69i57j69i59j0i67l6.31223j0j15&sourceid=chrome&ie=UTF-8> (29.3.2021).



Figure 2
Brian Rose in a LR TED-like assembly.

The founder and host of the LR is Brian Rose, a successful Wall Street and City of London banker who decided to leave his career to start the platform or what Rose calls an alternative to “the numbing effect of mainstream media”.¹⁷ Under his guidance, the LR turned into a new generation media business with half a billion views, two million subscribers, and 800 in-depth interviews. The network also has a YouTube channel with over ten thousand videos and multiple social media accounts.¹⁸

During the first crucial months of the pandemic, between March 2020 and October 2020, Brian Rose hosted a series of interviews on the network’s YouTube channel with some controversial guests that voiced their opinion regarding COVID-19. The most provocative ones are those presented in the two *Plandemic* short films which were blocked by YouTube and other media platforms almost immediately after their first online posting in May 2020. Both products were considered spreaders of conspiratorial infodemic content, but their livestream delivery, in the meantime, had reached 65,000 simultaneous views out of the expected 30 million in just 30 minutes after their launch, spreading to other major social media networks such as Instagram, Facebook, and Twitter.

2.3. *Plandemic and Plandemic Indoctrination*

Rose considered the ban on *Plandemic* and *Pandemic - Indoctrination* an act of censorship. As a response, he announced that these videos and other similar content would run on a new alternative and independent online environment within the LR network called the Digital Freedom Platform (DFP), claimed to be “*Of the People, By the People, For the People,*”¹⁹ echoing President Lincoln’s pledge in the Gettysburg Address.²⁰ Rose’s

¹⁷ <https://londonreal.tv/about/>.

¹⁸ <https://www.youtube.com/hashtag/londonreal> (3.9.2021).

¹⁹ <https://www.facebook.com/LondonReal/posts/digital-freedom-platform-of-the-people-by-the-people-for-the-peoplelondon-real-a/2869690353078210/> (23.9.2021).

²⁰ <http://www.abrahamlincolnonline.org/lincoln/speeches/gettysburg.htm> (23.8.2021).

mission was to publish content that is unscripted, unedited and uncensored so as “to create a massive transformation of society into a fully cooperative species.”²¹

*Plandemic 1*²² is 26 minutes long and introduces the conspiracy theories sustained by Dr. Judy Mikovits, a discredited former scientist at the National Cancer Institute who was accused of stealing lab material.²³ Mikki Willis,²⁴ the provocative filmmaker and producer of what he considers socially-conscious media content, conducts the interview with Mikovits, and the viewer immediately becomes acquainted with many of the scientist’s claims, some of which have become known as predominant conspiracy theories. Such claims are not supported by reliable medical and scientific advice, and have been fact-checked and acknowledged as unproven evidence and falsehoods.²⁵

Plandemic 2 further elaborates on these conspiracy theories, and among the targets of this 75-minute sequel are Bill Gates and his foundation, along with Dr. Anthony Fauci, Big Pharma, and fact-checking journalism websites such as PolitiFact and Snopes.²⁶ The video begins with a simulation of a pandemic scenario, where leaders of international institutions debate possible solutions for an envisaged global health emergency, thus offering a far-reaching conspiratorial take on the pandemic itself, and insinuating doubt from the very start of the narrative. By cutting the videos into shorter clips (Table 1), Brian Rose frequently urges viewers to share them on their own social media accounts, thus facilitating this swarm-like spreading effect.

3. Corpus

Keeping online data safe for corpus construction was a major concern in this study as nearly all major social media sites, including YouTube, have embarked on a worldwide COVID-19 anti-misinformation endeavor thanks to which, in the first 12 months of the pandemic, more than 98 million posts, and 22,400 tweets containing conspiratorial material were completely removed, while another 11.7 million accounts with problematic content were questioned.²⁷

²¹ <https://londonreal.tv/about/>.

²² The full title is *Plandemic - The Hidden Agenda Behind Covid-19*.

²³ <https://www.npr.org/2020/05/08/852451652/seen-plandemic-we-take-a-close-look-at-the-viral-conspiracy-video-s-claims> by Scott Neuman (5.5.2021).

²⁴ <https://heavy.com/news/2020/05/mikki-willis/> (23.8.2021).

²⁵ <https://www.factcheck.org/2020/05/the-falsehoods-of-the-plandemic-video/> (8.6.2021).

²⁶ <https://www.politifact.com/>; <https://www.snopes.com/> (8.6.2021).

²⁷ <https://www.straitstimes.com/tech/facebook-twitter-remove-millions-of-pieces-of-fake-news-content-related-to-covid-19> (8.6.2021).

The content of the two *Plandemic* videos published in May 2020 on YouTube became the object of discussion on an overwhelming number of mainstream and alternative media outlets before the videos were taken down, only to be republished on the LR platform in August 2020 (Table 1).²⁸ According to US-based social media researcher Erin Gallagher,²⁹ the *Plandemic* video clips spread from YouTube to Facebook also with the help of *QAnon* (Figure 3), the extremist right-wing conspiracy group with tens of thousands of social media members. *CrowdTangle*,³⁰ a source used by The New York Times, reveals that by May 15th 2020 there were 2.5 million recorded interactions (likes, reactions, comments and shares) regarding *Plandemic* on public groups and Facebook pages (Figure 4).

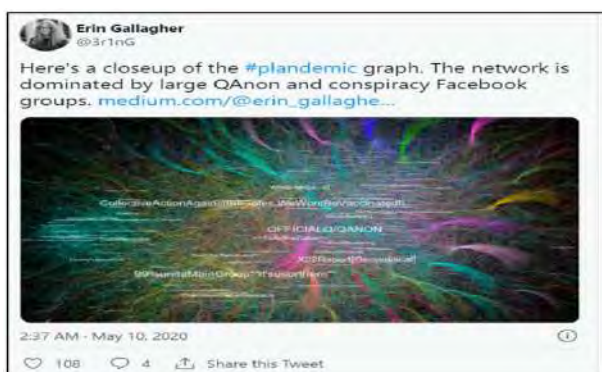


Figure 3
QAnon infodemic influence on other conspiracy groups on Facebook.

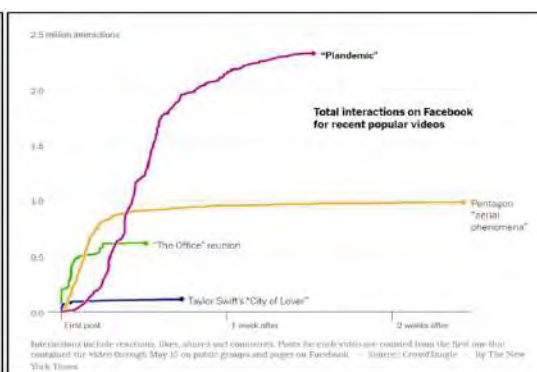


Figure 4
CrowdTangle data by *The New York Times*. May 15th 2020.

As aforementioned, for obvious limitations of space, this study’s focus is primarily on the *Plandemic* short films, but it is necessary to specify that other conspiratorial interviews were published on the LR during the same 6-month time range. These interviews are not included in the analysis but some information about them is provided in Table 1.

²⁸ <https://www.theverge.com/2020/5/12/21254184/how-plandemic-went-viral-facebook-youtube> by Casey Newton (8.6.2021).

²⁹ <https://onezero.medium.com/facebook-groups-and-youtube-enabled-viral-spread-of-plandemic-misinformation-fla279335e8c> by Erin Gallagher (8.6.2021).

³⁰ <https://www.crowdtangle.com/> (8.8.2021).

The <i>London Real</i> video documentaries and interviews on the <i>Digital Freedom Platform</i>	Number of clips	Date uploaded online	Views	Shares	Viewer Comments
The Truth Behind The Coronavirus Pandemic, Covid-19 Lockdown & The Economic Crash. David Icke https://freedomplatform.tv/the-truth-behind-the-coronavirus-pandemic-covid-19-lockdown-the-economic-crash-david-icke/	1	March 18, 2020	1,458,273	6.9k	2050
The Coronavirus Conspiracy: How Covid-19 Will Seize Your Rights & Destroy Our Economy David Icke https://freedomplatform.tv/the-coronavirus-conspiracy-how-covid-19-will-seize-your-rights-destroy-our-economy-david-icke/	3	April 6, 2020	3,786,864	10.5k	8878
The Coronavirus Agenda: what the mainstream media don't want you to know. Dr. Rashid Buttar https://freedomplatform.tv/digital-freedom-platform-interview-1-dr-rashid-buttar/	19	April 27, 2020	1,468,556	2.1k	6835
Rose/Mikovits 1: (ft. Dr. Judy Mikovits and Brian Rose) https://freedomplatform.tv/is-coronavirus-a-plandemic-exposing-the-truth-behind-americas-covid-19-strategy-dr-judy-mikovits/	18	May 8, 2020	578,348	1.3k	2742
How The Coronavirus Pandemic Is The Biggest Scam Ever Perpetrated On The Human Race. The Doctor Who Speaks Out Against Vaccines (1) Dr. Sherry Tenpenny https://freedomplatform.tv/how-the-coronavirus-pandemic-is-the-biggest-scam-ever-perpetrated-on-the-human-race-dr-sherri-tenpenny/	15	May 15, 2020	264,956	2.9k	1351
Rose/Mikovits 2: Responding to criticism of my documentary (ft. Dr. Judy Mikovits) https://freedomplatform.tv/responding-to-criticism-surrounding-my-viral-documentary-the-plandemic-dr-judy-mikovits/	18	May 20, 2020	226,872	3.8k	1170
Face Masks Are Not Effective Against Covid-19: How Masks Are Being Used To Control The Population Dr. Sherry Tenpenny https://freedomplatform.tv/dr-sherri-tenpenny-face-masks-are-not-effective-against-covid-19-how-masks-are-being-used-to-control-the-population/	15	July 28, 2020	228,035	35.5k	290
Plandemic I. Plandemic: The Hidden Agenda Behind Covid-19 (ft. Mikovits and Willis) https://freedomplatform.tv/plandemic-original-segment/	1	August 13, 2020	160,082 52,992	13.9 k	124
Plandemic II. Indoctrination (ft. WHO, Bill Gates, Tedros Adhanom, Anthony Fauci) https://freedomplatform.tv/plandemic-indoctrination-world-premiere/	16	August 18 2020	6,612,221	552 K	5,438
Exposing Moderna; The Star Of Plandemic: Indoctrination Reveals The Truth (ft. Dr. David E. Martin) https://freedomplatform.tv/david-e-martin-exposing-moderna-the-star-of-plandemic-indoctrination-reveals-the-truth/	16	September 7, 2020	821,767	40.6k	362
The Real Battle Is Not The Virus: How The Coronavirus Agenda Is Eroding Our Civil Liberties. Dr. Rashid Buttar https://freedomplatform.tv/dr-rashid-buttar-the-real-battle-is-not-the-virus-how-the-coronavirus-agenda-is-eroding-our-civil-liberties/	11	October 30 2020	74,591	10.1 k	146

Table 1
Details about *Plandemic 1* and *2* and other videos.

The *Plandemic I* and *Plandemic II* corpus comprises 30 extracts selected from the video transcripts, 30 screenshots of the related activity described in the extract's narrative account, and 30 viewer comments posted in response to that video content.

Details of running time and total number of words per video are as

follows: *Plandemic I* - 25:56/4,395w; *Plandemic II* - 1:15:00/11,475w. The selection procedure consisted in:

- transcribing the video content;
- selecting extracts containing conspiracy claims;
- associating selection with the relative screenshots captured directly from the video sequences;
- identifying COVID19-related infodemic categories;
- clustering the extracts and screenshots under the categories;
- arranging the data in analysis tables.

With reference to the identification and formulation of the COVID19 infodemic-triggering categories, this entailed looking at factors that contribute to the massive spreading of information, namely content frequency, content similarity, comparability of details, transmedia content distribution and topic consistency. According to these factors, the most frequently recurring and comprehensive categories are: *Fake news and rumors*, *Censorship*, *Conspiracy theories* (Table 2). From these, a coding framework was developed with the indication of linguistic and multimodal tools for the analytical process.

The *Fake news and rumors* category and subcategories describe instrumental information used to establish credibility in order to trigger public indignation against mainstream science accused of delegitimizing dissenting voices and opinions. The *Censorship* category mainly focuses on the practices that, according to conspirators, are used to ban information from sources other than those approved and maintained by mainstream media, and to discredit people who search for COVID-19 content on these sources. The *Conspiracy Theories* category and subcategories more closely describe instances of conspiracy narratives fabricated against mainstream science and accredited media sources regarding the origin of the virus, the hidden agenda of private and public institutions, and the role of Big Pharma in the production of vaccines.

Coding Categories of infodemics	Definitions
<p>1. Fake news and rumors</p>	<p>Unsupported or false but instrumentally plausible claims and discussions regarding COVID-19 (treatments and magical cures, outbreak management and control measures, mortality rates).</p> <ol style="list-style-type: none"> 1. establishing legitimation as expert <ol style="list-style-type: none"> a. construing profile credibility b. discrediting mainstream science 2. corroborating fake news and rumor <ol style="list-style-type: none"> a. fabricating credible details b. debunking media fearmongering
<p>2. Censorship</p>	<p>Phenomena characterizing people involved in spreading information about health-seeking practices.</p> <ol style="list-style-type: none"> 1. rejecting censorship of COVID 19-related information, and spreading new truths.
<p>3. Conspiracy theories</p>	<p>Theories related to the origin of COVID-19, and to its political, social, economic, and religious goals.</p> <ol style="list-style-type: none"> 1. setting the narrative <ol style="list-style-type: none"> a. making the claim of conspiracy b. fueling skepticism and uncertainty 2. moving from claim to blame <ol style="list-style-type: none"> a. addressing conspiracy in reverse

Table 2
Coding Categories of infodemics: description and subcategories.

4. Methodology

The methodological framework draws on the theoretical perspectives of CDA (Fairclough 2003; Wodak 2009), and on multimodal studies applied to the exploration of linguistic and other semiotic materials to explore the construal of both covert and overt values and ideologies. Within this context, where the epistemology and public understanding of science are challenged, the critical exploration of media representation of conspiracy theories employing a combination of verbal and non-verbal resources is not only crucial but instrumental in determining how an infodemic becomes a powerful force undermining the capacity to critically assess the social world.

As a fundamental component of the study’s methodological interdisciplinary approach, multimodal analysis draws on Halliday’s (1994) Systemic Functional Linguistics (SFL), and specifically on the ideational, interpersonal and textual metafunctions which Kress and van Leeuwen (2020) align to their own representational, interactional and compositional model that studies not only language but other semiotic modes, such as images, photographs, diagrams and graphics. The representational metafunction identifies two kinds of structures, the narrative and the conceptual; the former makes use of vector lines and are realized by reactional, speech and mental processes; the latter triggers classificational, analytical and symbolic processes. The interactional metafunction can be examined from three aspects: contact (demand or offer achieved through gaze), social distance (intimate, social, or impersonal size of frame), attitude

(involvement, detachment, viewer power, equality and representation of power perspectives), and modality (perceived truth-value of images according to eight modality scales that deal with degrees of the articulation of detail and color). The compositional metafunction deals with the layout of the aspects on a page, and discerns whether these create or represent a coherent and cohesive whole. It is realized through three interrelated systems: information value (given or new, ideal, or real), salience (achieved through size, color, tone, focus, perspective, overlap, and repetition) and framing.

Multimodal studies adhere to CDA's sense of being critical, which means showing how semiotic choices assume context-specific meanings, explain the nature of the social relations involved, and contribute to a shared ideology (Fairclough, Wodak 1997). In the case in point, this shared ideology is revealed by analyzing how alternative media platforms in general, and the LR in particular, leverage the semiotic construction of conspiracy to intensify skepticism, polarization and conflictive behavior, conceivably giving vent to tensions that underpin certain social groups that fail to find other communication channels to express their opinion.

The combination of multimodal and critical studies is the substructure of MCDA approaches (van Leeuwen 2005; Machin, Mayr 2012; Ledin, Machin 2018) from which analytical tools are drawn to investigate COVID-19 infodemic-inducing information in terms of 1) how it is constructed, 2) how its core ideas are amplified through verbal modes of expression, and 3) how these are supported by the corresponding visual representations of activities injected with emotional valence (Caumanns 2016).

In more detail, the analysis of the extracts selected from the video transcripts focuses particularly on the use of lexical and syntactic strategies, such as the recurrence of nomination, predication, overlexicalization, intensification, mitigation, transitivity verb processes (material, relational, mental, existential, behavioral, verbal), and other linguistic choices that indicate levels of authority, polarization, and legitimation. The visual analysis of the extracts' corresponding video screenshots is conducted by identifying some of the most salient multimodal functions that are comparable to those performed by the linguistic resources, with specific reference to the representation of social actors, the interactional nature of their relation, the compositional configuration of the settings and activities they are involved in, and the credibility levels of visual modality that are established.

5. Findings and Discussion

This section presents the study's findings arranged in tables according to the three infodemic categories and subcategories described in Table 1. It is important to note that coding language phenomena according to specific

categories is a methodological expedient, which means that this does not reflect what occurs naturally in real-life communication, and it is therefore quite likely for these categories to overlap. The analyzed items are indicated in the left column by using bold font along with minute indications; the screenshots related to each extract are placed in the right column. The 30 viewer comments posted in response to these videos are also clustered under the same three infodemic categories and analyzed in subsection 5.2.

5.1. Analysis of Infodemic Categories

- Category 1 - Fake news and rumors
- 1. Establishing legitimation as expert
- 1a. *construing profile credibility*

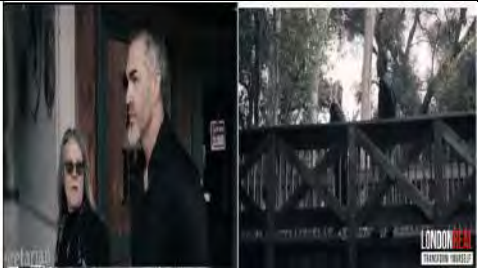
<p>Plandemic 1</p> <p>Extract 1 - min. 00.26 Mikki Willis voiceover : <i>Dr. Judy Mikovits has been called one of the most accomplished scientists of her generation...</i></p> <p>Extract 2 - min. 9.56 Mikki Willis: <i>So, I have to ask you, are you antivaccine?</i> Mikovits: <i>Oh, absolutely not [...]. I'm not antivaccine. My job is to develop immune therapies. That's what vaccines are.</i></p>		
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Table 3
 Profile legitimation.

In the attempt to explain the causes of the COVID-19 pandemic according to their vision of the world, conspirators need to establish legitimation as experts, even if this legitimation is often self-proclaimed. Construing profile credibility is the first category of infodemics represented in Table 3, extract 1 of *Plandemic 1*. The honorific title of *Dr.* and the nomination of *accomplished scientist* introduce Judy Mikovits, the protagonist of the short film who, in extract 2, through an attributive relational verb process, states the following: *I'm not anti-vaccine; My job is to develop immune therapies; That's what vaccines are.* This is probably her attempt to mitigate any conspiratorial affiliation by affirming that she believes in science and scientific treatment. The screenshot image showing Mikovits and Willis passing by a *vegetarian* store window conveys the idea that Mikovits is pro-nature, further reinforced by the moderate level of modality of the image set in natural surroundings.

1b. *discrediting government intervention, mainstream science, and global enterprises.*

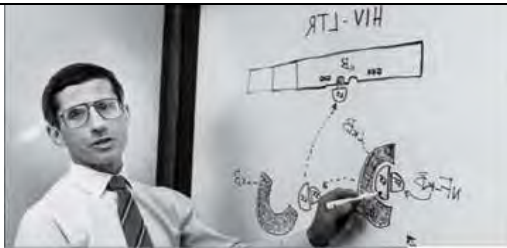

<p>Plandemic 1</p> <p>Extract 3 – min. 3.38 Mikki Willis: [...] <i>how do you sit here with confidence to call out these great forces, and not fear for your life as you leave this building?</i> Mikovits: <i>because if we don't stop this now [...] we can forget humanity as we will be killed by this agenda.</i></p> <p>Extract 4 – min. 04.12 Mikovits: <i>He [Anthony Fauci] directed the cover up; in fact, everybody else was paid off, and paid off big time. Millions of dollars from AF and AF's organization, the National Institute of Allergy and Infectious Disease (NIAID).</i> min 4.22 Mikovits: <i>What he's saying is absolute propaganda, the same kind of propaganda that's he's perpetrated to kill millions since 1984.</i></p>	
<p>Plandemic 2</p> <p>Extract 5 – min. 5.30 Presenter: <i>The Event 201 scenario is fictional. Today's scenario is going to simulate meetings of a multistakeholder group called the pandemic emergency board.</i> Tom Inglesby: <i>We're at the start of what's looking like a severe pandemic, and there are problems that can only be solved by global business and governments working together.</i></p> <p>Extract 6 – min. 1:16:13 Dr. Martin: <i>They lost touch with their fellow humanity [...] but that's an invitation to each one of us to examine the way we are living [...] this is our moment to reclaim our humanity.</i></p>	

Table 4

Discrediting government intervention, mainstream science, and global enterprises.

In *Plandemic 1*, a nomination strategy is used to overlexicalize the term *Plandemic* which is a wordplay that stands for *Pandemic*. Indeed, in extracts 3 and 4, the pandemic health emergency is actually a planned one, organized by great forces, and it is therefore referenced as *agenda*, *cover up*, and *propaganda*. Through this strategy, it is highly probable that Willis and Mikovits are preparing the ground to accuse mainstream science, and private and public institutions of misguiding the public about the pandemic and its origins. They do so by discrediting the Whitehouse infectious diseases spokesperson, Dr. Fauci, who supposedly *paid off*, and *paid off big time* third parties to conceal essential information. Intensifiers are used to alarm people, telling them that *humanity* itself *will be killed*, and that this practice, far from being new, has been going on *since 1984*, as evidenced by Dr. Fauci's black and white image used to convey that the activity of *kill[ing] millions* began a long time ago with the HIV crisis. In *Plandemic 2*, there is another wordplay with the title *Indoctrination* (top image), instead of the more common term *Indoctrination*, as a direct reference to the 'doctored' COVID-related

information. In extract 5, the video reports a simulated scenario of a *multistakeholder group*, similar to the Global Preparedness Monitoring Board organized in 2019 by the World Health Organization (WHO), discussing *emergency* activities to put in place in case of a future *pandemic* or *Plandemic*. In extract 6, Dr. Martin,³¹ medical scientist and supporter of many COVID-19 conspiracy theories, not only names the people and institutions responsible for this scenario by pinning them on a bulletin board (see screenshot image) but also generates the *us vs. them* polarization of positions by specifically stating that since *they lost touch with their fellow humanity* [...], we need to [...] to reclaim *our humanity* back.

2. corroborating fake news and rumor
2a. *fabricating credible details*





Plandemic 1	
<p>Extract 7 - min. 15.01 Mikki Willis: <i>Let me ask you about Italy</i> [...] Mikovits: <i>Italy has a very old population. They're very sick with inflammatory disorders.</i></p>	
<p>Extract 8 - min. 17.48 Mikovits: <i>The game is to prevent the therapies until everyone is infected, and then push the vaccines.</i></p>	
<p>Extract 9 - 15.30 Narrator voiceover: <i>One question remains: what happened to all the hydroxychloroquine?</i> min. 15.57 Narrator voiceover: <i>In a survey polling 23,000 doctors in 23 countries hydroxychloroquine was ranked as the most effective medication to treat the virus [...]</i> Mikovits: <i>the AMA were saying that Doctors would lose their license if they used hydroxychloroquine, a drug that has been on the list of essential medicine worldwide for over 70 years. Dr. Fauci calls that anecdotal data [...]</i></p>	
Plandemic 2	
<p>Extract 10 - min. 7.28 Narrator: <i>There are large-scale protesters and in some places riots. This led to violent crackdown in some countries, and even martial law [...]. The societal impacts, the loss of faith in government, the mistrust of news, and the breakdown of social cohesion could last even longer. We have to ask: did this need to be so bad?</i> [the film begins].</p>	

Table 5
Fabricating credible details.

In extracts 7 and 8 of *Plandemic 1*, three plausible conspiratorial claims are made regarding the pandemic in other countries, accompanied by what

³¹Dr. David E. Martin is the founder of M·CAM, the international leader in innovation finance, trade, and intangible asset finance. <https://login.londonreal.tv/index.php?action=social&chash=07cdfd23373b17c6b337251c22b7ea57.288>. (8.6.2021).

should be considered as credible details. The first case is about Italy, a country that has recorded a high COVID death toll due to its *very old population*. Indeed, the screenshot image of an elderly person’s hand and hospital wristband is a metonymic representation of old age. Emotional images such as these are a staple communication strategy of the conspirators used to produce a stronger impact on the viewers. In extract 8, the second claim addresses mainstream science and authorities who are accused of playing a *vaccine game*. As a typical conspiratorial demonization strategy, it is backed by claims of secret plotting which consists in waiting until *everyone gets sick* before institutions and Big Pharma *push the vaccines*, clearly implying that all-around economic benefits are involved. The third claim in extract 9 involves pre-existing but unused remedies, such as the drug *hydroxychloroquine* (see screenshot image) which has been listed as an *essential medicine for over 70 years*. The claim’s credibility level is intensified by mentioning an authoritarian voice, the American Medical Association (AMA), accused of blocking the drug, despite the 23,000 worldwide doctors who agree on its validity. In this same extract, Dr. Fauci is again under fire as he calls this *anecdotal data*. In extract 10 of *Plandemic 2*, the conspiracy claim that government intervention has made things worse (*protests, crackdown, the loss of faith in government, the mistrust of news, and the breakdown of social cohesion*), is sustained by images of events extracted from other media sources. This sequence ends with a rhetorical question which is, once again, an effective strategy of asking questions instead of providing answers; a behavior that is set to trigger greater skepticism.

2b. instrumentalizing the Media: fearmongering

Plandemic 1	
<p>Extract 11 - min. 19.15</p> <p>Mikovits: <i>It's behind comprehension how society can be so fooled that the types of propaganda continue to where they're just driving to hate each other.</i></p>	

Plandemic 2	
<p>Extract 12 - min. 6:39 Participant: <i>Absolutely, we need to save lives, but we absolutely cannot afford a heavy-handed response that suffocates our economy.</i></p> <p>Extract 13 - min. 1:12:13 WHO member: <i>now we need to go and look in families to find those people who may be sick, and remove them and isolate them.</i></p> <p>Extract 14 - min. 1:14:53 Dr. Martin: <i>we are being conditioned for unbelievable acts of tyranny [...] and your loved ones [...] are being used as cannon fire.</i></p>	

Table 6
Instrumentalizing the Media: fearmongering.

According to this infodemic category, mainstream channels, such as CNN and MSNBC, are responsible for fearmongering. In *Plandemic 1*, extract 11, reports of death tolls and food shortages seem to pit citizens against each other, resulting in violent street protests and sidewalk bickering (see screenshot image of man with flag). In extract 10 of *Plandemic 2*, the government's effort in fighting COVID-19 is qualified as a *heavy-handed response* by conspirators who probably believe that unnecessary acts that *suffocate our economy* are happening, such as emptying supermarket aisles and crowding health care centers (top screenshot images). The most distressing images are perhaps the last two that correspond to extracts 13 and 14, in which people are reportedly being hounded by the *Police*, and *isolated from families*. Originally intended to be a standard procedure to protect people from themselves, as stated by the WHO member (*to find those people who may be sick*), this activity in the screenshot images, along with many others of the same kind, turns out to be a fear-inducing strategy in the hands of the *Plandemic* people. Dr. Martin, a *Plandemic* interviewee, contributes with his share of fearmongering accusations on the part of mainstream media by using a simile when he reports that *loved ones are being used as cannon fire* (extract 14). It seems that any existing plausible evidence is used by the *Plandemic* producers to fit conspiracy theories, counting on the idea that an ordinary citizen is likely to accept the claim's validity, and this is one of the reasons why visually-represented conspiracy is easier to manipulate according to a specific intent.

Category 2. Censorship

1. rejecting censorship of COVID-19-related information, and spreading new truths.

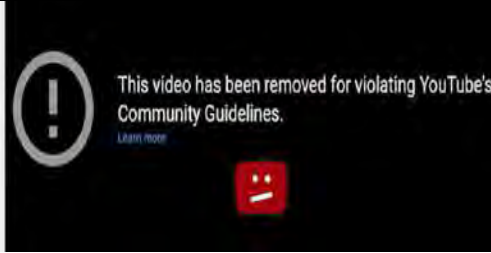

<p>Plandemic 1</p> <p>Extract 15 – min. 00.57 Mikki Willis: <i>so you [Mikovits] made a discovery that conflicted with the agreed-upon narrative? [...] you were put under a gag order.</i></p> <p>Extract 16 - min. 18.21 Mikki Willis: [...] <i>they've done such a great job at manipulating the masses [...] there is no dissenting voices allowed anymore in this free country, something that I never thought I would live to see.</i></p>	 <p>This video has been removed for violating YouTube's Community Guidelines. Learn more</p>
<p>Plandemic 2</p> <p>Extract 17 - min. 0.08 David Rose: [...] <i>this censorship was unacceptable [...] so we fought back and created the Digital Freedom Platform, a censorship-free, independent broadcasting system that is of the people, by the people and for the people [...].</i> min. 3.33 David Rose: <i>to anyone watching, please share this link now via the sidebar to any and all of your social media channels [...].</i></p> <p>Extract 18 - min. 8.08 Mikki Willis Voiceover: <i>When we see identical headlines across seemingly unrelated platforms, the logical mind concludes, well then it must be true.</i> min. 8.57 Mikki Willis voiceover: [...] <i>make sure you dive down the rabbit hole where you'll find additional videos, documents, and scientific studies that support the claims and perspectives put forth in the Plandemic series.</i></p>	 <p>Collage of media headlines and logos including: 'Most Dangerous Lies from 'Plandemic' Video', 'Viral 'Plandemic' Video is Dangerous Misinformation COVID-19', 'Dangerous 'Plandemic' Conspiracy Video is Spreading - How Can It Be Stopped?', 'Facts Media', 'Press Misinformation REAL', 'Forbes', 'Time Warner', 'Viacom', 'The most reality of anything you need, time, and truth.'</p>

Table 7

Rejecting censorship of COVID-19-related information, and spreading new truths.

At the heart of COVID-19 conspiratorial thinking are those theories that feed the infodemic system the most, and perhaps the predominant one is the censorship theory. Extract 15 of *Plandemic 1* accuses mainstream institutions of putting those who have a different positioning regarding the origins and treatment of the pandemic *under a gag order*. According to Mikki Willis, in *this free country* (extract 16), a deictic expression conveying emphasis, freedom of speech is suppressed by the total absence of *dissenting voices*. In *Plandemic 2*, extract 17, the accusation is coupled by David Rose's deictic expression *this censorship was unacceptable*, referring to the ban on the *Plandemic* videos. Rose's response was the creation of an alternative platform that is *of the people, by the people, and for the people*, on which he posted all of the LR videos previously disseminated and then banned by YouTube. The *seed source* activity on this platform is therefore set in motion as he asks people to *share this link*, along with all the others. Extract 18 is quite puzzling as it presents a contradictory claim. Willis clearly explains that the more *we see identical headlines across seemingly unrelated platforms, the logical mind concludes, well then it must be true*. Although in this case, he is referring to the lies spread about the *Plandemic* videos, this is exactly the same misinformation-spreading activity that alternative media *seed sources* perpetrate in an infodemic dynamic, so much so that Willis invites

people to *dive down the rabbit hole where you'll find additional videos, documents, and scientific studies* (extract 18). This is rather an unfortunate association as it is widely known that the Carrollian expression ‘*rabbit hole*’, does not simply refer to a boundless source of information, but indicates entering a bizarre and disorienting alternate universe (Dean, Forray 2017), much like the screenshot image of the random collectivization (van Leeuwen 1996) of media channels (extract 18). This representational strategy is quite often used by the *Plandemic* producers not only to suggest a community membership of some sort but also to avoid the direct naming of individual agents as perpetrators of an action.

Category 3. Conspiracy Theories

1. Setting the narrative

1a. *making the conspiracy claim*



<p>Plandemic 1</p> <p>Extract 19 - min. 4:58 Mikovits: <i>It started really when I was 25 years old, [...] from France where [virologist Luc] Montagnier had originally isolated the virus. This was a confirmatory study but Tony Fauci and Robert Gallo were working together to spin the story in a different way.</i></p> <p>Extract 20 - min. 10.16 Mikki Willis: <i>Do you believe that this virus [SARS-CoV-2] was created in the laboratory?</i> Mikovits: <i>I wouldn't use the word created. But you can't say naturally occurring if it was by way of the laboratory. So it's very clear this virus was manipulated [...] Somebody didn't go to a market, get a bat, the virus didn't jump directly to humans. That's not how it works. That's accelerated viral evolution. If it was a natural occurrence, it would take up to 800 years to occur.</i></p> <p>Extract 21 - min. 10.56 Mikki Willis: <i>And do you have any ideas of where this occurred?</i> Mikovits: <i>Oh yeah, I'm sure it occurred between the North Carolina laboratories, Fort Detrick, the U.S. Army Medical Research Institute of Infectious Diseases, and the Wuhan laboratory.</i></p>	
<p>Plandemic 2</p> <p>Extract 22 - min. 58.15 Mikki Willis: <i>After a decade of lawsuits related to injuries and deaths, vaccine makers were going bankrupt [...].</i> min 1:01:52 Melinda Gates: [...] <i>it looks like it's going to be Black people who should get it [the vaccine first], and indigenous people [...].</i> State Legislator: <i>It's very scary and I want the African American people to open up their eyes.</i></p> <p>Extract 23 - min. 1:03:12 Raymond De Souza (Human Life International): <i>There is a concerted effort of foreign powers to control the population of Africa.</i></p>	

Table 8
Making the conspiracy claim.

In *Plandemic 1*, the master COVID-19 conspiracy theory is that the virus was a laboratory manipulation, regardless of the evidence presented by mainstream science against this hypothesis.³² To back this claim, in extract 19, Mikovits goes back to when she *was 25 years old*, and worked with the Nobel Prize recipient and co-discoverer of the HIV virus and vaccine, Luc Montagnier (see screenshot images). In doing so, she re-establishes her self-proclaimed credentials as a renowned scientist, then, in extract 20, she insinuates with caution that the virus is not a *naturally occurring* phenomenon and that it *was manipulated*. By showing images of the Wuhan Lab, the sarcastic remarks made by Mikovits become more salient. A low-pitched voice is used to convey a rather patronizing acceptance that people would actually believe in the market theory. She confidently says *NO* [emphasis], *somebody DIDN'T GO* [emphasis] *to a market, get a bat, the virus DIDN'T JUMP* [emphasis] *directly to humans*. She intensifies her tone of voice to state that it *would take up to 800 years for this to occur*. Unfortunately, validating her theory through the association with Montagnier was not exactly a wise thing to do as the virologist is considered by the scientific community as one of the promoters of COVID-related conspiracy theories.³³ Indeed, conspiracy theories start with a suspicion that takes root and grows quickly (Douglas *et al.* 2019). This is what happens in extract 21 in which Mikovits explains that she has enough evidence to name institutions (*North Carolina laboratories, Fort Detrick, the U.S. Army Medical Research Institute of Infectious Diseases, and the Wuhan laboratory*) that colluded with the US government to fund the Wuhan Lab, as suggested by the TV credits stating that the virus was man-made, followed by the screenshot of the article with the price tag well in sight. In this same article headline, the idea that something went wrong is insinuated by the word *leak*, which can mean that there could have been a *leak* of information or a *leak* of the virus itself. In *Plandemic 2*, another master narrative is a combination of two major claims: COVID-19 vaccination is a profit-making deal for Big Pharma; COVID-19 is a population control strategy for governments. The narrative begins with the assumption that as *vaccine makers were going bankrupt* (extract 22), they needed to find *guinea pigs* (see screenshot image) to restart vaccine production. According to *The Bill and Melinda Gates Foundation* (extract 22), the recipients of the first COVID-19 vaccine should be *Black people and*

³² <https://foreignpolicy.com/2021/06/15/lab-leak-theory-doesnt-hold-up-covid-china/> by Justin Ling. <https://www.nationalgeographic.com/science/article/coronavirus-origins-misinformation-yan-report-fact-check-cvd> (8.9.2021).

³³ <https://www.livemint.com/news/world/nobel-winning-scientist-claims-covid-19-virus-was-man-made-in-wuhan-lab-11587303649821.html> (4.5.2020); <https://theprint.in/science/nobel-laureate-who-found-hiv-now-backs-homoeopathy-anti-vaxxers-calls-covid-a-lab-accident/665710/> by Taran Deol (4.5.2020).

indigenous people. In extract 23, a state legislator's T-shirt, referring to the concern that his community would be used as *guinea pigs* (extract 22), exhorts *African-Americans* to #flattenthefear, taking up the highly emotional *flatten the curve* COVID-19 mantra. The legislator asks *his people* to *open up their eyes* to the government's hidden agenda which, according to *Plandemic* (extract 23), aims to use the vaccines as a way of *controlling the population growth of Africa*. The image of a finger used as a vector pointing to demographic data (see screenshot image of graph) is, once again, the conspiratorial representation of evidence that fits the intent (Douglas *et al.* 2019).

1b. fueling skepticism and uncertainty


<p>Extract 24 – min. 1:11:53 Dr. Martin: <i>This isn't a vaccine story. This is a population management story [...]. Populations that get in the way are a problem, parasites, a cancer a virus.</i></p> <p>Extract 25 – min. 1:17:11 Mikki Willis: <i>Our lives are shaped and guided by stories [...] the more we hear them, the more we believe in them [...] it is a myth that permeates the media and our minds. As they say, repeat a lie often enough, it becomes truth. [...] fear shuts down the ability to the part of our brain designed to solve problems [...].</i></p>	
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Table 9
 Fueling skepticism and uncertainty.

Heightening the level of uncertainty during critical periods is the general aim of *Plandemic 2*. In extract 24 of this second video, Dr. Martin reiterates the aim behind mass vaccination or that of controlling population growth. These populations *get in the way* because they are against governing authorities, such as in the case of Hong Kong (screenshot image of extract 24), and are therefore: *a problem, parasites, cancer, and a virus*. Nearly all media channels, as shown in screenshot image of extract 25, another example of collectivization of social actors, are accused of placing too much emphasis on stories such as the population management plot. Willis adds that these *myths permeate the media and our minds*; they are *lies* and, if repeated long enough, they become *truth*. *Plandemic*, once again, not only triggers high levels of skepticism, distrust, and uncertainties but is accusing the government of conspiracy; this is an inexplicable accusation as the same behavior is attributable to the *Plandemic* conspirators as argued in the next category.

2. moving from claim to blame
 2a. addressing conspiracy in reverse


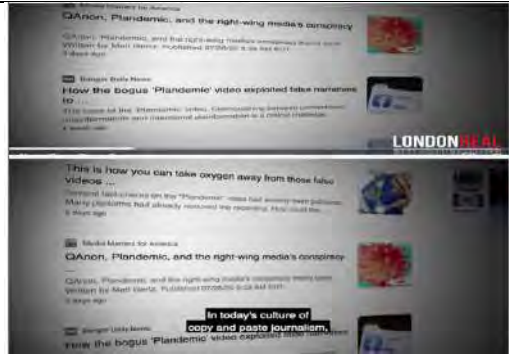
<p>Plandemic 1</p> <p>Extract 26 - min. 03.59 Mikovits: <i>Anthony Fauci and Robert Gallo were working together to spin the story in a different way... the Virus didn't have to wait until 84 to be confirmed, think of how many lives we could have saved in the entire continent of Africa [...] as that virus spread through because of the arrogance of a group of people...and it includes ... Anthony Fauci.</i></p> <p>Extract 27 - min. 08.50 Mikovits: <i>[the Bayh-Dole Act] in the early 80s, it destroyed Science, and has allowed [...] somebody like Bill Gates, with billions of dollars, nobody elected him, he has no medical background, no expertise, but we let people like that to have a voice in this country while we destroy the lives of millions of people.</i></p> <p>Extract 28 - min. 22.13 Fauci: <i>[...] pandemic preparedness. And if there is one message that I want to leave with you today is that there will be a surprise outbreak...we are going to see an outbreak in the next few years.</i></p>	
<p>Plandemic 2</p> <p>Extract 29 – min. 3:36 Mikki Willis voiceover: <i>Why then were the most powerful forces of Big Techs, politics, media and medicine go to such extreme measures to silence her [Mikovits] voice all over the world?</i></p> <p>Extract 30 - min. 21.11 Mikki Willis Voiceover: <i>the pace of our modern world makes it nearly impossible for working people to research the events and policies that shape their lives. When seeking answers to life's most pressing questions, where do we go first? Google. [...]. In today's culture of copy and paste journalism, it's common for hundreds of unrelated outlets to feature the exact same report. It's not the result of laziness, this is by design.</i></p>	

Table 10
 Addressing conspiracy in reverse.

Moving from claim to blame is a *return-to-sender* conspiracy or a *conspiracy-in-reverse*. Indeed, as the exact definition of *conspiracy theory* is open to debate, the term can be weaponized and used to deflect criticism because it hands the conversation back to the accuser as shown in extract 25 (Coady 2006). In this category, conspirators accuse mainstream science and affiliated media outlets of exhibiting very similar conspiratorial behavior, thus turning the tables on who should take the blame. In *Plandemic 1*, extract 26, the historical reference to the HIV virus, which was not confirmed *until [19]84*, puts Dr. Fauci and his associates on the spot as it accuses them of *spinning the story in a different way*. The exchanges containing *they vs. we* references are not, in this case, used as a polarization strategy, but are exploited as a *mea culpa*, one in which the conspirators strategically admit

their own involvement, such as *we could have saved lives in the entire continent of Africa, because of the arrogance of a group of people, we let people like that to have a voice, and we destroy the lives of millions of people.* The accompanying screenshot image, by exploiting the collectivization strategy of social actor representation (van Leeuwen 1996), features Elton John who lauded Fauci on his role in the global HIV/AIDS crisis,³⁴ but suggests that people outside the scientific field are often complicit in perpetuating a lie. This polarization of positions is also present in extract 27. Once again, *we (the entire nation) were fooled enough to allow somebody like Bill Gates (he, him), who has no medical background and is not an expert, to vaccinate children.* *Plandemic 1* ends with Dr. Fauci pictured against a black background (extract 28) as he advises governments back in 2017 on future health emergencies, and the need for *pandemic preparedness*, thus exploited by the conspirators as a doubt-inducing narrative. *Plandemic 2*, extract 29, insists on propagating the claim that mainstream media are involved in censorship activities against dissenting voices. For example, the headlines in the screenshots accuse the *most powerful forces of Big Techs, politics, and medicine* of silencing the voices of Dr. Mikovits and of the LR *Plandemic* producers. Ending the short film is yet another conspiracy theory that is directly connected to this study: the infodemic phenomenon. The argument in extract 30 is that a certain kind of *copy and paste journalism* (see screenshot subtitles) has become popular among *working people* as they are forced to use Google as their main source of information because *the pace of our modern world makes it impossible to research the events and policies that shape their lives* elsewhere. This facilitates, according to the conspirators, the dissemination of misinformation onto *hundreds of unrelated* channels, turning lies and myths into truths (*Plandemic 2*, extract 25). It so happens that *Plandemic* conspirators encourage the same exact search patterns in their transmedia posting behaviors, advising their loyal audiences to *design* and disseminate their own conspiratorial infodemic content.

5.2. Viewer Comments

In recent years, online knowledge-sharing platforms, such as YouTube, Facebook, Instagram, Twitter, as well as independent sources such as the LR, have upgraded their digital applications so as to enable user content to be shared via diverse information systems (Kaplan, Haenlein 2010). No longer passive recipients of information, these users now interact with others and make contributions of their own, whether in real-time by using multiple media forms or in more conventional asynchronous posts (Shneiderman *et al.*

³⁴ <https://edition.cnn.com/2020/12/01/politics/fauci-elton-john-usglc-world-aids-day/index.html> by Jennifer Hansler (8.9.2021).

2011). Viewer-generated content on these platforms, formulated as a response to a debated issue, is a critical component of an information dissemination dynamic as these users carefully select what and how to communicate the object of their interaction, and reveal unknown and often unpredictable elements of stance and perspective. This behavior reflects Grice's theory of conversation whereby the relevance of interaction within a group may depend on who starts the conversation (Grice 1975); in this case, the role is played by the conspiracy support network and affiliated websites.

The 30 viewer-generated comments from *Plandemic 1* and *2* were collected from the LR platform and clustered under the same three broad infodemic categories used for the extracts and screenshot analysis, resulting in 10 comments per category. This subcorpus, amounting to a total of 42,240 words, dates back to the time of release of the two short films with the exception of a more recent cluster collected until mid-September 2021. The aim of comment analysis, in this context, is to reveal how conspiratorial thinking is imprinted in the minds of the general public by leveraging features of a two-way interaction consisting in a stimulus-response pattern, whereby the video material is the stimulus, and the viewer comments are the response.

The comments mainly feature text with only a few images related to user profiles. They are, however, interspersed with some basic emoticons (smileys, thumbs up or down), and several typographical features, such as punctuation marks, uppercase letters, bold font, and irregular spacing. Grammatical and lexical errors, spelling mistakes, and wrongful punctuation have not been altered for the twofold purpose of preserving authenticity and highlighting the discourse behaviors they stand for, such as shouting, opposing, emphasizing, doubting, affirming, repudiating, and ridiculing. Indeed, these multimodal components of language structure are salient features of visual communication as they contribute to the representation of the public's experience regarding a specific topic (Ledin, Machin 2018).

The dates shown next to each comment indicate the approximate posting date from the last viewing time (i.e. a month ago, 6 months ago, a year ago, etc.) which, in this case, corresponds to September 2021. Also, as the original comments do not contain any viewer-generated underlined expressions, for ease of reference, this formatting feature is used to indicate the analyzed utterances.

Fake news and rumors	<p>(Plandemic 1)</p> <ol style="list-style-type: none"> 1. If you want to <u>create fear and don't want to people get well</u>, then it makes sense that you shut down as many natural resources as possible (a month ago) 2. Vaccines are not needed. We need healthy bodies. <u>Germ theory is over 100 year old science</u> (4 months ago) 3. <u>We've had SARS, MERS and Ebola, and those did not cause a worldwide shutdown, nor did it spread worldwide and kill entire towns</u> (a year ago) 4. <u>Masks are not needed!</u> [...] some of which aren't even medical masks that
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	<p>would actually block virus particles 😊 (a year ago)</p> <p>5. It's our <u>hard work and taxes that fund the government</u>, they are using your own <u>hard earned labor</u> against you. Tell me that's not <u>something out of "1984"</u> or those <u>science fiction novels</u> (a year ago)</p> <p>(Plandemic 2)</p> <p>6. <u>Those fake fact checkers</u> even tried To fact this documentary or they added the fact check label thinking it was the previous documentary. People are saying they even fact checked this (7 days ago)</p> <p>7. <u>mRNA vaccine</u> used people as fucking <u>guinea pigs</u> disgusting evil mfers (7 months ago)</p> <p>8. I strongly believe the <u>Influenza injections</u> that she [sister] I in September caused her to spiral to a <u>down ward heath hazard</u>. [...] My U*ncl e also died 2 weeks after I Flu shots (10 months ago)</p> <p>9. <u>C O V I D is 5 G signals</u>. [...] Why is the word v a c c I n e s erased? They <u>want v a c c I n e s sold don't they?</u></p> <p>10. the symptoms of the covid-19 virus are definitely real but the pandemic and everything that came along with it is 100% a hoax and is a great deception against mankind. They're using COVID-19 as a distraction (2 months ago)</p>
<p>Censorship</p>	<p>(Plandemic 1)</p> <p>11. Everyone stay alert! Never before has such evil and <u>complete violation of human rights</u> bee forced apon mankind, ever, period. The bible says 'Be alert' so be alert" (2 months 2021)</p> <p>12. <grin> If I weren't so sure that all of this sickness and madness is coming to an end, due to the <u>mass awakening happening worldwide</u> (7 months ago)</p> <p>13. We should ALL have these videos, so when it's taken down one place it pops up in a million (or 74.4 million) other places.... <u>We have now seen how opposition to the globalists is silenced</u> (8 months ago)</p> <p>14. It is <u>not We the Sheeple, but We the People</u>, are awake and ready, UNITED WE STAND, Thank you! (a year ago)</p> <p>15. <u>Every ones scared</u>, theyre doing a good job. We <u>have people hidden</u> in there fields inside the people who control the world, its time to go. Face book <u>is allowing me</u> to post this. (a year ago)</p> <p>(Plandemic 2)</p> <p>16. This is just <u>liberal propaganda framing Trump as the blame</u>. Everything in this film is now well-known by the thinking public (those who don't spend their lives glued to their cell phones).</p> <p>17. I can't believe it has taken me this long "to find" and watch this. I've had many people to send different links to watch, but by the time I would go to view, it had already been <u>taken down...."BANNED"</u> (8 months ago)</p> <p>18. GAWD are you an ignorant MORON!! I bet you vote Democrat: THE PARTY OF LUCIFER!! You know, <u>the party of baby killing and limited Liberties!!</u> (10 months ago)</p> <p>19. <u>David E Martin doesn't need further credits</u>. He is a walking, talking library on the subject. I firmly believe no one can 'get him' on any fact mentioned in the film (a year ago)</p> <p>20. There are sources presented throughout the film that they can follow up on. <u>Much of the information has been censored</u>. There were many documents that were public knowledge in January are now deemed "dangerous" (a year ago)</p>

Conspiracy Theories	<p>(Plandemic 1)</p> <p>21. It is not a vax at all, but an <u>experimental mRNA therapy</u> which re-writes your DNA (4 months ago).</p> <p>22. The reports of cases is a <u>ploy to scare people</u>. Most people who have the virus NEVER get sick and should never be considered a ‘case’!!! (6 months ago)</p> <p>23. The <u>most terrifying words in the English language</u> are: I’m from the <u>government</u> and I’m here to help. Ronald Reagan (a year ago 2020).</p> <p>24. <u>Fauci knew back in 2005</u> that HCQ worked on this virus... yet he sat by silently. Why? Prestige and money (a year ago)</p> <p>25. You must listen closer she explains very well the <u>method of “cover-up”</u> that they use and one of their most effective weapons are to accuse their enemies of what they are hiding (a year ago)</p> <p>(Plandemic 2)</p> <p>26. <u>This goes way back to the ‘Black Nobility’</u> and the ‘Round Table’ members ordered through ‘<u>The Last Will of Cecil Rhodes</u>’ and the families of the ‘<u>Rothschilds</u>’, ‘<u>Rockefellers</u>’ et al! These guys are evil by nature!!! (2 months ago)</p> <p>27. <u>OPERATION CRIMSON CONTAGION</u> 😞 just like CladeX <u>EVENT 201</u>. <u>The whole damn government</u> knew (3 months ago)</p> <p>28. These days, all about <u>Tony Fauci and the Wuhan lab is being “revealed”</u>. Also, the clips from <u>Event 201</u> has all more or less come true. WHY is it so difficult to get stuff like this to the proper authorities at an earlier stage? (4 months ago)</p> <p>29. Pointing fingers at each other (<u>people from other political parties</u>) is exactly what the <u>powers-at-be</u> want us to do to each other (9 months ago)</p> <p>30. I noticed the 2019 report by the <u>GLOBAL PREPAREDNESS MONITORING BOARD</u> has been altered...Could it be they tried to dodge the crimes against humanity lawsuit? (a year ago)</p>
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Table 11
Viewer Comments from *Plandemic 1* and *Plandemic 2*.

In both videos, the comments in the first category of Fake news and rumors represent COVID-19 as a disease *created* to dismiss natural *100-year old science* (1, 2). Despite the experience of past pandemics (SARS, MERS, EBOLA), COVID is said to be treated with *worldwide shutdowns* (3), and *useless masks* (4). The public seems to be expressing feelings of *fear* (1), of not being treated appropriately as *they are shutting down as many natural resources as possible* (1). By referring to the use of the exclusive pronouns strategy, the pronoun *They* most likely refers to the *government* and institutions (5) who are also exploiting *our hard work, labor, and tax money* (5). These practices are considered as freighting as those described in Orwell’s *1984 science fiction novel* (5). In *Plandemic 2*, fake news revolves around *fake fact checkers* (6), and the much-feared *mRNA vaccines* (7, 9) that use people as *guinea pigs* (7), along with the more commonly heard rumors about *5G signals* and COVID as a ***100% hoax*** [bold emphasis] (9). The influenza shot is also demonized as a *downward health hazard* (8).

The arguments underlying the *Censorship* category in *Plandemic 1* are based on the comments that suggest a *complete violation of human rights* (11). The viewers respond to the video by saying that even the Bible warns to ‘*be alert*’ (11), and now, thanks to *Plandemic*, people are experiencing a

mass awakening happening worldwide (12). The reasoning is that ordinary people, or ***we the people*** and ***not we the sheeple*** [bold emphasis] (14), have been stigmatized as they have been *silenced* (13), *scared*, *hidden*, and *disallowed* to talk (15). Indeed, *Plandemic 2* comments insist on the belief that information is totally **BANNED** [bold emphasis] (17), and people like Trump are victims of *liberal propaganda* (16) in the controlling hands of the *party of baby killing and limited Liberties* (18). According to most viewers, *much of the information has been censored* (20), but there is one person who is *a walking, talking library on the subject* of COVID-19, namely Dr. Martin, who *doesn't need further credits*; he also happens to be one of the supporters of many conspiracy theories (19).

In *Plandemic 1*, reactions to the *Conspiracy theories* regard a general distrust: in the vaccine as it is experimental and *rewrites DNA* (21); in the number of reported *cases* as they are used as *a ploy to scare people* (22); in the *terrifying government* (23); in Dr. Fauci who knew about everything back in 2005 (24, 28), and contributed to *the cover-up* (25). In *Plandemic 2*, the reference to **OPERATION CRIMSON CONTAGION** [bold emphasis] and *Event 201*³⁵ (27) not only insinuates that this plandemic was being plotted all along but also blames famous foundations of being the perpetrators (27). Indeed, there is a lot of blaming and naming in these comments, emphasizing that the benefits of a health emergency have been exploited by *the Rothschilds, the Rockefellers et al, the Black Nobility* etc. (26). In comment 30, the suspicion is that in 2019, just before the pandemic became global news, the report of the *Global Preparedness Monitoring Board*³⁶ of the WHO had been altered, thus *pointing fingers* at government *powers* and *political parties* (29).

6. Conclusion

For many people around the world there has never been a disease that is so little understood and so greatly feared as COVID-19, compelling the WHO to warn citizens of a possible *infodemic* or upsurge of excessive information across traditional and social media networks attempting to explain origins, causes and cures (Zarocostas 2020). Motivated by the freedom of expression principle, alternative media networks, identified in this study as *seed sources*,

³⁵ Event 201 was a pandemic tabletop exercise hosted in 2019 by Johns Hopkins Center for Health Security in partnership with the World Economic Forum and the Bill and Melinda Gates Foundation. The event simulated a series of dramatic, scenario-based facilitated discussions, confronting difficult, true-to-life dilemmas associated with response to a hypothetical, but scientifically plausible, pandemic. <https://www.centerforhealthsecurity.org/event201/about> (8.9.2021).

³⁶ https://www.gpmb.org/#tab=tab_1 (8.9.2021).

are particularly responsible for this unchecked transmedia dissemination of information. As argued, whether formulated as theories, beliefs, or claims (Douglas *et al.* 2019), the frequency and duplication of similar information published across diverse media channels will quite likely generate a conspiracy infodemic. In particular, the study presents evidence that conspirators follow a specific pattern to disseminate their claims, starting by establishing their legitimate position among the scientific community; setting up a narrative of an alleged secret plot; presenting supporting evidence to claim that plot-related events are all connected; advocating logical and even historically-grounded explanations behind their suspicions. In doing so, these self-proclaimed experts have been able to amass their own fan bases who significantly contribute to the COVID-related infodemic by posting comments and sharing the *Plandemic* videos (see Figures 3 and 4). These comments contain the *seeds* of three main conspiracy theories sustaining that 1) the virus is artificial and released from a laboratory environment; 2) vaccines are a vast Big Pharma deception; 3) the pandemic is a cover-up of a management plan to exert control over certain populations of the world.

In the *Plandemic* videos, the abovementioned pattern can be detected in the carefully packaged infodemic material or the persuasive combination of verbal and visual representations of conspiracy from which it becomes difficult, even for experienced and informed readers, to filter evidence and data-driven facts, and discard fiction. As evidenced in all the images, the verbal narration is craftily matched with visual multimodal resources. For example, modality resources of color saturation, and the representation of attributes and settings are never exaggerated in order to maintain an acceptable level of authenticity. These resources are substantiated by other visual semiotic choices, such as gestures, the collectivization of social actors, visual tropes, close-ups and long-shots to include or exclude protagonists.

A closing remark regards conspiracy theories and the danger they pose today, more than ever, and not only because they are infodemic confluent. Misinformation, conspiratorial thinking, beliefs, or claims, all intimations of deep-rooted conspiracy theories, have a very good chance of decreasing normative forms of collective well-being provided by official science and medicine, while increasing disruptive health-related behavior as in the case of self-medication or the street riots against mask mandates and vaccine protocols (Douglas *et al.* 2019). This consideration is perhaps the central node of the study as it joins the various strands of the discussion, such as the pervasiveness of independent media products, the role played by infodemics in conspiracy communication, the controversial interpretations of the principle of freedom of expression, and the people's perception and beliefs in conspiracy theories.

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References

- Alam F., Shaar S., Dalvi F., Sajjad H., Nikolov A., Mubarak H., Da San Martino G., Abdelali A., Durrani N., Darwish K., Al-Homaid A., Zaghouni W., Caselli T., Danoe G., Stolk F., Bruntink B. and Nakov, P. 2021, *Fighting the COVID-19 infodemic: modeling the perspective of journalists, fact-checkers, social media platforms, policy makers, and the society*, in “Preprint arXiv:2005.00033v5”. <https://arxiv.org/pdf/2005.00033.pdf>. (1.9.2021).
- Cammaerts B. 2007, *Jamming the Political: Beyond Counter-hegemonic Practices, Continuum*, in “Journal of Media and Cultural Studies” 21 [1], pp. 71-90.
- Carroll L. 1946, *Alice’s Adventures in Wonderland*. Random House, New York/NY.
- Caumanns U. 2016, *Performing and communicating conspiracy theories: Stalinist show trials in eastern Europe during the Cold War*, in “Lexia” 23 [4], pp. 269–288.
- Coady D. 2006, *Conspiracy theories: The philosophical debate*. Ashgate, Farnham, United Kingdom.
- Dean K.L. and Forray M.J. 2017, *Tumbling Down the Rabbit Hole: Innovation and Change in Context* in “Journal of Management Education” 41 [3], pp. 311-315.
- Del Vicario M.D., Quattrociocchi W., Scala A. and Zollo F. 2019, *Polarization and fake news: early warning of potential misinformation targets*, in *ACM Trans. Web (TWEB)*” 13, pp. 1-22.
- Del Vicario M., Bessi A. and Zollo F. 2016, *The spreading of misinformation online*, in “Proceedings of the National Academy of Sciences” 113, pp. 554-559.
- Douglas K., Uscinski E.J., Sutton R., Cichocka A. and Nefes T. 2019, *Understanding Conspiracy Theories*, in “Advances in Political Psychology” 40 [1]. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/pops.12568>. (1.9.2021).
- Fairclough N. 2003, *Analysing Discourse: Textual Analysis for Social Research*, Routledge, London/New York.
- Fairclough N. and Wodak R. 1997. *Critical Discourse Analysis*, in van Dijk, T. (ed.), *Discourse Studies: A Multidisciplinary Introduction* [2], Sage, London, pp. 258-284.
- Flynn D.J., Nyhan B. and Reifler J. 2017, *The nature and origins of misperceptions: Understanding false and unsupported beliefs about politics*, in “Advances in Political Psychology” 38 [S1], pp. 127-150.
- Grice HP. 1975, *Logic and Conversation. Speech Acts*, Academic Press, New York.
- Halliday M.A.K. 1994, *An Introduction to Functional Grammar*, Edward Arnold, London.
- Jakesch M., Koren M., Evtushenko A. and Naaman M. 2018, *The role of source, headline and expressive responding in political news evaluation*, in “Social Science Research Network”. <https://papers.ssrn.com/abstract/43306403> (9.4.2021).
- Kaplan AM. And Haenlein M. 2010, *Users of the world, unite! The challenges and opportunities of Social Media*, in “Business Horizons” 53 [1], pp. 59-68.
- Kress G. and van Leeuwen T. 2020, *Reading Images: The Grammar of Visual Design*, Routledge, London.
- Kruglanski A., Molinario E. and Lemay E. 2021. *Coping with COVID-19-induced threats to self*, in “Group Processes and Intergroup Relations” 24, pp. 284-289.
- Kulshrestha J., Eslami M., Messias J., Zafar M.B., Ghosh S., Gummadi K. and Karahalios K. 2017, *Quantifying search bias: Investigating sources of bias for political searches in social media*, in “Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing”. <https://arxiv.org/pdf/1704.01347.pdf> (4.3.2021).

- Ledin P. and Machin D. 2018, *Doing Visual Analysis*, Sage, London.
- Machin D. and Mayr A. 2012, *How to do Critical Discourse Analysis: A multimodal introduction*, Sage, London.
- Mouffe C. 1999, *Deliberative democracy or agonistic pluralism?*, in “Social Research” 66 [3], pp. 746-758.
- Renucci J.F. 1994, *Introduction to the European Convention on Human Rights – Collected texts*, Council of Europe Publishing, Strasbourg.
- Shneiderman B., Preece J. and Pirolli P. 2011, *Realizing the value of social media requires innovative computing research*, in “Communications of the ACM” 54 [9], pp. 34.
- van Leeuwen T. 1996, *The representation of social actors*, in Caldas-Coulthard, C.R. and Coulthard, M. (eds.), *Text and Practices: readings in critical discourse analysis*, Routledge, London, pp. 32-70.
- van Leeuwen T. 2005, *Introducing social semiotics*. Routledge, London/New York.
- Vosoughi S., Roy D. and Aral S. 2018, *The spread of true and false news online*, in “Science” [359], pp. 1146-1151.
- Wodak R. 2009, *Critical Discourse Analysis: History, Agenda, Theory and Methodology*, in Wodak R. and Meyer M. (eds.), *Methods for Critical Discourse Analysis* (2nd ed.), Sage, London, pp. 1-33.
- Zarocostas J. 2020, *How to fight an infodemic*, in “The Lancet” 395 [10225], pp. 676. <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2930461-X> (4.6.2021).
- Zollo F. 2019, *Dealing with digital misinformation: A polarised context of narratives and tribes*, in “EFSA Journal” 17 [S1]e170720. <https://efsa.onlinelibrary.wiley.com/doi/pdf/10.2903/j.efsa.2019.e170720> (4.9.2021)

A MIXED-METHOD CORPUS APPROACH TO THE COVID-19 VACCINATION DEBATE

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Abstract – Social media have contributed to the recent proliferation of online discussions on the COVID-19 vaccines. The paper explores the evolution of this debate by analysing an *ad hoc* corpus of tweets (over 5.5 million words) collected from March 15th to April 14th, 2021. We deploy sentiment, emotion, and emoji analysis to uncover the users' affective states, perceptions, and reactions regarding the COVID-19 vaccination. Our results show that vaccine sentiment is influenced by real-time news and by other information that circulates on the Internet, displaying polarizations on both the negative and the positive extremities of the sentiment scale. The emotion analysis indicates that *trust* issues (either *trust* or *mistrust*) regarding the COVID-19 vaccination prevail in our data, amounting to 21.29% of the overall emotional valence of tweets. Furthermore, the qualitative analysis suggests that the infodemic relies primarily on strong negative emotions (e.g., *fear*, *anger*, and *disgust*). Finally, the emoji analysis reveals that, besides iconicity functions, emoji act as boosters of emotions, contributing to the semantic dimension of the Twitter debate on the COVID-19 vaccination.

Keywords: sentiment analysis; emotion analysis; emoji analysis; misinformation; COVID-19 vaccine.

1. Introduction

The scholarly debate has suggested that an insufficient COVID-19 vaccination coverage is problematic as it may retard or hamper the post-pandemic recovery (Lazarus et al. 2021). When vaccines are available, a suboptimal vaccination coverage is generally caused by vaccine hesitancy (Kang et al. 2017). By January 10th, 2022, 5.5 million people died from COVID-19 and over 307 million infection cases were reported¹; for this reason, the COVID-19 vaccination campaign, in general, and the vaccine hesitancy, in particular, are topics that hold the attention of institutions and organizations from all around the world, and scholars working in various fields of research. For instance, in a recent interdisciplinary work, de Figueiredo and Larson (2021) explore how the propensity to accept a COVID-19 vaccine varies from a geographical and

¹ Up to date information on the COVID-19 cases is available online at this website: <https://coronavirus.jhu.edu/map.html> (10.1.2022).

a socio-demographical point of view. The results of their survey unveil that the respondents from Lebanon, France, Croatia, and Serbia are less determined to accept a COVID-19 vaccine. In other respects, being male, older, or having a high level of education is associated with a higher likelihood to agree to the COVID-19 vaccination.

Existing studies on COVID-19 vaccine hesitancy mention safety concerns, the rapid pace of vaccine development, the accelerated approval process, and misinformation, as primary reasons of scepticism (Machingaidze and Wiysonge 2021; Wouters et al. 2021). On the same note, Lyu et al. (2021) explore social media in order to understand the public opinion on COVID-19 vaccines. The authors employ a human-guided machine learning approach to investigate the opinions of over 10,000 Twitter users with respect to COVID-19 vaccines. Their system classifies the users into three groups: pro-vaccine, vaccine-hesitant, and anti-vaccine. The results of the study reveal that religious people and socio-economically disadvantaged groups are more likely to display polarized opinions on COVID-19 vaccines – either pro-vaccine or anti-vaccine. Moreover, people living in suburban or rural areas and those who have had the worst personal pandemic experience are more likely to have an anti-vaccine opinion.

At the time this paper was written, few works in the field of linguistics focused on this matter. An important contribution is Breeze's (2021) corpus-assisted discourse analysis of online comments to the Mail Online articles on the development of COVID-19 vaccines. The author explains that the constant demand for health news has led to a huge availability of information from official sources, from the traditional media, and from user-generated online postings. As Breeze (2021) points out, the lattermost are generally viewed as having a tendency to spread misinformation or other harmful information, while, at the same time, the "expert" knowledge is constantly questioned by the general public. Besides the afore-mentioned study, the newly launched Quo VaDis project² (coordinated by Elena Semino, at the University of Lancaster) uses corpus-based discourse analysis techniques to explore vaccination concerns and to analyse how people talk about vaccination. Semino and her colleagues explore the language of the pro-vaccination and the anti-vaccination exponents, as well as the undecided population; they believe that the way people talk about this topic mirrors and shapes beliefs, attitudes, and behaviours.

Our study goes in the same direction and it aims to investigate the COVID-19 vaccination debate on Twitter. The language of immunology and virology has been the talk of the town ever since the COVID-19 pandemic started. The effectiveness of official health communication has been

² A detailed description of the Quo VaDis project is available at this website: <https://www.lancaster.ac.uk/vaccination-discourse/> (8.1.2022).

challenged by a myriad of misinformation, generally spread over the Internet. Zarocostas (2020) uses the term ‘infodemic’ to define this phenomenon, and a great body of literature has already investigated its impact on the general perception of the COVID-19 pandemic and of the COVID-19 vaccines (Jacobsen and Varga 2020; Garrett and Young 2021; Machingaidze and Wiysonge 2021; Kricorian et al. 2021).

In this work, we conduct quantitative and qualitative analyses to examine the COVID-19 vaccine sentiment (at large) and how it is affected in real-time by vaccine news and other information circulating over the Internet. The primary hypothesis advanced by our study is that information on COVID-19 vaccines – in the form of institutional press releases, scientific data, traditional news, and online postings written by social media users – has an immediate effect on the sentiment and the emotions of the general public. This topic is of interest now more than ever, as a negative opinion on COVID-19 vaccines could eventually culminate in vaccine hesitancy. On these grounds, we collect an English corpus of over 214,000 original tweets (over 5.5 million tokens) from March 15th to April 14th, 2021 – a relevant time-frame within the COVID-19 vaccination timeline. Following a multi-method approach, we extract and quantify semantic information from the corpus in the form of sentiment, emotions, and emoji. Concomitantly, the secondary research question of this paper scrutinizes the emoji; we hypothesize that the emoji are able to efficiently evoke concrete and abstract concepts related to the COVID-19 vaccination, and more importantly, they function as emotion enhancers (on either direction of the negative-positive interval), contributing to the sentiment and the emotional dimension of the vaccine discourse on Twitter.

The paper is structured as follows: in section §2 we describe our data and methods; section §3 presents and discusses the results of our analyses; concluding remarks follow in section §4.

2. Methodology

In this section we present our data and methods. First, in §2.1 we illustrate the collection, compilation, and preparation of the corpus, and then in §2.2 we describe the systems used for sentiment, emotion, and emoji analysis.

2.1. Corpus collection and processing

This study explores the semantic dimension of the Twitter debate in English concerning the COVID-19 vaccination campaigns around the world. In order to test our hypothesis regarding the effect of the vaccine news and postings on the users’ sentiment and emotions, we collect and analyse a large corpus of tweets for a month, from March 15th to April 14th, 2021. This time-frame is

particularly relevant within the COVID-19 vaccination timeline as it covers, among other things, the suspension of the AstraZeneca vaccine³ in several European countries, in Canada, and in Australia, due to blood clots concerns; the European Medicines Agency (EMA) vaccine review; the discovery of 29 million doses of AstraZeneca vaccine in a Catalent facility in Italy; the rollout and the shipping of Janssen (the official name of the Johnson and Johnson COVID-19 vaccine); the administration of over 150 million vaccine doses in USA; etc.

The data collection process is automatized with the Standard Search Application Programming Interface⁴ and the *rtweet* package (Kearney 2019) for R (R Core Team 2021). In practice, the first step consists in the definition of a list of hashtags that are associated with the COVID-19 vaccination⁵: #vaccine, #vaccines, #vaccination, #covidvaccine, #covidvaccines, #covidvaccination, #sarscov2vaccine, #coronavirusvaccine, #coronavirusvaccines, #coronavirusvaccination, #covid19vaccine, #covid19vaccines, #covid19vaccination, #covid_19vaccine, #covid_19vaccines, #covid_19vaccination, #pfizer, #pfizercovidvaccine, #pfizerbiontech, #pfizervaccine, #comirnaty, #astrazeneca, #astrazenecavaccine, #oxfordvaccine, #oxfordastrazeneca, #vaxzevria, #vaxzevriavaccine, #vaxzevriaformerlyknownasastrazeneca, #moderna, #modernavaccine, #mrna, #mrnavaccine, #sputnik, #sputnikv, #sputnikvaccine, #johnsonandjohnson, #johnsonvaccine, #johnsonandjohnsonvaccine, #janssen, #janssenvaccine. Every twelve hours, every day, all tweets (including retweets and quotes) written in English that correspond to these hashtags are automatically downloaded and stored. The data was collected from March 15th to April 14th, 2021 and it amounts to 1,064,936 tweets, corresponding to 31,093,839 tokens. In addition to the text of the tweet, we collect 88 metadata describing the tweet (e.g., character length, number of retweets, number of likes, etc.) and the user (e.g., username, gender, etc.).

In order to reduce the noise in the corpus and to ensure its suitability for linguistic analyses, several processing steps are necessary. First of all, retweets are removed with the *filter()* function available on the *dplyr* package (Wickham et al. 2020) for R. Besides that, duplicates other than retweets are removed with the *distinct()* function available on the same R package. The final compiled

³ Until March 25th, 2021 the vaccine was called COVID-19 Vaccine AstraZeneca. After that date the name was changed into Vaxzevria. In this paper we will refer to this vaccine by its former name.

⁴ The Standard Search Application Programming Interface is available through the Twitter Developer Platform: <https://developer.twitter.com/en> (24.8.2021).

⁵ On Twitter, the difference between upper and lower-case is not taken into consideration for the retrieval of hashtags, while the “-” character is not supported (the “_” character is used instead).

corpus consists of a data-frame of 214,439 original tweets, corresponding to 5,536,886 tokens⁶.

In view of the quantitative analyses, the definition of a ‘stop-words’ list for English is also necessary. It consists of lexically empty or uninformative words (e.g., prepositions, conjunctions, auxiliary verbs, determiners, etc.), numbers, punctuation, one-character sequences (except for emoji), Twitter handles, URLs, and excessive white spaces. The functions in the tidyverse package (Wickham 2019) are used to apply the ‘stop-words’ list to the corpus. All hashtags are kept because they contain relevant semantic information; multi-words hashtags graphically separated by capitalized letters are automatically split (e.g., from ‘#GetVaccinated’ to ‘get vaccinated’) using an R function we created for this purpose. Next, the text of the corpus is converted to lowercase. To use temporal variables for the sentiment analysis, the *created_at* metadatum is divided into date and hour. Since one of the analyses presented here focuses on emoji, for normalization purposes, we replace all skin tones (i.e., light, medium-light, medium, medium-dark, and dark) with the standard yellow colour. Finally, the dataset is stored into a data-frame of 92 columns and 214,439 rows that contains the original tweets, the processed texts, the new temporal information, and 88 metadata regarding tweets and users (e.g., location, number of characters, etc.).

2.2. Methods

This section presents the methods deployed to analyse sentiment (§2.2.1), emotions (§2.2.2), and emojis (§2.2.3) in our corpus of tweets. The characteristics of each system are described in detail, highlighting how the mixed-method approach proposed here allows us to explore the construction of the COVID-19 vaccination debate on Twitter.

2.2.1. Sentiment analysis

Sentiment analysis (also opinion mining) is the point of contention of several fields of theoretical and applied research (e.g., artificial intelligence, computational linguistics, computational social science, cognitive science, natural language processing, text analysis, etc.) and it aims at identifying and measuring opinions and affective states. Feldman (2013: 82) defines sentiment analysis as “the task of finding the opinions of authors about specific entities”. To date, there are three known approaches to perform sentiment analysis: lexicon-based, machine learning, and a hybrid combination of the two (see Sharma et al. 2020, for a review).

⁶ In the spirit of open science and to enhance collaboration and reproducibility, the final corpus is available as a .csv file on the Open Science Framework platform:

https://osf.io/ztp4a/?view_only=67988b5786ea46b499febd2062673385 (30.9.2021).

Regardless of the approach, one of the most popular tasks in sentiment analysis is polarity extraction from text (i.e., at word, sentence, and document level), namely the classification of an expressed opinion into positive (i.e., in numerical terms, above 0), negative (i.e., below 0), or neutral (i.e., around 0). Due to its potential, sentiment analysis is studied both in academia and industry, but it is frequently applied in the latter field (e.g., to assess customer feedback). Before the COVID-19 pandemic, few studies have discussed the use of sentiment analysis techniques to explore health communication, let alone health communication on Twitter (see Gohil et al. 2018, for a review). Nevertheless, the outbreak of the coronavirus disease has acted as a catalyst for research on opinion mining. Recent research on this topic has explored both the effectiveness of the institutional communication strategies during the pandemic (Wang et al. 2021), as well as the citizens' reactions to this crisis (Chandra and Krishna 2021). When this paper was drafted, some studies had already analysed the Twitter discourse concerning the COVID-19 vaccination by means of sentiment analysis (Marcec and Likic 2021; Yousefinaghani et al. 2021; Lyu et al. 2021 provide medical and sociological perspectives), but none had a linguistic focus towards the infodemic phenomenon.

In this study we hypothesize that the real-time information (e.g., official and institutional announcements, scientific dissemination, traditional news, online postings, etc.) related to the COVID-19 vaccination circulating on the Internet has an immediate effect on sentiment, therefore on how people perceive the vaccine. To explore this specific semantic dimension of the COVID-19 vaccination debate, we use a lexicon-based system to extract sentiment from a corpus of 214,439 tweets (over 5.5 million tokens). Our lexicon-based approach allows us to track the underlying mechanism of sentiment assignment; therefore, we can easily explore how words contribute to specific sentiment scores in tweets, and more in general how the vaccine perception is built. Unlike other methods of sentiment analysis, a lexicon-based system is practical and immediately available to a wide range of scholars, a crucial element for research reproducibility in linguistics.

Among the many tools available, we use the functions of the *syuzhet* package (Jockers 2017) for R to extract and analyse sentiment. The approach employed here relies on readily available sentiment lexica able to score the sentiment of a tweet by aggregating the sentiment scores of all the words in the tweet. Generally speaking, these lexica contain words and corresponding sentiment scores ranging from (extremely) negative to (extremely) positive values. Thus, the performance of a lexicon-based approach to sentiment analysis is determined by the fitness of the lexicon.

There are five readily available lexica for sentiment analysis on the *syuzhet* package, and here we test two of them: Finn's (2011) *afinn* lexicon – created specifically for sentiment analysis tasks in microblogs (e.g., Twitter)

and Liu's (2015; Liu et al. 2005) *bing* lexicon – suitable, in general, for opinion mining on the web. The *afinn* lexicon consists of 2,477 words, manually labelled by Finn for sentiment valence (subjectivity, objectivity, arousal, and dominance are not scored). The original score range is comprised between -5 (e.g., 'bastard', 'bitch', etc.) to 5 (e.g., 'hurrah', 'outstanding', etc.); for normalization, comparability, and reproducibility purposes, in this paper the original scores are transformed to match a more common -1 (extremely negative) to 1 (extremely positive) range. Internet slang and acronyms (e.g., 'lol', 'rotflmfao', 'wtf', 'wowow', etc.) are also included in the *afinn* lexicon to better capture the sentiment of the Twitter communication. The *bing* lexicon consists of 6,786 words, classified into two categories: negative (e.g., 'abominable', 'pain', 'scary', etc.) and positive (e.g., 'elegant', 'love', 'smile', etc.), that are transformed in this paper into discrete numeric values (i.e., -1 and 1, respectively). Liu and the colleagues labelled manually only a small list of seed adjectives, by using the 'positive' and the 'negative' tags; this list was automatically enriched and labelled with the support of WordNet (Miller 1995; Fellbaum 1998). To overcome inflection issues, we lemmatize both the tweets and the lexica with the lemmatization functions of the UDPipe package (Wijffels 2021) for R, using the english-ewt (Silveira et al. 2014) pre-trained model.

The extraction of sentiment is performed with the *get_sentiment()* function that iterates over the vector of tweets and assigns two sentiment scores to each tweet, one based on the *afinn* lexicon and the other based on the *bing* lexicon. Two large numeric vectors are obtained corresponding to the two methods. Next, to measure the overall sentiment scores and to ensure comparability across scales and lexica, we apply the *rescale_x_2()* scaling function and the *get_dct_transform()* time normalisation and shape smoothing function. Each tweet, its sentiment score, and the date of publication are stored in a data-frame. In order to obtain a visual representation of sentiment from March 15th to April 14th, 2021, we plot the sentiment scores on a normalised time axis; to do so we apply the *simple_plot()* function to the sentiment vector. This function exploits three smoothing techniques (i.e., rolling average, Loess – local polynomial regression fitting, and Syuzhet DCT – discrete cosine transformation). To explore in detail the effect of real-time news and online postings on the perception of the COVID-19 vaccines, a qualitative analysis is performed. To this end, 99 tweets are extracted from the corpus following a stratified random sampling that controls the time variable (i.e., the date of publication of the tweet) and the sentiment score. The scores are transformed into the corresponding categorical values (i.e., negative, neutral, and positive), resulting into 33 tweets for each label. Some examples pulled from this sample are provided in Annexes A and discussed in §3.1.

The performance of the sentiment analysis system is assessed by three native speakers of British English (one male and two female language teachers working in Bologna). The speakers rate the sentiment of the sample of 99 tweets described above. The inter-rater agreement as well as the agreement between the annotators and the results of the automatic system of sentiment analysis are calculated with Kappa Fleiss test (Fleiss et al. 1969). According to Landis and Koch (1977), Kappa can be interpreted as follows: < 0 = poor agreement, $0.01 - 0.20$ = slight agreement, $0.21 - 0.40$ = fair agreement, $0.41 - 0.60$ = moderate agreement, $0.61 - 0.80$ = substantial agreement, and $0.81 - 1.00$ = almost perfect agreement. The human annotation enhances both the qualitative and the quantitative analyses.

2.2.2. Emotion analysis

Emotion analysis (also emotion classification or emotion detection) is often seen as a more sophisticated version of sentiment analysis, in the sense that it provides a refined identification of primary emotions in a text (i.e., at word, sentence, and document level). There are three main approaches commonly used in natural language processing to detect emotions: lexicon-based, machine learning, and hybrid systems (see Acheampong et al. 2020, for a review). Unlike sentiment analysis, the emotion analysis does not necessarily employ discrete numeric values, binary variables, or continuous intervals to measure affective states. More commonly, emotions are classified and quantified based on a reference model, generally sourced from psychological research (Combei and Luporini 2021). Accordingly, emotions in text are expressed in terms of levels of categorical variables. The number and the labels of these levels depend on the theoretical model used in the research.

Several theories of basic emotions have been introduced. One of the first examples is James' (1890) model that classifies basic emotions into four categories: *fear*, *grief*, *rage*, and *love*. A hundred years later, Plutchik (1991) proposes an extended list of basic emotions, in the form of a wheel diagram, containing eight emotions: *joy*, *trust*, *fear*, *surprise*, *sadness*, *disgust*, *anger*, and *anticipation*. Based on these emotions, he also hypothesizes the presence of primary, secondary, and tertiary dyads, each containing feelings composed of two basic emotions situated one petal, two petals, and three petals apart, respectively (Plutchik 2001).⁷ For example, *remorse* is found in the primary dyad and it is a combination of *disgust* and *sadness*. Among other feelings in the secondary dyad there is, for instance, *hope* which is a combination of

⁷ Plutchik (2001) classifies the feelings as follows: in the primary dyad, *love*, *submission*, *awe*, *disapproval*, *remorse*, *contempt*, *aggressiveness*, *optimism*; in the secondary dyad, *envy*, *unbelief*, *despair*, *curiosity*, *guilt*, *hope*, *pride*, *cynicism*; in the tertiary dyad, *anxiety*, *delight*, *sentimentality*, *shame*, *outrage*, *pessimism*, *morbidness*, *dominance*.

anticipation and *trust*. Also, an example from the tertiary dyad is *outrage*, namely a combination of *anger* and *surprise*.

To complement the sentiment analysis, our study exploits a lexicon-based system to detect emotions on Twitter during one month of debate regarding the COVID-19 vaccination. This approach is able to account for the emotional valence of each tweet and to return the most prevalent emotions, both at tweet level and at corpus level. Thus, the users' feelings and reactions concerning vaccination campaigns around the world can be efficiently mapped. The analyses are conducted in R with the *syuzhet* package, introduced in section §2.2.1.

The lexicon we employ for emotion analysis is called *nrc* and it was created by Mohammad and Turney (2013). This 13,875-words resource is based on Plutchik's (1991) classification of basic emotions and it is the result of a (crowdsourced) manual annotation of emotional valence. Words have an emotional dimension, in the form of one or more basic emotions (i.e., *anger*, *fear*, *anticipation*, *trust*, *surprise*, *sadness*, *joy*, and *disgust*). For example, the word 'agony' is associated with three emotions (i.e., *anger*, *fear*, and *sadness*). Following this approach, words that are not part of the lexicon have no emotional valence for the classification system.

Before detecting the emotions in tweets, we use the tools presented in section §2.2.1 to lemmatize both the corpus and the *nrc* lexicon. We apply the *get_nrc_sentiment()* function to each tweet to extract the most prevalent emotions (a numeric value is provided for each primary emotion existent in the tweet), and then we compute relative percentage-based values for the whole corpus. Emotions are structured and plotted with the functions of the *tidyverse* and *ggplot2* (Wickham 2016) packages for R. A qualitative exploration of the emotion analysis is also performed. First, we calculate the central tendency of each of the eight emotions at the corpus level and then we randomly sample tweets the scores of which are higher than these eight average values, for a total of 80 items (ten for each basic emotion). This returns tweets containing a dominant emotion, namely an emotion the score of which outpoints the scores of the other seven emotions. Some examples extracted from this sample are provided in Annexes B and discussed in §3.1.

The evaluation of the results of emotion analysis is performed following the method described in section §2.2.1, except that in this case, the three native speakers use the *nrc* labels discussed above to tag the emotional dimension of 80 tweets; the examples included in this sample display high emotional values for a dominant emotion.

2.2.3. *Emoji analysis*

Emoji are small pictographs equipped with predefined names and Unicode tags (i.e., code points) that are used to represent and evoke both abstract and concrete concepts. Emojipedia⁸ – the reference website for the official emoji – classifies emoji into eight categories: smileys and people (e.g., worried face - 😟, police officer - 🚔, etc.); animals and nature (e.g., turtle - 🐢, water wave - 🌊, etc.); food and drink (e.g., pizza - 🍕, wine glass - 🍷, etc.); activity (e.g., horse racing - 🏇, swimming - 🏊, etc.); travel and places (e.g., airplane departure - 🛫, desert island - 🏝, etc.); objects (e.g., balloon - 🎈, crystal ball - 🔮, etc.); symbols (e.g., ATM sign - 🏧, musical note - 🎵, etc.); and flags (e.g., chequered flag - 🏁, white flag - 🏳, etc.). These pictograms have been part of the Computer Mediated Communication (CMC)⁹ for more than two decades, becoming increasingly popular across cultures and among all age groups.

Danesi (2017) advances the claim that the emoji code may be a form of universal language able to solve problems of comprehension. Conversely, Abel (2020: 34) warns against the use of the “myth of universality”, suggesting that emoji are “strongly embedded in cultural conditions”. On the same note, some scholars have discussed about other types of variation in the emoji use and interpretation, including gender and generational differences (Prada et al. 2018; Herring and Dainas 2018, 2020), but also idiosyncrasy (Hall and Pennington 2013; Dainas and Herring 2021); all these differences may, in fact, lead to faulty interpretations of the communicator’s intentions.

Regardless of whether the emoji use is universal or socio-demographically dependent, we know for sure that people have used emoji intensely and for quite some time both on social media (e.g., Facebook, Twitter, etc.) and in private conversations (e.g., iMessage, WhatsApp, etc.). For this reason, the users might not be fully aware of how emoji have shaped the language they speak (Chiusaroli 2017a, 2017b; Kejriwal et al. 2021). The fact that we include emoji in our communication – even though sometimes we do it without much thought – adds significant semantic and pragmatic information to the message. As a matter of fact, emoji may be employed either for mitigation purposes (e.g., a smiling face – 😊 used with a request) or to better emphasize a written message (e.g., a crying face – 😭 to convey sadness or pain). Recent research has documented several functions of emoji in CMC: enhancing emotions; functioning as rhetorical devices; changing the register

⁸ Emojipedia is available online at this website: <https://emojipedia.org/> (26.8.2021)

⁹ In this paper, the term Computer Mediated Communication (CMC) is used to refer to any form of human communication enabled by means of two or more electronic devices (e.g., computers, mobile phones, tablets, etc.).

and the style of a message; strengthening the illocutionary force of a speech act; and mitigating face-threatening acts (see Bai et al. 2019, for a review). For instance, the experimental study by Weissman and Turner (2018) shows that the wink emoji (i.e., 🙄) induces irony, while Cheng (2017) claims that emoji are included more frequently in positive messages.

In this paper, we hypothesise that emoji boost the emotional valence of tweets; together with other semantic features (explored here by means of sentiment and emotion analysis) emoji are able to better reflect the users' perception of COVID-19 vaccination. For this reason, the paper will investigate the semantic contribution of emoji to the sentiment of the Twitter debate on COVID-19 vaccines. Specifically, we will focus on patterns of emoji use in tweets, by measuring their frequencies, examining their concordances, and computing the strength of word-emoji associations. The aim of our emoji investigation is to enhance sentiment and emotion analysis by identifying recurrent features of the COVID-19 vaccine debate on Twitter; a strategic use of semantic polarization and the choice of emotions and emoji may result in persuasive postings that are able to change the users' opinions with respect to vaccination.

From a practical point of view, for the emoji analysis we employ the R packages `tm` (Feinerer and Hornik 2019), `Unicode` (Hornik 2020), and `emo` (Wickham 2020) to process and to analyse our corpus of tweets. In addition to that, we use a 2,455-type emoji dictionary released by Lyons (2017) – based on previous work by Peterka-Bonetta (2015) and the lexicon of emoji sentiment by Novak et al. (2015). These resources allow us to explore the emoji contribution to the sentiment in the corpus, to compute the frequency of each emoji type, and to extract the emoji that are strongly associated with the keywords of the COVID-19 vaccination discourse on Twitter (i.e., “vaccine” “vaccination”, and “vaccines”)¹⁰.

3. Results and discussion

The main hypothesis of this study is that the abundance of real-time announcements, news, and online postings regarding the COVID-19 vaccination has an immediate impact on the perception of the general public about the vaccines. Since the infodemic relies heavily on manipulative language, a semantic analysis of tweets may be able to uncover clues with respect to the users' sentiment and emotions, which in the long run could contribute to the understanding of the vaccine scepticism. In this section we test this hypothesis in a corpus-based fashion, focusing on the sentiment and

¹⁰To assess the strength of the association between words and emoji we computed the pointwise mutual information (Ward Church and Hanks 1990).

the emotional valence of the COVID-19 vaccination debate. Moreover, we also verify whether the emoji are able to evoke concepts related to the COVID-19 vaccination, and whether they act as emotion enhancers. In the first part of the section (§3.1), we illustrate the findings of sentiment and emotion analysis, while in §3.2 we describe the results of the emoji analysis; a discussion follows in §3.3.

3.1. The effect of vaccine infodemic on sentiment and emotions

The first results we present and discuss here are the sentiment analysis scores. Table 1 displays the values for central tendency and dispersion at the corpus level. We observe that the overall mean value of the sentiment score in the corpus is just above the neutrality level, reaching slightly positive values, regardless of the lexicon used (0.11 for *afinn* and 0.07 for *bing*). This result, however, is not particularly meaningful for our hypothesis. As a matter of fact, the aggregate sentiment score usually tends to converge toward 0 in case the analysis is conducted on large corpora (Çelikutğ 2018); in our systems (see Table 1).

Lexicon	Mean	Standard Deviation	Median
<i>afinn</i>	0.11	0.10	0
<i>bing</i>	0.07	0.04	0

Table 1
Sentiment analysis scores.

The large standard deviation suggests dispersion in our results. For this reason and to better depict the users' response to and participation in the vaccine debate on Twitter, we create a temporal representation of the sentiment analysis scores (from March 15th to April 14th, 2021). Since the results obtained with *afinn* and *bing* strongly correlate ($r = 0.81$, $p\text{-value} < 0.01$), and due to page constraints, we include only the plot corresponding to the results of the latter method. Figure 1 shows the scaled sentiment on the y axis, while the time is displayed on the x axis. In addition to the rolling mean (coloured in grey), we include the smoothed curves (Loess in blue and Syuzhet DCT in red).

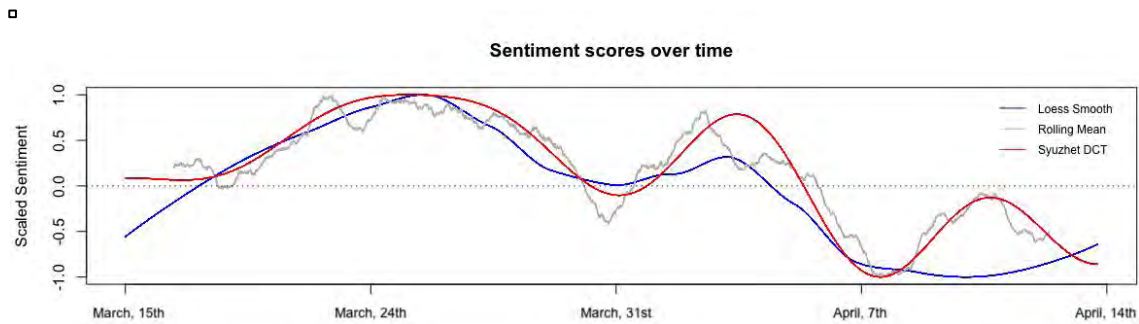


Figure 1
The evolution of sentiment from March 15th to April 14th, 2021.

The graphical representation in Figure 1 allows us to explore the evolution of sentiment. We can observe that during the first days analysed here (from March 15th to March 20th) the sentiment is neutral; the rolling mean is around 0 for most of the time. A qualitative exploration of the tweets written in that period suggests that the score is largely influenced by the decision of France, Germany, Italy, and Spain to suspend the AstraZeneca vaccine over blood clot concerns (see examples 1-3 in Annexes A). There is, in fact, a significant polarization on both sides of the sentiment scale that cancel each other when they are summed up. On the one hand, the positive tweets in our sample refer to messages discussing the vaccine benefits (see examples 4 and 5 in Annexes A). On the other hand, some of the negative tweets suggest that vaccines are dangerous (see examples 6 and 7 in Annexes A), or they reflect the users' concerns regarding the news of side-effects (e.g., fever, blood clots, etc.). There are also several tweets classified as negative that criticize the suspension of the AstraZeneca vaccine; most of these examples are written by British users that blame the EU and EMA for this decision (see example 8 in Annexes A).

The sentiment starts to rise at the end of the first week analysed in our study, in conjunction with the EMA safety review, which outlined the benefits of the vaccines over their side-effects. During the same week, vaccination with AstraZeneca was resumed in most countries. The highest peak of positivity is reached on March 22nd; in our dataset, most positive tweets published on that day are written by users that describe their vaccination experience and that warn against the fake news regarding vaccines (see examples 9-11 in Annexes A). The positivity trend remains relatively stable until March 29th when it starts to fall, reaching a clearly negative score on March 31st. A qualitative exploration of the tweets published at the end of March suggests that the negative score is determined by three key events: German authorities decided to stop the administration of the AstraZeneca vaccine to people younger than 60, following reports of blood clots; Canada suspended the AstraZeneca vaccine shots for people aged 55 and under, as a precautionary measure;

Hungary reported a record number of COVID-19 deaths despite high vaccination rates (see examples 12-14 in Annexes A).

Next, at the beginning of April, the sentiment is neutral and eventually it becomes positive, even if this trend only lasts for a couple of days. Most positive tweets in our dataset refer to the fact that more than 100 million people in the US received at least one dose of a COVID-19 vaccine (with more than 3 million doses administered daily); other positive tweets discuss about the extension of the COVID-19 vaccine to people aged 16 or older in some states in the US (see examples 15-17 in Annexes A). Starting with April 5th, the sentiment falls rapidly, reaching the lowest values on April 7th and April 8th. Despite some fluctuations, the sentiment score remains negative until the 30th day analysed in this study, namely April 14th (see examples 18-20 in Annexes A). Most of the negative tweets in the corpus are reactions to the fact that on April 7th, EMA confirmed a possible link between the AstraZeneca vaccine and events of blood clots; simultaneously, Spanish, Portuguese, and British authorities recommended that younger people should be administered alternative vaccines. Similar decisions were taken in Australia. At the same time, the US Center for Disease Control and Prevention released a statement to address some incidents concerning adverse reactions to the Johnson and Johnson vaccine. The fact that the sentiment score is negative for the entire week suggests that the news regarding the events above (amplified worldwide through Twitter itself) have an immediate effect on the users' confidence in the COVID-19 vaccines. At a more general level, this could be explained in terms of the echo chamber effect, namely a scenario in which perceptions and opinions are magnified and reinforced due to the fact that the communication takes place in a noticeably closed medium. This could also lead to confirmation bias, as the users that look for information regarding the COVID-19 vaccines on Twitter might eventually end up reinforcing their own beliefs on this matter.

The performance of our sentiment analysis system is compared to the performance of three human annotators that rate the sentiment of a stratified random sample of 99 tweets (see also §2.2.1). The results of the first Kappa Fleiss test on sentiment classification suggest a substantial agreement between the three native speakers (tweets = 99, levels = 3, raters = 3, Kappa = 0.777, $z = 18.9$, $p\text{-value} < 0.01$). We also compute the inter-rater reliability between the human annotators and the automatic classification. The results of this test indicate that the agreement is substantial (tweets = 99, levels = 3, raters = 4, Kappa = 0.798, $z = 27.5$, $p\text{-value} < 0.01$).

In order to obtain a more detailed perspective of the users' feelings regarding vaccines, but also to better understand how vaccine hesitancy is built as a result of official news and information circulating on the web (including misinformation), we measure the emotional valence of the tweets in our corpus. First of all, a close look at the results spotlights a methodological issue,

namely that our system assigns the *trust* label to both the tweets that express trust and to those that express mistrust in the COVID-19 vaccination. For this reason, the plot shown in Figure 2 uses these labels: *trust/mistrust*, *anticipation*, *fear*, *sadness*, *disgust*, *anger*, *surprise*, *joy*.

Figure 2 displays the percentages of all primary emotions in the corpus. We only take into account tweets that display emotional valence, meaning that at least a word in the tweet matches a word in the *nrc* lexicon. The distribution of emotions provides a preliminary response to our research question: the *trust* issues (either *trust* or *mistrust*) regarding the COVID-19 vaccination prevail in our data, amounting to 21.29% of the emotions conveyed; thus, they reflect both trust and scepticism in COVID-19 vaccines. The second most frequent emotion is *anticipation* (16.12%); some tweets display both *trust* and *anticipation* as prevalent emotions (although only one of the two emotions is dominant), generating what Plutchik (2001) defines *hope* – a secondary dyad feeling (see also §2.2.2). The third most frequent emotion in our corpus is *fear* (15.22%); sometimes it occurs together with *anticipation*, an indicator of the users' *anxiety* (a tertiary dyad feeling). Another negative emotion in our corpus is *sadness* (11.8%); when it is combined with *fear* it represents *despair* (a secondary dyad feeling) while with *anticipation* it indicates *pessimism* (a tertiary dyad feeling). The fifth most frequent primary emotion is *joy* (10.93%) that often co-occurs with *anticipation*, implying *optimism* (a primary dyad feeling). It is closely followed by *anger* (10.62%); in some tweets *anger* occurs together with *anticipation*, indicating *aggressiveness* (a primary dyad feeling). Finally, the least frequent emotions in our corpus are *surprise* (8.04%) and *disgust* (5.97%); when they co-occur, they indicate *unbelief* (a secondary dyad feeling).

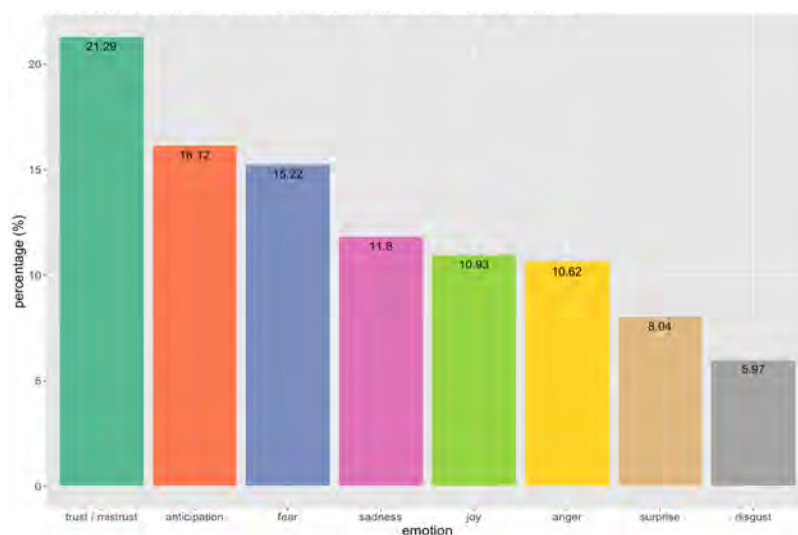


Figure 2
The distribution of emotions.

A close reading of our sample of tweets that convey ‘positive’ emotions (e.g., *trust* and *joy*) and feelings (e.g., *hope* and *optimism*) reveals an interesting finding (see examples 1-5 in Annexes B). Generally, these tweets are written by users that describe positive vaccination experiences and that express gratitude for having received the vaccine (*joy* and *trust* prevail); moreover, several tweets displaying these emotions are written by national and international institutional Twitter accounts that promote COVID-19 vaccination campaigns.

On the other hand, tweets that transmit ‘negative’ emotions (e.g., *mistrust*, *fear*, *sadness*, *anger*, and *disgust*) and feelings (*anxiety*, *despair*, *pessimism*, *aggressiveness*, and *unbelief*) feature a great semantic diversity (see examples 6-10 in Annexes B). Some users express concerns over the vaccine safety, especially in relation to the blood clots incidents reported in Germany and Italy; in most of these cases, *fear* is the prevalent emotion (see examples 7, 10, and 12 in Annexes B). Other users have doubts regarding the vaccine efficacy and effectiveness, probably in response to the news reporting strict confinement measures and significant numbers of COVID-19 deaths in some countries despite high vaccination rates; in these cases, *sadness*, *surprise*, and *anticipation* (and the related feelings of *pessimism* and *disapproval*) prevail (see examples 9, 11, 13, 16, 17, and 19 in Annexes B). Also, some tweets talk about vaccination hesitancy, due to the experimental nature of the vaccines and their accelerated approval; *fear* and *anticipation* (thus also *anxiety*) are frequent (see examples 7, 10, and 17 in Annexes B). There are also tweets that criticize the pharmaceutical industry and, in some cases, the institutions; interestingly, in this case, *anger* and *mistrust* are the dominant emotions (see examples 6, 14, 15, and 18 in Annexes B).

The sample of 99 tweets considered for the qualitative analysis contains several examples of how the COVID-19 vaccine misinformation is built. The purely exploratory analysis of these data reveals an extensive use of negative emotions (e.g., *fear*, *anger*, and *disgust*) and feelings (e.g., *aggressiveness* and *pessimism*) as possible manipulative strategies to amplify the COVID-19 vaccine infodemic. Some users claim that vaccines contain ‘toxic chemicals’ or that they are part of the plan that the pharmaceutical industry and politicians have to ‘inject gene therapy’ or to turn people into ‘robots’ (see examples 6, 8, 14, 15, 17, and 20 in Appendix B).
















In order to test the validity of our emotion detection system, its performance is compared to the performance of three human annotators that rate the emotions of a stratified random sample of 80 tweets (see also §2.2.2). The Kappa Fleiss test indicates a substantial agreement between the three human raters (tweets = 80, levels = 8, raters = 3, Kappa = 0.700, $z = 28.6$, $p\text{-value} < 0.01$). Finally, we calculate the inter-rater agreement between the human annotators and the emotion detection system. These results also suggest

that the agreement is substantial (tweets = 80, levels = 8, raters = 4, Kappa = 0.752, $z = 43.5$, $p\text{-value} < 0.01$).

3.2. The role of emoji

Emoji represent handy resources in the context of Twitter communication since they add relevant semantic and pragmatic information to tweets. In this section we test the secondary hypothesis of this work, namely that emoji are able to evoke both abstract and concrete concepts related to vaccines, and that they enhance the sentiment and the emotional valence of the Twitter debate around the COVID-19 vaccination.

Our analysis focuses primarily on the identification of patterns of emoji use in tweets. A first finding is that our corpus contains 132,203 emoji tokens (with an average of 0.62 emoji per tweet), corresponding to 1,502 emoji types¹¹. The type-token ratio is medium-low (i.e., 0.011) and a closer look at the emoji distribution in the corpus suggests that users tend to use few types of emoji very frequently. The twenty most frequent emoji in our corpus are displayed in Table 2. Besides absolute frequencies, we report relative frequencies (per million), for comparability purposes, and the sentiment score associated with each emoji.

Emoji	Absolute frequency	Relative frequency (per million)	Sentiment score (from -1 to 1)
	16,960	128,287	0.358
	3,623	27,405	0.221
	3,017	22,821	-0.018
	2,674	20,226	0.144
	2,661	20,128	-0.169
	2,356	17,821	0.746
	2,254	17,049	0.417
	1,969	14,894	0.520
	1,429	10,809	-0.334
	1,221	9,236	0.704
	1,218	9,213	0.449
	1,212	9,168	0.738
	1,185	8,963	-0.065
	1,164	8,805	0.730
	1,034	7,821	0.555

¹¹ According to Emojipedia, as of September 2021, in total there are 3,633 emojis in the Unicode Standard. Further information is available online at this webpage: <https://emojipedia.org/faq/> (18.5.2022)



































	1,005	7,602	0.638
	901	6,815	0.775
	815	6,165	-0.093
	798	6,036	0.463
	748	5,658	0.139


Table 2
The 20-most frequent emoji in the corpus.

Unsurprisingly the syringe emoji () is the most frequent in our data; it accounts for 12.83% of the emoji in the corpus. This gives reason to think that in the context of Twitter communication, where characters are limited (i.e., 280), emoji such as the syringe, the face with medical mask () , or the microbe ()¹² demonstrate best their iconic and symbolic nature (see examples 1-10 in Annexes C), allowing the users to reiterate the messages and to easily and efficiently represent the desired semantic information.

Positive sentiment prevails in the emoji shown in Table 2. Most of the tweets that contain positive emoji (e.g., , , , , , etc.) are written by users that are happy about their vaccine experience (see examples 1, 3, and 11 in Annexes C). Interestingly, in our corpus, the flexed biceps emoji () is used to symbolize the vaccinated arm (see examples 8-10 in Annexes C). Another interesting fact regards the medical mask emoji () ; according to the lexicon used in this paper, the mask emoji has a negative sentiment. However, in our corpus, it appears in a vast array of tweets, expressing negative, neutral, and positive emotions (see examples 4, 12, and 13 in Annexes C).

The emoji that have a negative valence abound in the corpus, but they are not among the twenty most frequent. Some of the most productive negative emoji are the pouting face () , the serious face with symbols covering the mouth () , the flushed face () , and the face screaming in fear () , that occur mostly in tweets debating the vaccine safety or in misinformation tweets (see examples 14-20 in Annexes C).

The last part of our analysis consists in the extraction of the emoji that are strongly associated with the terms, ‘vaccine’, ‘vaccination’, and ‘vaccines’. Among all the emoji in the corpus, the three keywords are strongly associated with the following emoji types (ordered by the strength of the association): red heart () , check mark () , syringe () , medical symbol () , flexed biceps () , victory hand () , male sign () , warning () , smiling face with smiling eyes () , heart suit () , sparkles () , double exclamation mark () , female sign () , face screaming in fear () , alarm clock () , skull and crossbones

¹²The high frequency of the microbe emoji () in the corpus depends on the fact that it reminds of the shape of the coronavirus.

(💀), high voltage (⚡), question mark (?), raised fist (✊), coffin (🪦), hot beverage (☕), exclamation question mark (!?), registered (®), frowning face (😞), and exclamation mark (!).

Some of the emoji that are strongly associated with the target terms (e.g., ❤️, 🩺, 💪, 😊) have already been commented above and they occur frequently in tweets written by people that express gratitude towards doctors, nurses, and institutions, for having received a dose of the COVID-19 vaccine (see examples 1, 2, 3, 4, 6, 7, 8, 10, and 11 in Annexes C). Nevertheless, among the strongest ‘vaccin* - emoji’ associations we also find emoji that evoke macabre concepts, such as the warning (⚠️), the skull and the crossbones (💀), the face screaming in fear (😱), the high voltage (⚡), and the coffin (🪦). A qualitative analysis of the concordances of these associations reveals that in most cases they transmit anti-vaccination messages (see examples 15-25 in Annexes C). This seems to confirm our hypothesis: emoji are indeed able to convey a whole range of concepts linked to the COVID-19 vaccination, both concrete (e.g., the vaccine, the vaccinated arm, the medical mask, etc.) and abstract (e.g., fear, concern, confidence, gratitude, etc.). Furthermore, the results of our analyses indicate that emoji act as stylistic strategies that together with other semantic information (explored here by means of sentiment and emotion analysis) are aimed at supporting and enriching the persuasive and manipulative language of the COVID-19 vaccination infodemic.

3.3. Discussion

The COVID-19 crisis has had a profound impact on public health and it has changed our lives in an unprecedented way. The urgency of the pandemic and the massive investments in pharmaceutical research have contributed to the fast development and approval of several COVID-19 vaccines. At the beginning of 2021, various vaccine campaigns started around the world, prioritising specific groups in the first couple of months, and soon after that, making the vaccines available to the general public. Pharmaceutical companies are now able to produce and deliver vaccines on a large scale; and since vaccines are available, in all probability, a suboptimal vaccination coverage may be caused by vaccine hesitancy. As other scholars have emphasized, this situation may represent a risk for the national healthcare systems, because insufficient vaccination coverage could delay the post-pandemic recovery (Casciani et al. 2021).

Our study contributes to the existing linguistic research on the discourses around the COVID-19 vaccines, by providing new insights on the perceptions and beliefs of the Twitter users. We propose a mixed-method approach that explores the semantic dimension of a large dataset of tweets (over 5.5 million

words) written in English from March 15th to April 14th, 2021, by means of corpus-based techniques of sentiment, emotion, and emoji analysis.

One of the first thought-provoking findings of this work concerns the evolution of the sentiment during the month of analysis. The extreme peaks on the time plot and the qualitative analysis of a stratified sample of tweets show that the sentiment score of the Twitter debate on the COVID-19 vaccination is greatly and easily influenced by what is communicated in the media ecosystem such as, for instance, news and comments regarding the decision of several countries to suspend the AstraZeneca vaccine due to blood clots concerns, EMA announcements regarding the review of the COVID-19 vaccines, or reports of record numbers of COVID-19 deaths despite high vaccination rates. Moreover, we observe a significant polarization on both sides of the sentiment scale. These two findings are linked and they are in line with previous research on the topic. As a matter of fact, Jiang et al. (2021) suggest that COVID-19 has become a politicized topic, and the polarization of the debate is a direct consequence of this situation. Furthermore, recent research has demonstrated that Twitter itself encourages the echo chambers effect and the polarization of politicized topics (Cinelli et al. 2021). This happens for primarily two reasons: (1) people choose to follow specific Twitter profiles; and (2) the algorithmic feeds on Twitter are designed to display certain tweets. As a result, users have access mainly to content they already agree with, and their beliefs and perceptions with respect to the COVID-19 vaccines are reinforced or magnified.

The results of the emotion analysis disclose *trust*-related dynamics (either *trust* or *mistrust*) in our corpus. Over 21% of the tweets display *trust* or *mistrust* as dominant emotions and they reflect the users' confidence in vaccines or, on the contrary, the users' vaccine hesitancy. Moreover, since vaccines are perceived as a politicized topic, these emotions refer also to governments and institutions. The fact that *trust* and *mistrust* outmatch the other seven emotions is consistent with recent research on the perception of epidemics on social media. For example, Laurent-Simpson and Lo (2019) claim that there is an overgrowing trend to express mistrust in official public health communication and to discredit institutions. On the same note, Breeze (2021: 10) suggests that mistrust might be “fuelled in many cases by suspicion of ‘Big Pharma’”. In fact, among the tweets analysed above, there are some clear examples of attacks and criticism towards the pharmaceutical industry. Moreover, *anticipation* and *fear* are well represented in the corpus and they are followed by *sadness* and *joy*; *anger*, *surprise*, and *disgust* (ordered by their frequency) are less frequent. Our qualitative analysis reveals that the infodemic relies on certain negative emotions (i.e., *fear*, *anger*, and *disgust*) and feelings (i.e., *pessimism* and *aggressiveness*) – capable of shaping the users' sentiment regarding the COVID-19 vaccines in the long term.

This study is also complemented with an emoji analysis which shows that emoji represent useful resources on Twitter, since they can evoke both concrete and abstract concepts related to the COVID-19 vaccines (e.g., the vaccine, the virus, fear, gratitude, etc.). Additionally, emoji contribute to the overall emotional content of the Twitter debate regarding the COVID-19 vaccination.

Even though systematic research is required to better understand how the infodemic is constructed in the media ecosystem, our findings suggest that all sorts of vaccine- and health-related information (including dangerous misinformation) – carrying an abundant emotional content – circulate on Twitter and they have an immediate effect on the users' perceptions and beliefs. Misinformation and disinformation represent serious threats for the entire healthcare system, therefore policy makers should develop health communication strategies able to contrast these situations.

After having discussed the results of our analyses, it is important to report the limitations of this study. We will start with the choice of the language. English has an official status in over 60 countries (Adams and Brink 1990) and it is also a global language. However, it is worthy to emphasize that English is a lingua franca only for some Twitter users, typically the most educated. Less educated users or other groups (e.g., disadvantaged people, the elderly, public figures, etc.), but also national institutions, tend to use their native languages on Twitter (Mocanu et al. 2013; Combei and Luporini 2021). Our corpus captures a narrow snapshot of the COVID-19 vaccination debate, as it does not include data from other languages (and consequently other socio-demographic scenarios). A similar limitation is expected as a result of the time variable. While the period considered in this study is pertinent within the COVID-19 vaccination timeline, a month-long corpus collected at the beginning of the global vaccination campaigns can only reflect the Twitter debate during that specific time.

Based on the output of the analyses, the inter-rater agreement tests, and on our own qualitative exploration, we believe that the lexicon-based systems of sentiment analysis and emotion detection proposed in this work are satisfactory. However, since the results depend on the lexica used, up-to-date resources able to reflect the current COVID-19 language on Twitter are needed. The analyses could also be enhanced by means of machine learning or hybrid systems of sentiment and emotion analysis. All in all, additional studies on different languages and time-frames (e.g., later stages of the COVID-19 vaccination campaigns), conducted by means of more advanced techniques would allow us to draw more generalizable conclusions.

4. Conclusions

In the last couple of years, the COVID-19 vaccines have been the predominant topic in the Twitter debate. The paper deployed a multi-method approach to investigate the semantic dimension of this debate, by focusing on the users' affective states, perceptions, and reactions. To this end we collected, compiled, and processed an English corpus of tweets (over 5.5 million words) published from March 15th to April 14th, 2021 – a period that is significant within the COVID-19 vaccination timeline around the globe. We conducted quantitative and qualitative analyses to examine how the perception towards vaccines was altered by news, institutional announcements, and online postings written by Internet users.

Our results showed that the sentiment oscillated during the time-frame considered in this study, displaying polarizations on both the negative and the positive extremities of the continuous sentiment scale. Generally, the positive tweets in this corpus communicated the vaccine benefits and they were written by both institutional accounts and the general public; other positive tweets described the users' personal vaccination experiences and their gratitude towards medical staff. Negative tweets were more semantically diverse expressing, among other things, concerns about the vaccine safety or vaccine scepticism in general, attacks on the pharmaceutical industry, the institutions and politicians, and criticism regarding the suspension of the AstraZeneca vaccine. The main finding of the quantitative and qualitative analyses is that the sentiment of the Twitter users was easily (and instantly) influenced by news, announcements, and online postings regarding COVID-19 vaccination. Presumably, this could reflect the echo chamber effect in the media ecosystem. The beliefs and perceptions of the public opinion with respect to the COVID-19 vaccines were strengthened or magnified due to the fact that the debate took place in a seemingly closed medium.

The fine-grained analysis of emotions performed in this work revealed that the *trust* issues (either *trust* or *mistrust*) outnumbered other primary emotions, amounting to 21.29% of the emotional valence conveyed in the corpus. This mirrors the users' confidence in vaccines or, on the contrary, the users' vaccine scepticism. However, at a more general level, since vaccines have become a politicized topic, this finding could suggest *trust* or *mistrust* in government and institutions. Other recurrent emotions were *anticipation* and *fear*, followed by *sadness* and *joy*; furthermore, *anger*, *surprise*, and *disgust* are less frequent. Interestingly, the qualitative analysis performed on a stratified sample of tweets indicated that the infodemic leant on negative emotions (e.g., *fear*, *anger*, and *disgust*) – able to define and refine the users' perceptions.

Finally, the emoji analysis unveiled that emoji were key resources for Twitter communication. In particular, our analyses showed that emoji were able to evoke both concrete and abstract concepts related to the COVID-19 vaccines. Besides their iconic nature (particularly useful considering the 280-character limit of tweets), emoji functioned as emotion enhancers contributing significantly to the overall sentiment of the Twitter debate regarding the COVID-19 vaccination.

Although additional linguistic and sociological research on this topic is needed, the results of our sentiment, emotion, and emoji analysis seem to indicate that the way the information circulates nowadays in the media ecosystem promotes polarizations with respect to the COVID-19 vaccination – in and of itself a topic capable of being politicized. Therefore, a better understanding of this issue becomes crucial for formulating adequate and inclusive health communication policies and strategies.

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References

- Abel J.E. 2020, *Not Everyone 🍌s Or, the Question of Emoji as 'Universal' Expression*, in Giannoulis E. and Wilde L.R.A. (eds.), *Emoticons, Kaomoji and Emoji*, Routledge, New York, pp. 25-43.
- Adams K.L. and Brink D.T. (eds.) 1990, *Perspectives on Official English*, De Gruyter Mouton, Berlin.
- Acheampong F.A., Wenyu C. and Nunoo-Mensah C. 2020, *Text-based emotion detection: Advances, challenges and opportunities*, in "Engineering Reports" 2 [7], article e12189, pp. 1-24.
- Bai Q., Dan Q., Mu Z. and Yang M. 2019, *A Systematic Review of Emoji: Current Research and Future Perspectives*, in "Frontiers in Psychology" 10(2019), pp. 1-23.
- Breeze R., 2021, *Claiming Credibility in Online Comments: Popular Debate Surrounding the COVID-19 Vaccine*, in "Publications" 9, article 34, pp. 1-15.
- Casciani F., Pantovic A., Al-Ajlouni Y., Failla G. and Ricciardi W. 2021, *Attitudes, acceptance and hesitancy among the general population worldwide to receive the COVID-19 vaccines and their contributing factors: A systematic review*, in "EClinicalMedicine" 40(2021), article 101113, pp. 1-14.
- Çelikutuğ M.F. 2018, *Twitter Sentiment Analysis, 3-Way Classification: Positive, Negative or Neutral*, in "IEEE International Conference on Big Data (Big Data)", Seattle, 2018, pp. 2098-2103.
- Chandra R. and Krishna A. 2021, *COVID-19 sentiment analysis via deep learning during the rise of novel cases*, in "PLOS ONE" 16 [8], pp. 1-26.
- Cheng L. 2017, *Do I mean what I say and say what I mean? A cross cultural approach to the use of emoticons & emojis in CMC messages*, in "Fonseca: Journal of Communication" 15(2017), pp. 199-217.
- Chiusaroli F. 2017a, *Emoticon, emoji e altre logografie per la rappresentazione del parlato nella comunicazione dei social media*, in De Meo A. and Dovetto F.M. (eds.), *La comunicazione parlata / Spoken communication*, Aracne, Roma, pp. 233-251.
- Chiusaroli F. 2017b, *Emoji e questioni di genere: una piccola storia della scrittura nella comunicazione digitale*, in De Meo et al. (eds.), *Al femminile: Studi linguistici in onore di Cristina Vallini*, Franco Cesati Editore, Firenze, pp. 137-150.
- Cinelli M., De Francisci Morales G., Galeazzi A., Quattrocioni W. And Starnini M. 2021, *The echo chamber effect on social media*, in "Proceedings of the National Academy of Sciences (PNAS)" 118 [9], article e2023301118, pp. 1-8.
- Combei C.R. and Luporini A. 2021, *Sentiment and Emotion Analysis Meet Appraisal: A Corpus Study of Tweets related to the Covid-19 pandemic*, in "RILA [Rassegna italiana di linguistica applicata]" 53 [1-2], pp. 115-136.
- Dainas A.R., Herring S.C. 2021, *Interpreting emoji pragmatics*, in Xie et al. (eds.), *Approaches to Internet Pragmatics*, John Benjamins Publishing Company, Amsterdam/Philadelphia, pp. 107-144.
- Danesi M. 2017, *The Semiotics of Emoji: the Rise of Visual Language in the Age of the Internet*, Bloomsbury, London.
- de Figueiredo A. and Larson H.J. 2021, *Exploratory study of the global intent to accept COVID-19 vaccinations*, in "Communications Medicine" 1 [1], article 30, pp. 1-10.
- Feinerer I. and Hornik K. 2019, *tm: Text Mining Package. R package*. <https://CRAN.R-project.org/package=tm> (21.07.2021).

- Feldman R. 2013, *Techniques and Applications for Sentiment Analysis*, in “Communications of the Association for Computing Machinery (ACM)” 56 [4], pp. 82-89.
- Fellbaum C. (ed.) 1998, *WordNet: An Electronic Lexical Database*, MIT Press, Cambridge.
- Finn A.N. 2011, *A new ANEW: Evaluation of a word list for sentiment analysis in microblogs*, in Rowe M. et al. (eds.), *Proceedings of the ESWC2011 Workshop on 'Making Sense of Microposts': Big things come in small packages (MSM2011)*, CEUR-WS, Aachen, pp. 93-98.
- Fleiss J.L., Cohen J. and Everitt B. 1969, *Large sample standard errors of kappa and weighted kappa*, in “Psychological Bulletin” 72 [5], pp. 323-327.
- Garett R. and Young S.D. 2021, *Online misinformation and vaccine hesitancy*, in “Translational Behavioral Medicine”, 11 [9], article 128, pp. 1-2.
- Gohil S., Vuik S. and Darzi A. 2018, *Sentiment Analysis of Health Care Tweets: Review of the Methods Used*, in “Journal of Medical Internet Research: Public Health and Surveillance” 4 [2], pp. 1-10.
- Hall J.A. and Pennington N. 2013, *Self-monitoring, honesty, and cue use on Facebook: the relationship with user extraversion and conscientiousness*, in “Computers in Human Behaviour” 29 [4], pp. 1556-1564.
- Herring S.C. and Dainas A.R. 2018, *Receiver Interpretations of Emoji Functions: A Gender Perspective*, in Wijeratne S. et al. (eds.), *Emoji Understanding and Applications in Social Media*, CEUR-WS, Aachen, paper 5, pp. 1-8.
- Herring S.C. and Dainas A.R. 2020, *Gender and Age Influences on Interpretation of Emoji Functions*, in “Transaction on Social Computing” 3 [2], pp. 1-26.
- Hornik K. 2020, *Unicode: Data and Utilities*. <https://cran.r-project.org/web/packages/Unicode/index.html> (21.08.2021).
- Jiang, J., Ren X. and Ferrara E. *Social Media Polarization and Echo Chambers in the Context of COVID-19: Case Study*, in “JMIRx Med” 2 [3], article e29570, pp. 1-14.
- Kricorian K., Civen R. and Equils O. 2021, *COVID-19 vaccine hesitancy: misinformation and perception of vaccine safety*, in “Human Vaccines and Immunotherapeutics” 17 [11], article 1950504, pp. 1-8.
- Jacobsen K.H. and Vraga E.K. 2020, *Improving communication about COVID-19 and emerging infectious diseases*, in “European Journal of Clinical Investigation”, 50 [5], article e13225, pp. 1-2.
- James W. 1890, *The Principles of Psychology*, Henry Holt and Company, New York.
- Jockers M. 2017, *syuzhet: Extracts Sentiment and Sentiment-Derived Plot Arcs from Text*. <https://cran.r-project.org/web/packages/syuzhet/syuzhet.pdf> (20.08.2021).
- Kang G.J, Sinclair R.E.N., Mackey L., Schlitt J.T., Marathe A., Abbas K.M. and Swarup S. 2017, *Semantic network analysis of vaccine sentiment in online social media*, in “Vaccine” 35(2017), pp. 3621-3638.
- Kearney J. 2019, *rtweet: Collecting Twitter Data. R Package*. <https://cran.r-project.org/package=rtweet> (15.04.2021).
- Kejriwal M., Wang Q., Li H. and Wang L. 2021, *An empirical study of emoji usage on Twitter in linguistic and national contexts*, in “Online Social Networks and Media” 24(2021), pp. 1-23.
- Landis J.R. and Koch G.G. 1977, *The Measurement of Observer Agreement for Categorical Data*, in “Biometrics” 33 [1], pp.159.174.
- Laurent-Simpson A. and Lo C. 2019, *Risk society online: Zika virus, social media and distrust in the Centers for Disease Control and Prevention*, in “Sociology of Health and Illness” 41(2019), pp. 1270-1288.

- Lazarus J.V., Ratzan S.C., Palayew A., Gostin L.O., Larson H.J., Rabin K., Kimball S. and El-Mohandes A. 2021, *A global survey of potential acceptance of a COVID-19 vaccine*, in “Nature Medicine” 27(2021), pp. 225–228.
- Liu B. 2015, *Sentiment analysis: Mining opinions, sentiments, and emotions*, Cambridge University Press, Cambridge.
- Liu B., Hu M. and Cheng J. 2005, *Opinion Observer: Analyzing and Comparing Opinions on the Web*, in Ellis A. and Hagino T. (eds.), *Proceedings of the 14th international conference on World Wide Web (WWW '05)*, Association for Computing Machinery Digital Library (ACM-DL), Chiba, pp. 342-351.
- Lyons K. 2017. *Emoji Dictionary*. <https://github.com/lyons7/emojidictionary> (21.08.2021).
- Lyu H., Wang J., Wu W., Duong V., Zhang X., Dye T.D. and Luo J. 2021, *Social media study of public opinions on potential COVID-19 vaccines: Informing dissent, disparities, and dissemination*, in “Intelligent Medicine” 8(2021), pp. 1-12.
- Lyu J.C., Han E.L. and Garving K.L. 2021, *COVID-19 Vaccine-Related Discussion on Twitter: Topic Modeling and Sentiment Analysis*, in “Journal of Medical Internet Research” 23 [6], article 24435, pp. 1-12.
- Machingaidze S. and Wiysonge C.S. 2021, *Understanding COVID-19 vaccine hesitancy*, in “Nature Medicine”, 27(2021), pp. 1338-1339.
- Marcec R. and Likic R. 2021, *Using Twitter for sentiment analysis towards AstraZeneca/Oxford, Pfizer/BioNTech and Moderna COVID-19 vaccines*, in “Postgraduate Medical Journal” 1(2021), article 140685.
- Miller G.A. 1995, *WordNet: A Lexical Database for English*, in “Communications of the Association for Computing Machinery (ACM)” 38 [11], pp. 39-41.
- Mocanu D., Baronchelli A., Perra N., Gonçalves B., Zhang Q. and Vespignani A. 2013, *The Twitter of babel: Mapping world languages through microblogging platforms*, in “PLOS ONE” 8 [4], article e61981, pp. 1-9.
- Mohammad S.M. and Turney P.D. 2013, *Crowdsourcing a word-emotion association lexicon*, in “Computational Intelligence” 29 [3], pp. 436-465.
- Novak P.K., Smailovic J., Sluban B. and Mozetic I. 2015, *Sentiment of Emojis*, in “PLOS ONE” 10 [12], article e0144296, pp. 1-22.
- Peterka-Bonetta J. 2015, *Emoticons decoder for social media sentiment analysis in R*. <https://www.r-bloggers.com/2015/10/emoticons-decoder-for-social-media-sentiment-analysis-in-r/> (20.08.2021).
- Plutchik R. 1991, *The Emotions*, University Press of America, Lanham.
- Plutchik R. 2001, *The Nature of Emotions*, in “American Scientist”, 89 [4], pp. 344-350.
- Prada M., Rodrigues D.L., Garrido M.V., Lopes D., Cavalheiro B. and Gaspar, R. 2018, *Motives, frequency and attitudes toward emoji and emoticon use*, in “Telematics and Informatics” 35(2018), pp. 1925–1934.
- R Core Team. 2021, *R: A Language and Environment for Statistical Computing*, R Foundation for Statistical Computing, Vienna.
- Sharma D., Sabharwal M., Goyal V. and Vij M. 2020, *Sentiment Analysis Techniques for Social Media Data: A Review*, in Luhach A.K. et al. (eds.), *First International Conference on Sustainable Technologies for Computational Intelligence. Proceedings of ICTSCI 2019*, Springer, New York, pp. 75-90.
- Silveira N., Dozat T., De Marneffe M.C., Bowman S., Connor M., Bauer J. and Manning C.D. 2014, *A Gold Standard Dependency Corpus for English*, in Calzolari N. et al. (eds.), *Proceedings of the Ninth International Conference on Language Resources and Evaluation (LREC'14)*, European Language Resources Association (ELRA), Reykjavik, pp. 2897-2904.

- Wang Y., Croucher S.M. and Pearson E. 2021, *National Leaders' Usage of Twitter in Response to COVID-19: A Sentiment Analysis*, in "Frontiers in Communication" 6(2021), article 732399.
- Ward Church W. and Hanks P. 1990, *Word Association Norms, Mutual Information, and Lexicography*, in "Computational Linguistics" 16 [1], pp. 22-29.
- Weissman B. and Tanner D. 2018, *A strong wink between verbal and emoji-based irony: How the brain processes ironic emojis during language comprehension*, in "PLOS ONE" 13 [8], pp. 1-26.
- Wickham H. 2016, *ggplot2: Elegant Graphics for Data Analysis*, Springer-Verlag, New York.
- Wickham H. 2019, *Welcome to the tidyverse*, in "Journal of Open Source Software", 4 [43], article 1686, pp. 1-6.
- Wickham H., François R., Henry L. and Müller K. 2021, *dplyr: A Grammar of Data Manipulation*. <https://CRAN.R-project.org/package=dplyr> (21.07.2021).
- Wickham H. 2020, *emo: Easily insert emoji into R and RMarkdown*. <https://github.com/hadley/emo> (20.08.2021).
- Wijffels J. 2021, *UDPipe Natural Language Processing – Text Annotation*. <https://cran.r-project.org/web/packages/udpipe/vignettes/udpipe-annotation.html> (21.07.2021).
- Wouters O.J., Shadlen K.C., Salcher-Konrad M., Pollard A.J., Laroson H.J., Teerawattananon Y. and Jit M. 2021, *Challenges in ensuring global access to COVID-19 vaccines: production, affordability, allocation, and deployment*, in "The Lancet", 397(10278), pp. 1023-1034.
- Yousefinaghani S., Dara R., Mubareka S. and Papadopoulos A. 2021, *An analysis of COVID-19 vaccine sentiments and opinions on Twitter*, in "International Journal of Infectious Diseases" 108(2021), pp. 256-262.
- Zarocostas J. 2020, *How to fight an infodemic*, in "The Lancet" 395(2020), article 10225, p.676.

Annexes A

No.	Tweet	Predicted sentiment
1	#AstraZeneca vaccine is dangerous It contains Polysorbate 80 Which clearly states on Google reasons as to why you SHOULD avoid it Blood clots are a side effect as we can CLEARLY see from 21 Countries suspending it's use. Do your research! #Covid_19 #covid #CovidHoax #WakeUp	negative
2	Riled by fears of blood clots Europe's big powers have suspended the use of #AstraZeneca vaccine. Germany, France, Italy and Spain are among them.	negative
3	Really pleased to have received my first dose of the #Oxford, #AstraZeneca vaccine this afternoon. A big thank you to Julie, who administered my jab, plus all the team at #Dewsbury Health Centre for their amazing work in getting us all inoculated at such a rapid pace.	positive
4	I can't agree more with governments of @MalawiGovt, Poland and Canada, the @WHO, and the @EMA_News on #AstraZeneca #vaccine BENEFITS of the jab clearly outweigh HARMs. Poland blames “media-fuelled panic” for EU countries suspending AstraZeneca vaccine	neutral
5	I smiled at this, but sanity is returning. France and Italy are resuming use of the #AstraZeneca vaccine. The European Medicines Agency will release its full findings tomorrow but yesterday confirmed the benefits of the vaccine far outweigh any risks.	positive
6	I'm confused...Is the government pushing a rushed, dangerous vaccine on the American people against their will, or is Trump being unfairly treated by not being acknowledged as the hero for single handedly creating this life-saving vaccine?! #foxlogic #vaccine	negative
7	I'm so glad I received #PfizerVaccine , no problems! 🗡️ Stay away from #AstraZeneca 🚫 too dangerous. Two Danish patients have brain hemorrhages following AstraZeneca jab	negative
8	EU countries are playing politics with #AstraZeneca vaccine as they're still pissed at the UK for Brexit. Their decision to halt usage of the vaccine, even temporarily, will kill far more people than any imagined blood clots from its use.	negative
9	Feeling incredibly grateful and privileged to have received my first dose of the #AstraZeneca COVID vaccine today. How far we've come in a year! #jabdone	positive
10	Number 2 is in my arm. Grateful for scientists in the US and around the world. #vaccine #covid #Pfizer #ÖzlemTüreci #uğurşahin	positive
11	Wow! I just got a text telling me about available vaccine appointments in my area. I just signed up for both appointments. Hard to describe the feelings I'm having right now. #forevergrateful #nfa #vaccine #Grateful ❤️⚡️💙	positive

12	#NSTworld #Canadian experts on Monday recommended halting the use of #AstraZeneca Covid-19 shots for people aged under 55, after a small but rising number of patients abroad suffered blood clots.	negative
13	An 80-year-old man suffers adverse event post #CovidVaccine, in coma. Serious #AEFI reported in #Bengaluru. He had no comorbidities. Continues to be on ventilator.	negative
14	Sooooo....just thinking.... what if the corovirus mutates again and then starts lethally attacking only those vaccinated?🤔🤔 #COVID #CovidVaccine	negative
15	Starting May 1st, all Oregonians 16 years and older will be eligible to schedule an appointment for their COVID-19 vaccine. #GetVaccinated #covidvaccine #COVIDvaccine	neutral
16	Well, about to hit the 100 million #CovidVaccine mark! Exciting! I can't wait to get my #vaccine shot.	positive
17	I was lucky enough to receive my second Oxford #AstraZeneca vaccine yesterday, as an #NHS worker. I hope everyone else gets vaccinated soon. Looking forward to returning to some form of normality...and fun. #coronavirus #COVIDvaccine	positive
18	#maharashtralockdown #COVID19 #CovidVaccineScam #CovidVaccine Life saving drugs are available in black market but not in open market! Mockery of words largest pharma industry #Pfizer	negative
19	Thank you, I read it. What I don't understand is why under 30s are given a choice of vaccine, if the risk factor is minimal. Other countries have completely banned #AstraZeneca for under 60s. I - and many others - are feeling afraid and bewildered by the mixed messages.	negative
20	#CovidVaccine seems just to be a scam! I am hearing so many cases of being tested positive with symptoms even after both doses! If it doesn't guarantee immunity, is it even eligible to be called a vaccine? Moreover many people getting sick after 1st dose! Its #PR and #Business	negative

Annexes B

No.	Tweet	Predicted dominant emotion
1	Thank you very very much good sir! I got mine the 11th and second will be April 8th! I can't wait! #VaccinesWork #CovidVaccine #COVID19 #vaccine	anticipation
2	Unabashedly and joyfully liking every tweet I see celebrating an individual's vaccine! Strangers of Twitter, I'm so happy for you! #COVID19 #vaccine	joy
3	C'mon folks, let's keep getting vaccinated and then keep on with #HandsFaceSpace afterwards. I was initially reluctant to get the #CovidVaccine but some good quality info on nhsleeds website helped me feel confident. You can read it here	trust/distrust
4	What a wonderful day it is, 2nd covid vaccine done 🥰❤️ #CovidVaccine #Thankful	joy
5	Although she had hesitations, CMH Emergency nurse Jackie Spencer decided to get the COVID-19 #vaccine. ""...I trust in the #science and believe that it is the right thing to do to protect my friends and neighbors,"" she says. Learn when you are eligible	trust/mistrust
6	#GreatReset #COVID19 #AstraZeneca #Newworldorder #Controversy #WorldEconomicForum Are you fucking politicians going to beat hitlers kill count? PROBABLY YES! STOP RULING COUNTRIES YOU GODDAMN MURDERERS. ROT IN HELL YOU FUCKING SCUMBAGS	anger
7	To #EU. #France and #germany should be prosecuted for #scaremongering and placing lives at risk over the #covid19 #vaccine #AstraZeneca. If people die over this then they (France and Germany) are murderers !	fear
8	The brainwashing that I see from people makes me sick at times. To think that you will put toxic chemicals into your body knowing that there's a risk of death or serious side affects and not FDA approved. It's quite sickening #COVID19 #vaccine #AstraZeneca #coronavirus	disgust
9	So sad that the vaccine @JoeBiden and @KamalaHarris released under their watch is dangerous. Johnson and Johnson was just halted. The vaccines Trump released are safe. Pfizer and Moderna released under Trumps warp speed is safe. HMM. Makes you think. #vaccine #vaccines	sadness
10	'Serious side effects' that were utterly disproven. It's about time people woke up to the strings #BigPharma are pulling in a transparent attempt to undermine #AstraZeneca as they are terrified of the company offering a vaccine to the world at cost. #AstraZenecaVaccine #pfizer	fear

11	If you die with a cough or a fever, they will do everything they can to classify it as a COVID death. If you die within hours or days after receiving the COVID vaccine, they will do everything they can to protect Big Pharma. #AstraZeneca #Pfizer #JohnsonAndJohnson #moderna	sadness
12	#astrazeneca again i am afraid. i might end up in jail at this rate. #COVID19 #vaccines #bloodclots	fear
13	Very sad news from #Georgia. Georgian nurse who went into anaphylactic shock after receiving #AstraZeneca #vaccine dies.	sadness
14	Fuck you @who how you advice people to take the shit, #AstraZeneca vaccine is disease, after teasted got extremely pain. If other #Pfizer & #Moderna same it will be disaster for world health. Stop spread the headache #COVID19	anger
15	If you think it was only 6 cases that got blood clots from the #JohnsonandJohnson vaccine, you have not learned anything about how the government, big pharma, and media lies to you. They have lied to you this whole time. They are lying to you now.	trust/mistrust
16	over half of all adults in #Britain have now been vaccinated with one jab of #AstraZeneca... yet infections are still at about 10,000 daily, more than at this time last year w/o vaccination. What follows from this? Than the #AstraZeneca vaccine doesn't work? #covid	surprise
17	It's not just six people that have gotten dangerous blood clots. It's likely many, many more. Think twice before you let Big Pharma inject gene therapy into your body #CovidVaccine	anticipation
18	Dear Scotty You can stick your #ageist #vaccine BS up your jaxy maayate. I'm not a unit of profit generation for your #AZ cohort. Anything LNP touches turns to shlt and I don't trust you. Incompetent, unemployable. #auspol #ScottyFromMarketing #ScottyTheGaslighter #vaccinerollout	trust/mistrust
19	Hands up anyone who is surprised that the AZ vaccine has been labelled "safe and effective" by the EU regulatory agency. Nope thought not.. me neither. Were the EU right to halt on such weak evidence?! 🤔 #vaccine #vaccination #AstraZeneca	surprise
20	fuck a #vaccine, i'll kick this flu with a 99% survival rate in the ass. don't need the gov turning me into a #robot #JohnsonandJohnson #modernavaccine #AstraZeneca #PfizerVaccine #fraud	disgust

Annexes C

No.	Tweet
1	We did it! 🌱❤️ #buggeroffcovid #covidvaccine #astrazeneca #numberonedone
2	Had mine today #vaccine #AstraZeneca 🌱👍
3	I am vaccinated" 🙏🌱 #FirstDose #Astrazeneca #Frontliner
4	Booked in for my first Covid jab 🌱😄 #vaccine #vaccination #CovidVaccine #JabToBeatCorona
5	The post 🌱 shivers aren't no joke 🥶🥶🥶🥶🥶 - barely made it through the night 🥱 #AstraZeneca
6	I got my first COVID vaccine today! YEAH! 🌱🌱 #COVID19Vaccine #AstraZeneca #FirstDose #Coronavirus #SupportTheNHS #Vaccination #Injections #StaySafe #ThankYouKeyWorkers
7	Got jabbed today! ✅🌱👍 vaccination for the nation! thanks to Aston Villa and the NHS and volunteers for excellent friendly, organised and smooth system #astrazeneca #vaccination #firstjabstoday #covid_19 #fightback
8	2nd #vaccine in the arm 🌱 Thanks to UHSFT
9	Becky's last #ReasonableAdjustment for the #CovidVaccine injection is to ask your doctor 🙏👩‍⚕️ for some numbing cream. 🧴 You put this on your arm 🌱 before the injection and helps you not feel the needle. 👍 #WorldHealthDay
10	Over 24hrs since first #Pfizer jab and nothing but a sore arm 🌱🌱👍 #thankyouNHS
11	NHSuk Had my vaccine today. Thank you ❤️ #AstraZeneca #NHSheroes
12	🇪🇺🌱😞 Why have several European countries suspended use of the #AstraZeneca #COVID19 vaccine, citing fears of blood clots, even as the EU medicines regulator insists there is no evidence of a link and calls for the jabs to continue?
13	TWAT!! 🤔 #Coronavirus #Vaccine #DominicCummings👤👤
14	🤔🤔🤔!! Scary! Dr. #Fauci Wants to Start Vaccinating Little #Babies with the Government's Coronavirus #Vaccine
15	🤔Here's 19 Reasons I Won't Be Getting a COVID Vaccination... #Covid #COVID-19 #vaccination #vaccine #GreatReset #NewWorldOrder #MARK #markofthebeast
16	The Vaccine: 🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔 — The final solution — 🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔🤔 #vaccine #finalsolution
17	🤔🤔🤔🤔 Biden continues to talk about the virus mutating but when things go wrong many of us know it will be the #vaccine that is making people sick...dont be fooled people, this was all planned and people are stupid for getting a experimental shot.
18	🤔🤔🤔 Mandatory jabs are forced medical interventions without the patients consent. They are a violation of the Nuremberg Code & Human Rights Law. Experimental Covid Jabs for Care Home Staff to be made Mandatory in UK
19	Scary stuff 🤔 #CovidVaccine #COVID19 I'm sure there will be plenty more to come out from the guinea pigs who have already taken the #vaccine 🤔♀️ #vaccinated
20	🤔🤔🤔 Even more concerned about getting it! Ugh #bcpoli #cdnpoli #covidbc #COVIDCanada #bchealth @adriandix #AstraZeneca #astrazenecavaccine #bced
21	#astrazeneca is COMING 🌱👍

22	Anyone? #AstraZeneca 🗑️💀
23	That's why #Pfizer 🗑️ #AstraZeneca 🗑️ #Moderna 🗑️ Are biggest shits on Earth 🗑️ #coronavirus #COVID19 #vaccine #vaccination #WW3 #lockdown
24	Fuck the #vaccine 🗑️💀
25	🗑️🗑️⚠️ #ASTRAZENECA 🗑️ PLEADS GUILTY TO #HEALTHCARE 🗑️ CRIME [2003] 🗑️🗑️🗑️🗑️🗑️🗑️🗑️🗑️🗑️🗑️

THE RACIST PANDEMIC

A Semantico-Pragmatic Study of the Anti-Asian Overtones in COVID-19-related Twitter Discourse

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Abstract – 2019 saw the emergence of a new human pathogen, SARS-CoV-2, which causes a disease currently known as COVID-19. There are, however, other names which expose the Asian origin of the virus. These ways of reference – although discouraged by the scientific community – still remain in frequent use in various COVID-19-related discourses. Such names explicitly point to the geographical place of origin of the virus, but at the same time are likely to provoke associations and solidify pre-existing stereotypes about Asians as well as strengthen misconceptions about the virus itself. The intention of the use of terms such as *Chinese virus* may be purely referential, but they are, nonetheless, marked with accusatory or downright racist overtones. The present paper is maintained within the Critical Discourse Analysis (CDA) framework (van Dijk 1993), as CDA aims specifically to examine the ways in which discourses shape power relations, maintain social stigmas, perpetuate stereotypes and widen inequalities. We use CDA as a framework for conducting a semantic analysis of expressions such as *Asian virus*, *Chinese virus*, *Sinovirus* or *Wuhan virus* used on Twitter. Specifically, we intend to select the usages that are unequivocally intentional and whose aim is not only to emphasise the geographical origin of the virus, but also to justify blaming China for the global pandemic that SARS-CoV-2 eventually has caused. We have found that potentially harmful names such as *Chinese virus* have been used intentionally and are accompanied by even more blatant cases of defamatory and accusatory language targeting the Chinese. It is even more significant, as the proliferation of anti-Asian hate speech has culminated in a serious aftermath in the form of anti-Asian violence, especially in the US.

Keywords: COVID-19; Twitter discourse; Critical Discourse Analysis; meaning potentials; polarising discourse.

1. Introduction

The outbreak of the COVID-19 pandemic at the turn of 2019 and 2020 has changed the world as well as the ways in which we think and talk about it forever. The pandemic has been widely discussed in the mainstream and social media alike and led to a gradual evolution of a new language with unprecedented increases in the use of expressions such as “social distance” or “economic lockdown” as well as the creation of brand new neologisms (or

“coroneologisms”), such as “covidiot”, “covidient” (Asif et al. 2021; Roig–Marín 2021). It has also led to an avalanche of internet comments and social media posts, some of which containing what may be considered hate speech. In the present paper we attempt to take a closer look at one social media platform in particular – Twitter. We focus on one aspect of harmful language use and hate speech aimed at the Asian community, i.e. the problematic ways of referring to the virus used in the context of tweets. We specifically analyse tweets containing expressions such as “Chinese virus”, “Asian virus”, “Wuhan virus” and “Sinovirus” in order to evaluate the intention behind these particular naming choices. We investigate selected tweets using Critical Discourse Analysis methodology (van Dijk 1993), coupled with findings from the research on pragmatic effects related to activation of specific meaning potentials (Norén and Linell 2007). We claim that numerous tweets which contain expressions such as “Chinese virus” exhibit also other linguistic strategies whose aim is to present a derogatory image of the Asian community. With this in mind, the article is meant as a contribution to the already existing body of research on COVID-related hate speech towards the Asian ethnicities by offering another analytic, semantic perspective grounded in the CDA framework.

2. Social media reflecting public opinions

The role of social media in general, and microblogging platforms, such as Twitter, in particular in gauging social opinions and sentiments cannot be overestimated. Multiple scholars including linguists and social scientists have recognised the usefulness of researching social media discourse in probing attitudes towards current social and political affairs as well as other pressing global (or local) concerns. For instance, Altoaimy (2018) investigates the role Twitter played in the debate of women’s right to drive in Saudi Arabia and found it to be a consequential platform for expressing and shaping opinions on this topic. Calabrese et al. (2020) use Twitter as a window to the public’s perceptions surrounding CRISPR-Cas9 gene editing technology. Bhatt and Pickering (2021) study public perceptions about Nepalese National Parks as they are expressed on Twitter. Gonsalves et al. (2021) focus on women’s experience of cardiovascular disease exploring #MoreMoments cardiovascular disease awareness campaign. Osterbur and Kiel (2021), in turn, analyse Twitter discourse of the American Jewish communities. Demata (2021) examines the former US President Donald Trump’s tweets about the construction of the wall on the US-Mexico border. These articles represent just a sample of a fast-growing body of research on the expression of public sentiments and opinions in the Twitter discourse.

In the present paper we focus on a subgroup of articles which deal with the expression of public opinion concerning COVID-19 pandemic found on social media in general and Twitter in particular. Unsurprisingly, research on this topic is growing and spreading almost as fast as the pandemic itself. For instance, Budhwani and Sun (2020) research social media data and claim that referring to the virus in inadvisable ways (i.e. as “Chinese virus” or “China virus”) has the potential to create and perpetuate a stigma around it. They observed the rise in tweets containing “Chinese virus” and “China virus” after the reference made by US President Donald Trump on 16 March 2020 in which he used the term “Chinese virus”. “The rise in tweets referencing ‘Chinese virus’ or ‘China virus,’ along with the content of these tweets, indicate that knowledge translation may be occurring online and COVID-19 stigma is likely being perpetuated on Twitter” (Budhwani and Sun 2020). Their data collection method enabled them to extract only those tweets in which non-scientific and stigmatising terms are used and in this way they “collated a sample of tweets that represented the intent of using ‘Chinese virus’ in place of a scientific alternative, likely indicating deliberate stigmatization”. Dubey (2020) points to the increase of hateful comments targeting the Asian community in the wake of COVID-19 pandemic. He investigated the growing numbers of cyber racism incidents by assessing emotions and sentiments expressed in a corpus of 16000 Twitter posts and found that “the majority of the analyzed tweets were of negative sentiment and carried emotions of fear, sadness, anger, and disgust. There was a high usage of slurs and profane words. In addition, terms like ‘China Lied People Died,’ ‘Wuhan Health Organization,’ ‘Kung Flu,’ ‘China Must Pay,’ and ‘CCP is Terrorist’ were frequently used in these tweets” (Dubey 2020). Thus, it can be concluded that – like in the case of Budhwani and Sun’s research findings – cases of deliberate hate speech are rife in coronavirus-related tweets. Another study by Lwin et al. is also “aimed to examine worldwide trends of four emotions—fear, anger, sadness, and joy—and the narratives underlying those emotions during the COVID-19 pandemic” (Lwin et al. 2020). They analysed over 20 million tweets containing keywords such as “Wuhan”, “corona” and “covid” and found the gradual shift of public emotions from fear to anger over the course of the pandemic. Olza et. al. (2021) provide the background of the #ReframeCovid initiative whose aim is to collect alternatives to war metaphors for COVID-19. They summarise its development and provide the main outcomes, drawing attention to the importance of metaphor selection (as part of general language use) in framing sensitive social issues. As mentioned by Dubey, Twitter has been analysed as a reflection of public sentiment concerning not only coronavirus pandemic, but also previously encountered health issues:

Sentiment analysis of tweets has also been used to determine the general population’s perspective on different diseases. Sentiment analysis of Twitter

posts has been carried out to study the topic coverage and sentiments regarding the Ebola virus (Kim, Jeong, Kim, Kang, and Song 2016). This study separately analyzed two media sources (i.e., Twitter and news sources). Similarly, a study was conducted to examine the key topics that influenced negative sentiments on Twitter regarding the Zika virus (Mamidi, Miller, Banerjee, Romine, and Sheth 2019). Sentiment analysis was also done to analyze tweets by patients who were affected by Crohn disease, to gain an understanding of their perspective on a specific medical therapy (Rocchetti et al. 2017). (Dubey 2020, online)

The way in which the coronavirus pandemic is represented, described and discussed by Twitter users undeniably deserves closer attention. Not only is the pandemic itself a phenomenon that stirs emotions and shapes attitudes, but its multiple repercussions do so too. The pandemic has influenced, for example, social attitudes towards foreigners in general and people of Asian descent in particular. It has led to considerable criticism of the functioning of national health systems, as well as reignited the discussion around vaccination. It has exacerbated political frays and deepened social and political divisions intra- and internationally in many countries. Finally, it has led to a proliferation of discourse produced in traditional as well as new media. Without a doubt it is important to understand the public perceptions surrounding the COVID-19 pandemic, its causes and consequences. And it is precisely this pandemic-related discourse that we pay closer attention to in the present article, focussing especially on the language Twitter users employ in order to refer to the virus.

3. Why Twitter?

It seems that Twitter (possibly due to its stress on brevity and pointedness of the messages posted) is especially conducive to malevolent language creativity and deliberately offensive language use including, what may be considered, hate speech. This has been recognised by Twitter users as well as Twitter scholars and consequently led to a change in character limit from 140 to 280 (implemented in 2017). For instance, Boot et al. (2019) investigated Dutch language messages posted on Twitter pre- and post-character-limit-change. They conducted general language analysis, specific token analysis as well as part-of-speech analysis of selected posts and found that “online language producers adapt their texts to overcome limit constraints” (Boot et al. 2019, p. 1), by, for example, using more textisms, abbreviations and slang expressions as well as modifying sentence structure in order to save space. Overall, they have found that doubling the character limit, apart from introducing specific changes to the language strategies used, has led to the decrease in the need to compress messages and consequently to the increase in the formality of the

language used on Twitter. Thus, it turns out that when users have more space to express themselves, the language they use tends to be more civil and polite. In a similar vein, Jaidka et. al. having analysed more than 350.000 political Tweets have recognised that “doubling the permissible length of a tweet led to less uncivil, more polite, and more constructive discussions online” (Jaidka et al. 2019, p. 345). At the same time, they observe that Twitter users are generally “unlikely to indulge in reflection” or construct coherent arguments to substantiate their claims and online discussions on Twitter (especially those concerning pressing political and social issues) are often toxic and uncivil (Jaidka et al. 2019, p. 347). Thus, the impact of brevity of form on the uncivility of the message might have been reduced with the introduction of 280-character limit, but nonetheless pointedness and curtness remain characteristic of the language of Twitter posts. Another aspect of most online communication in general, and Twitter language in particular, that lends itself to expressing thoughts and opinions in a very direct, often inconsiderate or blatantly hateful way is its anonymity. Twitter users do not need to reveal their true identity and can use whatever nicknames they wish instead. Asher and Noble (2019) state that online anonymity makes hate speech producers more protected and their victims – more vulnerable. Specifically, they investigate neo-Nazi hate speech online and conclude that there seems to be no shame associated with voicing racist, sexist, homophobic, and misogynist views online due the “pseudoanonymity” that social media platforms afford their users. It is also worth noting that controversial and inflammatory comments (which are often anonymous) gain most popularity and as a result lead to desensitization of the general public to hate speech, harmful rhetoric and blatant fake news. Anonymity not only creates the feeling of impunity, but potentially has broader detrimental reverberations in online as well as offline communities. Mondal et. al. having analysed posts on Twitter and Whisper, also recognise the dark side of social media and the fact that they “have become a fertile ground for inflamed discussions that usually polarize ‘us’ against ‘them’, resulting in many cases of insulting and offensive language” (Mondal et al. 2018, p. 110). Due to the gravity of the problem, there has been a growing number of attempts at automatic detection of hate speech on Twitter (Pereira-Kohatsu et al. 2019; Pitsilis et al. 2018). Thus, Twitter data seems best fit for the purpose of the present article.

3.1. Harmful naming practices

Despite World Health Organization’s recommendations concerning naming of the virus issued in February 2020, there has been a lot of, often malevolent, linguistic creativity in this respect. The potential problems related to using politically-charged or even openly xenophobic expressions as names of SARS-

CoV-2 have been already recognised (AlAfnan 2020; Brown and Marinthe 2021; Budhwani and Sun 2020; Chen et al. 2020, 2021; Gee et al. 2020; Hswen et al. 2021; Su et al. 2020; Tabri et al. 2020; Xu and Liu 2021; Ziems et al. 2020). Ziems et al. (2020) study anti-Asian hate speech as well as counterhate speech on Twitter in the context of the pandemic. They show that online antisocial behaviour such as hate speech, abuse, and trolling is socially contagious. Chen et al. (2020) attempt to analyse real-world usage of the Chinese virus on Twitter and separate neutral usages from deliberately harmful ones which intentionally attach ethnicity to the virus. Their results suggest that “while the term ‘Chinese virus’ could be interpreted either as neutral or racist, its usage on social media leans strongly towards the latter” (Chen et al. 2020, p. 1). Likewise, Budhwani and Sun (2020) claim that “referencing the novel coronavirus as the ‘Chinese virus’ or ‘China virus’ has the potential to create and perpetuate stigma” (Budhwani and Sun 2020, p. 1). Despite the widespread (and mostly commonsensical) awareness of numerous problems and potential consequences of ascribing ethnicity to the virus, many people, including high profile politicians, did not shun the controversial terms. On 18 March 2020 President Donald Trump posted the following tweet (on his official verified Twitter account @realDonaldTrump which was banned on 8 January 2021 due to violation of Twitter’s Glorification of Violence Policy), defending his use of Chinese virus:

It’s not racist at all. No, it’s not at all. It’s from China. That’s why. It comes from China. I want to be accurate.

This line of defence has been common, especially among right-wing politicians and members of President Trump’s administration, as well as all avid defenders of free speech rooting against excessive “political correctness”. Even such apparently harmless usages are, however, prevalent in ideologically-laden discourses and activating this “geographical” meaning is only a pretext to more accusatory narratives.

4. Theoretical discussion

4.1. Pragmatic strengthening of meaning potentials

In light of the above, it is clear that words do matter and the ones we select to describe a given phenomenon, on the one hand, frequently expose our ideological stance, but on the other, may lead to shaping others’ opinions about the matter. By choosing certain words we control others’ attention (e.g. by choosing the word *Chinese* when referring to the virus we divert other’s attention onto China) and can steer their interpretation through emphasising

selected aspects of a word or expression. By using a certain word or expression we give licence to (almost) any of the interpretations warranted by multiple meaning potentials (Norén and Linell 2007) residing in every word and expression. For instance, Prażmo (2017) investigates the use of *Polish concentration camps* and similar expressions in WW2-related discourse. She claims that there are two main functions with which such expressions are employed: (i) they serve as mental shortcuts used by the speaker who assumes a certain level of historical knowledge on the part of the hearer and relies on the correct activation of a proper meaning potential residing in the word *Polish* (*Polish concentration camp*, i.e. a camp located on the territory of Poland, rather than, for instance, organised by the Polish); (ii) using an expression such as *Polish concentration camp* may have a deliberately misinformative purpose and aim to cast historical blame for creating concentration camps on Poles. This aim is achieved if the hearer lacks adequate level of historical knowledge and relies on the purely linguistic interpretation of the word *Polish*. The most likely semantic potential to be activated is that corresponding to the prototypical meaning which, in turn, is based on the reader's experience.

Augustyn and Prażmo (2020) investigated different interpretations that are warranted by multiple meaning potentials residing in compounds such as *Chinese virus*. They can be roughly defined and categorised in the following way (Augustyn and Prażmo 2020, pp. 223-224):

- (i) virus originating in China (and spreading from there all over the globe);
- (ii) virus affecting only (or primarily) the Chinese;
- (iii) virus created in China and spread intentionally by the Chinese (the Chinese government) in order to disrupt the global economy and defeat the (US-style) capitalism in the world;
- (iv) virus created in China and unintentionally spread by the Chinese because they did not manage to handle it efficiently and keep contained in their laboratories;
- (v) virus whose control is the responsibility of the Chinese and the Chinese government, because it has originated in China;
- (vi) virus as a metaphorical representation of the Chinese, the Chinese as a virus spreading throughout the globe.

The fact that linguistic items are semantically underspecified and acquire their final meaning only in the process of pragmatic enrichment is well known (Prażmo 2017). More complex items, especially created in the process of conceptual integration, have a potential to possess even more meanings. The main point of focus of the present article is, however, to investigate the notion of deliberateness in choosing to activate some semantic potential over others.

4.2. Ideological square

Van Dijk's notion of the ideological square (1998) has already been employed as a methodological tool in language and translation studies (Daghigh et al. 2018). The ideological square can be applied to all levels of discourse organisation, including the lexical level. It consists of examining the ideological orientation of a given discourse by analysing it against several parameters. In this way it explores the polarising tendencies of discourses structured upon Us vs Them dichotomy. Different linguistic strategies are aimed at achieving one of the four broadly defined goals (van Dijk 1998, p. 267):

- (i) Expressing or emphasising positive information about Us
- (ii) Expressing or emphasising negative information about Them
- (iii) Suppressing or deemphasising positive information about Them
- (iv) Suppressing or deemphasising negative information about Us

Such an outright omission of potentially relevant information (positive information about Them or negative information about Us) or deliberate “overcompleteness” of information i.e. the inclusion of information that is not indispensable in a given context (negative information about Them or positive information about Us, or differently put “information that negatively reflects back on outgroups” and positively on ourselves) is found in e.g. press reports on crimes which include the (often irrelevant) information about ethnicity of a criminal or omits it when it is potentially relevant. Another aspect worth mentioning here is the modification of the degree of specificity in regard to positive and negative information about outgroups and ingroups.

These may be quite general and abstract (as in topics), but also very low-level and detailed. The ideological conditions and consequences are the same. Biased discourses will tend to be very detailed about Their bad acts and Our good acts, and quite abstract and general about Their good acts and Our bad ones. Although the precise mental consequences of levels of description are not known, it seems plausible that their results are more or less detailed models of events. (van Dijk 1998, p. 268)

Another continuum that needs to be taken into account is that of explicitness vs implicitness. Different kinds of information are either expressed explicitly (if they are desirable from the ideological point of view) or left implicit. This often pertains to causes and consequences of events as well as the notion of blame and responsibility. Referring to the ideological square model, it can be stated “that implied information is not explicitly asserted, and hence not emphasized, and will therefore typically be information that needs to be

concealed in the interest of the speaker and the ingroup. This is especially so when the implied information cannot be readily inferred from socially shared knowledge” (van Dijk 1998, p. 269). Thus, leaving some information implicit seems to be especially powerful in shaping opinions about matters which are vastly unfamiliar or new, or about which there is insufficient social knowledge. In such context there is a lot of room for (mis)interpretation, which may result in activating different semantic potentials of given words and expressions which potentially leads to the distortion of facts (Pražmo 2017).

According to van Dijk, other semantic relations that play a role in ideological discourse creation are generalisation, specification, example, and contrast. They can be especially transparent in e.g. prejudiced stories about ethnic minorities in which individual instances of individual behaviour are generalised to the whole group, or blatantly prejudiced general descriptions are “evidenced” by reference to specific anecdotal examples. Similarly, “group polarization may be discursively emphasized by typical semantic and rhetorical contrasts” (van Dijk 1998, p. 270) in plain juxtapositions of Us vs Them as well as expression such as *I have nothing against X, but....* Van Dijk also emphasises the role of lexicalisation in ideological discourse creation, i.e. the selection of words which carry specific semantic loads or associations. He claims that, for instance, *freedom fighter* vs *terrorist* is an example of ideologically biased lexicalization. Similarly, we argue that *Chinese virus* vs *SARS-CoV-2* pair falls into the same category.

All these strategies, as well as multiple others, not mentioned in the present article, serve as tools which lead to a construction of different ideological stances in discourse. To recapitulate, “lexical and grammatical style is one of the most obvious means speakers have to explicitly express or subtly signal their ideological opinions about events, people and participants” (van Dijk 1998, p. 272). The same fact applies to grammatical structures (e.g. active-passive voice transformations) or word order which place participants at various levels of prominence hiding or highlighting, in this way, their positive and negative features, depending on the ideological perspective. Thus, it is at all levels of language organisation and at every aspect of style where we find traces of ideology. As van Dijk boldly states, “social discrimination is thus implemented directly by those who control the style of text and talk” (van Dijk 1998, p. 272).

5. Methodology and data

The present study is maintained within the methodological framework of Critical Discourse Analysis. More specifically, van Dijk’s notion of ideological square (van Dijk 1998) is employed as the main analytical tool. We explore a selection of Twitter posts in order to uncover language strategies

responsible for the creation of polarising discourse. According to the notion of ideological square, the polarisation between Us and Them can be construed by means of emphasising what is positive about Us while deemphasising what is positive about Them, as well as deemphasizing what is negative about Us while emphasizing what is negative about Them. This is achieved through the use of various linguistic strategies. We consider the activation of selected meaning potentials residing in words and expressions as one of those strategies too, so we also draw on Norén and Linell's notion of meaning potentials (Norén and Linell 2007) to provide a more thorough perspective.

In this article we offer a qualitative study of selected expressions in context. We use a self-compiled corpus of tweets posted between 1 January 2020 and 27 September 2021 by English-language users. We manually search this corpus of tweets tagged with the following tags: #Chinesevirus, #Asianvirus, #Sinovirus and #Wuhanvirus in order to analyse the use of selected expressions (*Chinese virus*, *Asian virus*, *Sinovirus*, *Wuhan virus*) in context. Even though we search through a copious corpus (of thousands of publicly available tweets) this study is not a typical corpus-driven quantitative study, but primarily a qualitative study of a sociolinguistic problem that has arisen in the wake of the global pandemic. The problem of naming and referring to the virus (with all the possible consequences that it entails, from shaping opinions, through spreading ideologies, to inciting criminal behaviours) is thus illustrated in this paper with selected examples extracted from Twitter.

Links to cited tweets have been shortened using a free online URL shortening programme (<https://www.shorturl.at/>) so as to ensure the anonymity of Twitter users. Nonetheless, the links provide access to publicly available contents where identity of the users is disclosed.

6. Analytical investigation

6.1. Material analysis

In what follows we analyse a selection of tweets in order to illustrate with concrete examples how ideologies are created and spread with reference to the notion of ideological square. Original spelling has been maintained throughout. Tweets have been anonymised, although they can be authenticated by tracing the links (to publicly available Twitter posts) provided.

In many tweets, the Twitter users expressed their anger at different international bodies, including WHO, dissuading people from using geographical (and hence, potentially stigmatising) names for SARS-Cov-2

(esp. expressions such as *Chinese virus*). In such cases, Twitter users often offered what they believed a logical chain of rational arguments along the lines:

- (1) I prefer the name nCoV over ARD actually.. I just dont know why they didnt call it Wuhan virus. They called Ebola virus after the Ebola river..They called MERS because it originated in the Middle East. Why cant they call it SinoVirus? shorturl.at/ksMTY
- (2) #WuhanVirus #ChineseVirus #SinoVirus A person from China is considered Chinese. Goods manufactured in China are Chinese goods. A virus discovered in China is a Chinese virus. Be clear: Chinese is an ethnicity, not a race! Use correct terminology if you accuse someone! shorturl.at/kFIS7
- (3) No you can't say Wuhan Virus or China Virus. We're calling it COVID but If you travel anywhere overseas and you have a headache or had one too many coffees you have Havana. yup that's your tummyache reason. Buenos noches bebe shorturl.at/fCKN6

However, the most common way to intentionally introduce discriminatory overtones in the Twitter discourse is by expressing negative information on Them (here: China). This is often emphasised through the use of specific hashtags:

- (4) Never forgot, this virus came from China! Do not allow them to change the narrative! [#ccpvirus #poohvirus #xiflu #xitler #wuhanflu #wuhanvirus #chinavirus #chinesevirus #sinovirus #xitlervirus #CCP #CCPBioterrorist #CCPnazis shorturl.at/eEJK5](https://shorturl.at/eEJK5)

The polarised discourse is clearly strengthened here by the following hashtags: #CCP (Chinese Communist Party), #xitler, #xitlervirus, #CCPBioterrorist, #CCPnazis, which carry a strong negative, and importantly already well entrenched, axiological charge invoking historical figures (Hitler), parties and political ideologies (Nazis, communists,) or current serious social concerns (bioterrorism).

Sometimes the negative stance towards China is construed by employing expressions emphasising, or simply exaggerating, other negative features and apparent disgusting habits of Them:

- (5) You people at WHO do realize that, they're not saying it to be racist, but rather to get the point across that it originated in china due to poor health conditions when it comes to preparing and eating disgusting meals. Not to mention it is more catchy to call it the Kung-Flu shorturl.at/asIJQ

- (6) Everyone knows this came from China originating from their disgusting eating habits and horribly cruel food preparation techniques. Don't tell me not to say so you faceless globalists. shorturl.at/pHOQS
- (7) These bat eaters will have to pay the price for this wuhan virus. You cannot escape. Karma will catch you one day. shorturl.at/jkrDQ

The negative image of China is also often constructed through its juxtaposition with other non-democratic regimes. However, interestingly, in this case the tweet's authors simultaneously emphasise some positive aspects of the other regimes (thus the strategy of painting a positive picture of 'Us' may be regarded as realised here indirectly or implicitly – as 'We' are logically assumed to be better than both the Chinese and the other agents mentioned in the tweet). Consider the example tweet below:

- (8) China refuses virus Inspector's to enter the country. Even Sadam Hussain let WMD Inspectors in! Does that tell you something? shorturl.at/knsyB

The strategy of expressing the negative information about China may also be implemented through enumerating the positive benefits the agent (China) gains in the situation which has been universally (globally) recognised as negative:

- (9) China is the origin of Covid. Yet, the Chinese gov refuses a scientific inquiry on the virus. China is also the greatest benefactor from the worldwide pandemic. My conclusion, China is the virus that should be neutralized. #Covid #china #chinesevirus #thechinavirus shorturl.at/ehqK2
- (10) SINOPHARM Vaccine for profit follows SINOVIRUS. It's good business to China and their GDP grown by 18.5% by selling Vaccine and Mask shorturl.at/axQTW
- (11) It was a bio warfare. Not a single bullet fired but every growing and developed economies in world suffered except china. They even bought stakes in companies down due to covid during this time. This was planned manufactured virus by china in lab. UN must isolate china. shorturl.at/ntvLV

A somewhat similar rhetorical depreciation is achieved through apparent emphasis of a positive fact, in this case the implication that China made a huge progress in increasing the quality of its export products. Such tweets, as the one below, often have sarcastic overtones:

- (12) Chinese may make substandard inferior quality products, but they most certainly raised the bar in producing most sophisticated virus, the Chinese virus. #China #COVID19 #chinesevirus #covidvariants shorturl.at/dlpA6

The same effect is attained through apparent praise expressed with regard to the Chinese citizens:

- (13) If Chinese guys manufactured this wonderful [icon of a virus] why steal the credit, give credit where it is due #Chinesevirus #Sinovirus China themselves called #Wuhanvirus shorturl.at/ejmrE

The metonymic shift from the country as a whole (or its government) to its people, as found in the tweet above, potentially increases the intensity of inherent racism or defamation, making comments such as these more acute and personal. Compare the above example with the two tweets presented below, in which the narrower scope of selection of the subject (Communist China – i.e. the communist government, and Xi – i.e. President Jinping) decreases (less in the first case and significantly more in the second) the potential negative reception of the Chinese people themselves:

- (14) Communist China spread the Wuhan virus, and they must be held accountable. shorturl.at/sxQR3
- (15) How can the world forget the Xi virus with which Chinese internally and world at large are suffering in every possible way.... Calling it by any other adjectives would be an insult to Xi himself. shorturl.at/bmzHW

The negative information about China may also take form of ridiculous accusations levelled at the Chinese, veiled in irony, or rather sarcasm. The accusation strongly implies that the Chinese wanted to distract the global opinion from facts:

- (16) First cases started in Wuhan, in the close vicinity of the Virology labs, who were known to be engineering coronavirus, but no, all a coincidence. Somebody ate an infected pangolin without cooking it properly first. #WuhanLabLeak shorturl.at/ainoN

Invoking the frame of WAR (as it is already partially visible in some previous examples), in particular by referring to different concepts designating

WEAPONS, is a frequent strategy employed by Twitter users to emphasise the negative information about China. Consider also the examples below:

- (17) Yes This is China's biological weapon against world. This is [#CHINESEVIRUS](#) World should react in that manner only otherwise world can't eliminate this deadly VIRUS यह [#ChineseVirus](#) shorturl.at/tyNY2
- (18) A BULLET was too obvious so they used a VIRUS [#chinaliedpeopledied](#) shorturl.at/adsCT

Partial activation of the WAR frame can also be noticed in the example below (mentioning 'military laboratory'), but the even greater stigmatising effect is achieved by the replacement of the official name of the disease (COVID-19) with the somewhat similarly sounding 'Sinovid19' and then also repeating the prefix 'Sino-' two more times in the fake name 'Sinovirus' (instead of coronavirus). Thus, the negative information about China is introduced here apparently in a subtle way (almost implicitly), but the pragmatic effect seems to be suggestively stronger (attaching a negative label to the prefix Sino- and, by extension, the concept CHINESE):

- (19) Sinovirus Disease 2019 (Sinovid19) is a disease that has already, in the 1st quarter of 2020, brought the world economy to a shuddering halt. It is caused by the novel Sinovirus, which originated from some underground military laboratory in Wuhan, China... "The Global Lockdown" shorturl.at/jzFH9

Finally, an interesting and highly intentional linguistic strategy of defaming China and the Chinese is realised by the author of the following tweet:

- (20) China should be renamed Corona & its nationality (Chinese) should be renamed Coronise cuz Corona (China) created Wuhan Virus, lied & concealing everything about it, blocked health experts from investigating the origin of Wuhan Virus & Wuhan lab where it leaked. shorturl.at/ijpyK

This creates a simple and unambiguous correlation (China = Coronavirus), strengthened by the subsequent neologic creation (Chinese = Coronise) and emphasised negative account of the actions of the Chinese government. These examples clearly illustrate malevolent linguistic creativity which, in itself, belongs to van Dijk's "lexicalisation" strategy. By choosing certain words, or even creating new ones, a certain ideological stance of the Twitter user is

revealed and recreated via shareable tweet. This leads to spreading polarising views in this interactively construed type of discourse.

7. Conclusion

The presented analysis of selected examples has shown that from the pragmatic perspective, communication on Twitter clearly focuses on expressing or emphasising the negative information about Them, the outgroup – here: China and the Chinese people. All the other angles of van Dijk’s ideological square seem to be mostly eclipsed or totally ignored. This may be a direct result of the spatial constraints of the medium itself, as suppressing or deemphasising positive information about Them or negative information about Us simply seems an inefficient communicative strategy on Twitter (it does not optimise communicative economy). However, on the other hand, it can be claimed that these sub-strategies of the ideological square are in fact fully realised in Twitter discourse, since “suppressing or deemphasising”, in its most extreme form, can be construed as a total omission of such elements.

Also expressing positive information about Us seems not to be as effective as direct depreciation of Them. It may be argued, however, that the positive information about Us is suggested implicitly, especially in instances, where Them are only apparently praised or complimented on – in those cases, the tweets’ authors’ positive evaluation of their ingroup is strongly suggested in the reversed semi-appreciation of the outgroup.

At the same time, on the conceptual level, the intensity of the social stigma and negative stereotypes created around China and the Chinese in relation to the COVID-19 discourse on Twitter depends largely on the degree of generalisation of the utterances produced by particular Twitter users – whether the subject they target are, among others, Chinese people at large, the Communist state in general, Chinese lab workers in Wuhan, or the Chinese government or even its selected representatives. The level of specificity of the WHOLE FOR PART metonymy activated in all those cases determines the severity of social stigmatisation, with the selection of less specific subjects (e.g., China/the Chinese) always resulting in stronger negative correlations, including undesirable pragmatic and social effects (such as defamation, racism, ostracism, persecution etc.).

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References

- AlAfnan M.A. 2020, *COVID 19-The Foreign Virus: Media Bias, Ideology and Dominance in Chinese and American Newspaper Articles*, in “International Journal of Applied Linguistics and English Literature” 9 [1], pp. 56–60.
- Altoaimy L. 2018, *Driving Change on Twitter: A Corpus-Assisted Discourse Analysis of the Twitter Debates on the Saudi Ban on Women Driving*, in “Social Sciences” 7 [5], p. 81.
- Ascher D.L. and Noble S.U. 2019, *Unmasking Hate on Twitter: Disrupting Anonymity by Tracking Trolls*, in Brison S.J. and Gelber K. (eds), *Free Speech in the Digital Age*, Oxford University Press, New York doi:10.1093/oso/9780190883591.003.0011.
- Asif M., Zhiyong D., Iram A., Nisar. M., 2021, *Linguistic analysis of neologism related to coronavirus (COVID-19)* in “Social Sciences & Humanities Open” 4 [1] pp. 100201.
- Augustyn R., and Prażmo E.M. 2020, *The Spread of Chinese Virus in the Internet Discourse: A Cognitive Semantic Analysis*, in “GEMA Online® Journal of Language Studies” 20 [4] doi:10.17576/gema-2020-2004-12.
- Bhatt P. and Pickering C.M.. 2021, *Public Perceptions about Nepalese National Parks: A Global Twitter Discourse Analysis*, in “Society & Natural Resources” 34 [6] pp. 685–702.
- Boot A.B.,Tjong Kim Sang E., Dijkstra K., Zwaan R.A.. 2019, *How character limit affects language usage in tweets*, in “Palgrave Communications” 5 [1] pp. 1–13.
- Brown G. and Marinthe G. 2021, “*The Chinese virus*”: *How COVID-19’s transmission context and fear affect negative attitudes toward Chinese people*, in “Peace and Conflict: Journal of Peace Psychology” doi:10.1037/pac0000581.
- Budhwani H. and Sun R. 2020, *Creating COVID-19 Stigma by Referencing the Novel Coronavirus as the “Chinese virus” on Twitter: Quantitative Analysis of Social Media Data*, in “Journal of Medical Internet Research” 22 [5] doi:10.2196/19301.
- Calabrese C., Ding J., Millam B., Barnett G.A. 2020, *The Uproar Over Gene-Edited Babies: A Semantic Network Analysis of CRISPR on Twitter*, in “Environmental Communication” 14 [7] pp. 954–970.
- Chen L., Lyu, H., Yang T., Wang Y., Luo J. 2020, *In the Eyes of the Beholder: Sentiment and Topic Analyses on Social Media Use of Neutral and Controversial Terms for COVID-19*, in “ArXiv:2004.10225” [Cs] Retrieved from <http://arxiv.org/abs/2004.10225>.
- Chen L., Lyu H., T. Yang T., Wang Y., Luo J. 2021, *Fine-Grained Analysis of the Use of Neutral and Controversial Terms for COVID-19 on Social Media*, in Thomson R., Hussain M.N., Dancy C. and Pyke A. (eds) *Social, Cultural, and Behavioral Modeling*, Springer International Publishing, Cham, pp. 57–67.
- Daghigh A.J., Sanatifar S., Awang R. 2018, *Modeling van Dijk’s Ideological Square in Translation Studies: Investigating Manipulation in Political Discourse Translation*, in “InTRAlinea” 20.
- Demata M. 2021, *Keeping the Threat Out Trump’s Discourse, the Wall and the “Other”*, in “Altre Modernità” [25], pp. 270–286.
- Dubey A.D. 2020, *The Resurgence of Cyber Racism During the COVID-19 Pandemic and its Aftereffects: Analysis of Sentiments and Emotions in Tweets*, in “JMIR Public Health and Surveillance” 6 [4] doi:10.2196/19833.

- Gee G.C., Ro M.J., Rimoin A.W.. 2020, *Seven Reasons to Care About Racism and COVID-19 and Seven Things to Do to Stop It*, in “American Journal of Public Health” 110 [7] pp. 954–955.
- Gonsalves C.A., McGannon K.R., Pegoraro A. 2021, *A critical discourse analysis of gendered cardiovascular disease meanings of the #MoreMoments campaign on Twitter*, in “Journal of Health Psychology” 26 [10] pp. 1471–1481.
- Hswen, Y., Xu X., Hing A., Hawkins J.B., Brownstein J.S. , Gee G.C. 2021, *Association of “#covid19” Versus “#chinesevirus” With Anti-Asian Sentiments on Twitter: March 9–23, 2020*, “American Journal of Public Health” 111 [5] pp. 956–964.
- Jaidka, K., Zhou A., Lelkes Y. . 2019, *Brevity is the Soul of Twitter: The Constraint Affordance and Political Discussion*, in “Journal of Communication” 69 [4] pp. 345–372.
- Kim, E.H.-J., Jeong Y.K., Kim Y., Kang K.Y., Song M. 2016, *Topic-based content and sentiment analysis of Ebola virus on Twitter and in the news*, in “Journal of Information Science” 42[6] pp. 763–781.
- Lwin MO, Lu J, Sheldenkar A, Schulz PJ, Shin W, Gupta R, Yang Y2020, *Global Sentiments Surrounding the COVID-19 Pandemic on Twitter: Analysis of Twitter Trends*, in “JMIR Public Health and Surveillance” 6 [2]: e19447.
- Mamidi R., Miller M. , Banerjee T. , Romine W. , Sheth A.. 2019, *Identifying Key Topics Bearing Negative Sentiment on Twitter: Insights Concerning the 2015-2016 Zika Epidemic*, in “JMIR Public Health and Surveillance” 5 [2], e11036.
- Mondal, M., Silva L.A., Correa D. , Benevenuto F. . 2018, *Characterizing usage of explicit hate expressions in social media*, in “New Review of Hypermedia and Multimedia” 24 [2], pp. 110–130.
- Norén K. and Linell P. 2007, *Meaning potentials and the interaction between lexis and contexts: An empirical substantiation*, in “Pragmatics” 17 [3] pp. 387–416.
- Olza I., V. Koller, Ibarretxe-Antuñano I., Pérez-Sobrino P., Semino E. 2021, *The #ReframeCovid initiative: From Twitter to society via metaphor*, in “Metaphor and the Social World” 11 [1] pp. 99–121.
- Osterbur M. and Kiel C. 2021, *Tweeting in echo chambers? Analyzing Twitter discourse between American Jewish interest groups*, in “Journal of Information Technology & Politics” 18 [2], pp. 194–213.
- Pereira-Kohatsu J.C., Quijano-Sánchez L., Liberatore F., Camacho-Collados M. 2019, *Detecting and Monitoring Hate Speech in Twitter*, in “Sensors” 19 [21] p. 4654.
- Pitsilis G.K., Ramampiaro H., Langseth H. 2018, *Effective hate-speech detection in Twitter data using recurrent neural networks*, in “Applied Intelligence” 48 [12] pp. 4730–4742.
- Pražmo E. 2017, *Deliberately misleading or unintentionally ambiguous?: A cognitive linguistic view on defective codes of memory*, in “Pragmatics & Cognition” 24 [3] pp. 346–372.
- Rocchetti M., Marfia G., Salomoni P., Prandi C., Zagari R.M., . Montagnani M. 2017, *Attitudes of Crohn’s Disease Patients: Infodemiology Case Study and Sentiment Analysis of Facebook and Twitter Posts*, in “JMIR Public Health and Surveillance” 3 [3] e7004.
- Roig-Marín A. 2021. *English-based coroneologisms: A short survey of our Covid-19-related vocabulary*, in “English Today” 37 [4] pp. 193–195.
- Su Z., McDonnell D., Ahmad J., Cheshmehzangi A., Li X., Meyer K., Cai Y., Yang L., Xiang Y.T. 2020, *Time to stop the use of ‘Wuhan virus’, ‘China virus’ or ‘Chinese virus’ across the scientific community*, in “BMJ Global Health” 5 [9], e003746.

- Tabri N., Hollingshead S., Wohl M.J.A. 2020, *Framing COVID-19 as an Existential Threat Predicts Anxious Arousal and Prejudice towards Chinese People* (preprint)PsyArXiv Retrieved from <https://osf.io/mpbtr>.
- van Dijk T. 1993, *Principles of Critical Discourse Analysis*, in “Discourse & Society” 4 [2], pp. 249–283.
- van Dijk T. 1998, *Ideology: A Multidisciplinary Approach*, Sage, London. Xu C., and LiuY. 2021, *Does mislabeling COVID-19 elicit the perception of threat and reduce blame?*, in “Journal of Behavioral Public Administration” 4 [2] doi:10.30636/jbpa.42.225.
- Ziems C., He B., Soni S., Kumar S. 2020, *Racism is a Virus: Anti-Asian Hate and Counterhate in Social Media during the COVID-19 Crisis*, in “ArXiv:2005.12423 [Physics]” Retrieved from <http://arxiv.org/abs/2005.12423>.

POUR UNE RELECTURE DE LA QUERELLE DU XVIII^E SIÈCLE SUR L'INOCULATION

Analyse des procédés discursifs utilisés par Diderot

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Abstract – This article proposes discursive and argumentative reflections that are particularly concerned with the differences between Diderot and D'Alembert on the question of inoculation, one of the most important subjects of their time. The polemic is articulated around several axes: pragmatic, when it focuses on the modalities of experimentation; epistemological, when it attacks the intellectualism that antecedes mathematical axioms to their benefits for society; personal, with direct accusations against the opponent. The first two parts illustrate the scientific context in which the main ideas arise and circulate, drawing a complex chessboard in which two works by Denis Diderot are focused. The third part, more substantial, studies the discursive procedures used to make more effective the attacks which target the mathematical abstraction of which Jean Le Rond D'Alembert is the leader.

Keywords: discourse analysis; vaccine quarrel; inoculation; *Encyclopédie*; Diderot; D'Alembert.

Io so leggere i dati, anzi la mia specialità è leggere i dati.
(Giorgio Parisi, 4 mars 2021).¹

1. Introduction

L'agressivité verbale, d'autant plus dangereuse qu'elle semble incontrôlée à notre époque, a récemment fait l'objet d'une analyse de quelques exemples concrets pour engager une réflexion ciblant les modalités discursives (Lorenzi Bailly 2019). Certainement exacerbée par la situation pandémique en cours, la guerre des vaccins à laquelle nous assistons au quotidien sous une forme « éclatée » (Ravazzolo 2021), n'a pas manqué de nous rappeler une querelle particulièrement virulente, celle du XVIII^e sur probabilités et variolisation, une bataille longue de plus d'un siècle, *topos* légendaire de

¹ « Je sais lire les données, mieux encore, ma spécialité est de lire les données ». Giorgio Parisi, prix Nobel de Physique 2021, avec S. Manabe et K. Hasselmann, a prononcé ces mots le 4 mars 2021 lors d'une émission télévisée (*L'Aria che Tira*, La7, Italie).

débats animés par une critique ouverte, développée dans des missives et des mémoires scientifiques disséminés dans l'Europe tout entière. Dans ce contexte, la polémique s'articule autour de plusieurs axes : pragmatique, lorsqu'elle se fixe sur les modalités de l'expérimentation ; épistémologique, lorsqu'elle s'en prend à l'intellectualisme qui antépose les axiomes mathématiques à leurs bénéfices pour la société ; personnel, avec des accusations directes contre l'adversaire.

L'objectif de cet article est de décrypter les procédures discursives et argumentatives utilisées dans la co-construction de l'interaction à l'intérieur des textes choisis. Les deux premières parties illustreront le contexte scientifique dans lequel les idées principales surgissent et circulent en dessinant un échiquier particulièrement complexe où nous nous focaliserons sur deux œuvres de Denis Diderot. La troisième partie, plus substantielle, étudiera les procédés discursifs employés pour rendre plus efficaces les attaques qui ciblent l'abstraction mathématique dont Jean Le Rond D'Alembert est le chef de file.

2. Le cadre scientifique

Le domaine des mathématiques est depuis toujours émaillé de disputes passionnantes et en cela le XVIII^e siècle ne fait pas exception : les Savants de l'époque expriment tous de fortes rivalités en matière d'abstraction et/ou d'application. Ce sont surtout les probabilités qui animent une querelle virulente puisqu'elles sont abordées sous de multiples aspects portant non seulement sur la théorie des jeux, mais aussi sur les perspectives de l'existence, tout comme sur la variolisation, c'est-à-dire l'inoculation volontaire de la variole (Daston 1988). Ces considérations renvoient à des questions d'ordre social situées au cœur de l'engagement des Philosophes.

La recherche sur les probabilités, initialement liée aux jeux de dés, remonte à l'Antiquité, mais c'est surtout au XVII^e siècle qu'elle stimule des hommes de science comme Pascal,² Fermat³ et Huygens.⁴ Le sujet abordé porte sur le « paradoxe de Saint-Pétersbourg »⁵ qui figure pour la première

² Voir Yvette Perrin, *Les probabilités au service des sciences morales, Blaise Pascal et Pierre-Simon Laplace*, in "Courrier du Centre international Blaise Pascal", n. 34, 2012, pp. 22-27.

³ Dans sa correspondance avec Pierre de Fermat, Blaise Pascal élabore la base du calcul des probabilités à partir de situations de jeux d'argent. Voir à ce propos Blaise Pascal, *La règle des partis*, in *Œuvres complètes*, Paris, Seuil, 1963.

⁴ Christiaan Huygens publie ses études sur les probabilités en latin en 1657, en néerlandais en 1660 et quelques années plus tard en français. Voir Christiaan Huygens, *Du calcul dans les jeux de hasard*, in *Œuvres complètes*, tome XIV, La Haye, Martinus Nijhoff, 1920.

⁵ « Le paradoxe de Saint-Pétersbourg concerne les jeux de hasard à espérance de gain strictement positive, voire infinie, où l'on peut réaliser un gain minime avec une probabilité très voisine de 1, à condition de miser une forte somme. Paradoxalement, une personne raisonnable préfère ne

fois dans la correspondance échangée entre Nicolas Bernoulli et Pierre Rémond de Montmort au cours de l'année 1713,⁶ confrontation reproduite dans la seconde édition de l'*Essay d'analyse sur les jeux de hazard*,⁷ seule œuvre de ce dernier. Le nom de ce problème remonte à un célèbre article de Daniel Bernoulli sur le sujet paru dans les *Mémoires de l'Académie de Saint-Pétersbourg*⁸ et objet de commentaires futurs⁹ puisqu'il sera à même d'alimenter bien des théories économiques modernes.¹⁰

Au sujet des probabilités et de l'inoculation, la querelle scientifique initiale oppose Bernoulli¹¹ à D'Alembert (Colombo 2014). Après que Bernoulli a proposé le paradoxe de Saint-Pétersbourg à D'Alembert, celui-ci est le seul à refuser de l'appliquer à des raisonnements pratiques ou moraux comme l'analyse quantitative et psychologique du risque, et l'approximation de l'espérance de vie une fois le virus inoculé. Il sait bien qu'autant de variables requièrent un système complexe, mais ne pourra l'élaborer de son vivant (Mayer 1959, p. 81). De là naissent ses tâtonnements, puisqu'il considère cette question sous un angle résolument mathématique, exigeant une formule à même de synthétiser toutes les proportions du risque pour être appliquée aux infiniment petits.¹²

pas jouer. Ce comportement d'apparence irrationnelle s'appelle l'aversion au risque. Il a été formalisé par la notion de fonction d'utilité et a donné naissance à la théorie de la décision » (<https://publimath.univ-irem.fr/glossaire/PA010.htm#:~:text=Le%20paradoxe%20de%20Saint%20P%C3%A9tersbourg,raisonnable%20pr%C3%A9f%C3%A8re%20ne%20pas%20jouer>, consulté le 1^{er} Février 2022).

⁶ L'*Ars conjectandi* de Jacques Bernoulli, œuvre posthume publiée en cette même année 1713 est, encore de nos jours, considérée comme capitale dans le domaine de la théorie des probabilités. Il y présente sa loi des grands nombres servant pour le calcul des rentes viagères, l'organisation des contrôles de qualité, la programmation des expérimentations ainsi que pour la distribution optimale des médicaments. Le problème de Saint-Pétersbourg tire son nom de la ville où Bernoulli résidait quand il le proposa (Paty 1988).

⁷ Voir Pierre Rémond de Montmort, *Essay d'analyse sur les jeux de hazard*, seconde édition revue et augmentée de plusieurs lettres, Paris, Quillau, 1713.

⁸ Voir Daniel Bernoulli, *Specimen theoriae novae de mensura sortis*, in "Commentarii Academiae Scientiarum Petropolitanae", n. 5, 1730-1731, pp. 175-192.

⁹ Voir, parmi d'autres, Henri Poincaré, *Le hasard*, in "Revue du mois", n. 3, 1907, pp. 257-276.

¹⁰ Voir Bernard Bru, Marie-France Bru et Kai Lai Chung, *Borel et la martingale de Saint-Pétersbourg*, in "Revue d'histoire des mathématiques", 1999, pp. 181-247, disponible à la page http://smf4.emath.fr/Publications/RevueHistoireMath/5/pdf/smf_rhm_5_181-247.pdf, consulté le 1^{er} Février 2022.

¹¹ En 1754, La Condamine intervient à l'Académie des Sciences en faveur de l'inoculation avec son *Mémoire sur l'inoculation de la petite vérole* (Paris, Durand, 1754) et en 1759 Maupertuis convainc Daniel Bernoulli à résoudre ce problème en termes mathématiques. Voir Daniel Bernoulli, *Réflexions sur les avantages de l'inoculation*, in "Mercure de France", 1760, pp. 173-190 et *Essai d'une nouvelle analyse de la mortalité causée par la petite vérole et des avantages de l'inoculation pour la prévenir*, in "Histoire de l'Académie Royale des Sciences", Paris, 1760/1766, pp. 1-45.

¹² Rappelons qu'il avait déjà trouvé la formule décisive pour l'acoustique (D'Alembert 1761 : pp. 26-95).

À propos des écrits de D'Alembert au sujet des probabilités, jugés complexes, cryptiques et obscurs (Viard 2002), les spécialistes soulignent ses doutes et son attitude intransigeante « débouchant souvent sur des propositions, des pistes de recherche, plus rarement sur des théories quelque peu achevées » (Crépel 2009). Pour cette raison, les commentaires sont parfois dichotomiques. Pour certains, « D'Alembert ne put jamais accepter comme une science rigoureuse le calcul des probabilités ; les erreurs qu'il accumula dans les articles *Croix ou pile*¹³ et *Gageure*¹⁴ et surtout dans ses deux mémoires sur les probabilités et sur l'inoculation (*Opuscules mathématiques*, tome II, pp. 1-25 et 26-95) prouvent combien il était fermé aux subtilités de cette analyse si fine » (Mayer 1959, p. 80). Ne s'arrêtant pas aux calculs, d'autres en analysent la profondeur épistémologique et arrivent à en saisir la cohérence de fond : « Ses réticences, exceptionnelles en la matière parmi les mathématiciens du XVIII^e siècle versés en probabilités, proviennent d'un souci de rigueur » (Brian 1996, p. 163). En général, ses écrits misent sur l'exigence d'une considération systématique qui oblige le savant à construire une modélisation généralisante, ce qui signifie universelle, et non à l'application contingente.

Dans le mémoire sur l'inoculation qu'il lit à l'Académie des Sciences le 12 novembre 1760, il loue les bienfaits de la variolisation, mais il en souligne aussi les risques (Paty 1988, pp. 9-10). Par la suite, il reviendra sur ses propres difficultés et dans ses *Éclaircissements sur les éléments de philosophie consacrés à l'art de la conjecture*, il précisera trois domaines d'application : les jeux de hasard, l'extension de l'analyse des jeux de hasard aux questions de la vie courante, telles que la durée de vie des hommes, les rentes et les assurances maritimes, et encore les sciences, qu'il sépare en deux catégories, les sciences spéculatives, comme la physique et l'histoire, et les pratiques, telles que le droit et la médecine.¹⁵

3. Les œuvres choisies

Bien que ce soit en D'Alembert que l'on reconnaît le génie mathématique du XVIII^e siècle, Diderot a été, lui aussi, mathématicien.¹⁶ Dans un univers

¹³ *Enc.*, IV, 512 b-513 b.

¹⁴ *Enc.*, VII, 420 b-421 a.

¹⁵ D'Alembert s'occupera à plusieurs reprises des probabilités et des questions soulevées par leur application, surtout dans son cinquième volume des *Mélanges de littérature, d'histoire et de philosophie* (Amsterdam, Chatelain, 1767), où sont contenus ses *Doutes et questions sur le calcul des probabilités* (pp. 273-304) et ses *Réflexions philosophiques et mathématiques sur l'application du calcul des probabilités à l'inoculation de la petite vérole* (pp. 305-430).

¹⁶ Dans le cas de Diderot, on reconnaît « l'importance et la diversité de cette œuvre qui s'étend des mathématiques à la physique et à la physiologie, de l'épistémologie aux sciences appliquées » (Mayer 1959 : pp. 7-8).

intellectuel particulièrement actif comme celui des Philosophes, les mathématiques accèdent en effet au rang de domaine de recherche privilégié pour le renouvellement d'un milieu culturel visant à recueillir la science et la connaissance pour les divulguer simultanément.

Diderot – dont la vivacité polyédrique se concrétise dans l'*Encyclopédie*, « somme inégalée de savoirs sur les sciences, les arts, les métiers et la langue »¹⁷ où puisent tous les savants de cette période – ne renonce pas à ses responsabilités de maître à penser. La langue des mathématiques occupe « la place de choix » (Taton 1951) dans ce projet grandiose dès le *Prospectus* de Diderot de novembre 1750, repris ensuite en tête du premier tome de 1751 dans le *Discours préliminaire* de D'Alembert.¹⁸ Une primauté qui, selon Michel Paty, s'explique par le fait que seule cette langue, surgie de l'abstraction, peut hisser le discours à un niveau supérieur où « les mathématiques constituent l'axe du mouvement des sciences vers leur unification » (Paty 1984, p. 75).

Après ses *Mémoires sur différens sujets de mathématiques* de 1748,¹⁹ consacrés à l'acoustique, à la mécanique et à la géométrie, Diderot n'a plus publié d'études mathématiques de son vivant. Pourtant quelques articles de l'*Encyclopédie* et surtout les écrits du fonds Vandeuil prouvent qu'il s'y est adonné tout au long de son existence. Il a toujours gardé un œil passionné sur cette discipline pour laquelle il n'a pas craint de s'aventurer dans des querelles bien connues de son époque, comme celle qui opposait D'Alembert à Daniel Bernoulli à propos des probabilités. Il n'a pas hésité non plus à étudier les résultats de La Condamine et du docteur Tronchin au sujet de l'inoculation préventive de la petite vérole, « une des grandes questions d'éthique médicale du XVIII^e siècle » (Mayer 1991, p. 384) où il est intervenu d'un point de vue mathématique avec des considérations personnelles : deux écrits en réponse aux mémoires de D'Alembert que nous analyserons plus en détail ici.²⁰ Ils ont pour objet le paradoxe de Saint-Pétersbourg et la défense de l'inoculation, et sont tous les deux destinés à la *Correspondance littéraire* de Grimm. Leur publication dans l'édition des *Œuvres complètes* de Diderot n'est pas linéaire. Le texte imprimé alterne caractères ronds et italiques, ce qui favorise la dimension visuelle, soulignant certains choix terminologiques et mettant en évidence les sections occupées par la composition d'un dialogue scientifique fictif où les questions de Diderot et les réponses de D'Alembert se succèdent.

¹⁷ Voir Alexandre Guilbaud, ENCCRE, *édition numérique collaborative et critique de l'Encyclopédie*, in « Recherches sur Diderot et sur l'*Encyclopédie* », n. 52, 2017, p. 5.

¹⁸ *Enc.*, tome I, pp. I-XIV. Voir à ce propos Jean-Pierre Schandeler, *Le Prospectus de l'Encyclopédie dans le Discours préliminaire : variantes du texte et ambitions du géomètre*, in « Recherches sur Diderot et sur l'*Encyclopédie* », n. 52, 2017, pp. 127-141.

¹⁹ Nous conservons la graphie originale de toutes les citations.

²⁰ Dorénavant DM.

Les écrits de Diderot sur les probabilités remontent au plus fort de la crise qui a coûté la condamnation de l'*Encyclopédie* à cause des polémiques déclenchées après la sortie en 1757 de l'article *Genève* de D'Alembert dans le tome VII, entraînant la démission de ce dernier en 1759 et risquant de provoquer l'interruption de cette grande aventure intellectuelle et éditoriale en France. Par la suite, Diderot assumera seul la responsabilité de ce monument du Savoir: s'il est vrai qu'à ce moment-là il peut avoir des ressentiments contre D'Alembert, il est tout aussi vrai qu'un écrit mathématique ne peut pas régler des divergences personnelles. La distance qui sépare les deux Philosophes à cette époque, est également perceptible dans la correspondance de Diderot à Sophie Volland: en 1760, il définit comme une « action déshonnête »²¹ la lecture d'un mémoire contre l'inoculation faite par D'Alembert à l'Académie des Sciences, et par la suite il annonce avoir écrit « deux autres morceaux »²² sur les probabilités et l'inoculation destinés à la *Correspondance littéraire* de Grimm. En 1761, Diderot saisit l'occasion de la publication des *Opuscules mathématiques* de D'Alembert pour lui répondre directement – les deux mémoires dont Diderot fera le commentaire, sont placés en ouverture du deuxième tome – et s'insérer dans un débat très vif au XVIII^e.²³

Le second texte sur l'inoculation est aussi repris dans l'article de l'*Encyclopédie* ayant pour titre *Insertion de la petite vérole* qui a été attribué à Diderot, bien qu'il ne soit pas signé.²⁴ Ce dernier est anticipé par l'article *Inoculation*, contribution du physicien suisse Théodore Tronchin, défenseur de la cause de l'inoculation, c'est-à-dire de l'« opération par laquelle on communique artificiellement la petite vérole, dans la vue de prévenir les dangers et les ravages de cette maladie contractée naturellement ». ²⁵ *De l'inoculation* (DM, pp. 356-361) prend une fois de plus la forme du dialogue scientifique, mais, cette fois-ci, le jeu est inversé et les sections en italique renvoient aux positions de Diderot jusqu'à sa conclusion tranchante: « de la manière dont M. D'Alembert parle du risque de l'inoculation, on voit qu'il ne sait ce que c'est que l'opération, et qu'il n'a jamais vu inoculer » (DM, p. 360), se rangeant manifestement du côté de l'expérience pragmatique.

²¹ Lettre du 25 novembre 1760, in Diderot, *Lettres à Sophie Volland, 1759-1774*, édition présentée et annotée par Marc Buffat et Odile Richard-Pauchet, Paris, Non Lieu, 2010, p. 236.

²² Lettre du 28 septembre 1761, in Diderot, *Lettres à Sophie Volland, 1759-1774*, éd. citée, p. 254.

²³ Quelques années plus tard, en 1723, Voltaire y survit et se déclare en faveur de l'inoculation dans la lettre XI des *Lettres Philosophiques*. Allant plus loin, Catherine II de Russie se fait inoculer en 1768. Voir à ce propos Catriona Seth, *Les rois aussi en mouraient. Les Lumières en lutte contre la petite vérole*, Paris, Desjonquières, 2008.

²⁴ *Enc.*, VIII, 788 b. Voir Jean Mayer, *Diderot et le calcul des probabilités dans l'Encyclopédie*, art. cité, p. 385.

²⁵ *Enc.*, VIII, 769 a-771 b. Voir aussi Giacomo Lorandi, *Les dynamiques d'une célébrité transnationale: Théodore Tronchin et l'inoculation de l'Infant Ferdinand de Parme en 1764*, in "Gesnerus", Vol. 74, Issue 2, 2017, pp. 240-267.

4. Le dialogue

Dans les dialogues de Diderot, c'est l'échange d'arguments qui prime, d'où la difficulté de l'analyse, explicitée par Maingueneau, à les prendre en compte « au motif que ce ne sont pas des interactions authentiques mais des textes conçus par un auteur » (Maingueneau 2015, p. 15). Pour cela, on peut apprécier ces échanges en tant que « mimesis d'entretiens », distanciés et corrigés, diégétiquement remaniés (Lhomme 2019, p. 7).

Comme dans ses œuvres majeures, telles que *Le Rêve de D'Alembert*, *Jacques le Fataliste* et *Le Neveu de Rameau*, Diderot crée une fiction avec un cadre qui participe de la vraisemblance en enchaînant de manière progressive les passages nécessaires à la correction du calcul des probabilités proposé par D'Alembert et une forme dialogique fictionnelle entre lui et son interlocuteur. L'auteur manipule cette technique révélatrice d'enjeux scientifiques importants jusqu'à déterminer un ensemble homogène où l'on distingue les tours de parole et les positions respectives. Le premier texte commence *in medias res* et s'enrichit des interventions des deux personnages qui s'affrontent au fil des pages: le locuteur, Diderot lui-même, conduit le débat, alors que son allocutaire, D'Alembert, répond tant bien que mal aux critiques. Les phases du dialogue sont juxtaposées par des déictiques (« Voici une autre de ces idées », DM, p. 343) marquant le passage d'un sujet à l'autre ainsi que les changements de perspective mis en relief (« C'est qu'à *pair ou non*, à *croix ou pile*, les coups passés font quelque chose au coup suivant », DM, p. 343).

Les explications mathématiques de Diderot alternent avec les réponses à la première personne du singulier de D'Alembert. Il en ressort l'impression d'une grande vitalité, bien que liée à des calculs et à des prévisions, dans une succession de propos obéissant à une structure dialectique ordonnée et rigoureuse. Au fil de ses pages, Diderot rassemble les idées et les oppose : son œuvre n'est pas seulement un exposé de ses convictions personnelles, mais surtout une incitation à la réflexion pour le destinataire fortement impliqué dans la polarisation des positions.

Très explicite quand il lance des accusations contre les procédures suivies par son adversaire, Diderot ne demeure pas sur ses gardes: « Je porte le même jugement de la solution qu'il donne du problème de la mise de celui qui propose d'amener croix en deux coups et de celui qui accepte ce jeu. Rien n'est plus faux » (DM, p. 346). Si, dans un texte mathématique, c'est l'objectivité qui prime, puisqu'il s'agit d'un genre contraignant le spécialiste à s'interdire toute intervention, voire à dissimuler les traces de sa présence, il est ici évident qu'au fur et à mesure que ces écrits entrent dans le vif des démonstrations, ils se subjectivent comme dans l'exemple qui suit: « Il ajoute qu'à croix ou pile, qu'à pair ou non, qu'aux dés, les coups qui ont

précédé font quelque chose au coup qui va suivre. Si je juge cette proposition sans aucun égard à quelque cause physique secrète qui détermine un événement à avoir lieu plutôt qu'un autre, je n'y trouve pas de sens » (DM, pp. 354-355).

Diderot simplifie surtout la syntaxe, dans la conviction que les éléments formels adoptés ne se limitent pas à produire de l'élégance et de la variété, mais qu'ils stimulent le partage et modèlent la connaissance. Quand il s'agit d'expliquer, il adopte une structure articulée selon trois passages successifs (« Multipliez le gain ou la perte que chaque événement doit produire, par la probabilité que cet événement doit arriver. Ajoutez ensemble tous ces produits, en regardant les pertes comme des gains négatifs ; et vous aurez l'espérance du joueur », DM, p. 341), suivant le schéma du discours procédural qui relève de l'application de la méthode scientifique (Adam 2020). Il se sert également d'une technique de la *brevitas* où la langue dénotative des mathématiques s'enrichit de questions ouvertes adressées à son interlocuteur, un choix qui n'est pas synonyme de simplicité, mais de multiplicité d'intentions, allant de la clarté informative jusqu'à la participation émotive (« Il n'y aura donc quelque exactitude dans l'analyse des hasards qu'après des siècles d'observations ? », DM, p. 343).²⁶

Le genre dialogique semble acquérir ici la double fonction de controverse et de divulgation pour répondre au triple objectif de Diderot : étaler les différentes positions concernant le calcul des probabilités, défendre l'application de ces mêmes probabilités à la société, en illustrer les bienfaits dans la lutte pour l'inoculation. La forme choisie amplifie la situation représentée par la dichotomie des opinions, puisque le dialogue est la forme énonciative qui met en valeur l'autorité des interlocuteurs et qui exalte la précision des raisonnements.

D'Alembert est nommé en tant que responsable d'un écrit à condamner ouvertement (« Si donc, lorsque M. D'Alembert lut son mémoire publiquement, il s'était trouvé dans l'assemblée quelque homme de tête », DM, p. 357) et présent dans l'interlocution dyadique du texte où il participe au duel verbal comme s'il était sur le banc de l'accusé. L'attaque est directe : « M. D'Alembert vient de publier ses opuscules mathématiques. Il y a dans ce recueil deux mémoires qu'il n'est pas impossible de réduire à la langue ordinaire de la raison » (DM, p. 341). Le problème est que le calcul des probabilités repose sur « la supposition tacite et fausse que le jeu doit durer toujours et que tous les jets peuvent avoir lieu » (DM, p. 342). Au fur et à mesure que le texte avance, on assiste à une stratification progressive où les

²⁶ Voir l'étude de Maria Luisa Altieri Biagi (*Il Dialogo di Galileo e l' "arte del dialogo" di Sforza Pallavicino*, in "Lingua e stile", n. 37/1, 2002, pp. 65-74) sur l'utilisation de la forme dialogique de la part de Galilée pour qui chaque intervenant est appelé à illustrer et à défendre ses positions par rapport à la problématique choisie.

multiples éléments apportés par la critique se superposent aux calculs. Au total, ce n'est pas l'esprit de système qui prime, mais la vitesse des échanges entre les interlocuteurs : « – *Et quelle est la loi de cet accroissement d'apparence ?* – Je n'en sais rien. – *Et la loi des combinaisons que devient-elle ?* – Ce qu'elle pourra » (DM, p. 343). L'utilisation exclusive des verbes modaux montre le caractère non définitoire des réponses, alors que la rapidité des répliques, la distance des positions et l'impossibilité d'un partage sont autant d'indices de l'ampleur du problème.

L'échange s'appuie sur la définition de deux rôles typés où les visions antithétiques sur les mathématiques émergent de la nette asymétrie existant entre les espaces de parole réservés au protagoniste et à son interlocuteur. Ce dernier, présenté comme géomètre et académicien, semble se perdre dans des réponses ambiguës, jamais décisives, jusqu'à se réfugier dans le silence : plus l'un est provocateur, fort et maître du jeu, plus l'autre réagit faiblement sans jamais proposer de sujet de discussion. Les répliques de l'auteur des *Opuscules mathématiques* sont très brèves, ce qui correspond à l'objectif de ridiculiser celui qui excelle en mathématiques, comme s'il était incapable de renverser les propos du questionneur. Ainsi le rythme du dialogue alterne-t-il des moments accélérés à d'autres plus lents. Apparemment décousu, dans une verve qui semble exempte de toute organisation, on y remarque des phrases elliptiques, des exclamations, des affirmations rapides qui renvoient la parole à son allocataire. C'est surtout l'impression de mouvement qui en ressort.

L'opposition ne se présente pas seulement sous la forme typique de l'interrogatoire judiciaire (argument *vs* contre-argument), mais adopte des aspects multiples, à savoir statiques, lorsque Diderot s'étend sur la correction des calculs, oxymoriques (« celui qui apprend aux hommes à séparer ces deux intérêts est un bon géomètre, à la bonne heure, mais un très mauvais citoyen », DM, p. 360) ou encore dynamiques, pour se projeter dans la société et s'y manifester sous un autre couple oppositionnel, celui de l'égoïsme personnel (« On a trop confondu, dit M. D'Alembert, l'intérêt public avec l'intérêt particulier », DM, p. 360) et de l'élargissement aux bienfaits pour tous à long terme (« un homme plus attentif au bien général qu'à l'accroissement de sa réputation », DM, p. 356).

La nature des propos de Diderot qui exploite le ton impérieux de l'interrogation en posant toujours des questions directes à son adversaire, suit la modalité déontique qui se répand dans le texte par des requêtes fermes (« il faut regarder », DM, p. 346) et par des déclarations d'intention (« il faut argumenter contre lui et lui montrer le peu de fondement de la distinction », DM, p. 346). Ailleurs, Diderot utilise des verbes directifs comme insister (« On insiste, et on lui dit », DM, p. 345), ajouter (« Il ajoute qu'en jouant à *croix ou pile* », DM, p. 343) et distinguer (« Il distingue un *possible métaphysique* et un *possible physique* », DM, p. 343), la forme négative

comme marqueur de réfutation (« L'argument n'est pas en forme », DM, p. 345) et la ponctuation exaspérée.

Face à cette stratégie discursive animée par un questionnement protéiforme, dynamique et rapproché (« Où commencer ? Où finir ? Quand on aura commencé, quelle loi suivront les probabilités ? Si la loi varie, quelle sera sa variabilité ? Sans ces préliminaires connus, point d'analyse », DM, p. 344), l'attitude de l'interlocuteur devient tour à tour celle de l'acceptation (« D'accord, je l'avoue », DM, p. 345), de la défense (« Ce n'est pas mon affaire », DM, p. 345), de l'omission (« Je n'en sais rien », DM, p. 344) et de la dénégation (« Je nie la conséquence », DM, p. 345). La dialectique qui se dénoue tout au long du premier texte sur les probabilités, se concrétise dans le paradoxe final (« Ce sont des gens sages qui échouent toujours, et des fous qui réussissent constamment. Il faut souhaiter que les premiers meurent promptement », DM, p. 355), prolongé et amplifié dans l'ouverture du second écrit *De l'inoculation* où l'attaque vise aussi bien l'institution que la personne (« Je crois qu'un homme plus attentif [...] aurait renfermé dans son portefeuille ce morceau dont la lecture publique que l'auteur en fit à une rentrée à l'Académie des Sciences, avait causé tant de plaisir aux imbéciles adversaires de l'inoculation » (DM, p. 356). La conclusion ne fait qu'exalter, de par ses répétitions, l'évidence des contradictions de fond (« Il faut convenir que voilà bien de l'esprit, bien de la pénétration et bien du travail mal employés », DM, p. 361) dans un mouvement – celui du dialogue – qui, par sa structure multiple, par ses rythmes variés, par sa porosité et sa souplesse, se révèle le plus adéquat à illustrer la démarche expérimentale qui ne connaît ni fixité ni ordre.

5. Conclusion

S'il est vrai que les écrits de Diderot constituent une attaque contre l'Académie, contre D'Alembert, contre ceux qui exprimaient des doutes à l'égard de l'inoculation, il est tout aussi vrai que dans cette démarche dialectique faite de désaccords, de ruptures et de contradictions, Diderot préfère le débat au refus qui marque toujours un point de non-retour. Il respecte son adversaire puisqu'il veut le battre sur son propre terrain (en corrigeant ses calculs) et faire progresser la discussion en justifiant son opposition par l'application de la réfutation « dans son sens plus moderne » (Villemin-de Carné 2014, p. 227), ce qui signifie que le discours est plus un mode d'action qu'un instrument de réflexion et qu'il arrive ainsi à accomplir une fonction sociale (Benveniste 1970). Comme le dit Flore Villemin-de Carné, « les amis s'interrompent, se coupent parfois la parole, changent sans cesse l'orientation du débat, mais ne menacent jamais réellement de s'en

retirer, ce qui permet sa poursuite indéfinie, condition nécessaire à toute quête de vérité », déterminant ainsi « une véritable éthique » (Villemin-de Carné 2014, p. 242).

Il en ressort que l'on a affaire à deux grandes personnalités du siècle et à deux modalités de recherche différentes, d'où l'intérêt pour l'analyse d'un discours qui peut s'ouvrir à des formes liées à la subjectivité des auteurs. Quant au public envisagé, le destinataire de D'Alembert est l'Académie, lieu privilégié et élitiste des meilleurs spécialistes pour une forme de communication entre pairs (Nabonnand 2015, p. 9), un destinataire collectif qui n'est pas interpellé pour accompagner la démarche du mathématicien, mais qui se doit d'assister à la reproduction de la totalité de ce même parcours pour l'apprécier à sa juste valeur jusqu'à la solution définitive.

Si D'Alembert s'adresse à ses pairs sans rester prisonnier de ses limites, Diderot agit différemment. Son écriture est inclusive et pédagogique, alors que celle de D'Alembert reste rivée sur l'exposition de ses propres découvertes pour la communauté savante.²⁷ Spécialisation vs divulgation, tel est l'enjeu de taille entre les deux, ce qui n'implique pas uniquement l'aspect énonciatif, mais le but final de la recherche et de la communication scientifique. De par leurs positions respectives à l'égard des mathématiques, ils finissent par incarner les deux revers, qualitatif et quantitatif, du problème idéologique qui « déborde le problème des mathématiques et de la physique, portant aussi sur la place de la raison et celle de l'imagination dans la connaissance, et se mêlant à une controverse de portée sociale et politique : la stratégie de l'*Encyclopédie* » (Paty 1984, p. 70), soit ce système euristique qu'ils ont su, ensemble, engendrer.

Diderot attaque la réalité de son allocutaire et son savoir mathématique pour toucher à la totalité de son système euristique, mais il n'a jamais la volonté de l'humilier ou de l'annihiler, au contraire, il augmente le rythme pour amplifier l'importance du dialogue en acte. Malgré la forme fragmentaire, l'hybridité des textes offre l'avantage d'inclure les objections, de faire passer les critiques et d'exprimer la variété des positions. La dialectique philosophique répond à l'engagement personnel de l'auteur, à sa volonté de présenter tous les aspects qui caractérisent les probabilités, pour

²⁷ Sans doute D'Alembert était-il conscient des difficultés de son écriture (Voir Jeanne Peiffer, *Le Traité de Géométrie de Varignon et l'apprentissage mathématique du jeune D'Alembert*, in "Recherches sur Diderot et sur l'*Encyclopédie*", n. 38, 2005, pp. 125-150) à tel point qu'il encouragea Louis-Antoine de Bougainville à formuler une version simplifiée et didactique de ses propres acquis, ce qui donnera en 1754 le *Traité du calcul intégral* (M. De Bougainville, le jeune, *Traité du calcul intégral*, Paris, Guérin et Delatour, 1754). Voir à ce propos Guillaume Jouve, *D'Alembert, mathématicien sous-estimé*, in "Les génies de la science", n. 39 (sous la direction de Pierre Crépel, *Jean Le Rond D'Alembert*), 2009, disponible à la page <http://culturemath.ens.fr/histoire%20des%20maths/htm/dalembert/articles/article5/DAlembert-mathematicien-sous-estime.html>, consultée le 1^{er} Février 2022.

les plier à leurs applications dont il illustre et argumente les bienfaits. Ce qui ressort de ces pages, c'est de façon décisive la force de Diderot accompagnée de sa volonté de défendre et illustrer ses positions d'homme attentif à une utilisation de la Science pour le bien commun.

Du point de vue mathématique, l'apport déterminant n'arrivera que plus tard, grâce à Joseph-Louis Lagrange²⁸ et surtout à Pierre Simon Laplace²⁹ qui, profondément influencés par D'Alembert, en poursuivront les recherches jusqu'à fonder la théorie analytique des probabilités. C'est en 1777 que Laplace lira à l'Académie un mémoire important contenant l'algorithme le plus simple et général, c'est-à-dire capable de garantir le « passage du fini à l'infiniment petit » (Bru 2015, p. 298) où il utilise le calcul infinitésimal pour les variables continues. Cependant, lorsqu'on creuse plus profondément dans ces textes, il est non seulement possible de reconstituer les étapes nécessaires de la théorie des probabilités à leur application à l'inoculation de la variole, mais surtout d'apprécier les différentes manières de comprendre l'épistémologie de la science au XVIII^e siècle (Pappas 1972).

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²⁸ Voir Joseph-Louis Lagrange, *Mémoire sur l'utilité de la méthode de prendre le milieu entre les résultats de plusieurs observations, dans lequel on examine les avantages de cette méthode par le calcul des probabilités, et où l'on résout différents problèmes relatifs à cette matière*, in "Miscellanea Taurinensia", n. 5, 1776, pp. 167-232.

²⁹ Voir Pierre Simon Laplace, *Mémoire sur les probabilités*, in "Mémoires de l'Académie royale des sciences", 1781, pp. 227-332.

Bibliographie essentielle

- Adam J.-M. 2020, *Place des discours programmeurs dans le genre textuel regroupant les discours qui régulent et incitent à l'action*, in “Langue française”, n. 206, pp. 23-44.
- Alembert J. Le Rond D' 1761, *Sur l'application du calcul des probabilités à l'inoculation de la petite vérole*, in *Opuscules mathématiques ou Mémoires sur différents sujets de Géométrie, de Mécanique, d'Optique, d'Astronomie*, tome II, David, Paris, pp. 26-46.
- Alembert J. Le Rond D' 1768, *Sur un mémoire de M. Bernoulli concernant l'inoculation*, in *Opuscules mathématiques*, tome IV, David, Paris, pp. 98-105.
- Alembert J. Le Rond D' 1768, *Sur les calculs relatifs à l'inoculation*, in *Opuscules mathématiques*, tome IV, David, Paris, pp. 310-341.
- Benveniste É. 1970, *L'appareil formel de l'énonciation*, in “Langages”, n. 17, pp. 12-18.
- Bernoulli D. 1760, *De la mortalité causée par la petite vérole et des avantages de l'inoculation pour la prévenir*, in “Mémoires de l'Académie Royale des Sciences”, Imprimerie Royale, Paris, pp. 1-79.
- Brian E. 1996, *L'Objet du doute. Les articles de D'Alembert sur l'analyse des hasards dans les quatre premiers tomes de l'Encyclopédie*, in “Recherches sur Diderot et sur l'Encyclopédie”, n. 21, pp. 163-178.
- Bru B. 2015, *Le calcul des probabilités : jeux de hasard, théorie des erreurs et analyse mathématique*, in Christian Gilain et Alexandre Guilbaud, *Sciences mathématiques 1750-1850. Continuités et ruptures*, Paris, CNRS Éditions, pp. 289-315.
- Colombo C. e Diamanti M. 2014, *Il vaccino contro il vaiolo: la querelle Bernoulli-D'Alembert e il calcolo della probabilità*, in “Lettera Matematica Pristem”, n. 91, pp. 27-33.
- Condamine Ch. M. De La 1754 et 1758, *Mémoire sur l'inoculation de la petite vérole. Second mémoire sur l'inoculation de la petite vérole*, in “Histoire de l'Académie Royale des Sciences”, Imprimerie Royale, Paris, pp. 615-670.
- Crépel P. 2009, *D'Alembert doute-t-il de tout ?*. <https://images.math.cnrs.fr/+D-Alembert-doute-t-il-de-tout+?lang=fr> (1.2.2022).
- Daston L. 1988, *Classical Probability in the Enlightenment*, Princeton, Princeton University Press.
- Diderot D. 1748, *Mémoires sur différens sujets de mathématiques*, Paris, Durand et Pissot ; *Mémoires sur différents sujets de mathématiques*, Texte établi et commenté par Jean Mayer, in *Œuvres complètes, Philosophie et mathématique, Idées I*, tome II, Paris, Hermann, 1975, pp. 230-338.
- Diderot D. [1761], *Sur deux mémoires de d'Alembert l'un concernant le calcul des probabilités l'autre l'inoculation*, texte établi et commenté par Donal O'Gorman et Jean Mayer, in *Œuvres complètes, Philosophie et mathématique, Idées I*, Tome II, Paris, Hermann, 1975, pp. 339-361.
- Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers, recueilli des meilleurs auteurs, et particulièrement des dictionnaires anglois de Chambers, d'Harris, de Dyche, &c. par une société de gens de lettres. Mis en ordre & publié par M. Diderot ; & quant à la Partie Mathématique, par M. D'Alembert, de l'Académie Royale des Sciences de Paris & de l'Académie Royale de Berlin*, Paris,

- Briasson, David l'aîné, *Le Breton*, Durand, 1751-1772, 28 volumes (17 volumes de texte et 11 volumes de planches).
- Lhomme A. 2019, *Analyse du Discours et analyse textuelle*, in "Argumentation et Analyse du Discours", n. 22. <http://journals.openedition.org/aad/3254> (1.2.2022).
- Lorenzi Bailly N. et Moïse Cl. 2019, *La haine en discours*, Lormont, Le Bord de l'Eau.
- Maingueneau D. 2015, *La philosophie comme institution discursive*, Limoges, Lambert-Lucas.
- Mayer J. 1959, *DIDEROT homme de science*, Paris, Imprimerie bretonne.
- Mayer J. 1991, *Diderot et le calcul des probabilités dans l'Encyclopédie*, in "Revue d'histoire des sciences", tome 44, n.3-4, pp. 375-391.
- Nabonnand Ph., Peiffer J., Gispert H. 2015, *Circulations et échanges mathématiques (18^e-20^e siècles)*, in "Philosophia Scientiæ", n. 19, pp. 7-16.
- Pappas J. 1972, *L'esprit de finesse contre l'esprit de géométrie : un débat entre Diderot et D'Alembert*, in "Studies on Voltaire and the Eighteenth Century", vol. LXXXIX, pp. 1229-1253.
- Paty M. 1984, *Rapport des mathématiques et de la physique chez D'Alembert*, in "Dix-huitième siècle", n. 16, pp. 69-79.
- Paty M. 1988, *D'Alembert et les probabilités*, in Roshdi Rashed, *Sciences à l'époque de la Révolution française. Recherches historiques*, Paris, Blanchard, pp. 203-265.
- Ravazzolo E. 2021, *Le débat sur l'extension de l'obligation vaccinale en France : analyse discursive et argumentative d'une parole « éclatée »*, in Dufiet J.-P. et Jullion M.-Ch. (éd.), *Les nouveaux langages au tournant du XXI^e siècle*, Milano, LED, pp. 47-68.
- Taton R. 1951, *Les mathématiques selon l'Encyclopédie*, in "Revue d'histoire des sciences et de leurs applications", tome 4, n. 3-4, pp. 255-266.
- Tremblay J. 1796, *Recherches sur la mortalité de la petite vérole*, in "Mémoires de l'Académie Royale des Sciences", Imprimerie Royale, Paris, pp. 17-38.
- Viard J. 2002, *D'Alembert et le langage scientifique : l'exemple de la force, un malentendu qui perdure*, in *Sciences, musiques, Lumières. Mélanges offerts à Anne-Marie Chouillet*, publiés par Ulla Kölvig et Irène Passeron, Ferney-Voltaire, Centre international d'étude sur le XVIII^e siècle, pp. 93-106.
- Villemin-de Carné Fl. 2014, *Analyse de la réfutation dans Le rêve de D'Alembert : la question de l'autorité de Diderot*, in "Diderot Studies", vol. 34, pp. 227-243.

UNHEALTHY COVID-19 COMMUNICATION A Morphosyntactic Analysis of German AfD Party's Counter-discourse

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Abstract – According to a recent statistic, in Germany 56% of the electors of the right-wing populist political party *Alternative für Deutschland* (AfD) believe in conspiracy theories (Roose, 2020). Moreover, with reference to COVID-19, 25% of the German adult population think that Bill Gates is more powerful than the government in Germany (Friedrich-Naumann-Stiftung, 2020). Against this background, it does not come as a surprise that the health discourse has been strongly politicized by the AfD party, whose electors are – in a good number – prone to welcome pseudoscientific health information and to oppose all measures which have been taken to stop the COVID-19 pandemic. This contribution investigates to what extent AfD's COVID-19 communication exhibits conspiratorial or misinformative traits and how morphologic and syntactic mechanisms are used to deliver health counter-discourse. The analysis will be carried out on a corpus of official parliamentary speeches given by AfD parliamentarians in the period from March 2020 to April 2021 and on a corpus of *Facebook* posts which appeared in the AfD's profile in the same time span. This makes it possible to draw a diamesic comparison between two different communication channels used by the AfD. It will be shown that the morphological analysis is particularly insightful to explore hostile counter-discourse. The possibilities offered by German affixation and compounding are explored also in a comparative perspective. Moreover, syntactic aspects such as personal deixis, the use of moods and deontic modality, as well as clausal linking will be examined to understand how syntactic mechanisms have been used to deliver pseudo factual narratives and oppose official health discourse.

Keywords: COVID-19 communication; AfD; counter-discourse; morphology; syntax.

1. Introduction

If something is unhealthy, it is “likely to cause illness or poor health”. If the adjective refers to someone's interests or behaviour, “you do not consider them to be normal” (O'Neill, Summers 2016). Unhealthy communication concerning COVID-19 is both of them: it can be harmful, since “it can result in added difficulty in combating the pandemic situation” (Reddy, Gupta 2020, p. 3793), but it is also far from being normal, as healthy communication is in the common interest. This paper aims to explore

COVID-19 communication by the right-wing German party *Alternative für Deutschland* (AfD) ‘Alternative for Germany’ and in particular to provide a morphosyntactic analysis of the party’s counter-discourse, which opposes official health communication and rejects the measures taken by the German government to constrain the spread of COVID-19. The research will be carried out based on two corpora: a corpus of parliamentary speeches given by AfD’s parliamentarians in the *Bundestag* (i.e. the German parliament) from March 2020 to April 2021 and a corpus of *Facebook* posts belonging to the official AfD’s profile. Before delving into the linguistic analysis of the corpora, the landscape of health rumours and conspiracy theories will be explored (section 2). Special attention will be paid to COVID-19 conspiracy theories in Germany and the AfD will be presented in more detail to explain whether this party can be considered extremist and to what extent the communication on COVID-19 is misinformative or even conspiratorial. To this purpose, the relationship between the AfD and COVID-19 conspiratorial movements will also be dealt with (section 3). Section 4 outlines fine-grained research questions and elaborates on the methodology used to investigate the corpora. Section 5 is fully devoted to the linguistic analysis of the two corpora also in a comparative perspective: after a content overview, a morphological analysis will be carried out, which focuses on the use of derivational affixation and on creative compounding. The syntactic analysis will then consider personal deixis, the use of moods and deontic modality, as well as clausal linking. After having discussed the findings, some final remarks conclude the paper.

2. Health rumours and conspiracy theories

The outbreak of COVID-19 pandemic in the first months of 2020 has made health one of the most relevant issues dealt with by the media, by politics, and by society in general. The perception of a personal life-risk, the sudden interruption of social life and of social relationships, together with a deep change in the world of work, caused different reactions in the overall population and polarized attitudes towards the phenomenon.

After an initial period, in which – at an international level – the prevailing sentiment was to stay united to stop the spreading of the virus, in the following months some sceptical views started to emerge, which, with different degrees of radicality, questioned the proportionality of the measures taken by the governments, doubted on the seriousness of the illness caused by COVID-19 and on the official number of deaths communicated by the authorities. Some people even denied the existence of the virus, dubbed as a hoax used by alleged conspirators to control the society (Imhoff, Lamberty

2020).

Inaccurate health information and the spread of medical fake news constitute a real threat to public health, as has been shown by Waszak *et al.* (2018). Concrete consequences of deviated information have been reported for Nigeria, where polio cases increased because of a massive vaccination refusal due to a purported link between infertility and the vaccine (Jegede 2007). False and inaccurate medical discourse is therefore not a novel phenomenon and involves a number of infections. However, the spread of fake news in the past used to be limited to interested groups and did not assume the enormous proportions it has been having for COVID-19, with the involvement of many influential social actors able to affect the opinion of millions of people.

During these unprecedented times of pandemic not only did health counter-discourse enormously increase, but it also made use of many different channels of communications, especially social media. Due to their fluidity and immediateness, social networks are a privileged environment for misinformation to get viral. Mechanisms of reports to the authority of inappropriate content function only partially, in that many profiles have been banned on social networks such as *Facebook*. Nonetheless, *Facebook* rules to censor fake news (*Facebook* 2021) do not always manage to block health misinformation and hate speech before the news gets viral.

Setting the boundaries between misinformation and conspiracy theories is not always easy, since they both rely on the spreading of presumably false content, which constitutes in any case a threat to public health. Whether a person trusts misinformation or conspiracy theories about COVID-19 depends on the individual's health literacy and on the perception of the risk. In this sense, illiterate people are considered to be particularly at risk because of implicit biases, which tend to credit the sources they are confronted with, but also because of confirmation bias and the illusory truth effect. To be more precise, the susceptibility to misinformation about COVID-19 is claimed to correlate negatively with numerical literacy and to lead to "reduced likelihood to comply with health guidance measures" (Roozenbeek *et al.* 2020).

3. Covid-19 misinformation and conspiracy theories in Germany

3.1. Belief in conspiracy theories in Germany: Querdenken

In April 2020 thousands of people in Germany started to protest against the measures taken by the government to constrain the spread of COVID-19.

This movement, called *Querdenken 711*¹, meaning “thinking outside the box”, was founded by Michael Ballweg, an entrepreneur from Stuttgart. Initially, it comprised people who generically rejected the official health discourse and initiatives, but it soon assumed an identity based on conspiratorial ideology, pseudo-medical theories, but also far-right extremism, antisemitism, and neo-Nazi positions (Teune 2021). These people organised themselves on the web and integrated pre-existing conspiracy theories into COVID-19 narratives. A personification of the enemy is Bill Gates, whose figure is connected with the alleged “Great Reset” plan; further conspiracies involve an alleged will of the establishment to control every person thanks to 5G technology and the implantation of microchips. Some themes are also borrowed from QAnon’s rhetoric (Keady 2021). What all these conspiracy theories have in common is a purported lack of transparency of the official health discourse and the media, which are claimed to hide the truth to preserve a secret plan to be carried out by the elites against the people (Bundesstelle für Sektenfragen 2021). *Querdenker* refuse to identify themselves with any political parties, since, in their opinion, none of them did their job to protect the people’s rights. Being a loose coalition of groups with different backgrounds, *Querdenker* do not vote monolithically, however, according to a study reported by Jeitler (2021), the majority declared that in September 2021 federal elections, they would vote for non-established parties like *Die Basis* (Grassroots Democratic Party of Germany), which unites “believers in anthroposophy and esotericism with holders of far-right ideologies”. Since April 2021, the German *Verfassungsschutz*, the ‘domestic intelligence agency for the Protection of the Constitution’, has been officially monitoring the movement nationwide after regional monitoring had already begun at the end of 2020. The protests have not been stopped by this close monitoring, although the category under which the threat was labelled is *Verfassungsschutzrelevante Delegitimierung des Staates*, i.e. Delegitimization of the State Relevant to the Protection of the Constitution (Firsova & Eder 2021).

One of the key figures of these self-defined lateral thinkers is COVID rabble-rouser Attila Hildmann, who fled to Turkey in February 2021 to avoid prosecution by the federal authorities. He currently manages a conspiratorial *Telegram* channel followed by more than 120000 people², in which he stirs people up and invites them to use weapons against the state. His theories mix antiscientific positions, right extremism and overt antisemitism.

Although the majority of the German population does not believe in conspiracy theories (Friedrich-Naumann-Stiftung 2020), the number of people who are willing to consider counter-official discourse as potentially

¹ 711 is the area code of Stuttgart where the protest originated.

² On 14th September 2021 all his channels were blocked by a hacker group called Anonymous.

valid is nonetheless high. According to a survey carried out in June 2020 in Germany, 25% believe that Bill Gates is more powerful than the government in Germany, 16% believe that he wants to implant people with microchips to fight the pandemic, and 12% think he bought the World Health Organization (Friedrich-Naumann-Stiftung 2020). These percentages vary if disaggregated results are considered. Specifically, there is a noticeable difference if the data are broken down by party. Based on Roose (2020), in Germany 56% of the electors of the right-wing populist party AfD believe in conspiracy theories. Other investigations report an even higher percentage of AfD: 68% according to *Zeit Online* (27.01.2021). The value is the highest of all parliamentary political parties and nearly doubles the average national percentage. Less than 30% of the supporters of other parties (FDP, SPD, CDU, *Die Linke*) are prepared to consider conspiracy theories as true. *Die Grünen* electors lie even under the overall average, since only 20% of them are willing to believe conspiracy claims may be true.

3.2. Alternative für Deutschland and health counter-discourse

3.2.1. Alternative für Deutschland: a far-right party

The German political party *Alternative für Deutschland* (AfD), ‘Alternative for Germany’ was founded in April 2013 but did not manage to sit in the parliament following that year’s elections. In 2017 it became the third largest party sitting in the German national parliament and the biggest opposition party. In 2021 it lost its status as main opposition, but performed strongly in Eastern Germany, where it came first (Bundeswahlleiter 2021). It initially originated as a euro sceptical party, but since 2017 it has shifted its focus to nationalism, immigration, and Islam. Moreover, it has been embracing far-right policies and rhetoric (Havertz 2021). Many of its leaders expressed xenophobic and antisemitic positions over the years, although the party refuses to consider itself as racist. AfD has direct contacts with PEGIDA (*Patriotische Europäer gegen die Islamisierung des Abendlandes*, meaning ‘Patriotic Europeans against the Islamisation of the West’), an extra-parliamentary far-right group, which is claimed to be “the societal bridgehead of the party” (Grabow 2016). The movement fights a *Kulturkampf* ‘cultural fight’ to protect Germans against the risk of an *Umvolkung*, i.e. an ‘ethnic redeployment’ (Grabow 2016). Even though AfD does not officially acknowledge antisemitic positions, it is claimed to be radicalizing from a right-wing conservative party to right-wing extremism, with 55% of its supporters believing the Jews still have too much influence in the world (Salzborn 2018). In 2019 the fringe *Flügel* of the party, which later dissolved, was declared to be anti-constitutional by the *Bundesamt für*

Verfassungsschutz ‘the office for the protection of the constitution’ because of antisemitism, right extremism, racism and anti-Islamism (Pley 2019). More recently, on 3rd March 2021, the German agency for domestic intelligence declared the whole AfD party a case for surveillance over potential ties to far-right extremism. However, two days later, the decision was suspended by the Cologne administrative court to prevent interferences with the federal elections, which would renew the parliament in Germany on 26th September 2021.

3.2.2. Alternative für Deutschland *and its relationship with COVID-19 conspiracy theory spreaders*

When the first cases of COVID-19 were detected in Germany, they were mostly downplayed by the media, which compared the new virus to the seasonal flu. When the seriousness of the disease became evident, there was initial consent among German parties concerning the necessity to take measures to stop the virus. The AfD was very cautious, some AfD-lawmakers even accused the government not to take enough care of public health. However, the substantial consent by the AfD to the restrictions came at a cost for the right-wing party, since it caused the loss of its prototypical supporters, which the incapability to appeal moderate electors did not manage to counterbalance. As a consequence, there was a turn in the AfD’s political strategy, beginning at the end of spring 2020. When the AfD slumped in the polls, new voters were to be found especially among those who embraced health counter-narrative. The party began to overtly fight against the restrictions imposed by the government and to boost anti-lockdown sentiment to reach outraged citizens, who did not feel well represented by the official health policies and refused all containment measures. Accordingly, the official communication was discarded, as mainstream media were claimed to hide the truth and manipulate public opinion. The rapprochement to this sentiment contributed to speed up the organization’s shift towards extremism (Sauerbrey 12.03.2021).

On 4th July 2020, the AfD party organised a conference on COVID-19³ and invited alleged experts who maintained that the data on COVID-19 had been exaggerated and falsified and that the virus did not constitute a real threat to public health. COVID-19 was defined as a *Panik-Strategie* (panic strategy) and a psychological pandemic. In November 2020 some AfD parliamentarians took impressive initiatives to downplay COVID-19: one of

³ The title of the conference is: *Corona-Symposium im Bundestag - Kommt ein U-Ausschuss zum bisher größten Schwindel des 21. Jahrhunderts?*, meaning: ‘First symposium on Covid-19 in the German parliament - Are we going to see a board of inquiry concerning the biggest lie of 21st century?’

the most striking actions was taken by the party member Thomas Seitz, who sat in the parliament wearing a mask riddled with holes (ZDF heute 20.11.2020).

Journalistic investigations carried out by the newspaper *Süddeutsche Zeitung* (Schröder, Tausche 14.12.2020) in the *Telegram* chats concerning COVID-19 seem to find a direct link between the spread of conspiracy theories over social media and parliamentary politicians of the AfD party. One of the AfD's representatives, Johannes Huber, reposted in the *Telegram* channel *Corona Rebellen Freising* the news by a conspiracy theorist, Gerhard Wisnewski, according to which the Israeli Prime Minister Netanyahu is claimed to ask for the children to be implanted with microchips. After having been asked whether he really believed in the news he had shared, Huber said he did not and left the *Telegram* channel. He argued that he was not aware of the contents which were published online and maintained that he had entered these *Telegram*-chats just to observe what was going on. Six more AfD politicians are still claimed to be part of the same *Telegram* channel. According to *Der Spiegel* (26.11.2020), Huber was also a member of the *Telegram* group of the conspiracy theorist Attila Hildmann, in which he expressed himself against the pandemic state of emergency declared by the government. Moreover, many AfD politicians have supported the demonstrations by the *Querdenken*-movement by inviting people to join these groups in support of professed freedom.

4. Research aims and methodology

4.1. Research aims and hypotheses

This research focuses on the linguistic analysis of AfD's communication concerning COVID-19 both in the institutional context of parliamentary discourse and in the social network *Facebook*. The preliminary step of the investigation is to test the hypothesis that AfD's COVID-19 communication exhibits mis/disinformative traits or even conspiratorial features. Typical categories of extremism, as are described in previous literature, will be looked for as potential areas in which COVID-19 disinformation can find its place in both communicative contexts:

- “cherry-picking data” and arbitrary correlation of unrelated phenomena (Hohlfeld 2020);
- the expression of hostility towards mainstream media, science, and the political establishment (Krämer *et al.* 2021);

- the idea that the establishment has very well-kept secrets and is moved by negative intentions (Pfahl-Traughber 2002);
- science is on the side of the elites (Hohlfeld 2020).

Starting from these core themes, a linguistic analysis will be conducted in order to understand how the language is bent to express counter-narrative and opposition to the official health discourse. In doing so, two levels of analysis will be considered: morphology and syntax. The ultimate goal is to explore which morphosyntactic patterns are recurrently used by the AfD to build health counter-discourse and to check if significant diamesic variation can be observed between the two different communicative channels.

Despite connections with *Querdenken*-movements, COVID deniers and anti-lockdown protesters, which are maintained especially over *Telegram* (Jarynowski *et al.* 2020), it is not to be expected that overt conspiracy theories can be easily found in parliamentary speeches and on the AfD's official *Facebook* profile⁴. On the one hand, the parliament is not the place where fake news can be most effectively spread; on the other hand, posts on conspiracy theories and hate speech must be blocked according to Facebook's guidelines (Facebook 2021). In addition, Germany has one of the most restrictive laws to contrast hate speech. The law, known in Germany as *NetzDG* (*Netzwerkdurchsetzungsgesetz*), 'Network Enforcement Act', is meant to combat hate speech, extremism, and fake news on the internet. It came into force on 1st October 2017 and was further tightened in July 2021. Based on this rule, providers have to deal with complaints about illegal content and remove it within seven days at the latest and possibly within 24 hours. Moreover, they have to submit a six-monthly report to prove how illegal contents and complaints have been dealt with. Violations of this law are severely punished (Bundesministerium der Justiz und Verbraucherschutz 2021). Parties like the AfD, but also the social media platforms involved, heavily criticized the law which was claimed to be a limit to the freedom of expression, a control and censorship tool, a *Maulkorb* ('muzzle') as many people in Germany called it, interestingly using a term that is also uttered to polemically refer to face masks.

Due to such strict regulation and to the risk of losing the votes coming from those who are not prepared to declare themselves COVID-19 deniers or belonging to conspiratorial ideologies, it can be hypothesised that AfD only rarely goes into the realm of clamorous conspiracies such as microchips or Bill Gates. The hypothesis which will be checked is that AfD COVID-19 communication uses subtler morphosyntactic strategies, to avoid being

⁴ Previous research has already shown that conspiracy ideologies on COVID-19 expressed by representatives of populist parties are more likely to be used on *Telegram* than on *Facebook* (Silva *et al.* 2017, Spieß *et al.* 2020).

censored on *Facebook* and to be in a position to officially reject being labelled as a conspiratorial party.

4.2. Methods

In order to answer the research questions, a qualitative analysis (Hasko 2021) will be carried out on the basis of two distinct corpora: a corpus of parliamentary speeches by AfD members and a *Facebook* corpus. The first corpus contains 50 speeches (56003 tokens) given in the German parliament between March 2020 and April 2021 by AfD politicians. The speeches have been selected by using the keyword *Corona* 'coronavirus'. The source from which the texts were collected, in form of official transcriptions, is the website of the German parliament (*Bundestag*), under the section *Protokolle*.⁵ To ensure that the dataset was representative for the ideology of the whole party, 24 party members have been considered. The *Facebook* corpus comprises all the posts containing the keyword *Corona* which appeared on the public official *Facebook* AfD profile in the same time span. Although the corpus contains all the posts devoted to the topic, it is much smaller than the parliamentary speech corpus: it contains 37 posts (2178 tokens). The disproportion in the size of the two corpora is expected, based on the textual characteristics of the two text-types and on the different frequency of parliamentary interventions and *Facebook* postings.

The approach which has been adopted is qualitative, exploratory and inductive and it is embedded in the field of discourse analysis (Fairclough 2003; Fidler, Cvrček 2019 a.o.). As a first step a content analysis was carried out, in order to verify whether mis/disinformative contents could be identified in each of the two corpora and in what proportion. After having considered the presence or absence of such contents, an empirically based study analysed how the morphological and syntactic structures found in the two corpora interact with the purposes of COVID-19 counter-discourse. The qualitative approach has allowed for a descriptive analysis of the forms which have been used and for a broader contextualisation, since the data were manually pulled (CASP 2018).

An automatic detection of misinformative or conspiratorial markers in the two corpora would not be fruitful because of the above-mentioned German law against hate speech (*NetzDG*) on *Facebook* and because of the institutional context in which the speeches are given for the parliamentary corpus. Moreover, the initial inconsistency of the party towards the management of the pandemic, the intensification of *Facebook* posting activity in the period before regional and national elections and the inconsistent evolution of the disease would have made a quantitative analysis

⁵ <https://www.bundestag.de/protokolle> (30.09.2021)

biased on many levels (Rasinger 2013, Galdas 2017) and would have not allowed in any case to guarantee for statistical reliability. Apparently neutral forms or morphosyntactic devices which cannot be considered *stricto sensu* derogatory or conspiratorial can actually contribute to fuel slander in the comments in the case of *Facebook* and to negatively orient the public opinion in both contexts.

5. Morphosyntactic analysis of AfD's Covid-19 counter-discourse

5.1. A content overview of the two corpora: misinformation and conspiratorial contents

The first step of the analysis deals with the detection of contents in the two corpora, which can be considered mis/disinformative – or even conspiratorial – along the lines of typical populist narrative, as outlined in section 4.1. The investigation of the two corpora provides two different results in this respect and shows interesting asymmetries.

5.1.1. Corpus of parliamentary speeches

In the corpus on parliamentary speeches the discourse mainly addresses – though very critically – the measures taken by the government to stop the spreading of the virus especially with an attention for the consequences on the economy. The government is accused to be inadequate to face the pandemic situation because of dilettantism and not to take into account scientific evidence, especially with reference to the deprivation the society is undergoing due to (purported unnecessary) restrictions. Interestingly, typical criticism to the AfD, accused of being a conspiratorial party is systematically rejected and reversed, as if the antiscientific attitude was to be imputed to the government and not to them. As for “cherry-picking data” and hostility towards science, the party responds as follows:

- (1) (to Angela Merkel, accused of selecting meaningless data for her decision making) „Hört auf die Wissenschaft“, so lautet Ihr Mantra. Sie aber hören nur auf die Stimmen, die Sie hören wollen und die Ihre Vorurteile bestätigen. (A. Weidel, 16.04.2021)⁶

⁶ The name indicates the parliamentarian who gave the speech and is accompanied by the day. The direct link to the speech will be provided for each example of the corpus of parliamentary speeches. All links were last accessed on 30.09.2021. <https://dserver.bundestag.de/btp/19/19222.pdf#P.28103>.

“Listen to science” is your mantra. But you just listen to the voices you want to listen to and which confirm your prejudices.

Also the accusation against AfD to spread conspiracy theories and not to rely on scientific grounds is overtly rejected by its parliamentarians and, in the latter case, reversed:

- (2) Widerspruch tun Sie dagegen als Verschwörungstheorie ab. (A. Weidel, 16.04.2021)
You dismiss dissent as conspiracy theory.
- (3) All diese Pläne verfolgt die Regierung auf Basis einer unsoliden wissenschaftlichen Grundlage (M. Espendiller, 03.03.2021)⁷
The government pursues all these plans on unsolid scientific grounds.

Beside redirecting blame away from its party, in the parliament AfD systematically downplays the seriousness of COVID-19 and the reliability of acknowledged diagnostics such as PCR-tests. It associates COVID-19 with a normal seasonal flu, which can be managed without severe restrictions if the citizens are trusted. These contents are uncontroversially misinformative.

- (4) Die Infektionszahlen, mit denen die Öffentlichkeit jeden Tag bombardiert wird, sind wenig aussagekräftig. Was der PCR-Test genau misst, ist umstritten. Die meisten Infizierten bemerken überhaupt nicht, dass sie angesteckt wurden. Unserem Kollegen Norbert Kleinwächter geht es übrigens gut. Er sagt, Corona sei seine bislang leichteste Grippe gewesen. (A. Gauland, 30.09.2020)⁸
The numbers of infections with which the public is bombarded every day are not very meaningful. What exactly the PCR test measures is controversial. Most infected people do not even notice that they have been infected. By the way, our colleague Norbert Kleinwächter is doing fine. He says COVID-19 was his lightest flu to date.
- (5) Behandeln Sie die Bürger dieses Landes nicht wie unmündige Kinder, bei denen Sie nach Belieben die Zügel anziehen oder brachial durchgreifen! Geben Sie Freiheit und Eigenverantwortung der Bürger wieder. (A. Weidel, 30.09.2020)⁹
Do not treat the citizens of this country like underage children, with whom you pull the reins at will or take brute force! Give back the citizens' freedom and personal responsibility.

In this corpus, however, there is no overt cue of the government having hidden secrets and plans to control the society. Alleged disproportionated restrictions are claimed to be due to dilettantism and inadequacy to manage the pandemic, with heavy consequences on the society. Science is not

⁷ <https://dserver.bundestag.de/btp/19/19214.pdf#P.26951>.

⁸ <https://dipbt.bundestag.de/dip21/btp/19/19179.pdf#P.22519>.

⁹ <https://dipbt.bundestag.de/dip21/btp/19/19179.pdf#P.22519>.

addressed as part of the elites deliberately manipulating the data. Nevertheless, the reliability of the government's experts is questioned and the AfD invokes alternative views which contest the official position and are pseudoscientific.

5.1.2. Facebook corpus

Despite the *NetzDG* law and the provider's policy, *Facebook* still hosts some conspiratorial cues and some features of extreme ideology as described in section 4.1. *Facebook*'s mode has been labelled as a "genre of possibilities" because of its complexity, dynamicity, and multiple types of sources, which let users come across potentially controversial and unacceptable texts (Hlatshwayo, Gumbo 2021). Although the content of parliamentary speeches is provocative and also questions facts, the targeted audience and the goals of *Facebook* AfD-communication are definitely more extreme, as a narrow content- and linguistic analysis will show. It must be noted that the AfD official *Facebook* profile has 515.406 followers¹⁰, who are mostly sympathetic with the ideology of the party and offer no place for an actual debate (Ennser-Jedenastik *et al.* 2021). The aim of the *Facebook* profile is not just to express protest or opposition but rather to fuel indignation and to reach outraged citizens, whose comments are in most cases more extreme than the posts. The *Facebook* corpus displays all the four parameters which have been outlined as typical for misinformative contents. Arbitrary correlation of unrelated phenomena, such as COVID-19 and migration or Islam are a case in point, as shown in (6):

- (6) ++ Danke, Peter Altmaier: Corona-Hilfen gingen an Islamisten! ++ (FB, 15.03.2021)¹¹
Thank you, Peter Altmaier: Covid aids went to Islamists

Mainstream media are claimed to be corrupt and connive and should therefore be distrusted, as their news is propaganda, as can be observed in (7). Implicit is in this assumption that all information is potentially biased and false.

- (7) ++ Vorsicht Propaganda! FAZ fordert den Corona-App-Untertan! ++
 Wieviel haben Merkel-Regierung und Bundespresseamt dafür bezahlt?
 Das ist die erste Frage, die einem durch den Kopf schießt, wenn man den
 Artikel der FAZ liest. (FB, 19.06.2020)

¹⁰ The number refers to 1st October 2021.

¹¹ FB indicates that the example belongs to the *Facebook* corpus and the date refers to the day in which the post appeared on the official AfD-profile <https://www.facebook.com/alternativfuerde>. As Facebook links are often considered unsafe, no direct link to the single post will be given, but the source is easily retrievable under a date search.

++ *Attention propaganda! FAZ calls for people to be subject to the Corona app! ++*
How much did the Merkel government and the federal press office pay for it? That is the first question that comes to mind when reading the FAZ article.

The government is alleged to betray the citizens and deliberately spread fake news to panic people. Science institutes as the *Robert Koch Institut*, which provide scientific advice, are also accused of distributing false numbers to serve the government's obscure goals. AfD dissociates themselves from these "old parties", who are claimed to plan a "revolution from above" and warns the citizens against these purported risks and offers alternative views, as exemplified from (8) to (10).

- (8) Referent des Innenministeriums enthüllt: Regierung könnte größter Fake-News-Produzent der Krise sein. [...] Es handele sich bei der Panikmache aus fachlicher Sicht um einen „Fehlalarm“ und quasi um staatliche Fake-News. (FB, 11.05.2020)
Home Office advisor reveals: Government could be the biggest fake news producer in the crisis. [...] From a technical point of view, the scare tactics are a "false alarm" and, so to speak, state fake news.
- (9) ++ „Lockdown“ ohne Grundlage: RKI-Todeszahlen sind „im Durchschnitt über drei Wochen alt“! Eigentlich müsste diese Nachricht ein mediales Beben auslösen: Sämtliche Todeszahlen des Robert-Koch-Instituts (RKI), mit denen der „Lockdown“ begründet wird, sind für die Beurteilung der tagesaktuellen Lage vollkommen unbrauchbar! (FB, 20.01.2021)
++ *"Lockdown" without a basis: RKI death numbers are "on average over three weeks old"! Actually, this news should trigger a media tremor: all deaths of the Robert Koch Institute (RKI), with which the lockdown is justified, are completely useless for the assessment of the current situation!*
- (10) Die Altparteien nutzen die Corona-Krise im Sinne einer "Revolution von oben". Kein Grund, den Kopf in den Sand zu stecken! Altparteien gegen Souveränität, Grundrechte und Freiheit! (FB, 27.08.2020)
The old parties are using the corona crisis in the sense of a "revolution from above". No need to bury your head in the sand! Old parties against sovereignty, fundamental rights and freedom!

At the basis of AfD's COVID-19 counter-discourse both in the parliament and on *Facebook* is that the seriousness of the coronavirus is overestimated and therefore all measures are not proportionate. Whether this is ascribed to dilettantism or to unveiled purposes of control and deliberate deprivation of freedom depends on the medium (incapacity: parliamentary speeches; political will to control the people: *Facebook*). The downplaying of the disease belongs in any case to conspiracy beliefs which risk undermining the containment of the pandemic.

5.2. Morphological analysis

In what follows a morphological analysis of the two corpora will be carried out in order to detect patterns which contribute to create a counter-narrative. Evidently, morphology alone cannot be predictive of mis-/disinformation, however the systematic use of certain word formation strategies in the domains of both the derivational morphology and compounding can be significant to better understand how the German language is used by the AfD to steer unhealthy communication.

5.2.1. Derivational morphology: nominal and verbal affixation

Together with compounding, derivation is one of the most productive and creative word formation strategies in German. The analysis of derivational affixes which are extensively used can help shed some light on the morphological patterns which are used to systematically oppose official health discourse. One strategy aimed at discarding the official narrative is using negative language: opposition can be carried out either through words which are intrinsically negatively connotated or through negation (Taboada *et al.* 2017).

In the adjectival domain, affixes such as *un-*, *-los*, are preferred over inherently negative forms or to syntactic negation. The subjacent strategy is to employ derogatory language, which not only opposes the official discourse but is offensive without making any actual proposal apart from invoking alleged experts who (seemingly) contradict the official narrative. Paradigmatic examples of this kind of affixation can be found in both corpora, although to a higher degree in *Facebook*, where the medium imposes to be more direct and concise. Some of the affixed forms that can be repeatedly found in both corpora and are aimed at triggering indignation are listed in (11):

- (11) unsinnig, unverantwortlich, unlogische (Corona-Maßnahmen),
 unredlich, unfassbar, unglaublich, unverschämt
senseless, irresponsible, illogical (coronavirus measures), dishonest,
incomprehensible, unbelievable, outrageous

Forms such as *schamlos* ‘unashamed’ and *planlos* ‘without a plan’ where the suffix *-los* indicates lack of something can be found but to a lesser degree with respect to the prefix *un-*.

If adjective affixation through *un-* (and its allomorphs) and *-los*¹² is not something which differentiates German from other languages, something

¹² *-los* can find a direct equivalent in the English suffix ‘-less’.

which is peculiar to German is the use of verbal prefixes, which allow for the meaning of the base verb to be shifted towards a range of different nuances, which directly involve semantics but also aspect. In this context, abstract prefixes such as *ver-*, *ent-*, *zer-* are interestingly used to discard the actions and the measures taken by the government also insinuating the idea of secrets and lack of transparency, which the AfD argues to unveil. The message of failure and destruction of the social tissue are conveyed through verbal prefixes as well. As has been observed by Dwell (2015) the prefixed verb construction contrasts with unprefixed and particle verb constructions, thanks to the fact that the prefix has a meaning in and of itself. These characteristics are exploited by the AfD to build counter-discourse.

Specifically, the prefix *ver-* contributes to the linguistic creation of a setting in which errors, incapacity, but also unmotivated overruling and alleged alteration of the truth find their place. Based on Brinkmann (1962)'s observation that *ver-* verbs denote some "deviation from what is normal and expected", it can be also postulated that they indicate displacement, hiding. Moreover, *ver-* verbs are perfective with respect to the alteration of the setting Dwell (2015). In the case of the pandemic, it is allegedly the government measures (not COVID-19 itself) that negatively affects the society. Here (see 12 and 13) are some interesting examples to be found in each corpus. The agent of all these actions is the establishment.

- (12) verschleiern, Verschwendung (von kostbarer Zeit), Verharmlosung der Coronapandemie/ des Oster-Arrests, verstreichen, (dafür wurde sie von den etablierten Parteien) verlacht, Regierungsversagen, verachten, verschämen, verschwindeln, verstoßen, vernichtend, vernebeln... (FB corpus)
veil, waste (of precious time), trivialization of the corona pandemic / Easter arrest, elapse, ridiculed (by the established parties), government failure, despise, shame, swindle, offend, annihilating, obscure...
- (13) verstecken, vernachlässigen, verschlimmern, versäumen, verletzen, verunsichern, verhindern, verbieten, ... (corpus of parliamentary speeches)
hide, neglect, aggravate, fail, injure, unsettle, prevent, prohibit, ...

In AfD's counter-narrative the deverbal adjective *vermeintlich* 'alleged' deserves closer attention, since it is recurrently used in the *Facebook* corpus to address all the experts named by the government. The same form is also used adverbially to label as false what these experts or the government say, in a sort of purported debunking by the AfD. The base verb *meinen* means simply 'argue', while the prefix adds the idea to argue something false. Example (14) is insightful in this respect, since the adverb *vermeintlich* lets people assume that the lockdown extension was already (secretly) planned, and Angela Merkel was therefore allegedly in bad faith.

- (14) Kaum jemand zählt noch, wie oft sie nach angekündigten „Lockerungen“ immer wieder neue Vorwände und Kriterien aus dem Hut gezaubert hat, um eine vermeintlich noch nicht beschlossene „Lockdown“-Verlängerung zu rechtfertigen. (FB, 11.03.21)
Hardly anyone still counts the number of times she has repeatedly conjured up new pretexts and criteria out of her hat after the announced “relaxations” in order to justify a supposedly not yet resolved “lockdown” extension.

Significantly, no single attestation of *vermeintlich* can be found in the corpus of parliamentary speeches, as AfD is not in a position to officially prove that the government advisors are actually no experts or that the decision-making process was untransparent.

Another interesting verbal prefix, which is sagaciously used to build counter-narrative is *ent-*. As explained by Dwell (2015), this verbal prefix indicates separation and encodes two possible meanings, i.e. it can either denote escaping, also with inchoative aspect, therefore it means that something is punctually released, or it can have a privative value: something is deprived (or gets rid) of something. Especially this second class is frequently used by the AfD both in the parliament and on *Facebook*. The privative value, however, assumes enantiosemic meanings with respect to the negativity or positivity of the deprivation depending on the verbal base it combines with. On one side, *ent-* designates the unveiling and unmasking action undertaken by the AfD, which claims to be the sole political party which uncovers the truth allegedly hidden by the establishment and by mainstream media; on the other side *ent-* is used by the party to state that the citizens have been deprived of their freedom and even of their dignity because of the supposedly disproportionate measures taken by the government to stop the spreading of the pandemic and should now be also financially relieved. Examples to be found in both corpora are:

- (15) entlarven, enthüllen, entblößen, entdecken, entfernen, entlasten, entschädigen, Entwürdigung, ...
unmask, reveal, expose, discover, detach, remove, relieve, compensate, degradation, ...

The financial aspect and therefore the verb *entlasten* ‘relieve’ is very frequent in the parliamentary corpus, while the unveiling of the truth, *entlarven*, is more typical although not exclusive to *Facebook*, as the following examples show:

- (16) Doch der Shutdown hat diese Behauptung als das entlarvt, was sie ist: kompletter Unsinn. (M. Bernhard, 18.06.2020)¹³
But the shutdown has unmasked this claim for what it is: complete nonsense.
- (17) Entlarvend und peinlich ist nun auch der Gleichklang ihrer Worte. (FB, 11.03.2021)
Also the consonance of her words is now revealing and embarrassing.

The unveiling of the truth expressed by prefixed verbs such as *entlarven* is often allegedly resulting from self-contradiction of the establishment, which unmasks that they are allegedly lying. Finally, the narrative on the disaster going on, due to the supposedly catastrophic management of the pandemic by the government is conveyed by the verbal prefix *zer-* whose transparent meaning indicates decomposition, fragmentation and decay (Dwell 2015).

- (18) zerstören, zerfallen, zerschlagen, (die Gesellschaft) zersplittern, ...
destroy, disintegrate, smash, split up (the society), ...

An interesting use of *zer-* is to be found on *Facebook* concerning the CDU party, which is claimed to be tearing itself apart (*sich zerfleischen*) in a sort of cannibalism because of the scandals of masks¹⁴ and the COVID failure. This is alleged to be a further cue of the establishment being corrupt, so that even within the CDU-party someone is rebelling.

- (19) CDU stürzt auf 26 Prozent und zerfleischt sich! ++ Masken-Skandale, Corona-Versagen und die Verharmlosung des Oster-Arrests als „Ruhephase“. (FB, 24.03.2021).
CDU falls to 26 percent and tears itself apart! ++ Mask scandals, corona failure and the trivialization of the Easter arrest as a "resting phase".

5.2.2. Compounding and the use of neologisms

German is well-known for its productive nominal compounding (Olsen 2015). As revealed by a project by the *Institut für Deutsche Sprache* (2020) devoted to the emerging language of COVID-19 in Germany, the so-called *Coronasprache*, most neologisms belonging to this semantic area are actually compounds.

Compounding can be particularly effective in packing much information in one word, which is useful in contexts such as social networks, where conciseness is a key factor for the post to reach many people.

¹³ <https://dserver.bundestag.de/btp/19/19166.pdf#P.20642>.

¹⁴ The reference is to the German Health Minister Spahn, who was caught up in a mask scandal and was accused of fraud in March 2021.

Compounding also allows for the creativity of the language to be fully expressed, since the juxtaposition of free word forms overcomes subcategorization problems, which are typical of derivation. Moreover, unexpected combinations can give rise to surprising effects. The inventive blending of different concepts also serves the purpose to designate something which is novel to the society in a provocative way that interprets the rage of the citizens against the elites and stir them up. The purpose which compounding serves in COVID counter-discourse is therefore clear. Its effect is not as subtle as is the use of affixation, but rather immediate and disruptive. It is the domain in which derogatory language and the creation of a state of alarm in the citizens, allegedly threatened by the risk of being deprived of their freedom and controlled by a new dictatorship can be most creatively used.

The parliament embodies an institutional context, in which, apart from excesses carried out to call for the attention of the public opinion, the speech must deal with one specific issue on the agenda. The language can be (and in the case of AfD is) very aggressive, but the ultimate goal is not to stir people up and let them think there is a conspiracy going on, but rather to systematically oppose the measures which are bound to be taken and to stonewall the government. Conversely, *Facebook* is the place where no technical issue is discussed and where the language has to be impressive, to express scandal, reprobation and be exaggerated to be easily understood also by an audience of non-experts.

An analysis of the two corpora actually reveals a strong asymmetry in this respect. The compounds which can be found in the corpus of parliamentary speech are not indicative of dis-/misinformative contents nor do they have – at least in most cases – connoted meanings. Some of them, which cannot be found in the *Facebook* corpus belong to the technical language and pertain to the same semantic sphere as compounds used by the parliamentarians of other parties, with special attention to the financial aspects of COVID-19. Frequent compounds with purely denotative meaning, possibly modified by disapproval adjectives which underline the sceptical position with respect to the seriousness of the COVID disease, are listed below in (20).

- (20) Coronabekämpfung, Arbeitsplätze, Krisenzeiten, Mitarbeiter,
Förderprogramm, Tourismuswirtschaft, Willkommenspolitik,
Reisewarnung, Coronapolitik, Oppositionsforderungen,
Sicherheitskonzepte, sogenannte Coronatote, Konjunkturpaket,
Infektionsgeschwindigkeit, Maskenzwang, Abstandpflicht, ...
*Fight against COVID-19, jobs, times of crisis, employees, funding
program, tourism industry, welcome policy, travel warning, COVID-19
policy, opposition requests, security concepts, so-called COVID-19-*

*deaths, economic stimulus package, infection speed, compulsory mask,
distance obligation, ...*

Some exceptions to the substantially neutral use of compounding in parliamentary speeches, though not quantitatively relevant, can be temporally related to the infelicitous word unexpectedly uttered by Angela Merkel on 20th April 2020. She built the neologism *Öffnungsdiskussionsorgien*, literally 'reopening discussion orgies', to stigmatize the debate on the loosening of lockdown restrictions. The reaction by all oppositional parties was very lively and triggered replies in which the head of the compound (*Orgien* 'orgies') was maintained, while the modifier was different. A case in point was *Verbotsorgie* 'orgy of bans' which was then abundantly used by the AfD party.

The creativity expressed in the form of new compound-building on *Facebook* to discard the government and its policies instead is not something exceptional, but it is rather systematic. Specifically, many of the compounds which can be found in the *Facebook* corpus are rooted in the semantic area of fear, which is allegedly not caused by COVID-19, but is claimed to be deliberately triggered by the government and the establishment in general (also by scientific advisors) to control people and limit their freedom.

As can be seen from the examples in (21), all coming from the *Facebook* corpus, the neologisms are sharp and clear and are sometimes inserted in slogans. Compounds rooted in fear and terror allegedly caused by the government are the following:

- (21) Coronajäger (referring to the establishment), Oster-Hausarrest, Angstmacherei, Vernunft statt Dauerpanik (as a slogan), Panik-Papier, Horrorpognosen, "German Angst" (as a fixed-expression to refer to the perception people have abroad), Panikmache, Rettungswahn, gesundheitsgefährdend (referred to the health minister), menschenverachtend, Corona-Leine, Corona-Hysterie, ...
Corona hunters (referring to the establishment), Easter house arrest, fear-mongering, reason instead of permanent panic (as a slogan), panic paper, horror forecasts, "German fear" (as a fixed-expression to refer to the perception people have abroad), panic-fostering, health-threatening (referring to the health minister), inhuman, covid-leash, covid-hysteria, ...

A second core topic for which provocative compounds are used is the failure of the establishment, which is claimed to be not only inadequate but also corrupt, unreliable and willing to control people's life and restrain their freedom. The press and the media are complicit and spread propaganda. The dangerous idea that is conveyed is that the citizens should not strictly abide by the containment rules, they should instead autonomously decide what is

best for them (*Eigenverantwortung*, i.e. ‘personal responsibility’ is a recurrent word¹⁵), as if the containment measures were not a matter of public health, but an intrusion into the sphere of personal freedom and self-determination.

The passage reported in (22) contains significant compounds used with the aim of alarming people concerning the supposed risk that the society is running. Compounds alone are sufficient to design a threatening picture: *Selbsternannte Volksumerzieher* ‘self-proclaimed people re-educators’, *linksradikele Gesellschaftsklempner* ‘left radical social plumbers’, *Bevormundungssystem* ‘paternalism system’, *Pseudo-Eliten* ‘pseudo elites’.

- (22) Corona wird zum Vorwand für linksgrüne Umerziehung. Ich sage es klipp und klar: Das einzige, was hier wirklich pfui ist, sind diese moralisierenden, sauertöpfischen, selbsternannten, totalitären Volksumerzieher [...]. Das Ergebnis ist das gleiche: Eine sich im Besitz der moralischen Überlegenheit dünkende, pseudoelitäre und leider von den Medien unterstützte Gruppe linksradikaler Gesellschaftsklempner baut ein Bevormundungssystem auf. [...] Was wollen wir sein? Freie selbstbestimmte Bürger oder von sozialistischen Pseudo-Eliten geknechtete Untertanen? (FB, 23.03.2021)

COVID-19 is becoming a pretext for the Greens to re-education. I'll put it bluntly: the only thing that is really ugly here are these moralizing, sour, self-proclaimed, totalitarian people re-educators [...]. The result is the same: A pseudo-elitist group of radical left-wing social plumbers, who think themselves to be in possession of moral superiority, and unfortunately supported by the media, is building up a system of paternalism. [...] What do we want to be? Free self-determined citizens or subjects enslaved by socialist pseudo-elites?

In example (23), recurring compounds which are used in the *Facebook* corpus to convey similar conspiratorial thoughts are listed:

- (23) Masken-Skandale, Corona-Versagen, Politikversagen, Irrweg, fanatische Corona-Ideologie, Kontroll-Illusion, (idiotische) Inzidenz-Fixiertheit, Verbotsparterie, Bürokratiemonster, halbblinde Mainstream-Medien, Falschnachrichten, regierungstreue Propaganda, Testbetrug, Corona-Soforthilfen-Betrüger, Zombieökonomie, Absurdistan Deutschland, Verbotskultur...

Mask scandals, corona failure, political failure, wrong track, fanatical coronavirus ideology, control illusion, (idiotic) fixation on incidence, prohibition party, bureaucratic monsters, semi-blind mainstream media, fake news, pro-government propaganda, test fraud, COVID emergency

¹⁵Notice that the word is used also in the corpus of parliamentary speeches. If decontextualized, the word has no negative connotation for itself, on the contrary it could instead seem that the AfD invites the citizens to be cautious and responsible, which is not the case.

aid fraudsters, zombie-economy, Absurdistan Germany, prohibition culture, ...

Some compounds used as hapax-legomena concern the use of a COVID app, which is alleged to be a way to directly control the people.

- (24) Corona-Datenspende-App (als) Spitzel- und Überwachungs-App, Corona-Appidemie
COVID data donation app (as) spy and surveillance app, COVID-appidemic

As can be noticed from the examples above, if the hapax-legomena are excluded, the new compounds are not highly recursive, since they normally contain two members. The language is vivid, but no complex metaphor is used. The compounds are regularly head-internal, as is normally the case for German and the first member of the compound has either attributive value or it holds a subordinate relation to the head. Most compounds are newly-built nouns, which is expected on the basis of the productivity of this word formation strategy. Significantly, apart from *German Angst* 'German fear', which is used with a mocking intent, the AfD deliberately avoids using words of foreign origin, no anglicism is in fact to be found in the corpus if a German alternative exists. Even the word "Lockdown" which has no real autochthonous equivalent, being a necessary loanword, is comparatively infrequent.

After having analysed the compounds in both corpora, special attention is also given to self-censored words on the AfD-Facebook profile, i.e. words which one would expect to find in the corpus, but which actually do not appear. A case in point is the word used to refer to the face mask. The protection device was initially called by AfD-members *Maulkorb*, literally mouth-band, i.e. 'muzzle', and the term is still regularly used in *Querdenker* demonstrations and by anti-lockdown people (Friedrich 2021). Contrary to expectations, only two entries (25-26) can be found in the entire Facebook corpus, probably because the term is considered a keyword to identify COVID deniers. Its use could be intercepted by automatic hate speech detection and trigger the risk of being reported according to the *NetzDG* law provisions.

- (25) Eine Regierung, die den eigenen Bürgern die sehr weitreichende und das persönliche Leben zum Teil stark einschränkende Pflicht zum Tragen einer Gesichtsmaske (oder eines Maulkorbs, ganz wie man es nimmt) auferlegt [...], das ist ein erschreckender Befund für unser einstmalig freiheitsliebendes Vaterland. (FB, 12.09.2020)
A government that imposes on its own citizens the very far-reaching and in some cases severely restrictive duty to wear a face mask (or a muzzle,

however you choose) [...], that is a terrifying finding for our former freedom-loving fatherland.

- (26) Die Maske! Der moderne Maulkorb. Hat der etwas im Parlament zu suchen? Die AfD-Fraktion im Bundestag sagt einstimmig Nein. (FB, 11.10.2020)

The mask! The modern muzzle. Does it have something to do with Parliament? The AfD parliamentary group in the Bundestag unanimously says no.

The same holds also for compounds containing the word *Diktatur* ‘dictatorship’ associated with COVID-19, which never appear on the AfD *Facebook* page. Many denier groups on *Facebook* that used the name *Coronadiktatur* were removed, the term being a strong cue for the automatic detection of potential conspiratorial contents which were then found in the pages.

5.3. Syntactic analysis

After having considered the most relevant morphological features on which the construction of health counter-discourse is based and which have outlined a difference between the two corpora, it is worth considering what the main syntactic characteristics of the AfD’s narrative are and to what extent they contribute to model its health communication. To do so, four parameters will be investigated: personal deixis, the use of moods, deontic modality, and clausal linking.

5.3.1. Personal deixis

Personal deixis refers to “the identity of the interlocutors in a communication situation” (Fillmore 1997, pp. 61-62). It allows to determine the relationship between the speaker and the addressee by creating situatedness and therefore inclusion and exclusion, closeness or separateness. Personal deixis can be particularly relevant in the counter-discourse construction, since in this context it can range from persuasive to manipulative (Adetunji 2006, p. 181). In the political discourse two personal pronouns are particularly relevant¹⁶: *Sie* (the third person plural, which is used as a courtesy form¹⁷) and *wir* ‘we’, which can either be inclusive or exclusive (Petersoo 2007). The pronominal choices will be tested in the two corpora and are shown to display relevant asymmetries.

¹⁶In contrast to other languages such as Italian, in which the personal pronoun can be dropped or overtly expressed for pragmatic reasons, it must be recalled that in German and English the subject pronoun is always compulsory.

¹⁷In formal contexts or when addressing people you do not personally know, it is common to use the courtesy form *Sie* in German.

In the corpus of parliamentary speeches there is a clear predominance of the exclusive formal pronoun *Sie*, which is used to directly address the colleagues, but also to call on those who are directly responsible for all the events and the restrictions from which the AfD wants to set itself apart. The establishment is the culprit for reportedly catastrophic management of the pandemic whose nefarious course was allegedly not unstoppable. Due to her role as a Chancellor, Angela Merkel is the preferred target of the AfD's accusation, and she is vehemently asked to take action as the AfD requires. An example for the typical use of deictic *Sie* is (27):

- (27) Handeln Sie bitte im Interesse dieses Landes und seiner Bürger, Frau Bundeskanzlerin, und verstecken Sie sich nicht länger hinter ideologisch aufgeladener Phrasendrescherei, wie Sie es leider in Ihrer Rede heute getan haben. (A. Weidel, 18.06.2020)¹⁸
Please act in the interests of this country and its citizens, Madam Chancellor, and do no longer hide behind ideologically charged thrashing discourse, as you unfortunately did in your speech today.

As can be interestingly noticed in the example above, the politician refers to *dieses Land[es] und seine[r] Bürger* 'this country and its citizens' using a third person singular possessive pronoun which agrees with the possessor *Land*. Using this form of possessive is indicative of the will to avoid using the third person plural possessive *Ihr* which would imply that the German citizens have a direct relation with Angela Merkel excluding the AfD's. Moreover, the first person plural possessive *unser* is avoided as well, since it could be used with an inclusive meaning and would therefore convey the message, that the establishment and the AfD build a community, or, alternatively, that the AfD wants to pursue its personal interest and not the citizens', if the interpretation is exclusive. If the frequency of use of the possessive *unser* in AfD's speeches is tested against its frequency in parliamentary speeches given by the government, this trend becomes even clearer, since the number of attestations of the first person plural possessive in government discourse nearly triples the occurrences of *unser* found in the AfD's parliamentary debates. Moreover, the investigation of the whole AfD corpus confirms that the possessive *unser* is more rarely used than other deictics. When it is, it directly refers to the terrible situation the German society is experiencing, with which the AfD wants to be sympathetic as in (28).

- (28) Dank Ihrer anfänglichen Untätigkeit und dem dann verhängten Shutdown ist das Coronavirus mittlerweile zu einer Gefahr für unsere Wirtschaft und für unsere Gesellschaft geworden, die unser Land in die

¹⁸ <https://dserver.bundestag.de/btp/19/19166.pdf#P.20642>.

größte Wirtschaftskrise stürzen wird, die wir je erlebt haben. (S. Münzenmaier, 23.04.2020)¹⁹

Thanks to your initial inactivity and the shutdown that was then imposed, the coronavirus has now become a threat to our economy and to our society, which will plunge our country into the greatest economic crisis we have ever experienced.

As can be seen in (28) the AfD presents *Ihrer anfänglichen Untätigkeit...* ‘your initial inactivity...’ (addressing Merkel) as the cause for the *Gefahr für unsere Wirtschaft und unsere Gesellschaft* ‘threat to our economy and our society’, creating a dichotomy ‘your’ (the government’s) vs. ‘our’ (the society and economy represented by the AfD).

The use of deixis radically changes if the *Facebook* corpus is observed. The direct addressees are no more the parliamentarians of other political parties, but potential voters and supporters. The goal pursued by a conscious use of deixis is twofold: on the one hand the party wants to prove sympathetic with the needs of the followers; on the other hand the AfD wants to create a clear contrast between them (the AfD) and the others (*die Altparteien* ‘the old parties’, as they are often called).

The first objective is attained by using the inclusive first person plural: whoever follows the AfD’s *Facebook* page is part of a community who potentially shares the same ideals for which it is ready to fight (29).

- (29) Wir lassen uns unsere Grundrechte nicht nehmen! (FB, 16.11.2020)
We will not let our fundamental rights be taken away from us!

The latter goal is pursued by reporting alleged scandals, chaotic management of the pandemic, freedom restrictions, which are counterbalanced by the assurance by the AfD (in first person plural) that they will strenuously engage to stop all purported abuses. A common slogan is *nicht mit uns* ‘not with us’ as can be seen in the following example.

- (30) Freiheitsrechte einschränken? NICHT MIT UNS! (FB, 27.12.2020)
Restrict freedoms? NOT WITH US!

The alleged culprit of the COVID-19 disaster is nearly always expressed by name: *die Regierung*, ‘the government’, *die Altparteien* ‘the old parties’, *die Presse* ‘the press’. The outraged citizens have to identify a precise target of their discontent and perceive a sense of “we” against the elites (Albertazzi, McDonnell 2008).

A striking difference from the corpus of parliamentary speeches is that the most often used pronoun is still the formal *Sie*, but this time it has a

¹⁹ <https://dserver.bundestag.de/btp/19/19156.pdf#P.19313>.

positive connotation and refers to the supporters. *Sie* is no more the target of accusations, but the community of the supporters, with whom they feel close. Supporters are directly invited to cooperate with the party, to distrust official communication and share the AfD posts. They are also called upon to take part in a discussion by means of questions which concern sensitive issues such as wearing masks, as happens in the following example:

- (31) Zweifelnd auch Sie am Sinn der allgegenwärtigen Maskenpflicht? Dann sind Sie in bester Gesellschaft. (FB, 12.09.2020)
Do you also doubt the sense of the omnipresent mask requirement? Then you are in best company.

5.3.2. The use of moods

The analysis of the moods used in the two corpora can contribute to shed light on the type of communication the AfD carries out, and specifically whether it is linguistically grounded on alleged facts, which are therefore reported in the realis mood, or if the scepticism is expressed by means of irrealis moods. Moreover, it is significant to detect whether the imperative mood is used as a strategy to strongly invite the supporters to take action – in the case of *Facebook* – or to ask the government to fulfil the requests by the AfD, for the parliamentary speeches.

As expected, the preferred mood in both corpora is the indicative, which is the only “realis mood” in German²⁰, the mood of factuality (Palmer 2012). Millikan (2005, p. 157) argues that “a proper function of the indicative mood is to induce belief in the proposition expressed”. No doubt should emerge concerning the theme which is being discussed and the AfD’s vision is presented as if it were the only possible one, even though what is being uttered is contradicted by facts, as the following example from the parliamentary corpus highlights.

- (32) Regiert wurde Deutschland de facto von der Bundeskanzlerin und den Ministerpräsidenten auf dem Verordnungswege ohne echte parlamentarische Kontrolle. Das Grundgesetz kennt einen solchen Notstand nur für den Verteidigungsfall, nicht für den Fall einer Epidemie. Für den Coronausnahmestand mit einer so weitreichenden Außerkraftsetzung der Grundrechte gibt es in der Verfassung keine Grundlage. (B. Von Storch, 07.05.2020)²¹
Germany was de facto governed by the Federal Chancellor and the Prime Minister by ordinance without real parliamentary control. The constitution only recognizes such an emergency in the event of a defense,

²⁰ Consider that apart from conditionals, in contemporary German the indicative mood is used also for subordinate clauses.

²¹ <https://dserver.bundestag.de/btp/19/19158.pdf#P.19551>.

not in the event of an epidemic. There is no basis in the constitution for the exceptional state with such a far-reaching suspension of fundamental rights.

The fact that the state of emergency violates the constitution is definitely questionable, since there is evidence that it was declared to protect public health, as allowed by the constitution under these circumstances. Nevertheless, the parliamentarian states the contrary in the indicative mood, as if it were an absolute truth.

Similarly, all *Facebook* posts which are aimed at denouncing the current situation and unveiling the alleged truth by providing the reader with an alternative source of information use the same linguistic strategy. The indicative as factual mood is used.

- (33) Was verharmlosend als „Lockdown light“ bezeichnet wird, bedeutet erneute massive Grundrechts-Einschränkungen und die Vernichtung unzähliger Existenzen! [...] Die Maßnahmen sind vollkommen unverhältnismäßig und verursachen als „Kollateralschäden“ furchtbares Leid und auch Tote! (FB, 02.11.2020)
What is belittled as "lockdown light" means renewed massive restrictions on fundamental rights and the destruction of countless lives! [...] The measures are completely disproportionate and cause, as "collateral damage", terrible suffering and deaths!

Also in this case, the truth is reversed: the restrictive measures are purportedly disproportionate, and they are causing suffering and deaths. The post claims that the real problem is limitations and not COVID-19 against which restrictions are imposed.

Aside from building counter-discourse, the AfD wants to present itself as a party of pragmatism and of action. Both the government and the citizens supporting the AfD are called upon to act. In the parliamentary speeches the AfD makes use of the imperative mood to directly address the Chancellor and the Ministers. In the *Facebook* corpus, instead, the imperative is used when the supporters are to be directly addressed. For instance, many posts in the period of the electoral campaign end with a direct invitation to vote for the AfD: *wählen Sie AfD* ‘vote for AfD’. Differently from the parliamentary corpus where the conative function is expressed by the imperative mood, on *Facebook* a concurring form that is frequently used is the infinitive, which serves the same objective to call people upon action, but in a subtler way, impersonally, through slogans with which the supporters of the AfD can identify themselves.

- (34) Corona Panik-mache wird wirklich teuer. Bürger ent- statt belasten! (FB, 27.11.2020)

COVID panic is really expensive. Relieve instead of burdening citizens!
(35) Virus nicht für bürgerfeindliche Politik missbrauchen! (FB, 28.08.2020)
Do not abuse the virus for anti-citizen politics!

Interestingly, the second person plural imperative is only used with derogatory intent, to call on people who do not deserve respect from the party. The informal pronoun *ihr* is never used to address the followers, who are respectfully addressed with *Sie*.

(36) Stoppt die Appidemie! Nein zur App-Pflicht! (FB, 12.05.2020)
Stop the appidemic! No to compulsory app!

The relationship between the use of imperative forms and misinformative contents is only indirect, since the AfD slogans contribute to fuelling discontent and to the spreading of fake news, rather than creating them. On *Facebook*, the imperative and imperative-like forms are used as a multiplier of followers (and therefore potential voters), who are looking for immediate content. Counter-discourse *stricto sensu* is instead built by means of the indicative used for alleged factual reporting, which reverses official narrative.

5.3.3. Deontic modality²²

According to Han (1998) imperatives are deontic modals in disguise. Chrismann (2010) defines deontic modality as “a kind of modality which has to do with what is necessary or possible”. In the case of AfD’s health communication the focus is on what needs to be done by the establishment and on alleged self-evident necessities which are disregarded or violated. To shed some light on AfD’s counter-discourse, it is useful to investigate how and to what extent modals are used to express obligation, alarm and urgency to change the course of things.

German splits the area of deontic modality of necessity into two, depending on the inherent modal force and on the ordering source (Kratzer 1977): on the one hand, the verb *müssen* is used to express factual necessity which should be intersubjectively acknowledged; on the other hand *sollen* expresses an obligation which is the result of someone else’s volition and is not subject internal. It is therefore relevant to investigate which modal verbs are chosen and the kind of subject with which they are associated.

In both corpora the deontic modal verb which is more frequently used is *müssen*. The number of attestations for the other modal verbs is definitely lower, as the main aim in both corpora is to highlight alleged uncontroversial

²² Only modal verbs will be considered in this section, although other markers such as negative adjectives, which have been discussed in the previous paragraphs (*unsagbar, unfassbar, ...* ‘unspeakable, incomprehensible’, ...) could be considered expressions of deontic modality.

necessity and urgency, which shifts the focus from the COVID-19 health threat to the negative social conditions, which are claimed to be riskier than the disease (37). Unrelated issues such as internal security are also mentioned as necessities, especially in the *Facebook* corpus, to detract from the health issue (38).

- (37) [Es] müssen heute schon die sozialen Folgen bedacht werden. Es ergibt keinen Sinn, die Anzahl der Coronatoten auf Kosten möglicher Suizidopfer zu senken. (A. Gauland, 25.03.2020)²³

The social consequences must already be considered today. It makes no sense to reduce the number of corona deaths at the expense of possible suicide victims.

- (38) Wir sagen: Innere Sicherheit muss auch unter Corona Bestand haben! (FB, 26.03.2020)

We say: internal security must also endure under COVID-19!

In both corpora, the subject of the deontic modal *müssen* is nearly always inanimate. When using the deontic modal, the focus must be on the (allegedly deprived) rights, freedom, social conditions which must be restored regardless of who will do it. The alleged culprits are then identified on the basis of pseudo-factual narrative in which lexical verbs in the indicative mood are used.

Despite the fact that the use of deontic modality is consistent in the two corpora, with *sollen* being only sparingly used, there is an asymmetry in the two corpora with respect to the use of the volitional modal *wollen* ‘will/want’, which is rarely used in the corpus of parliamentary speeches (less than *können*, i.e. ‘can’ and *sollen*), while it is the second most frequent modal in the *Facebook* corpus. This difference is expected if we consider that the parliament is not the context in which the AfD conjectures on alleged secret plans by the establishment. On the other hand, on *Facebook* there is a need to communicate alarm, to inform the supporters about alleged risks which could become concrete, if the plans of the opposers were fulfilled. All measures are in fact alleged to be resulting from the will of the establishment and not from necessity.

- (39) SPD will auch dich enteignen? SPD-Chefin Esken [...] verlangt nun auch eine Corona-Sonderabgabe für Deutsche. Dafür wollen die Sozis wohl mal wieder am Grundgesetz herumbiegen. Nicht mit uns! (FB, 01.04.2020)

SPD wants to expropriate you too? SPD leader Esken [...] is now demanding a special COVID-19 levy for Germans. To do this, the socialists want to subvert the constitution again. Not with us!

²³ <https://dserver.bundestag.de/btp/19/19154.pdf#P.19121>.

5.3.4. Clausal linking

The analysis of clausal linking can be insightful to cast light on the linguistic expression of the logical relationship which holds between the clauses and the speech acts of which counter-discourse is made. Causal relations, conditional clauses, concessives and finality can be made explicit in a text thanks to adverbial subordination. By definition, adjuncts are not essential for the main clause to be syntactically and semantically complete. However, logically robust reasoning is often linguistically supported by syntactic linkers which make the relationship between one clause and another overt. The hierarchical relationship between clauses, and therefore embeddedness or dependencies, can be explicitly marked. A line of reasoning in which the cause-and-effect relationships are clearly stated can be more easily falsified in normal science dialectics. Pseudoscientific reasoning and deliberate deception are based on emotions, irrationality, anger, bias and their components are not necessarily logically related. In this kind of communication sentences are usually arranged in paratactic structures, the clauses are juxtaposed or connected at the same level by means of semantically vacuous conjunctions such as ‘and’, this gives equal weight to each textual element and amplifies the rhetorical work (Easterbrook 2021). These aspects seem to be borne out in AfD’s health counter-discourse.

- (40) Wir betonen: Die Corona-Maßnahmen müssen zu jedem Zeitpunkt verhältnismäßig sein! Grundrechte müssen erhalten bleiben! (FB, 01.12.2020)
*We emphasize: The corona measures must be proportionate at all times!
Fundamental rights must be preserved!*

An analysis of the *Facebook* corpus clearly shows that in AfD’s counter-discourse adverbial subordination is nearly absent and also complement clauses are limited, as the choice of a colon instead of the subjunctor *dass* ‘that’ in (40) confirms. The preferred coordinator is actually *und* ‘and’, but many clauses are asyndetically juxtaposed. The corpus of parliamentary speeches exhibits more complex clausal structure, especially complement clauses, but adverbial clauses are not frequently found.

- (41) Die Kanzlerin sagte vor Kurzem zu Recht, dass wir uns in einer Krise historischen Ausmaßes befinden. Inzwischen fragen sich aber immer mehr Menschen, ob diese Krise durch das Virus oder durch das Nichthandeln bzw. die falschen Handlungen und Entscheidungen der Regierung verursacht worden ist. (G. Frömmling, 07.05.2020)²⁴

²⁴ <https://dipbt.bundestag.de/dip21/btp/19/19158.pdf#P.19535>.

The Chancellor rightly said recently that we are in a crisis of historic proportions. Meanwhile, however, more and more people are wondering whether this crisis was caused by the virus or by inaction or the wrong actions and decisions of the government.

Among the adverbial subjunctors, the most frequent in the corpus of parliamentary speeches is *wenn* ‘when/if’ followed by *weil* ‘because’. In the *Facebook* corpus, where adverbial subordination is poorer, the causal connector is scarcer and final conjunctions such as *um zu/damit* are slightly preferred especially when the alleged goals of the establishment are dealt with.

The stacking of independent clauses is a strategy to rhetorically give the same value to each of them and present their content as factual, even though it is not. Not only are independent declarative clauses used, but also questions are employed as a tool to highlight core issues and focus the addressee’s attention on them. The latter mechanism is typical for *Facebook*, in which engagement is particularly important to increase the number of users and the success of the post.

- (42) Mal ehrlich: Wer hat eigentlich gerade noch den Überblick, was man in welchem Bundesland derzeit noch darf und was nicht? Und was dann an Weihnachten gelten soll? Und was danach? (FB, 09.12.2020)
Let's be honest: who actually still has an overview of what is currently still allowed in which region and what is not? And what should apply to Christmas? And what then?

5.4. Discussion of the findings

The linguistic analysis of the two corpora has proceeded from morphology to syntax in order to detect the strategies which the AfD party uses to pursue its communicative goals. Moreover, the question has been addressed whether diamesic variation can be found between the two different modes of communication.

As for morphology, a tendency to use negatively connotated affixes has emerged in both corpora. Beside adjectival negative affixes, the use of the verbal prefixes *ver-* *ent-* and *zer-* has proved to be particularly effective to convey the core ideas of hiding/unveiling the truth and the destruction of the social tissue negatively affected by allegedly deliberate disproportional restrictions. While this linguistic strategy is common to both corpora, the creative use of provocative compounds and neologisms to express outrage, indignation and refusal for all containment measures is much more accentuated in the *Facebook* corpus in which vivid language is a tool to trigger emotional reactions. On the contrary, the corpus of parliamentary speeches makes spare use of unexpected compounds: compounding is still

very frequent but is mainly used in neutral or technical contexts which require high information density.

The syntactic analysis has focused on language mechanisms which can be easily manipulated to sway public opinion and let people think that biased communication is instead factual: personal deixis, the use of moods and deontic modality, but also clausal linking. Due to the different target groups, the use of personal deixis is not identical in the two corpora. The pronoun which is most frequently used in both corpora is formal *Sie*. However, while in the parliamentary speeches it is used negatively to directly identify a culprit from whom the AfD wants to set apart, *Sie* is used in the *Facebook* corpus to respectfully address the supporters. While in the parliamentary speeches *wir* 'we' denotes a dichotomy 'us' vs 'them', the pronoun is instead fully inclusive on *Facebook* to convey the idea of a community who fights against the deprivation of personal freedom. As expected, in both corpora the mood which is most frequently used is the indicative to give the impression that the delivered contents are factual and uncontroversial, nonetheless the imperative with conative function can also be found. Deontic modality goes into the same direction: the modal verb *müssen* designates absolute necessity and contributes to create (pseudo) factuality. This same goal is strongly pursued also by the consistent use of simple parataxis in both corpora. The clauses are asyndetically juxtaposed or, in most cases, the conjunction *und* 'and' is used. The lack of adverbial subordination on *Facebook* speaks for the will to be immediate and to reach a wide audience, but it also functional to the building of a discourse in which apodictical truths are stated, which (seemingly) do not require any argumentation.

6. Conclusion

Healthy health communication has proven to be crucial in these unprecedented times of pandemic and infodemic (Reddy, Gupta 2020). Health conspiratorial theories and disinformation are definitely not a novel phenomenon, however the spreading of health misinformation and downplaying constitute a severe threat to public health, especially if the source or the spreader of manipulated and manipulative health information is a parliamentary party. The aim of this contribution was to linguistically analyse AfD's counter-discourse. To attain this goal, after some preliminary remarks, the first question was whether the far-right German party AfD can be considered extremist and potentially spread conspiratorial contents. Secondly, the landscape of German lateral thinking, such as the *Querdenker* movement, and some of its major players such as Attila Hildmann were briefly illustrated to understand to what extent conspiratorial beliefs have

found fertile ground in Germany. It was then verified whether the German AfD holds some relations with COVID deniers and could have an interest in finding supporters also among those who are willing to believe in COVID conspiracy theories. In order to test the hypothesis that the AfD delivers unhealthy COVID-19 communication and counter-narrative which ranges from misinformative content to conspiracy theories, and to check whether this happens irrespective of the medium used, two corpora were analysed: one corpus of parliamentary speeches given by AfD members in the period from March 2020 to April 2021 and another corpus of *Facebook* posts which appeared on the official AfD's profile over the same period of time. AfD's COVID communication is characterized by "cherry-picking data", downplaying seriousness and correlation of unrelated phenomena in both corpora. However, overt hostility towards mainstream media and the political establishment, science distrust and the idea that the restrictions result from a will of the establishment and not from medical necessity are typical for *Facebook*. After having proved that AfD's counter-discourse concerning COVID-19 is at best misinformative in parliamentary speeches and exhibits even some conspiratorial traits on *Facebook*, a qualitative morphosyntactic analysis was carried out, to understand how the language is bent to achieve the desired communicative outcome and to test whether diamesic variation between the two corpora can be observed.

The obtained results point to the fact that the morphosyntax is (c)overtly manipulated to attain different communicative outcomes depending on the target groups and on the different modes. The emerging picture is far from being trivial, since it highlights how also potentially neutral language, which would hardly be identified as conspiratorial by automatic machine detection of hate speech, is actually severely dangerous for large parts of the population. The language manipulation technique both in the Parliament and on *Facebook* is rooted in people's discontent and fear and, especially on *Facebook*, the doubt is consistently insinuated that a hidden enemy is trying to deprive one's freedom and to impoverish the society on many levels. The subtler the tools which are used in unhealthy communication (affixation, compounding, deixis, modality, moods and clausal linking), the higher is the risk to underestimate the phenomenon and not to effectively react to it, leaving people vulnerable to false beliefs (Ecker *et al.* 2022).

As shown by Roozenbeek *et al.* (2020), susceptibility to misinformation about COVID-19 negatively correlates with illiteracy. However, if one considers that in the national elections on 26th September 2021 in parts of Eastern Germany the AfD became the first party, reaching nearly 25% of the votes in Thuringia and Saxony (*Zeit Online* 27.09.2021), there is reason to believe that antiscientific positions and extremism are

bound to become a major issue in the next years.

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References

- Adetunji A. 2006, *Inclusion and exclusion in political discourse: Deixis in Olusegun Obasanjo's Speeches*, in "Journal of Language and Linguistics" 5 [2], pp. 177-191.
- AfD 2021, @alternativefuerde. <https://www.facebook.com/alternativefuerde> (01.03.2022)
- Albertazzi D. and McDonnell D. 2008, *Introduction: The Sceptre and the Spectre*, in Albertazzi D. and McDonnell D. (eds.) *Twenty-first century populism. The spectre of western European democracy*, Palgrave Macmillan, New York, pp. 1-14.
- Brinkmann H. 1962, *Die deutsche Sprache: Gestalt und Leistung*, Schwann, Düsseldorf.
- Bundesministerium der Justiz und Verbraucherschutz 2021, *Regeln gegen Hass im Netz – das Netzwerkdurchsetzungsgesetz*. Berlin. https://www.bmjv.de/DE/Themen/FokusThemen/NetzDG/NetzDG_node.html (30.09.2021)
- Bundesstelle für Sektenfragen 2021, *Das Phänomen Verschwörungstheorien in Zeiten der COVID-19-Pandemie. Bericht der Bundesstelle für Sektenfragen an die Bundesministerin für Frauen, Familie, Jugend und Integration*. Wien.
- Bundeswahlleiter 2021, *Bundestagswahl 2021. Ergebnisse*. <https://www.bundeswahlleiter.de/bundestagswahlen/2021/ergebnisse/bund-99.html> (30.09.2021)
- Christmann M. 2010, *Deontic modals*. *Routledge Encyclopedia of Philosophy*, Routledge, London.
- Critical Appraisal Skills Programme 2018, *CASP Qualitative Research Checklist* <http://www.casp-uk.net/casp-tools-checklists> (28.09.2021)
- Der Spiegel 26.11.2020, *AfD-Abgeordneter soll in Chatgruppe von Attila Hildmann aktiv gewesen sein*. <https://www.spiegel.de/politik/deutschland/afd-johannes-huber-soll-in-chatgruppe-von-attila-hildmann-aktiv-gewesen-sein-a-d655e4ce-8d2d-4d8a-82aa-6659be3b96da> (28.09.2021)
- Deutscher Bundestag 2021, *Protokolle*. <https://www.bundestag.de/protokolle> (30.09.2021)
- Dwell R.B. 2015, *The Semantics of German Verb Prefixes*, Benjamins, Amsterdam.
- Easterbrook T.J. 2021, *The rhetoric of conspiracism in user-centered democracy*. PhD dissertation. University of North Carolina. <https://cdr.lib.unc.edu/downloads/6q182v60t> (29.09.2021)
- Ecker U.K.H, Lewandowsky S., Cook J., Schmid P., Fazio L.K., Brashier N., Kendeou P., Vraga E.K. and Amazeen M.A. 2022, *The psychological drivers of misinformation belief and its resistance to correction*, "Nature Reviews Psychology" 1, pp. 13-29. <https://doi.org/10.1038/s44159-021-00006-y>
- Ennsner-Jedenastik L., Gahn C., Bodlos A. and Haselmayer M. 2021, *Does social media enhance party responsiveness? How user engagement shapes parties' issue attention on Facebook, in "Party Politics"* <https://doi.org/10.1177/1354068820985334>
- Facebook 2021, *Facebook community standards. Hate Speech*, <https://transparency.fb.com/policies/community-standards/hate-speech/> (28.09.2021).
- Fairclough N. 2003, *Analysing discourse: Textual analysis for social research*. London: Routledge.
- Fidler M. and Cvrček V. 2019, *Keymorph analysis, or how morphosyntax informs discourse*, in "Corpus Linguistics and Linguistic Theory" 15 [1], pp. 39-70. <https://doi.org/10.1515/cllt-2016-0073>

- Fillmore C. 1997, *Lectures on deixis*, CSLI Publications, Stanford.
- Firsova E. and Eder T. 2021, *Out of the box. Surveillance of Querdenker movement in Germany reflects a new political reality*, in “Society” <https://www.aicgs.org/2021/05/out-of-the-box/> (28.09.2021)
- Friedrich A. 22.09.2021, *Querdenken ist nicht einfach nur eine kritische Haltung*, in “NDR”. <https://www.ndr.de/kultur/Findet-eine-Radikalisierung-des-Querdenker-Milieus-statt,querdenker172.html> (01.03.2022)
- Friedrich-Naumann-Stiftung 2020, *Beurteilung verschiedener Aussagen zu Corona und Bill Gates in Deutschland 2020*. <https://de.statista.com/statistik/daten/studie/1184149/umfrage/beurteilung-verschiedener-aussagen-zu-corona-und-bill-gates-in-deutschland/#professional> (28.09.2021)
- Galdas P. 2017, *Revisiting Bias in Qualitative Research: Reflections on Its Relationship With Funding and Impact*, in “International Journal of Qualitative Methods” <https://doi.org/10.1177/1609406917748992>
- Grabow K. 2016, *PEGIDA and the Alternative für Deutschland: two sides of the same coin?*, in “European View” 15, pp. 173–181. <https://doi.org/10.1007/s12290-016-0419-1>
- Han C. 1998, *The Structure and Interpretation of Imperatives: Mood and Force in Universal Grammar*. PhD thesis, University of Pennsylvania.
- Hasko V. 2021, *Qualitative Corpus Analysis*, in Chapelle C.A. (ed.) *The Encyclopedia of Applied Linguistics*. <https://doi.org/10.1002/9781405198431.wbeal0974.pub2>
- Havertz R. 2021, *Radical Right Populism in Germany: AfD, Pegida, and the Identitarian Movement*, Routledge, London.
- Hlatshwayo P. and Gumbo L. 2021, *Texts Classification and Sustainability: A Case of Facebook Sub Genres*, in “Randwick International of Social Science Journal” 2 [2], pp. 67-74. <https://doi.org/10.47175/rissj.v2i2.216>
- Hohlfeld R. 2020, *Die Post-Truth-Ära. Kommunikation im Zeitalter von gefühlten Wahrheiten und Alternativen Fakten*, in Hohlfeld R., Harnischmacher M., Heinke E., Lehner L.S. and Sengl M. (eds.), *Fake News und Desinformation. Herausforderungen für die vernetzte Gesellschaft und die empirische Forschung*, Nomos Verlag, Baden-Baden, pp. 43–60.
- Imhoff R. and Lamberty P. 2020, *A Bioweapon or a Hoax? The Link Between Distinct Conspiracy Beliefs About the Coronavirus Disease (COVID-19) Outbreak and Pandemic Behavior*, in “Social Psychological and Personality Science” 11 [8], pp. 1110–1118. <https://doi.org/10.1177/1948550620934692>
- Institut für Deutsche Sprache 2020, *Neuer Wortschatz rund um die Coronapandemie*. <https://www.owid.de/docs/neo/listen/corona.jsp> (29.09.2021)
- Jarynowski A., Semenov A. and Belik V. 2020, *Protest Perspective Against COVID-19 Risk Mitigation Strategies on the German Internet*, in Chellappan S., Choo K.R. and Phan N. (eds.), *Computational Data and Social Networks. CSoNet 2020. Lecture Notes in Computer Science*. Springer, New York. https://doi.org/10.1007/978-3-030-66046-8_43
- Jegade A.S. 2007, *What Led to the Nigerian Boycott of the Polio Vaccination Campaign?*, in “PLoS Med” 4 [3].
- Jeitler C. 24.11.2021, *Mainstreaming Extremism or Radicalizing the Center. How the Querdenker Movement Challenges the Democratic Order*, in “Society. American Institute for Contemporary German Studies”. <https://www.aicgs.org/2021/11/mainstreaming-extremism-or-radicalizing-the->

- [center/](#) (28.02.2022)
- Keady J. 2021, *Querdenker, Querfront, and QAnon: On the German Far-Right and Its American Occupation*, in “Europe Now”. <https://www.europenowjournal.org/2021/07/25/querdenker-querfront-and-qanon-on-the-german-far-right-and-its-american-occupation/> (28.02.2022)
- Krämer B., Fernholz T., Husung T., Meusel J. and Voll. M. 2021, *Right-wing populism as a worldview and online practice: Social media communication by ordinary citizens between ideology and lifestyles*, in “European Journal of Cultural and Political Sociology”, DOI: 10.1080/23254823.2021.1908907
- Kratzer A. 1977, *What „must“ and „can“ must and can mean*, in “Linguistics and Philosophy” 1, pp. 337-355.
- Kuhn S., Lieb R., Freeman D., Andreou C. and Zander-Schellenberg, T. 2021, *Coronavirus conspiracy beliefs in the German-speaking general population: Endorsement rates and links to reasoning biases and paranoia*, in “Psychological Medicine” pp. 1-15. doi:10.1017/S0033291721001124.
- Millikan R.G. 2005, *Language: A Biological Model*, Oxford University Press, Oxford.
- Olsen S. 2015, *Composition*, in: Müller P.O., Ohnheiser I., Olsen S. and Rainer F. (eds.), *Word formation. An International Handbook of the Languages of Europe*, Mouton De Gruyter, Berlin, pp. 364–386.
- O'Neill M. and Summers E. 2016, *Collins English Dictionary*, Harper Collins, Glasgow.
- Palmer F.R. 2012, *Mood and Modality*, Cambridge University Press, Cambridge.
- Petersoo P. 2007, *What does “we” mean? National deixis in the media*, in “Journal of Language and Politics” 6 [3], pp. 419-436.
- Pfahl-Traugber A. 2002, *Bausteine zu einer Theorie über Verschwörungstheorien: Definitionen, Erscheinungsformen und Ursachen*, in Reinalter H. (ed.) *Verschwörungstheorien: Theorie – Geschichte – Wirkung*, Studien Verlag, Innsbruck, pp. 30-45.
- Pley A. 2019, *Bundesamt für Verfassungsschutz stuft AfD-Teilorganisation "Der Flügel" als gesichert rechtsextremistische Bestrebung ein*. <https://www.verfassungsschutz.de/SharedDocs/pressemitteilungen/DE/2020/pressemitteilung-2020-1-afd.html> (28.09.2021).
- Rasinger S.M. 2013, *Quantitative Research in Linguistics. An Introduction*, Bloomsbury, London.
- Reddy B.V. and Gupta A. 2020, *Importance of effective communication during COVID-19 infodemic*, in “Journal of family medicine and primary care” 9 [8], pp. 3793–3796.
- Roose J. 2020, *Sie sind überall. Eine repräsentative Umfrage zu Verschwörungstheorien*. Konrad Adenauer Stiftung, Berlin. <https://www.kas.de/de/einzeltitel/-/content/sie-sind-ueberall> (28.02.2022).
- Roizenbeek J., Schneider C.R., Dryhurst S., Kerr J., Freeman A.L.J, Recchia G., van der Bles A.M. and van der Linden S. 2020, *Susceptibility to misinformation about COVID-19 around the world*, in “Royal Society Open Science” 7. <http://doi.org/10.1098/rsos.201199>.
- Salzborn S. 2018, *Antisemitism in the “Alternative for Germany” Party* in “German Politics and Society” 36 [3]. <https://doi.org/10.3167/gps.2018.360304>
- Sauerbrey S. 12.03.2021, *What happened when Germany's far right party railed against lockdown*, in “The New York Times”. <https://www.nytimes.com/2021/03/12/opinion/g> (28.09.2021)
- Schröder T. and Tausche N. 14.12.2020, *Ist die AfD mittendrin oder nur dabei?*, in „Süddeutsche Zeitung“. <https://www.sueddeutsche.de/muenchen/freising/freising->

- [querdenker-telegram-afd-politiker-1.5145111](#) (28.09.2021)
- Silva B.C., Vegetti F. and Littvay L. 2017, *The Elite Is Up to Something: Exploring the Relation Between Populism and Belief in Conspiracy Theories*, in “Swiss Political Science Association” 23 [4], pp. 423-443.
- Spieß E., Frieß D. and Schulz A. 2020, *Populismus auf Facebook*, in “Zeitschrift für Politikwissenschaft” 30 [2], pp. 219-240.
- Taboada M., Trnavac R. and Goddard C. 2017, *On Being Negative*, in “Corpus Pragmatics” 1, pp. 57–76 <https://doi.org/10.1007/s41701-017-0006-y>
- Teune S. 2021, *Querdenken und die Bewegungsforschung – Neue Herausforderung oder déjà-vu?*, in “Forschungsjournal Soziale Bewegungen” 34 [2], pp. 326-334. <https://doi.org/10.1515/fjsb-2021-0029>
- Waszak P.M., Kasprzycka-Waszak W. and Kubanek A. 2018, *The spread of medical fake news in social media – The pilot quantitative study*, in “Health Policy and Technology” 7 [2], pp. 115-118.
- ZDFheute 20.11.2020, *Masken-Eklat im Bundestag*. “Ein Theater, was hier abgeht”. <https://www.zdf.de/nachrichten/politik/masken-eklat-bundestag-afd-roth-100.html> (28.02.2022)
- Zeit Online 27.01.2021, *AfD-Anhänger und Nichtwähler anfällig für Verschwörungstheorien*. https://www.zeit.de/gesellschaft/zeitgeschehen/2021-01/verschwoerungstheorien-afd-anhaenger-coronavirustudie?utm_referrer=https%3A%2F%2Fwww.google.com%2F (28.09.2021)
- Zeit Online 27.09.2021, *AfD in Sachsen und Thüringen stärkste Kraft*. https://www.zeit.de/politik/deutschland/2021-09/afd-sachsen-wahlsieger-auszaehlung-bundestagswahl?utm_referrer=https%3A%2F%2Fwww.google.com%2F (01.03.2022)

FRAMES FEATURING IN EPIDEMIOLOGICAL CRISIS COMMUNICATION

A Frame-Semantic Analysis of Pandemic Crisis Communication in Multilingual Belgium

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Abstract – To date, frame-semantic theory has been applied to various domain-specific discourses, such as legal, economic, and even oenological discourses. Yet, epidemiological crisis communications form a domain-specific discourse tradition which has been left untouched by frame-semanticists. As such, we will conduct a descriptive pilot study which will consider some of the frames present in these texts. To this end, we collected a pilot corpus of Dutch COVID-19-related crisis communications from the Belgian government, which according to previous research (Liégeois, Mathysen 2022) can, in fact, be regarded as epidemiological crisis communications. More concretely, we considered the frames in which five terms – *virus*, *coronavirus*, *COVID-19*, *epidemie* and *pandemie* – inherent to this domain could occur and investigated the following three research questions: In which frames do our five target terms resurface within this domain-specific discourse tradition (RQ1)? Which functions do these frames fulfil within this domain-specific discourse tradition and can other domain-specific features (e.g., regarding the FES of these frames) be found (RQ2)? Can these frames and their functions be linked back to the communicative strategies singled out by previous research on these Belgian epidemiological crisis communications (RQ3)?

Keywords: COVID-19 health pandemic; frame semantics; domain-specific discourse; health discourse; crisis communication.

1. Introduction

Health communication plays a central role in the COVID-19 pandemic. A big part of this includes communication about the virus responsible for the pandemic (SARS-CoV-2), the disease (COVID-19), and epidemiological data on the evolution of the pandemic. Linguists have already spent a great deal of attention on the lexicological representation of such COVID-19-related terminology, discussing (i) the lexical units used to denote the virus (e.g., *SARS-CoV-2*, *coronavirus*) and its subsequent disease (e.g., *COVID-19*, *corona*) (cf. Brylla 2020, p. 175), (ii) the possibly unwanted connotations

exhibited by this terminology, like the connotation of “danger” of *SARS-CoV-2* (cf. Brylla 2020; Hu *et al.* 2020) and the expressive collocation of *deadly (corona)virus* (Ramos *et al.* 2020, pp. 643-645), and (iii), whether the used terminology led to the discrimination of certain population groups, like how the collocations of *Chinese virus*, *China Virus* and *Wuhan Virus* caused the discrimination of people of Asian descent living outside of China (cf. Craig 2020; Hu *et al.* 2020; Masters-Waage *et al.* 2020; Ramos *et al.* 2020). Less attention, however, has been given to their discursive representation, i.e., the way in which these terms are embedded in their intratextual context, that is, with respect to the sentence to which they belong and their neighbouring sentences (cf. Meibauer 2012, p. 11).

A theoretical framework which is particularly interested in such discursive features is the cognitive semantic theory of frame-semantics. Within this research paradigm – which is explained in more depth in Section 2 – linguists seek to distinguish the different frames relevant to human life. These frames regard “collections of knowledge about characteristic features, attributes and functions of a denotatum, and its characteristic interactions with things typically associated with it” (Alan 2001, p. 251). Elements included in the *MEDICAL_CONDITIONS-FRAME* are, for instance, *AILMENT*, *PATIENT*, *BODY_PART*, *CAUSE* and *DEGREE* (BFN- Frame Index: *MEDICAL_CONDITIONS*).

Many frame-semanticists have also taken a great interest in the study of domain-specific discourse. Within this research paradigm, we find that frame semantics (i) provides a cognitively oriented framework to account for domain-specific language features and (ii) is able to deliver insights which could not have been reached by more traditional terminology frameworks.

Our own analysis is based on this research tradition as well. More particularly, we looked at COVID-19-related terminology – five target terms: *virus*, *coronavirus*, *COVID-19*, *pandemie* and *epidemie* – in a pilot corpus of Dutch public service communications in Belgium (cf. Section 3). Previous research by Liégeois and Mathysen (2022) showed that these texts could be regarded as “epidemiological crisis communications” (subdomain of health discourse), since most of the texts were epidemiological reports (cf. Section 3). Additionally, even those crisis communications which did not exactly fit the label of epidemiological report still offered various kinds of epidemiological information and included terminology inherent to this domain. With our current paper, we thus delve into a domain-specific discourse tradition which has not been studied by frame-semantic scholars yet. Our research questions are the following:

RQ1 In which frames do our five target terms resurface within this domain-specific discourse tradition?

RQ2 Which functions do these frames fulfil within this domain-specific discourse tradition and can other domain-specific features (e.g., regarding the FEs of these frames) be found?

RQ3 Can these frames and their functions be linked back to the communicative strategies singled out in previous research on Belgian epidemiological crisis communication (Liégeois, Mathysen 2022)?

Assuming that the five target terms considered here are closely linked to the ontology of the domain, it is expected that (i) we will indeed encounter domain-specific features and (ii) find frames which are highly relevant for this domain-specific discourse tradition. By considering the aforementioned research questions we therefore hope to provide some first frame-semantic insights into the workings of this domain-specific discourse tradition. Moreover, we hope that the results of our inquiry can be a point of reference for other frame-semantic inquiries into closely related discourse traditions or even other forms of COVID-19-related crisis communications in different countries and languages.

Our paper is structured as follows: Section 2 will introduce the cognitive framework of frame semantics (Subsection 2.1), discuss the application of frame semantics into the study of domain-specific discourses (Subsection 2.2) and establish a distinction between frames as a conceptual and as a discursive notion (Subsection 2.3). Section 3 entails the discussion of our corpus of public service communications and will, in light of RQ2 and RQ3, pay particular attention to the qualitative discussion of the corpus, i.e., specifying the type of texts included in the corpus, as well as their text functions. This qualitative discussion will draw from the previous study by Liégeois and Mathysen (2022). Section 4 elaborates on the procedure of our inquiry, i.e., the way in which we analysed our data. The results of said analysis are, in turn, discussed in Section 5. More specifically, we will provide a first quantitative overview of the different frames distinguished by our analysis (Subsection 5.1), discuss the different frames and their possible domain-specific features from a more qualitative perspective (Subsection 5.2), and establish a comparative overview regarding the domain-specific aspects of these frames (Subsection 5.3). A summary and notes for future research are formulated in Section 6.

2. Frame semantics

2.1. Theory

Frame semantics is a form of cognitive semantics developed by Charles J. Fillmore (1976; 1977). As such, it is a linguistic theory which tries to explain how humans can process (memorise, understand, use, ...) all meaningful

units necessary to human life (for an overview, see also Boas, Dux 2017 and Ziem 2014). More concretely, Fillmore connects semantics to encyclopaedic knowledge, stating that “meanings are relativized to schemes” (Fillmore 1976, p. 59).

According to this view, in order to comprehend the meaning of a single word – or any other type of lexical unit –, one needs to understand all essential knowledge regarding said lexical unit. This “essential knowledge”, in turn, constitutes a frame. This is a cognitive schema internalised by the speaker which is activated whenever he/she finds him-/herself in a scene related to the frame and thus needs to understand or produce discourse related to it (Petrucci 2013, p. 1; Ziem 2014, p. 88). The constituting elements of the frame are called frame elements (FES). One of these frame elements is the frame-evoking element (FEE), which is the FE at the heart of the frame that evokes all other FES (Ziem 2014, p. 198). The different words and collocations which can serve as FES are called lexical units (LUS). A further distinction can also be made between CORE FES and NON-CORE FES (cf. L’Homme 2015, p. 30; 2016, p. 4).

The most famous example in this regard, formulated by Fillmore at the very beginning of frame-semantic theory (1976, p. 25), is the COMMERCE_BUY-frame. As humans, we frequently find ourselves in commercial scenes, either as a buyer or seller. In this instance, the COMMERCE_BUY-frame is the cognitive schema relevant to such a commercial scene from the perspective of the buyer. It is defined as follows by the Berkeley Frame: “a basic commercial transaction involving a BUYER and a SELLER exchanging MONEY and GOODS, taking the perspective of the BUYER” (Berkeley FrameNet: Frame Index: COMMERCE_BUY). The relevant FES within this frame are BUYER (FEE), SELLER, MONEY and GOODS – see also the examples in (1):

- (1) a. Eng.: Abby_{BUYER} bought a car_{GOODS} from Robin_{SELLER} for \$5,000_{MONEY}.
 b. Eng.: Only one winner_{BUYER} purchased the paintings_{GOODS}.
 c. Most of my audio equipment_{GOODS}, I_{BUYER} purchased from a department store near my apartment_{SELLER}.
 (BFN – Frame Index: COMMERCE_BUY)

The COMMERCE_BUY-frame manifests itself in each of the above sentences. The FEE, BUYER, is occupied by *Abby* (1a), *one winner* (1b) and *I* (1c). The other evoked FES include GOODS ((1a) *a car*, (1b) *the paintings*, (1c) *Most of my audio equipment*), SELLER ((1a) *from Robin*, (1c) *from a department store near my apartment*) and MONEY ((1a) *for \$5,000*).

Frame semantics has come a long way since the original seminal papers written by Fillmore (1976, 1977) (for an historical overview, see Boas, Dux 2017), proving its relevance for many issues lying outside the

domain of semantics and lexicology, like morphology and syntax (Ziem 2014: XI). The most important advance in the frame-semantic field remains perhaps the lexicographic Berkeley FrameNet-project¹ (hence BFN) from the International Computer Science Institute (Petrucci 2013, p. 2), which aims to index the frames and lexical units inherent to the English language and to be a useful point of reference for frame-semantic inquiries, including those into other languages.

Due to reasons of space, we will not be able to discuss the evolution of various research traditions within frame-semantics in more depth and instead focus on frame-semantic inquiries into domain-specific discourses (Subsection 2.2).

2.2. Frame semantics and domain-specific discourse

Frame-semantics has proven to be a particular useful instrument for the study of domain-specific discourse (cf. Bernier-Colborne, L’Homme 2015; Dolbey 2009; Dolbey *et al.* 2006; Faber *et al.* 2006; L’Homme *et al.* 2014; Verdaguer 2020, p. 131). Discourses considered by frame-semanticists include, among other, legal discourses (cf. Venturi 2013; Wulf 2018), economic discourses (cf. Scholz, Ziem 2013; Ziem 2014), environmental discourses (cf. L’Homme 2016; 2018; 2021; L’Homme *et al.* 2018; 2020; Varga 2019) and even oenological discourses (cf. Bach 2021). Frame-semanticists have, in this regard, also looked at the translations of domain-specific discourse (cf. Czulo 2017; Szymańska 2011) and even sought to establish domain-specific framenets, as was done by L’Homme for the environment (the DiCoEnviro-project²).

Such domain-specific studies have also looked at health discourse (cf. e.g., Dessì *et al.* 2019; Estévez, Llácer 2005; Haddad, Martinez 2020; Verdaguer 2020; Wandji 2014; Wandji *et al.* 2013; Wermuth 2008). A recurrent research topic, in this regard, concerns the analysis of verbs used in medical texts (cf. Estévez, Llácer 2005; Verdaguer 2020; Wandji 2014; Wandji *et al.* 2013). Frame semanticists attribute a great deal of importance to verbs, since these grammatical categories often function as the FEE of a sentence. This is also exemplified by the great number of verbs present in BFN’s Lexical Unit Index and the many frame-semantic methodologies

¹ BFN – Berkeley FrameNet. <https://framenet.icsi.berkeley.edu/fndrupal/> (last accessed: January 30, 2022); In the wake of this project, lexicographic frame-oriented projects for many other languages – e.g., German (FND – FrameNet des Deutschen), Japanese (Japanese FrameNet – An online Japanese lexicon based on Frame Semantics) and Spanish (SFN – Spanish FrameNet) – have emerged as well.

² DiCoEnviro – Le dictionnaire fondamental de l’environnement. http://olst.ling.umontreal.ca/cgi-bin/dicoenviro/search_enviro.cgi (last accessed: January 30, 2022).

starting from the verbal field.³ Yet, within terminological research, verbs are often overlooked in favour of the nominal field. This is in part due to the fact that such verbs are seldomly domain-exclusive, appearing across different domain-specific discourses. This type of research can be exemplified by Verdaguer's (2020) study of verbs with similar syntactic and semantic behaviour in English medical texts, in which she considers six verbs: *address*, *concern*, *deal*, *discuss*, *refer* and *treat*. These verbs indeed are not domain-exclusive, since they also appear in other (non-health-related) domains. However, with the help of frame-semantic theory and data provided by the BFN, Verdaguer was able to assign (domain-)specific syntactic and semantic features to these verbs and determine that the verb *treat* is particularly polysemous (Verdaguer 2020, p. 142-146). It was even found to evoke seven frames: CURE, TOPIC, GIVING, PROCESSING_MATERIALS, COMMUNICATE_CATEGORIZATION, MEDICAL_INTERVENTION and TREATING_AND_MISTREATING (Verdaguer 2020, p. 142).

Frame-semantic inquiries into health discourse are, of course, not limited to lexicological studies in the verbal field and comprise, among other, also contrastive studies (cf. Wandji *et al.* 2013) and combinatory approaches with computational linguistics (cf. Dessì *et al.* 2019). Additionally, they have also considered a wide variety of medical/health-related texts, like medical rubrics (cf. Wermuth 2007) and obesity epidemic discourse (cf. Stroebel *et al.* 2016).

Regarding the COVID-19 health pandemic, the Terminology Coordination Unit of the European Parliament, in April 2020, has published a *frame-based* terminological schema. It included the COVID-19-related terminology relevant to the development of the disease and (cf. figure 1) aimed to be a simple way of graphically structuring the available information about the disease, including, among other, symptoms, preventive measures and possible complications (cf. Haddad, Martinez 2020).

³ See, for instance, our own methodology in Section 4.

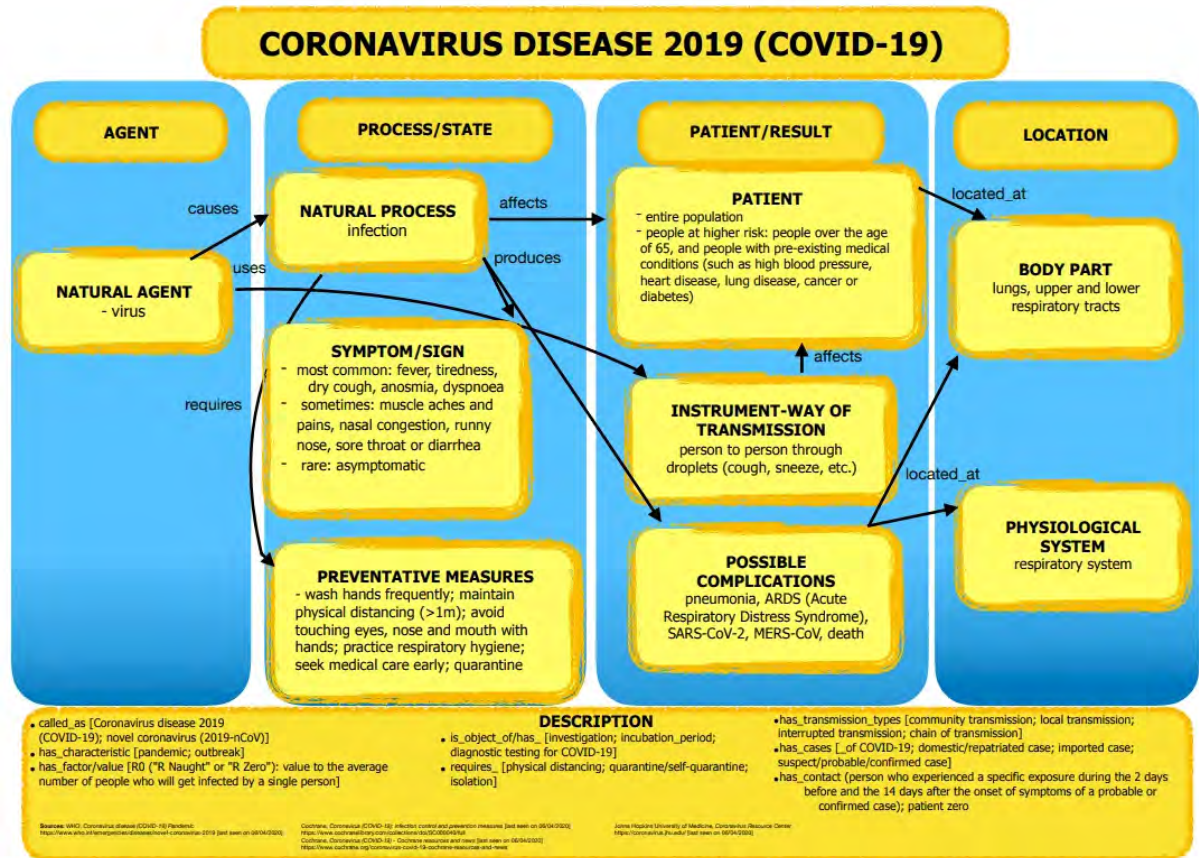


Figure 1
 Frame-based representation of the CORONAVIRUS_DISEASE (European Terminology Coordination Unit).

In the representation of the Terminology Coordination Unit, we find that, with respect to our five target terms, VIRUS (and thus also *coronavirus*) is part of an overarching CORONAVIRUS DISEASE 2019 (COVID-19)-frame. The virus is seen as the AGENT – and, more specifically, a NATURAL AGENT – which can cause an infection (NATURAL PROCESS) within the carrier (PATIENT) and can be transmitted (INSTRUMENT-WAY_OF_TRANSMISSION) to another person, who will then, in turn, become a PATIENT. The frame-based representation also includes the SYMPTOMS (e.g., fever, dry cough) of and PREVENTATIVE MEASURES (e.g., frequently washing one’s hand) against the virus under PROCESS/STATE, and the POSSIBLE COMPLICATIONS (e.g., pneumonia, death) under PATIENT/RESULT. Finally, some LOCATIONS are also made explicit, namely the BODY PARTS (e.g., lungs) and PHYSIOLOGICAL SYSTEM (= respiratory system) affected by the disease.

2.3. Frames as a conceptual and as a discursive notion

The frame-based representation in figure 1 covers three of the five target terms considered in our inquiry: *virus* and *coronavirus* as NATURAL AGENTS and *COVID-19* as the frame itself. The terms *epidemie* and *pandemie*, however, are not covered by this frame-based representation. This has to do with the fact that the CORONAVIRUS_DISEASE-frame concerns the disease at a physiological level, whereas *epidemie* and *pandemie* regard the situation of the disease at the level of the society. Moreover, since the scheme in figure 1 is *frame-based* and not *frame-semantic* – meaning it does not strictly adhere to frame-semantic methodology or the data provided by the BFN (cf. Section 4) –, we cannot depart from this schema for our own analysis.

However, in light of both our research questions and the missing *frame-semantic* data on our five target terms, we will establish a distinction between frames as a conceptual and frames as a discursive notion. The *conceptual frame* regards our explanation of frames in Subsection 2.1: in order to buy or sell something (cf. the COMMERCE_BUY-frame in Subsection 2.1), we should have acquired the essential knowledge regarding these topics, and thus have access to the COMMERCE_BUY-frame. Yet, this does not mean that all the FES belonging to this frame are always made explicit in discourse. In addition, a single term can occur in many different situational contexts. For instance, terms like *virus*, *coronavirus*, and *epidemie* resurface in many different contexts in COVID-19-related texts, but not always as the main argument of the text or clause. This means that they can also appear as FES for other frames which are not exclusive to COVID-19-related situations or health discourse. In this regard, Scholz and Ziem (2013), who investigated economic crisis discourses, and Bach (2021), who studied frames in oenological discourses, talk about *discursive frames* or *frames as a discursive notion*. In doing so, frame-semanticists are able to grasp how frames can manifest themselves differently in various discourses or between various periods of time.

Since our analysis examines the discursive use of *virus*, *coronavirus*, *COVID-19*, *epidemie* and *pandemie*, our research also deals with frames at this discursive level. Consequently, for our study, it is not necessary to have access to the conceptual frames of these target terms, since we primarily seek to describe the discursive frames in which these terms appear, particularly in light of the domain-specific functions and features of these frames in the discourse tradition of epidemiological crisis communications. In doing so, we will provide some preliminary frame-semantic insights into both this domain-specific discourse tradition, i.e., epidemiological crisis communications, and our five target terms.

3. Corpus

For our inquiry, we assembled a pilot corpus of Dutch COVID-19-related public service communications from the Belgian government. This corpus ended up containing 220 texts, 99,534 tokens, and 4,256 sentences. In this section, we will discuss it from a qualitative point of view, i.e., with regard to (i) the source of the texts, (ii) the time span of the corpus, and (iii) the types of texts these public service communications entail. The information on the type of texts derives from Liégeois and Mathysen (2022), who studied the same corpus of COVID-19-related communications from a descriptive text-linguistic point of view. Their analysis considered (a) the text function, (b) the text predicate, (c) the information structure, and (d) stylistic-formulative prototypic features of the texts. Our current qualitative discussion will later be used to evaluate the results of our corpus-based frame-semantic analysis in light of RQ2 and RQ3 – cf. the procedure in Section 4.

The texts from our corpus were all distributed by the Belgian federal government via the website www.info-coronavirus.be. This website was created by the FPS Health, Food Chain Safety and Environment,⁴ and the Belgium Crisis Centre to inform the population about various aspects of the COVID-19 pandemic. As such, the texts coming from this website cannot only be regarded as public service communications, but also as crisis communications. The website offers information on this subject in the country's three official languages (Dutch, French, and German), and in English. This last language was included for foreigners staying or needing to go to Belgium, as well as foreign scientists interested in the country's epidemiological developments.

All texts from our corpus were published between January 28 and September 14, 2020. More specifically, text collection thus started when the Belgian federal government published its first news item on COVID-19 and ended shortly before an exponential increase in the number of infections and the implementation of new restrictive measures, i.e., the start of the second infection wave and lockdown, in Belgium. Consequently, our corpus mainly focuses on the first wave of Belgian COVID-19 infections and subsequent first lockdown.

With respect to content (cf. figure 2), most of the texts from this website – 178 out of the 220 texts considered here (= 80.9% of the texts) – cover epidemiological reports, which recounted the evolution of the pandemic in a very statistical manner, i.e., by elaborating on the number of (new) infections, hospitalisations, people on intensive care and deaths. These constitute clear examples of external scientific communication (cf.

⁴ This is the Federal Public Service responsible for guaranteeing public health, the safety of the food chain and of the environment.

Bauernschmidt 2018), since they entail information from the fields of epidemiology and virology which is communicated to the lay public. With regard to lexical features, Liégeois and Mathysen (2022) have already established that more than half of the single-words and multi-word-expressions in both the Dutch and French versions of the corpus are part of the ontoterminological system of “epidemiology”. Other individuated recurrent semantic categories were “time” and “place”, which also featured in the epidemiologic crisis communications to depict the evolution of the pandemic across different regions and provinces, as well as with respect to earlier moments in time. In addition to these epidemiological reports, the corpus also contains texts depicting communicative strategies (14), repatriation reports (8) and texts with information on face masks (5) and testing strategies (4). Even though the main topic of these texts was not the epidemiological situation, they were still included in our analysis since (i) they always entailed a certain amount of epidemiological information and (ii) our five target terms almost exclusively surfaced in the text parts dedicated to this epidemiological situation.

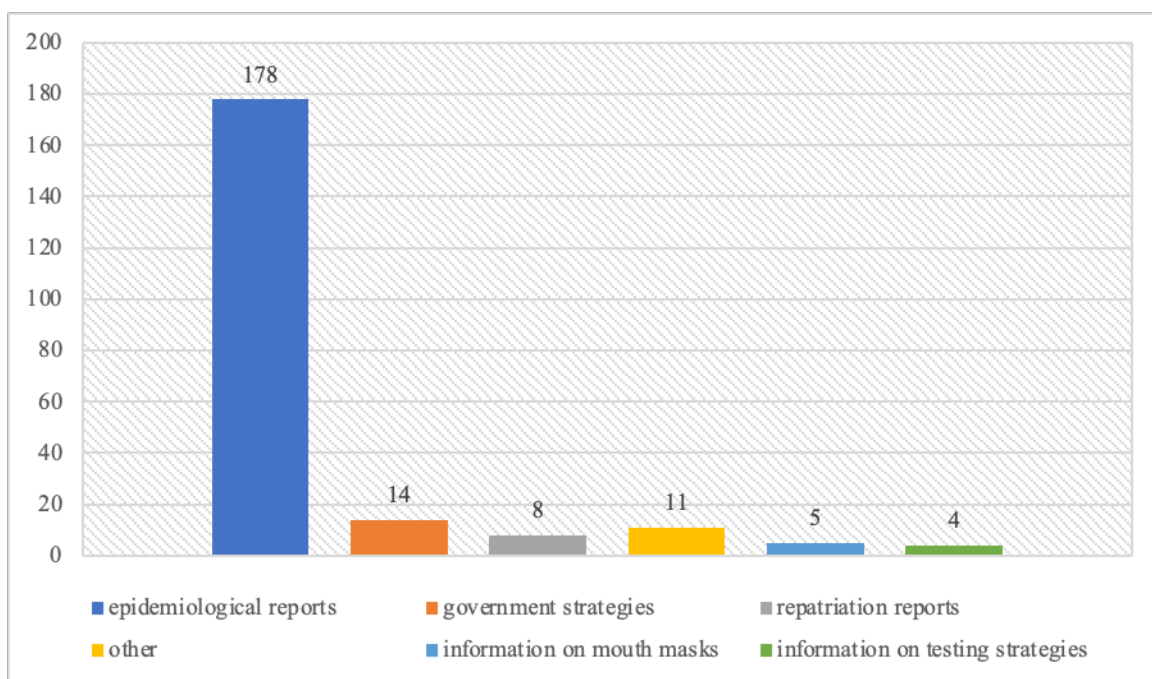


Figure 2
Texts included in the corpus.

Furthermore, the preliminary semantic analysis by Liégeois and Mathysen (2022) established two main text functions for these epidemiological crisis communications: an informative (i.e., transferring information about the development of the pandemic) and an instructive-hortative one (i.e., giving guidelines to the population or inciting them to act against the virus or follow the prescribed countermeasures). The informative text function resurfaced in

all texts in the corpus and functioned as the primary text function⁵ in 214 texts (= 97.3% of the texts). The instructive-hortative function, in turn, resurfaced in 190 texts (= 86.4%), albeit only four times as the primary text function. This means that the Belgian government sought to both (i) inform the population (= communicative strategy A) and (ii) incite them to act on the dangers evoked by the pandemic (= communicative strategy B) (see Liégeois, Mathysen 2022 for more detail on these aspects of Belgian COVID-19 crisis communication).

4. Procedure

We will now elaborate on the procedure used in our inquiry, i.e., how the analysis of our data was conducted. This procedure consisted of three steps: (i) processing our corpus through Sketch Engine, (ii) individuating the frames in which our five target terms (*virus*, *coronavirus*, *COVID-19*, *pandemie* and *epidemie*) occurred, and (iii), discussing these results in regard of RQ2 and RQ3. RQ2 regards (a) which function these frames fulfil within these epidemiological reports and (b) whether other domain-specific features can be found, whereas RQ3 asks whether these frames and their domain-specific features can be linked back to the communicative strategies singled out by Liégeois and Mathysen (2022).

For the first step, we processed our compiled corpus through Sketch Engine, a computational tool for corpus-based lexicological inquiries (Kilgarriff *et al.* 2004, 2014). With the help of this corpus-linguistic program, we were able to acquire a list entailing all occurrences of our five target terms together with their intratextual context (Meibauer 2012, p. 11). This intratextual context regards the text part immediately surrounding the target term, i.e., the sentence in which it occurs, as well as the preceding and following sentence. In Sketch Engine, this intratextual context is captured by the left (LC) and right context (RC). The LC regards the intratextual context preceding the target term, whereas the RC concerns the intratextual context following the target term. A total of 889 terms was accounted for. The most frequent term was *coronavirus* (298 attestations), followed by *COVID-19* (239), *virus* (160), *epidemie* (113) and *pandemie* (79).

The second step regarded the identification and annotation of the frames in which our target terms occurred. To this end, we departed from the main verbs of the sentences in which our target terms occurred. More concretely, we looked at the English equivalents of the verbs in the BFN

⁵ By “primary text function” Liégeois and Mathysen (2022) understand the text function which dominates the texts (i.e., the speech act which is evoked by most verbs in the text), while they use secondary text function to indicate the other speech acts evoked in the texts, apart from the primary ones.

Lexical Unit Index and considered which frames they evoked. If no verb was featured in the intratextual context, we looked at the frames evoked by the different nouns attested in the sentence.⁶ We then proceeded to (i) consider which FES of the BFN were present and absent within the frames found in our corpus, (ii) single out specific semantic, syntactic and pragmatic features of the attested frames, which would allow us to specify both their meaning and argument structure and thus determine whether FES were found which are not accounted for in the BFN's Frame Index, and (iii) look for lexicological correlations, i.e., whether some frames could appear with different target terms or were limited to one of our five target terms.

Finally, for the third step, we discussed our data with respect to RQ2 and RQ3 and thus the qualitative discussion of our corpus in Section 3. For this, we looked at (i) the domain-specific function of these frames, (ii) possible other domain-specific features, (iii) whether these frames, along with their domain-specific features and functions, could be linked back to communicative strategies A (“informing the people”) and B (“inciting the people to act on the spread of the virus”) singled out in Section 3, (iv) which of our target terms occurred in the frames and finally, (v) whether these target terms had a fixed position in the frame, i.e., whether they always served as the same FE.

Please note that, for our analysis, we only considered those frames (a) which were evoked at least two times and across two different syntactic types (hence “frame types”, cf. our discussion of the type-token-ratio in Subsection 5.1) or (b) for which only one syntactic type was found, as long as this type appeared at least 5 times in our corpus. We also did not take into account non-lexicalised frames. Furthermore, we tried to account for verbal frames (= a frame evoked by a verb) at the highest level. This means that, when we found a frame X in which one of our target terms resurfaced, which, in turn, functioned as the FE of another overarching frame Y, we only accounted for the overarching frame Y in our analysis. When such multi-layered frames occurred, these were elaborated upon in a footnote.

Regarding the limits of our research, we should point out that for step two of the analysis, we had to look at the English version of the Dutch verbs, since no Dutch FrameNet exists as yet. This is a common practice within frame-semantic studies involving languages other than English. Yet, considering frame semantics is a phylogenetic language model, the question can be posed to which extent such a “cross-linguistic” approach is without problems. Secondly, we did not consider other frame-semantic features than the ones which were outlined above. This is particularly true for those features regarding syntax, such as semantic roles. Future research will need to consider such features in more depth. Finally, from a deductive point of view,

⁶ Cf. the MEDICAL_CONDITIONS-frame in Subsubsection 5.2.6.

we had the possibility to use the frame-based representation of the Terminology Coordination Unit (cf. Subsection 2.2.) as a point of reference for the results of our analysis. However, considering that many frame-semanticists (cf. Faber 2009; Ferraro *et al.* 2017; Smirnova *et al.* 2021) distinguish between “frame-semantic” and “frame-based” representations – with the latter not strictly adhering to the FEs distinguished by FrameNet and frame-semantic methodology in general –, we have abstained from doing so. Additionally, as pointed out in Subsection 2.3., this frame-based representation only considered the virus at the physiological level. The epidemiological crisis communications, however, are mainly concerned with the consequences of the virus at the level of the society.

5. Results

The results of the data analysis presented in Section 4 will be discussed here. To this aim, we will provide a first quantitative overview regarding the number of times a frame was evoked (= tokens), types, and type-token-ratio in Subsection 5.1. In Subsection 5.2, we will discuss the different frames in more detail and pay particular attention to their domain-specific features. Finally, Subsection 5.3 seeks to answer RQ2 and RQ3 by providing a comparison of the domain-specific aspects of the different frames.

5.1. First quantitative overview

Based on the methodology elaborated in Section 4, which departed from BFN’s Lexical Unit Index to establish the frames in which our five target terms occurred, we were able to single out the following eight frames (cf. table 1):

Frame/category	Tokens	Types	TTR
REFERENCE TEXT	234	9	0.038
ASSISTANCE	99	26	0.263
USING	94	15	0.16
CAUSE TO PERCEIVE	86	5	0.058
EXAMINATION	51	36	0.706
MEDICAL CONDITIONS	45	29	0.644
DEATH	35	18	0.514
REQUEST	10	1	0.1

Table 1
Frames.

As can be observed in table 1, we also made a distinction between frame tokens (i.e., the total number of times a frame was evoked in the corpus) and

frame types (i.e., the number of distinct realisations of a frame in the corpus). This distinction concerns the fact that we are interested in frames from a discourse linguistic point of view, i.e., how these frames are used in discourse (cf. Subsection 2.3.). This is particularly important with regard to our dataset, since the Belgian government has often utilised the same text format (e.g., to communicate daily epidemiological reports) or recycled parts from earlier texts in order to communicate as consistently and fast as possible. This means that some instances of these frames reappear in exactly the same way (i.e., in an identical paragraph, with exactly the same words and word order). Liégeois and Mathysen (2022) argued that this recycling of texts and text parts is a typical feature of crisis communication, since it is an economic and consistent way to repeatedly communicate information about the epidemiological situation. This recycling of texts, in turn, resulted in a low type-token-ratio (= TTR) for certain frames – see the REFERENCE_TEXT (TTR = 0.038) and CAUSE_TO_PERCEIVE-frame (TTR = 0.058) in table 1. For instance, (2a), an example of the REFERENCE_TEXT-frame, occurred 112 times in the corpus and (2b), an example of the CAUSE_TO_PERCEIVE-frame, 78 times.

- (2) a. Dt.: *Bekijk het volledige dagelijkse rapport met de nationale epidemiologische situatie van het coronavirus.*
 ‘Look at the complete daily report with the national epidemiological situation of the coronavirus.’
- b. Dt.: *Deze toont de aanwezigheid van het coronavirus SARS-COV-2 op gemeentelijk niveau op basis van 3 indicatoren:*
 ‘This shows the presence of the coronavirus SARS-COV-2 at the municipal level on the basis of 3 indicators.’

In what follows, we will discuss each of the frames in table 1 in more detail, with particular attention to the differences they manifest compared to their entry in the BFN Frame Index, and whether these can be regarded as domain-specific features. Please note, however, that, as explained in Section 4, we have only considered those frames (a) which were accounted for at least two times and across two different types or (b) for which only one type was found, if this type appeared at least 5 times in our corpus (cf. Section 4). Hence, of the 889 hits in our corpus for our five target terms, 664 were eventually considered here. For the other 225 hits, no apt frames were found or there were only frames with a frequency lower than the one outlined above. As such, these low frequency frames will not be discussed in the following subsection.

5.2. Discussion of the frames

In this section, we will establish a qualitative discussion of the eight frames distinguished in table 1. More specifically, we will discuss (i) their quantitative features (AF of tokens and types, as well as TTR), (ii) the verbs by which they are evoked and the target terms found within them, (iii) the information provided about them by the BFN's Frame Index, (iv) point out the FES present or absent in these frames, and (v), discuss these frames in light of possible domain-specific aspects, for which we will draw from our corpus discussion in Section 3, as well as the previous study by Liégeois and Mathysen (2022). An overview of the domain-specific features of all frames is provided in Subsection 5.3.

5.2.1. REFERENCE_TEXT

The most frequent frame in our corpus was the REFERENCE_TEXT-frame, which occurred 234 times. However, this was also the frame with the lowest TTR (0.038), since only nine types were found. The target terms surfacing within this frame included *coronavirus*, *COVID-19*, and *epidemie*. This frame was evoked by verbs like *bekijken* ("to look at").

This frame is defined by BFN as follows:

In a text, a SOURCE_OF_INFORMATION is given that provides a reader of the text with further INFORMATION relevant to the text. In this frame the author and reader are completely deprofiled, with the SOURCE_OF_INFORMATION made salient. (BFN – Frame Index: REFERENCE_TEXT)

An example from our own corpus is given in (3):

- (3) Dt.: *Bekijk^{FEE} het volledige dagelijkse rapport^{SOURCE} met de (inter)nationale epidemiologische situatie van het coronavirus^{INFORMATION}.*

'Look at the complete daily report with the (inter)national epidemiological situation with regard to the coronavirus.'

Here, we find that both FES, SOURCE_OF_INFORMATION (CORE) and INFORMATION (NON-CORE) are always present in the frame (cf. table 2). In one sentence, the SOURCE_OF_INFORMATION-FE was even accounted for twice, which explained why it is attested 235 times across 234 frames. The SOURCE_OF_INFORMATION-FE always regarded other epidemiology-related texts provided by the Belgian Crisis Centre and the INFORMATION-FE exclusively entails epidemiological information on the COVID-19 pandemic. Therefore, the link of this frame with the strategy of informing the population (communicative strategy A) is evident. Regarding the specific modalities of (3), we can also link the imperative mood of the verb *bekijken* to the

instructive-hortative text functions mentioned in Section 3.

FE	Nr. of FES	Nr. of frames ⁷
SOURCE OF INFORMATION	235	234
INFORMATION	234	234

Table 2
REFERENCE_TEXT-frame.

5.2.2. ASSISTANCE

The second most frequent frame in our corpus was the ASSISTANCE-frame, which occurred 99 times across 26 types (TTR = 0.263). This frame was attested with all five target terms and was evoked by verbs like *helpen* (“to help”) and *opletten* (“to pay attention to”) (4):⁸

- (4) a. Dt.: *Zo helpt*_{FEE} *iedereen*_{HELPER} *de voortgang van de pandemie te vertragen*_{GOAL/1} *en de meest kwetsbaren onder ons*_{BENEFITED PARTY} *te beschermen*_{GOAL/2}.
‘In this way, everyone helps to slow down the progression of the pandemic and to protect the most vulnerable among us.’
- b. Dt.: *Let extra op*_{FEE} *bij mensen die gevoelig zijn voor het virus*_{BENEFITED PARTY}.
‘Be extra careful with people who are vulnerable to the virus.’

According to the BFN’s Frame Index entry, here, “a HELPER benefits a BENEFITED_PARTY by enabling the culmination of a GOAL that the BENEFITED_PARTY has. A FOCAL_ENTITY that is involved in reaching the GOAL may stand in for it” (BFN – Frame Index: ASSISTANCE).

The instances of the ASSISTANCE-frames identified within our corpus diverged from the information provided on it by the BFN in that the GOAL is not necessarily set out by the BENEFITED_PARTY, but rather by the government or society as a whole. When looking at the attested FES of the frame (cf. table 3) in our corpus, we find that all four CORE FES are present, even though FOCAL_ENTITY is only accounted for 14 times. GOAL is accounted for 95 times, BENEFITED_PART 89 times and HELPER 84 times. Other attested FES, included as NON-CORE FES in the BFN entry, are

⁷ In the column ‘FES’, we registered how many instances of the FE were found, whereas in the column ‘frames’, we registered the number of frames instances in which the FE appeared.

⁸ The examples in (4) entail multilayered-frames: in (4a), our target term *pandemie* is part of the EXPANSION-frame (which functions as part of the GOAL-FE), and in (4b), our target term *virus* is part of the HEALTH_RESPONSE-frame (which functions as part of the BENEFITED_PARTY-fe) (cf. BFN – Frame Index: EXPANSION; HEALTH_RESPONSE).

INSTRUMENT (21 attestations), TIME (4 attestations), PLACE (2 attestations), and PURPOSE (1 attestation).

FE	Nr. of FEs	Nr. of frames
GOAL	95	91
BENEFITED_PARTY	89	85
HELPER	84	84
INSTRUMENT	21	11
FOCAL ENTITY	14	13
TIME	4	4
PLACE	2	2
PURPOSE	1	1

Table 3
ASSISTANCE-frame.

For our corpus, we also notice that further semantic restrictions apply to the BENEFITED_PARTY-FE, which is always a part of the population that is particularly vulnerable to the COVID-19-disease. In doing so, this BENEFITED_PARTY-FE is always a frame on its own, namely the HEALTH_RESPONSE-frame (in (7a), it is evoked by the noun *kwetsbaren* and, in (7b), by the VP *gevoelig zijn*) and all 85 frames in which the term occurs are multilayered ones. The function of this frame can be linked back to the communicative strategy of inciting the population to act on the spread of SARS-CoV-2 (communicative strategy B) singled out by Liégeois and Mathysen (cf. Section 3). With this frame, the Belgian Crisis Centre thus sought to incite the population (= HELPER) to act on the dangers evoked by the pandemic (= GOAL), particularly in the interest of a BENEFITED_PARTY. The INSTRUMENT-FE, in turn, regards either the recommendations set out by the government or those objects (e.g., face masks, hand sanitizers) which can be used to prevent infections.

5.2.3. USING

The USING-frame was evoked 94 times in our corpus, across 15 types (TTR = 0.16). This frame occurred with *coronavirus*, *virus*, *pandemie* and *epidemie*. In the following sentence (5),⁹ the frame is evoked by the verb *toepassen* (“apply”):

⁹ In (5) we again find a multilayered frame. The CIRCUMSTANCES-FE is, in fact, an instance of the DEPARTING-frame (BFN – Frame Index: DEPARTING), evoked by the past participle *verdwenen* (“disappeared”). Moreover, the sentence in (5) is also an example of the non-lexical RISK_SCENARIO-frame (BFN – Frame Index: RISK_SCENARIO). Such non-lexical frames, however, were not considered in the current analysis.

- (5) Dt.: *Het virus is niet verdwenen uit ons land*_{CIRCUMSTANCES}. *Blijf dus de tips*_{INSTRUMENT} *toepassen*_{FEE} *om jezelf en je familie te beschermen*_{PURPOSE}.
 ‘The virus has not disappeared from our country. Keep applying the tips to protect yourself and your family.’

In this frame, “an AGENT manipulates an INSTRUMENT in order to achieve a PURPOSE” (BFN – Frame Index: USING). In our own corpus (cf. table 4), however, we find that only INSTRUMENT (97) and PURPOSE (84) resurface with attestations of this frame. This has to do with the fact that the frame-evoking verb is always in the imperative mood, for which no AGENT needs to be specified in the clause. Other NON-CORE FES found with this frame are CIRCUMSTANCES, which resurfaces 81 times, CONTAINING_EVENT (7 attestations), MEANS (5 attestations), EXPLANATION (2 attestations), MANNER (1 attestation,) and PLACE (1 attestation). These are all also included in the BFN-entry.

FE	Nr. of FES	Nr. of frames
INSTRUMENT	97	94
PURPOSE	84	84
CIRCUMSTANCES	81	81
CONTAINING_EVENT	7	7
MEANS	5	3
EXPLANATION	2	2
MANNER	1	1
PLACE	1	2

Table 4
USING-frame.

For the INSTRUMENT-FE, we find that, just like within the ASSISTANCE-FE (cf. Subsubsection 5.2.4.), this FE regards either the recommendations formulated by the government (cf. (5)) or objects like face masks and hand sanitizers which could be used to prevent infection. Furthermore, this frame, again like the ASSISTANCE-frame, can be linked to communicative strategy B. Again, the government sought to incite the population to act against the spread of the virus (PURPOSE), in this case by adhering to the recommendations which they issued or through preventive objects (INSTRUMENT). The CIRCUMSTANCES, in turn, entail the danger imposed by the virus or the current situation of the pandemic. This inciting communicative strategy becomes even more clear in the examples above, where the imperative mood evokes the instructive-hortative speech act.

5.2.4. CAUSE_TO_PERCEIVE

The CAUSE_TO_PERCEIVE-frame was accounted for 86 times in our corpus. It manifested itself in 5 different types, being the frame with the second lowest TTR (0.058). This frame was evoked by verbs like *tonen* (“show”), *objectiveren* (“objectify”) or the VP *een idee geven van* (“give an idea about”). It featured two of our target terms: *coronavirus* and *epidemie*. See the example provided in (6):

- (6) Dt.: [...] *op onze website. DezeMEDIUM toontFEE de aanwezigheid van het coronavirus SARS-COV-2PHENOMENON op gemeentelijk niveauPLACE op basis van 3 indicatorenMEANS.*
 ‘On our website. This shows the presence of the coronavirus SARS-COV-2 at the municipal level on the basis of 3 indicators:’

In this frame, “an AGENT, ACTOR, ENTITY or MEDIUM causes a PHENOMENON to be perceived by a PERCEIVER. With an ACTOR, ENTITY, or MEDIUM, the PERCEIVER is usually unspecified” (BFN – Frame Index: CAUSE_TO_PERCEIVE). In our corpus, it is a MEDIUM which causes the PHENOMENON to be perceived. Consequently, the PERCEIVER, which is the reader himself, remains unspecified. The MEDIUM is always the website of the Belgian Crisis Centre and the PHENOMENON an aspect of or the entire epidemiological situation. Hence, the two target terms *coronavirus* and *epidemie* are always part of the perceived PHENOMENON (cf. (6)). Other NON CORE-FES are MEANS (85 occurrences), PLACE (79 occurrences), PURPOSE (7 occurrences), and MANNER (5 occurrences) (cf. table 5).

FE	Nr. of FES	Nr. of frames
PHENOMENON	86	86
MEDIUM	86	86
MEANS	85	85
PLACE	79	79
PURPOSE	7	7
MANNER	5	5

Table 5
 CAUSE_TO_PERCEIVE-frame.

In our corpus, the CAUSE_TO_PERCEIVE-frame always regards the question of how epidemiological information is/should best be represented. This frame thus reflects communicative strategy A to inform the population from a more metareflective or even metalinguistic perspective. This also explains the high frequency of the NON-CORE MEANS-FE (85 occurrences), which details the way in which information is represented ((6): *op basis van 3 indicatoren*).

5.2.5. EXAMINATION

The fifth frame was the EXAMINATION-frame¹⁰, with 51 occurrences. This frame had both the highest frequency when it came to the number of types (36) and the highest TTR (0.706) of the frames in our corpus. It featured three of our target terms: *virus*, *coronavirus*, and *COVID-19*. In (7),¹¹ the frame is evoked by the verb *testen* (“to test”).

- (7) a. Dt.: *Gemiddeld hebben in die periode*TIME *550,3 mensen per dag*EXAMINEE/DEGREE *positief*RESULT *getest*EXAMINATION *voor COVID-19*TESTED_PROPERTY.
‘On average, in that period, 550.3 people per day have tested positive for COVID-19.’
- b. Dt.: *Eén gerepatrieerde landgenoot*EXAMINEE *testte*EXAMINATION *positief*RESULT *op het nieuwe coronavirus*TESTED_PROPERTY.
‘One repatriated compatriot tested positive for the new coronavirus.’

Certain differences, however, need to be pointed out with respect to its entry in the BFN Frame Index. Here, the frame is said to deal with the “testing or examination of someone's KNOWLEDGE or skill in a particular area. An EXAMINER conducts an EXAMINATION to an EXAMINEE to determine the EXAMINEE’s KNOWLEDGE and/or determine their QUALIFICATION for some privilege; this proceeds either by the EXAMINEE demonstrating a skill or by writing responses to questions” (BFN – Frame Index: EXAMINATION). In our corpus, it is not a knowledge or skill which is tested and serves as the TESTED_PROPERTY, but the possible infection of a group of people (= EXAMINEES) with the entity denoted by the three target terms *virus*, *coronavirus*, and *COVID-19*. This difference is, in part, due to the different primary meanings of *to test* in English and *testen* in Dutch. Consequently, THE QUALIFICATION-FE is not found in those structures which we annotated as manifestations of the EXAMINATION-frame (cf. table 6). The CORE-FES of EXAMINEE (108 occurrences), EXAMINATION (51 occurrences) and EXAMINER (19 occurrences) however, remain present. Other attested NON-CORE FES are RESULTS (59 occurrences), PLACE (53 occurrences), TIME (48 occurrences), DEGREE (21 occurrences) and PURPOSE (1 occurrence).

¹⁰ In the BFN’s Frame Index, there are also other frames which concern the analysis/verification of data, namely the SCRUTINY-frame and its subframes SCRUTINIZING_FOR and VERIFICATION (BFN – Frame Index: SCRUTINY; SCRUTINIZING_FOR; VERIFICATION). However, *to test* is not mentioned as a possible lexical unit for any of these three frames.

¹¹ In the sentence in (7b), the TESTED_PROPERTY-FE is, in turn, a manifestation of the FAMILIARITY-frame (BFN – Frame Index: FAMILIARITY), evoked by the adjective *nieuw* (“new”).

FE	Nr. of FES	Nr. of frames
EXAMINEE	108	57
TESTED PROPERTY	62	61
RESULTS	59	57
PLACE	53	28
EXAMINATION	51	51
TIME	48	48
DEGREE	21	21
EXAMINER	19	19
PURPOSE	1	1

Table 6
EXAMINATION-frame.

This frame concerns the communicative strategy to inform the population (communicative strategy A) and is strongly connected to the ontology of the domain-specific discourse tradition, since the texts considered here frequently elaborated on averages when it came to both the number of tests executed and the results of those tests. Prove of this is the DEGREE-FE (cf. (7a)), which is not included in the entry from the BFN and concerns the average data for the number of tests executed, as well as their results. Furthermore, this DEGREE-FE also resurfaces in the MEDICAL_CONDITIONS- and DEATH-frames (cf. Subsubsections 5.2.6. and 5.2.7.), which are both also included in the text parts of the epidemiological crisis communications that elaborate on the statistical data regarding the epidemiological situation. The frequency of RESULTS, PLACE, and TIME – the former two are more frequent than the CORE-FES of EXAMINATION and EXAMINER and the latter more frequent than the EXAMINER-FE – can be explained based on features of the domain-specific discourse traditions. The results of the tests (RESULTS), in fact, were also important features of the epidemiological situation which needed to be communicated with respect to the different regions (PLACE) and for which comparison with data from the previous days and weeks (TIME) were in order (cf. our explanation in Section 3).

5.2.6. MEDICAL_CONDITIONS

Of the MEDICAL_CONDITIONS-frame, 45 instances were found across 29 types, making it the frame with the second highest TTR (0.644). Contrary to the other frames, this frame was not evoked by verbs, since no verbs were found in the sentences featuring it and these sentences often stood on their own (i.e., as a title, subtitle, or in an enumeration). Consequently, this frame was evoked by nouns like *gevallen* (“cases”, (8a)), *symptomen* (“symptoms”), and *besmettingen* (“infections”, (8b)), which were always used in combination with a target term denoting the virus (*virus, coronavirus*) or the disease itself

(*COVID-19*, (8)).

- (8) a. Dt.: *Zes*QUANTIFIER *nieuwe gevallen van Covid-19*AILMENT *na einde* *krokusvakantie*TIME.
 ‘Six new cases of COVID-19 after spring break.’
- b. Dt.: *1684*QUANTIFIER *nieuwe besmettingen met Covid-19*AILMENT.
 ‘1,684 new infections with COVID-19.’

The following definition is provided by the BFN:

Words in this frame name medical conditions or diseases that a patient suffers from, is being treated for, may be cured of, or die of. The condition or disease may be described in a variety of ways, including the part or area of the body (BODY_PART) affected by the condition (e.g. liver cancer, cardiovascular disease), the CAUSE of the condition (e.g. bacterial meningitis, viral pneumonia), a prominent SYMPTOM of the condition (e.g. asymptomatic stenosis, blue ear disease), the PATIENT or population (originally) affected by the condition (e.g. bovine tuberculosis, juvenile diabetes), or the (proper) NAME used to identify the condition (e.g. Munchausen Syndrome, Lou Gehrig's Disease). Annotation in this frame is done in respect to the name of the condition or disease. (BFN – Frame Index: MEDICAL_CONDITIONS)

Within the attestations in our corpus, we find that the MEDICAL_CONDITIONS-frame revolves almost exclusively (42 of the 45 frames) around the cases and infections with COVID-19. The number of cases and infections were communicated together with the number and results of tests (EXAMINATION-frame, cf. Subsubsection 5.2.5) and the number of deaths (DEATH-frame, cf. Subsubsection 5.2.6.).

Since these frame instances had an epidemiological rather than physiological scope, no instances of the BODY_PART-FE could be found with the frames attested in our corpus (cf. table 7). The CORE FE of AILMENT was present in all frames and featured one of the three nouns (*gevallen*, *besmettingen*, *symptomen*) and one of the three target terms (*virus*, *coronavirus*, *COVID-19*) mentioned above. Therefore, the AILMENT-FE also evoked the NAME-FE each time. The PATIENT-FE, however, only recurred 20 times (cf. (8)) – and the SYMPTOM-FE only in three frames (i.e., the three instances of this frame which did not concern the number of infections).

FE	Nr. of FES	Nr. of frames
AILMENT	45	45
NAME	45	45
QUANTIFIER	32	32
TIME	21	14
PATIENT	20	20
PLACE	9	9

DEGREE	5	3
SYMPTOM	3	3

Table 7
MEDICAL_CONDITIONS-frame.

With this frame, various FES were attested which reflected other features of epidemiological crisis communications, like QUANTIFIER (32 occurrences) and DEGREE (5 occurrences), which relate to the statistics of these communications. The same is true for TIME (21 occurrences) and PLACE (5 occurrences), which, as explained in the previous subsection, allow the apt description of the evolution of the pandemic across the country and different moments in time. Two of these FES, QUANTIFIER and TIME, were not present in the BFN entry for this frame.

Considering that data about the number of infections served to give the population an idea about the evolution of the pandemic, these frames can be connected to the informative strategy (communicative strategy A) singled out by Liégeois and Mathysen (2022), as can be the other frames found in its vicinity, namely EXAMINATION (cf. Subsubsection 5.2.5.) and DEATH (cf. Subsubsection 5.2.7.).

5.2.7. DEATH

The penultimate frame found in our corpus was the DEATH-frame, which regarded the POSSIBLE COMPLICATIONS of the disease. This frame was featured 35 times across 18 different types, amounting to a TTR of 0.514, which was the third highest TTR among the frames. This frame was evoked by verbs like *overlijden* (“to pass away”) and *sterven* (“to die”). The DEATH-frame was found with the target terms *coronavirus* and *COVID-19*. See also the examples in (9):

- (9) a. Dt.: *Gemiddeld overlijden*^{FEE} er *2 mensen per dag*^{DEGREE} *met COVID-19*^{CAUSE}.
‘On average, two people a day pass away with COVID-19.’
- b. Dt.: *In de voorbije week*^{TIME} *stierven*^{FEE} ook *gemiddeld 2 personen per dag*^{DEGREE} *met COVID-19*^{CAUSE}.
‘In the past week, on average, two people a day died with COVID-19.’

The BFN describes this frame as “the death of a PROTAGONIST. A CAUSE of death may also be expressed obliquely” (BFN – Frame Index: DEATH). Due to the statistical writing style mentioned in the previous Subsections (5.2.5. and 5.2.6.), the PROTAGONIST-FE was only accounted for 9 times (cf. table 8). This was, consequently, in favour of the more “statistical” DEGREE-FE (29 attestations). The CAUSE-FE was present in all frames and always occupied by

our two target terms *coronavirus* and *COVID-19* (cf. (9)). NON-CORE FES relating to TIME (27 attestations) and PLACE (7 attestations) were also found, once again in line with the information structure of the texts considered here (see again the previous two subsections). Finally, 3 instances of the MALEFICIARY-frame (i.e., persons negatively affected by the death of a PROTAGONIST) were also accounted for.

FE	Nr. of FES	Nr. of frames
CAUSE	35	35
DEGREE	29	28
TIME	27	27
PROTAGONIST	9	9
PLACE	7	7
MALEFICIARY	3	3

Table 8
DEATH-frame.

Since this frame mainly concerns the transmission of epidemiological information regarding the number of deaths, it can be linked with communicative strategy A, like the EXAMINATION- and MEDICAL_CONDITIONS-frames.

5.2.8. REQUEST

The final frame identified through our analysis was the REQUEST-frame, of which only one type was found. This type (10) recurred 10 times in our corpus, amounting to a TTR of 0.1.

- (10) a. Dt.: *Volg ons^{FEE} hier, op Twitter of op Facebook^{MEDIUM} om op de hoogte te blijven^{BENEFIT} van alle nieuws^{MESSAGE} over het nieuwe coronavirus^{TOPIC}.*

‘Follow us here, on Twitter or on Facebook to stay up-to-date regarding all news on the new coronavirus.’

Here, the frame is evoked by the verb *volgen* (“follow”), which stands in the imperative mood – therefore evoking the instructive-hortative text function discussed in Section 3. The frame is defined by BFN as follows: “in this frame a SPEAKER asks an ADDRESSEE for something, or to carry out some action” (BFN – Frame Index: REQUEST). Four CORE-FES are defined: the ADDRESSEE, the MEDIUM, the MESSAGE and the SPEAKER.

Regarding the REQUEST-frame from our corpus (10), we see that both ADDRESSEE and SPEAKER are not present, which is to be expected, since the verb is in the imperative mood. However, both MEDIUM (*hier, op Twitter of op Facebook*) and MESSAGE (*alle nieuws*) are present, just like two NON-CORE

FES: TOPIC (*over het nieuwe coronavirus*), that is, what the MESSAGE is about, and BENEFIT (*om op de hoogte te blijven*) (cf. table 9).

FE	Nr. of FES	Nr. of frames
MESSAGE	10	10
MEDIUM	10	10
TOPIC	10	10
BENEFIT	10	10

Table 9
REQUEST-frame.

This last frame can be linked to both communicative strategies singled out by Liégeois and Mathysen (2022), since it implores the population (= communicative strategy B) to follow the Belgian Crisis Centre to stay up to date on the information regarding the new coronavirus (= communicative strategy A).

5.3. Comparison

This subsection will provide a comparative qualitative overview of our eight frames in light of RQ2 and RQ3. To this aim, in table 10, we sought to (i) define a main function for our frames within this domain-specific discourse tradition, (ii) single out those features which could be considered domain-specific, (iii) single out the relevant communicative strategy for each frame, (iv) determine which target terms appeared in these frames, and (v) whether these target terms had a fixed position, i.e., whether they always resurfaced in the same FE.

When it comes to the data presented in table 10, we were, in fact, able to define a function for each of the frames with respect to the features and needs of epidemiological crisis communications. In the cases of the EXAMINATION-, MEDICAL CONDITIONS- and DEATH-frames, these regarded the statistical representation of epidemiological information. Please note, however, that these functions cannot be regarded as absolute for the MEDICAL CONDITIONS- and DEATH-frame, since we also found a few attestations of these frames – cf. the three MEDICAL CONDITIONS-frames revolving around the SYMPTOM-FE and the nine DEATH-frames entailing the DEATH of a PROTAGONIST (3 of which also contain the MALEFICIARY-FE) – which do not correspond to said definition.

The domain-specific features, in turn, were defined in view of (i) the functions established for the frames and (ii) the quantitative and qualitative differences accounted for with respect to their entry in the BFN Frame Index. In this regard, domain-specific features are found for six of our frames. From a qualitative point of view, the influence from the domain is very clear within

the EXAMINATION-frame, since TESTED_PROPERTY does not regard some type of knowledge or skill within our corpus, but instead the possible infection of a person. The same is true for, for instance, the absence of a QUALIFICATION-FE in this frame or the absence of the BODY_PART-FE in the MEDICAL_CONDITIONS-frame. An example of a quantitative difference is the frequent manifestation of the DEGREE-FE in the DEATH-frame and the subsequent lower frequency of the CORE-FE of the PROTAGONIST within the same frame.

Finally, we were also able to connect these frames and their respective function to the two communicative strategies singled out by Liégeois and Mathysen (2022 – cf. Section 3). In this regard, we remark that seven frames reflect communicative strategy A of informing the population and three frames communicative strategy B of inciting the population to act against the spread of the virus. This quantitative difference, in turn, corresponds to the data provided by Liégeois and Mathysen (2022), who noticed that the informative speech act is the main text function in 214 (= 97.3%) of the 220 texts.

When it comes to the appearance and position of our five target terms, we find that *coronavirus*, which was the most frequent term in our corpus, appears within all eight frames. Furthermore, we find that the EXAMINATION-, MEDICAL_CONDITIONS- and DEATH-frames appear to be exclusive to those terms denoting either the virus or the disease, i.e., *coronavirus*, *virus* and *COVID-19*. Similar observations can be made for the REQUEST-frame, which only features *coronavirus*, but this is because only one type of this frame was found. Finally, we notice that these target terms have a fixed position within six frames: REFERENCE_TEXT, CAUSE_TO_PERCEIVE, EXAMINATION, MEDICAL_CONDITIONS, DEATH and REQUEST.

Please note that, regarding domain-specific features, many FES frequently denote the same aspects of the epidemiological situation/communication, like the SOURCE_OF_INFORMATION-FE from the REFERENCE_TEXT-frame, which always regarded epidemiology-related texts provided by the Belgian Crisis Centre (cf. 5.2.1.). However, these regularities/domain-specific features were not registered in table 10.

Frame	Main function	Domain-specific features	Strategy	Target terms	Fixed position?
REFERENCE_TEXT	Provide the reader with additional information regarding the epidemiological situation.	/	A	<i>coronavirus, covid-19, epidemie</i>	Part of INFORMATION-FE
ASSISTANCE	Incite the population to help (i) the government in their fight against SARS-CoV-2 and/or (ii) people particularly vulnerable to the virus.	- The GOAL-FE is not necessarily set out by the BENEFITED_PARTY.	B	<i>virus, coronavirus, COVID-19, pandemie, epidemie</i>	No
USING	Implore the population to adhere to the guidelines set out by the government and/or properly use those objects (e.g., face masks) meant to stop infections.	- No AGENT-FE due to the imperative mood.	B	<i>coronavirus, virus, pandemie, epidemie</i>	No
CAUSE_TO_PERCEIVE	Communicate information on how epidemiological data is represented.	/	A	<i>coronavirus, epidemie</i>	Part of PHENOMENON-FE
EXAMINATION	Recount the number of (positive) tests for COVID-19.	- TESTED_PROPERTY-FE does not concern knowledge or skill but a possible infection. - No QUALIFICATION-FE.	A	<i>virus, coronavirus, COVID-19</i>	Equals TESTED_PROPERTY-FE
MEDICAL_CONDITIONS	Recount the number of infections (or positive cases) due to COVID-19.	- No BODY_PART-FE due to the epidemiological scope of the frame. - Attested QUANTIFIER- and TIME-FES, which are in line with the statistical way of communication.	A	<i>virus, coronavirus, COVID-19</i>	Part of AILMENT-FE, equals NAME-FE
DEATH	Recount the numbers of deaths due to COVID-19.	- Few attestations of the PROTAGONIST-FE due to statistical way of communicating information (which is in favour of the DEGREE-FE).	A	<i>coronavirus, COVID-19</i>	Equals CAUSE-FE
REQUEST	Implore the population to stay up-to-date on information surrounding the new coronavirus.	- No SPEAKER- or ADDRESSEE-FE present due to the imperative mood.	A & B	<i>Coronavirus</i>	Equals TOPIC-FE

Table 10
Texts included in the corpus.

6. Summary and notes for future research

In our introduction (cf. Section 1), we situated our study within the paradigm of frame-semantic research on domain-specific discourse, which was explained in more depth in Section 2. The aim of our inquiry was to look into a domain-specific discourse tradition which has, up until now, remained untouched by frame-semanticists, namely epidemiological crisis

communications, regarding in this case the COVID-19 health pandemic. In this regard, we formulated the following three research questions: In which frames do our five target terms – *virus*, *coronavirus*, *COVID-19*, *pandemie* and *epidemie* – resurface within this domain-specific discourse tradition (RQ1)? Which functions do these frames fulfil within this domain-specific discourse tradition and can other domain-specific features (e.g., regarding the FES of these frames) be found (RQ2)? Can these frames and their functions be linked back to the communicative strategies singled out by previous research on these Belgian epidemiological crisis communications (Liégeois, Mathysen 2022) (RQ3)?

To this end, we collected a corpus of Dutch COVID-19-related public service communications from the Belgian government, which previous research (cf. Liégeois, Mathysen 2022) determined to be examples of such epidemiological crisis communications: most of these texts were epidemiological reports and epidemiological information and terminology were accounted for in all other texts as well (cf. Section 3). As explained in our procedure in Section 4, we then singled out the frames in which our five target terms occurred based on the data provided by BFN's Lexical Unit Index and looked for domain-specific aspects of these frames based on (i) the information provided on these by BFN's Frame Index and (ii) the qualitative corpus discussion in Section 3.

Eventually, eight frames were singled out by our analysis: REFERENCE_TEXT, ASSISTANCE, USING, CAUSE_TO_PERCEIVE, EXAMINATION, MEDICAL_CONDITIONS, DEATH, and REQUEST (cf. Subsection 5.1). By discussing these frames in more depth in Subsection 5.2, we were then able to define the specific functions of these frames in light of the features and needs of epidemiological crisis communications in Subsection 5.3. This subsection also included observations about domain-specific features and which frames could be connected to which communicative strategy. Finally, it also specified which target terms were found in the frames and their respective positions therein.

With this pilot study, we hope to have established some preliminary insights into epidemiological crisis communications from a frame-semantic point of view. However, it remains imperative that more studies are done in this area. This research needs to regard both other manifestations of such epidemiological crisis communications – e.g., including those regarding different epidemics, like the obesity epidemic (cf. Stroebel *et al.* 2016) and the H1N1-epidemic (cf. Aylesworth-Spink 2017) –, as well as contrastive studies involving other closely related discourse traditions, like economic crisis communications (cf. Scholze, Ziem 2013) and other forms of (COVID-19-related) public service or government communication. Furthermore, it is worthwhile considering whether the frames identified in our texts during this inquiry remain consistent across their translations into Belgium's two other

national languages (French, German) and English. Based on the information provided by the BFN, such differences between discourse traditions and languages can be aptly studied.

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References

- Alan K. 2001, *Natural Language Semantics*, Blackwell Publishers Ltd, Oxford.
- Aylesworth-Spink S. 2017, *The failure of public relations during a pandemic outbreak: Using actor-network theory to highlight the news media as a complex mediator*, in “Public Relations Journal” 11 [2], pp. 1-17.
- Bach M. 2021, *Vers une sémantique discursive cognitive: Réflexions théoriques et applications empiriques sur un corpus de langue allemande*, PhD-thesis, University of Burgundy, Dijon.
- Bauernschmidt S. 2018, *Öffentliche Wissenschaft, Wissenschaftskommunikation & Co: Zur Kartierung zentraler Begriffe in der Wissenschaftskommunikationswissenschaft*, in Selke S. and Treibel A. (eds.), *Öffentliche Gesellschaftswissenschaften: Grundlagen, Anwendungsfelder und neue Perspektiven*, Springer, New York, pp. 21-42.
- Bernier-Colborne G. and L’Homme M. 2015, *Using a distributional neighbourhood graph to enrich semantic frames in the field of the environment*, conference paper for the *10e conférence internationale Terminology and Artificial Intelligence (TIA 2015)*, Granada.
- BFN – Berkeley FrameNet. <https://frame.icsi.berkeley.edu/fndrupal/> (30.01.2022).
- Boas H. C. and Dux R. 2017, *From the past into the present: From case frames to semantic frames*, in “Linguistics Vanguard” 3 [1]. <https://doi.org/10.1515/lingvan-2016-0003>.
- Brylla C. S. 2020, *‘Kleiner Elch’: Covid-19 in Schweden*, in “Aptum – Zeitschrift für Sprachkritik und Sprachkultur” 16 [2/3], pp. 175-181.
- Craig D. 2020, *Pandemic and its metaphors: Sontag revisited in the COVID-19 era*, in “European Journal of Cultural Studies” 23 [6]. <https://doi.org/10.1177%2F1367549420938403>.
- Czulo O. 2017, *Aspects Of A Primacy Of Frame Model Of Translation*, in Hansen-Schirm S., Czulo O. and Hofmann S. (eds.), *Empirical modelling of translation and interpreting*, Language Science Press, Berlin, pp. 465-490.
- Dessi D., Recupero D. R., Fenu G., Consoli S. 2019, *A recommender system of medical reports leveraging cognitive computing and frame semantics*, in Tsihrintzis G. A., Sotiropoulos D. N., Jain L. C. (eds.), *Maching learning paradigms: Advances in data analytics*, Springer, New York, pp. 7-30.
- DiCoEnviro – Le dictionnaire fondamental de l’environnement. http://olst.ling.umontreal.ca/cgi-bin/dicoenviro/search_enviro.cgi (30.01.2022).
- Dolbey A. 2009. *BioFrameNet: A FrameNet Extension to the Domain of Molecular Biology*, PhD-thesis, University of California Berkeley, Berkeley CA.
- Dolbey A., Ellsworth M., Scheffczyk J. 2006, *BioFrameNet: A domain-specific FrameNet extension with links to biomedical ontologies*, in Bodenreider O. (ed.), *Proceedings of KR-MED 2006: Biomedical ontology in action*, Baltimore, Maryland, pp. 87-94.
- Estévez N. and Llácer E. V. 2005, *Lexical analysis of health science mass circulation articles (HSMCA) from the frame semantics perspective*, in “Quaderns de Filologia: Estudis Lingüístics” 10, pp. 67-80.
- Faber P. 2009, *The cognitive shift in terminology and specialized translation*, in “MonTI: Monografías de Traducción e Interpretación” 1, pp. 107-134.
- Faber P., Martínez S. M., Pietro M. R. C., Ruiz J. R., Velasco J. A. P., Aráuz P. L., Linares C. M., Expósito, M. V. 2006, *Process-oriented terminology management in the domain of Coastal Engineering*, in “Terminology” 12 [2], pp. 189-213.

- Ferraro F., Poliak A., Cotterell R., Van Durme B. 2017, *Frame-Based Continuous Lexical Semantics through Exponential Family Tensor Factorization and Semantic Proto-Roles*, in “Proceedings of the 6th Joint Conference on Lexical and Computational Semantics (SEM 2017)”, pp. 97-103.
- Fillmore C. J. 1976, *Frame semantics and the nature of language*, in “Annals of the New York Academy of Sciences: Conference on the Origin and Development of Language and Speech” 280, pp. 20-32.
- Fillmore C. J. 1977, *Scenes-and-frames semantics*, in Zampolli, A. (ed.), *Linguistic Structures Processing*, North Holland Pub, Amsterdam, pp. 55-82.
- FND – FrameNet des Deutschen. <https://framenet.icsi.berkeley.edu/fndrupal/> (28.01.2022).
- Haddad A. H. and Montero-Martínez S. 2020, *COVID-19: A metaphor-based neologism and its translation into Arabic*, in “Journal of Science Communication” 19 [05]. <https://doi.org/10.22323/2.19050201>.
- Hu Z., Yang Z., Li Q. and Huang Y. 2020, *Naming the 2019 Coronavirus*, in “Science”. <https://science.sciencemag.org/content/348/6235/643/tab-e-letters>.
- Japanese FrameNet – An online Japanese lexicon based on Frame Semantics. <https://jfn.st.hc.keio.ac.jp> (31.01.2022).
- Kilgarriff, A., Pychlý P., Smrž P., Tugwell D. 2004, *The sketch engine*, in “Information Technology”. https://www.SketchEngine.eu/wp-content/uploads/The_Sketch_Engine_2004.pdf.
- Kilgarriff A., Baisa V., Bušta J., Jakubíček M., Kovář V., Michelfeit J., Rychlý P., Suchomel, V. 2014, *The Sketch Engine: Ten years on*, in “Lexicography” 1, pp. 7-36.
- L’Homme M. 2015, *Découverte de cadres sémantiques dans le domaine de l’environnement: Le cas de l’influence objective*, in “Terminàlia” 12, pp. 29-40. <http://dx.doi.org/10.2436/20.2503.01.81>.
- L’Homme M. 2016, *Terminologie de l’environnement et Sémantique des cadres*, in “SHS Web of Conferences” 27. <http://dx.doi.org/10.1051/shsconf/20162705010>.
- L’Homme M. 2018, *Maintaining the balance between knowledge and the lexicon in terminology: a methodology based on Frame Semantics*, in “Lexicography” 4 [1]. <https://link.springer.com/article/10.1007/s40607-018-0034-1>.
- L’Homme M. 2021, *Perspectives sur le sens « terminologique »: ABSORBER et ABSORPTION dans le domaine de l’environnement*, in Marengo S. (ed.), *La théorie sens-texte: concepts-clés et applications*, L’Harmattan, Paris, pp. 1-20.
- L’Homme M., Robichaud B., Rüggeberg C. S. 2014, *Discovering frames in specialized domains*, conference paper for the *Language Resources and Evaluation (LREC)*-conference, Reykjavik.
- L’Homme M., Prévil N., Robichaud B. 2018, *A methodology for locating translations of specialized collocations*, in European Language Resources Association (ed.), *Proceedings of the LREC 2018: Workshop Globalex 2018: Lexicography & WordNets*. European Language Resources Association, Paris-Luxembourg. http://lrec-conf.org/workshops/lrec2018/W33/summaries/19_W33.html/
- L’Homme M., Robichaud B., Subirats C. 2020, *Building multilingual specialized resources based on FrameNet: Application to the field of the environment*, conference paper for the *International FrameNet Workshop 2020: Towards a Global, Multilingual FrameNet*, Marseille.
- Liégeois V. and Mathysen J. 2022, *Covid-19 and government communication: A pilot study of bilingual (DT - FR) crisis communication in Belgium*, in Jaki S. and Schmidt F. (eds.), *Interdisziplinäre Forschungszugänge zu*

- Wissenschaftskommunikation und Informationsverhalten in der Corona-Pandemie*, University Press Hildesheim, Hildesheim – in press.
- Masters-Waage T.C., Jha N. and Reb J. 2020, *COVID-19, Coronavirus, Wuhan Virus, or China Virus? Understanding How to “Do No Harm” When Naming an Infectious Disease*, in “Frontiers in Psychology” 11. <https://doi.org/10.3389/fpsyg.2020.561270>.
- Meibauer J. 2012, *What is a context? Theoretical and empirical evidence*, in Finkbeiner R., Meibauer J, and Schumacher P. B. (eds.), *Wat is a context? Linguistic approaches and challenges*, Benjamins, Amsterdam, pp. 9-32.
- Petruck M. R. L. 2013, *Advances in Frame Semantics*, in Fried M. and Nikiforidou K. (eds.), *Advances in Frame Semantics*, Benjamins, Amsterdam, pp. 1-12.
- Ramos F. P., Pei J. and Cheng, L. 2020, *Institutional and news media denominations of COVID-19 and its causative virus: Between naming policies and naming politics*, in “Discourse & Communication” 14 [6], pp. 635-652.
- Scholz R. and Ziem A. 2013, *Lexikometrie meets Frame: Das Vokabular der ‚Arbeitsmarktkrise‘ und der ‚Agenda 2010‘ im Wandel*, in Wengeler M. and Ziem A. (eds.), *Sprachliche Konstruktionen von Krisen: Interdisziplinäre Perspektiven auf ein fortwährend aktuelles Phänomen*, Hempen, Bremen, pp. 155-184.
- SFN – Spanish FrameNet. <http://spanishfn.org> (31.01.2022).
- Sketch Engine. <http://www.Sketch Engine.eu> (31.01.2022).
- Smirnova O., Rackevičienė S., Mockien L. 2021, *Frame semantics methodology for teaching terminology of specialised domains*, in “Journal of Teaching English for Specific and Academic Purposes” 9 [4], pp. 765-773.
- Stroebel L., Wermuth C., Brône G. 2016, *The obesity epidemic as a linguistic challenge: Pathways towards information optimization*, poster for the LingUnite: Tag der Sprachforschung, Aachen.
- Szymańska I. 2011, *Construction Grammar as a Framework for Describing Translation: A Prolegomenon*, in Pawlak M. and Bielak J. (eds.), *New Perspectives in Language, Discourse and Translation Studies*, Springer, Berlin-Heidelberg, pp. 215-25.
- Terminology Coordination Unit of the European Parliament 2020, *COVID-19 event: A frame-based terminology approach*. <https://termcoord.eu/2020/04/covid-19-event-a-frame-based-terminology-approach> (25.01.2022).
- Varga S. 2019, *Frames und Argumentation: Integrative Beschreibung semantischer und argumentativer Bedeutungsstrukturen am Beispiel des parlamentarischen Kernenergiediskurses in Deutschland und Frankreich*, PhD-thesis, University of Burgundy, Dijon.
- Venturi G. 2013, *Semantic annotation of Italian legal texts: A FrameNet-based approach*, in Fried M. and Nikiforidou K. (eds.), *Advances in Frame Semantics*, Benjamins, Amsterdam, pp. 51-84.
- Verdager I. 2020, *Semantic frames and semantic networks in the ‘Health Science Corpus’*, in “Estudios de Lingüística del Español Anejo” 1, pp. 117-155.
- Wandji O. T. 2014, *Les modèles de description du verbe dans les travaux de Linguistique, Terminologie et TAL*, conference paper for the 21ème conférence sur le Traitement Automatique des Langues Naturelles, Marseille.

- Wandji O.T., L'Homme M., Grabar N. 2013, *Discovering semantic frames for a contrastive study of verbs in medical corpora*, conference paper for the *Terminology and Artificial Intelligence (TIA)-conference*, Paris.
- Wermuth C. 2007, *Instrumentality in Medical Classification Rubrics*, conference paper for the *Conference of the UK Cognitive Linguistics Association*, Cardiff.
- Wermuth C. 2008, *A Formal Terminological Approach to the Translation of Professional Medical Texts: Medical Classification Rubrics as a Case Study*, in Chen W. (ed.), *XVIII FIT world congress proceedings*, Foreign Language Press, Shanghai, pp. 1-12.
- Wulf D. 2018, *Eine framesemantische Modellierung des juristischen Diebstahl-Begriffs*, in Ziem A., Inderelst L. and Wulf D. (eds.), *Frames interdisziplinär: Modelle, Anwendungsfelder, Methoden*, Düsseldorf University Press, Düsseldorf, pp. 215-250.
- Ziem, A. 2014, *Frames of Understanding in Text and Discourse: Theoretical Foundations and Descriptive Applications*, John Benjamins, Amsterdam-Philadelphia.

TACKLING ONLINE DISINFORMATION

The Construction of ‘Trustworthiness’ and ‘Best Practices’ in the European Commission Discourse on COVID-19

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Abstract – Over the last few decades, misleading healthcare information and deceptions with false claims, conspiracy theories (CTs) and consumer fraud have endangered public health on a global scale. More recently, the COVID-19 pandemic has been accompanied by a substantial flow of false information and unceasing attempts by conspirators to influence debates in the official discourses, breeding on the fertile ground of people’s most basic anxieties and the present-day social and economic uncertainty.

This paper investigates the discourse of the European Commission on disinformation in order to achieve institutional legitimation through the linguistic and discursive construction of ‘trustworthiness’, ‘credibility’, and ‘transparency’. The analysis considers the documents produced by the European Commission over the last few years (2018-2021), to tackle the discourse that supports alternative views on official science. The results of the analysis reveal the EU discursive process of conceptualising ‘verifiably false or misleading information’ as ‘public harm’, while distancing it from the EU’s fight against disinformation’ that is discursively constructed as ‘the protection of the EU values’. In particular, the investigation will show how the lexical and phraseological interaction discursively removes the harmful potential of conspiracy theories activists, legitimises massive control measures as the most effective way to guarantee freedom of expression and pluralistic democratic debate, and empowers the EU’s image as the shield protecting the European citizens’ awareness and societal resilience (Flowerdew, Richardson 2018).

Keywords: disinformation; discourse; Systemic Functional Linguistics; European Commission; EU values

1. Introduction

Over the last few decades, misleading healthcare information and deceptions with false claims, conspiracy theories and consumer fraud have endangered public health on a global scale. ‘Fake news’ is not a new term, and its roots can be traced back to Johannes Gutenberg’s invention of the printing press

in 1439 to indicate falsehood printed as news.¹ As printing expanded, so did fake news, appearing as spectacular stories of sea monsters and witches or claims that sinners were responsible for natural disasters. Since then, fake stories have historically been produced to sell newspapers, entertain, or create fear and anger (Umberti 2016). Not only was real news hard to verify in that era, but, moreover, the concept of journalistic ethics or objectivity had not yet been developed. These accounts, Kalsnes observes:

give an indication of how the historic evolution of fake news is also related to the development of journalism as a profession, such as methods of verification and codes of ethics. They also indicate that fake news is not a new thing, neither as a term nor as a phenomenon. But the surge in the use of the term worldwide has created epistemological discussions of how digital disinformation dressed as news should be understood (2018, p. 3).

In recent years, new communication technologies, the digital transformation of news from offline to online distribution, and the rise of social media as a news distribution channel, have suggested newer definitions of fake news to describe a wide range of misinformation and disinformation ranging from lies, conspiracy theories, and propaganda to mistakes and entertainment (Wardle, Derakhshan 2017). As a matter of fact, defining fake news is fraught with difficulties because it could rather be classified according to various characteristics such as the source of the news, the content, the distribution method, and the intention (Gelfert 2018). The Oxford English Dictionary (OED) defines fake news “[a] news that conveys or incorporates false, fabricated, or deliberately misleading information, or that is characterised as or accused of doing so”; whereas, the UK Cambridge Dictionary defines fake news “false stories that appear to be news, spread on the internet or using other media, usually created to influence political views or as a joke”. Characterised by a close connection to news as a format and as an independent institution, three elements are recognisable in the various definitions of fake news: (i) the *format*, i.e., false information presented as news; the degree of *falsity*, i.e., partly or completely false information; and (iii) the *intention* behind it, i.e., to mislead readers and users for political, economic, or personal purposes (Kalsnes 2018, p. 3). In line with Carey’s (1992) description of communication as a representation of shared beliefs where people are drawn together in fellowship and commonality, fake news represent and confirm a particular view of the world that might be purposefully distorted with a particular slant, with digital and social media

¹ “The real story of ‘fake news’” <https://www.merriam-webster.com/words-at-play/the-real-story-of-fake-news> (14.01.2022).

amplifying it to large networks worldwide (Wardle, Derakhshan 2017; Demata *et. al* 2018).

Being a contested term that generally refers to a wide range of disinformation and misinformation circulating online and in the media (Marwick, Lewis 2017, p. 44), the European Union has suggested abandoning the term 'fake news' altogether. In January 2018, the European Commission set up the Independent High-Level Group to propose measures 'to counter fake news and disinformation spread online and prepare a report designed to review best practices in the light of fundamental principles, and suitable responses stemming from such principles.'² In particular, the *Report from the independent High-Level Expert Group on fake news and online disinformation* (hereafter, HLEG 2018) considers fake news an 'inadequate and misleading term to explain the complexity of the situation' and recommends using the term '*disinformation*' that includes all forms of 'false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm or for profit' (2018, p. 10).³ In this regard, the approach recommended by the HLEG is based on a number of interconnected and mutually reinforcing short-term (1-2) and long-term responses (3-4): the former take action against the most pressing problems, the latter increase societal resilience to disinformation. These responses aim to:

1. promote media and information literacy to counteract disinformation and help users properly navigate the digital media environment;
2. develop tools for empowering users and journalists to combat disinformation and promote a positive engagement with fast-evolving information technologies;
3. improve transparency of online news, involving an adequate and privacy-compliant sharing of data about the systems that enable their spread online;
4. promote continued research on the impact of disinformation in Europe to evaluate the measures taken by different actors (i.e., users, journalists, editors, EU institutions, national governments, etc.) and constantly adjust the required responses (HLEG 2018, p. 5).

The COVID-19 pandemic has been accompanied by a substantial amount of disinformation and unceasing attempts by conspiracy theories (hereafter, CTs) actors to influence debates in the official discourses, breeding on the fertile ground of people's most basic anxieties and presenting malicious, far-

² <https://op.europa.eu/en/publication-detail/-/publication/6ef4df8b-4cea-11e8-be1d-01aa75ed71a1> (14.01.2022)

³ As stated in the Report, it does not cover issues arising from the creation and dissemination online of illegal content (i.e., defamation, hate speech, incitement to violence), which are subject to regulatory remedies under EU or national laws. https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1006 (14.01.2022).

fetched explanations on where the virus might have originated and on who is to blame for its spreading.⁴ The analysis considers a small corpus of documents produced by the European Commission over the last few years, to tackle the alternative views on the scientific response to COVID-19. To examine the selected linguistic data, firstly, I drew upon the *Critical Discourse Analysis* (CDA) approach to discourse (Fairclough 1992, 2001, 2013), analysing micro-textual elements on specific patterns of use, such as those from the area of semantics (Davidson, Harman 2012; Facchinetti *et al.* 2012), or appraisal (Hunston, Thompson 2003; Martin, White 2005). In this regard, the EU discursive process of conceptualising ‘verifiably false or misleading information’ as ‘public harm’ discloses a trend that falls under Flowerdew and Richardson’s (2018, p. 2) approach about ‘the creation of knowledge and meaning’,

discourse and language are seen in a dialectical relationship, with social structures affecting discourse and discourse affecting social structure. In the former process, while individuals may exercise discursive agency, this is done within the constraints imposed by social conventions, ideologies and power relations. In the latter process, rather than merely representing social reality, discourse(s) actually (re)create social worlds and relations [...] At the same time, discourse is seen as an essential component in the creation of knowledge and meaning.

From a genre-based analysis (Swales 1990; Bhatia 1993, 2008) of the European Commission Press Releases in 2020 and 2021 first, and the comparison of the results with the textual and discursive resources deployed in the *Joint Communication (2020)8 final* and *Communication (2021)262 final*, it is possible to appreciate how they function as systems of meanings (Halliday, Matthiessen 2013, 2014; Halliday, Webster 2014), and are processed at the level of meaning, context of situation (register), and context of culture (genres). In particular, this analysis attempts to reveal how the lexical and phraseological interaction discursively removes the harmful potential of CTs actors, legitimises massive control measures as the most effective way to guarantee freedom of expression and pluralistic democratic debate, and empowers the EU’s image as the shield protecting the European citizens’ awareness and societal resilience (van Dijk 2011; Bloor, Bloor 2018). To make a methodological premise, regarding the language data, which is the object of the analysis, I refer to the data as a small corpus on the premises of Sinclair’s statement that

⁴ As part of the comprehensive approach to tackle the negative impact of conspiracy theories, the European Commission and UNESCO are publishing a set of accessible educational materials with the aim to help citizens identify – and counter – conspiracy theories.

a small corpus is seen as a body of relevant and reliable evidence, and is either small enough to be analysed manually, or is processed by the computer in a preliminary fashion [...]; thereafter the evidence is interpreted by the scholar directly (Sinclair 2001, p. xi).

Being the scope of this study to investigate the distinguishing marks of the European Commission documents on COVID-19 disinformation as new discursive spaces for the EU construction of 'trustworthiness' and 'best practices', and given the small number of the EU documents specifically devoted to COVID-19 disinformation, the conclusion from the above considerations is that there is justification for seeing the language data in the present study as a small, specialised corpus.

The paper is divided into 5 sections. After a brief introduction in Section 1, Section 2 deals with the topic providing definitions of disinformation and CTs, outlining some trends in genre analysis and Systemic Functional Linguistics, and suggesting new perspectives on meaning in discourse. Section 3 provides some context about the European Commission and its work in counteracting COVID-19 disinformation. Section 4 delves into the analysis of selected documents, focusing on the linguistic and discursive levels (Subsection 4.1 and 4.2). Section 5 summarises the findings and presents some final remarks for future research.

2. CTs and the EU

Historically, vaccine hesitancy has originated from a lack of knowledge, false religious beliefs, or anti-vaccine misinformation. The roots of this dispute stretch back over the centuries to Edward Jenner's first successful smallpox vaccination in 1796 and the subsequent efforts to spread the practice of vaccination to Europe and the world.⁵ Since then, the word *vaccine/vaccination* not only has carried emotional weight as a scientific endeavour to control smallpox⁶, but has also provoked immediate associations with other words, i.e., autism, influenza, anti-vaxxer, etc. (Stern, Merkel 2005). Figure 1 below is a reproduction of a satirist cartoon from the Becker Library's archival collection of smallpox caricatures and represents the public concern over the effects of smallpox vaccination in early 19th-century Europe.

⁵ The *OED* credits the French for coining the term *vaccine* in 1800 and *vaccination* in 1803; according to an article in the *British Medical Journal*, however, the term was used as an adjective in 1799 by British general practitioner Dr. Edward Jenner as a combination of the Latin word *vacca* (En. *cow*) and the Latin word *vaccinia* (En. *cowpox*), and the noun *vaccination* was introduced by his friend Richard Dunning in 1800 (Baxby 1999).

⁶ The History of the Word 'Vaccine' | Merriam-Webster (14.01.2022).



Figure 1
Bernard Becker Medical Library Archives.⁷

As it has been scientifically demonstrated throughout history, disinformation and misinformation about vaccines decreases people’s confidence in medical science and healthcare professionals. Despite more than a 200-year history of vaccines and a modern understanding of immunology, the current situation regarding anti-vaccine beliefs raises the concern whether people will believe and accept the new COVID-19 vaccines despite all anti-vaccine movements, CTs and COVID-19-related myths (Larson *et al.* 2011; Dubé *et al.* 2013; Thanh Le *et al.* 2020; Ullah *et al.* 2021). Researchers have worked collaboratively to develop the vaccines against COVID-19⁸. However, the vaccination program is still considered unsafe and unnecessary by many individuals, both in developed and developing countries, and the lack of knowledge, disinformation, and CTs are now considered to be the greatest threat to the success of vaccination programs (Hullah *et al.* 2021). Picture 2 below is a screenshot of a video that promotes vaccine hesitancy in the midst of COVID-19 pandemic spread.

⁷ James Gillray’s cartoon “The Cowpock: Or, the Wonderful Effects of the New Inoculation” depicts just-vaccinated men and women sprouting cow features while an indifferent Edward Jenner is about to wound the arm of a frightened woman. This print is part of a collection of nine prints housed in the Bernard Becker Medical Library Archives beckerarchives.wustl.edu (14.01.2022).

⁸ The spread of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), has resulted in an unparalleled humanitarian and economic crisis (Ullah *et al.* 2021).



Figure 2
Screenshot of a video that promotes vaccine hesitancy at bitchute.com/archive.⁹

According to a study conducted by Schmid and Betsch (2019) on anti-vaccination CTs, the conspiratorial denial of the efficacy and safety of vaccinations can be reduced by rebuttal messages. When an appeal to a conspiracy between government and pharmaceutical industries is left unchallenged, people’s intention to vaccinate and their attitude towards vaccinations tend to decline significantly. By contrast, when the conspiracy is rebutted either by pointing out that much of the research in support of vaccinations has been conducted by independent, publicly funded scientists, or by correcting false assertions and emphasizing how vaccinations improve public health, then exposure to the CTs tends to reduce its effect (Orosz *et al.* 2016).

In line with this study, to counteract CTs on COVID-19 vaccination campaign, the EU has created an Action Research Network of 150 scholars (Comparative Analysis of Conspiracy Theories – COMPACT) from across Europe who are investigating the causes and consequences of conspiracy theories¹⁰. The *COMPACT Guide to Conspiracy Theories 2020* is among the recent results of the EU research network of scholars¹¹. The Guide is meant

⁹ In line with the COVID-19 CTs, it reports the false claim that the Pfizer vaccine is actually made of graphene oxide, a toxic compound.

¹⁰ www.conspiracytheories.eu (14.01.2022).

¹¹ Identifying conspiracy theories | European Commission (europa.eu), https://conspiracytheories.eu/wp-content/uploads/2020/03/COMPACT_Guide-2.pdf (14.01.2022).

to help EU citizens to understand why conspiracy theories are so popular, explain how to identify the traits of conspiratorial thinking, and suggest effective debunking strategies. Divided into two parts – (i) Understanding Conspiracy Theories, and (ii) Recommendation for Dealing with Conspiracy Theories – the Guide’s main points are reported below:

- (i) CTs are based on the belief that events are secretly manipulated behind the scenes by powerful forces. Over the past twenty years, their significance and popularity has been increasing steadily, especially online. At times they can be dangerous. They can lead to a loss of faith in medical and scientific expertise, to political disengagement, and even to violence. Conspiracy theories are therefore a challenge for a broad variety of stakeholders (*COMPACT Guide to Conspiracy Theories* 2020, p. 6);
- (ii) generally speaking, CTs have 6 things in common:
 - 1) supposed, secret design or machinations;
 - 2) a conspirating group;
 - 3) a type of proof supporting the CT;
 - 4) a supposed logical explanation of events that are difficult to understand, with the intention of giving us a false perception of being in control and taking action;
 - 5) a suspicion about who is benefiting from the situation and, thus, identifying them as the real conspirators. Evidence is purposefully constructed to prove the theory;
 - 6) most believe the proof is real, whereas others intentionally manipulate people for different reasons (i.e, economic, political, ideological, etc.).

As explained in the *Guide* (Paragraph 1.1, p. 4) and clearly stated in the *Conspiracy Theory Handbook* (2020: 3), “conspiratorial thinking is characterised by being hyperskeptical of all information that does not fit the theory, over-interpreting evidence that supports a preferred theory, and inconsistency”. Furthermore, social media have amplified the power of CTs via: (i) a creation of a world in which any individual can potentially reach as many people as mainstream media, and (ii) the lack of traditional gatekeepers (i.e., newspaper editors) protecting against misinformation that spreads farther and faster online than real information, often propelled by fake accounts or bots¹² (*Conspiracy Theory Handbook* 2020, p. 4). Viewed this way, CTs become ‘as-if’-theories that allow their adherents to make sense of a world that is causally unclear in a way that may often yield quite adequate predictions¹³.

¹² A computer program that runs automated tasks over the internet (OED).

¹³ Internet Encyclopedia of Philosophy at [Conspiracy Theories | Internet Encyclopedia of Philosophy \(utm.edu\)](https://www.iep.utm.edu/conspiracy-theories/) (14.01.2022).

In the fight against disinformation and CTs, it becomes crucial to 'influence discourse' (Fairclough 2012; van Dijk 2011) and shape a more macro narrative about following cause and effect. The fairly textured discourse of CTs generates various categorisations attributable to different groups in society, outcasts groups that breach the in-group's standards of normative behaviour, and eventually serves to breach the power structures and status quo (Bhatia 2018). By focusing on the meaning-making resources of language within specific social and cultural contexts, Halliday's (1978) *Systemic Functional Theory* (SFL) represents a valuable instrument for the investigation of the grammatical choices that are available in a language and discourse. These choices are contained in system networks, which offer model options that carry significant meaning (for instance, the difference between negative and positive evaluation) available to speakers to create meaning in context (Halliday, Matthiessen 2013). These system networks are organised according to metafunctions that the resources have in practical contexts:

- the *experiential* and *logical meanings* structure the experience of the world, and of our own consciousness, by the content component of language (mainly in terms of participating entities, processes and circumstances);
- the *interpersonal meaning* constructs social relations using language to act (i.e., asking questions, giving information, etc.) and/or express subjective judgments and opinions (mood, modality, appraisal, politeness, etc.);
- the *textual meaning* transposes experiential and interpersonal meanings into cohesive and coherent chunks of language in use (i.e., texts are created by indicating topic and relevance in the language used) (Bloor, Bloor 2014; Halliday, Webster 2014).

The analysis of the selected European Commission documents draws on insights from the SFL approach to further explore the European Commission communication strategies to construct a relationship among the EU institutions, EU citizens, and 'the interested stakeholders' (Fairclough 2012). Through a deliberate and conscious construction and use aimed to achieve a specific purpose, it may be that a specific genre is geared towards a socially accepted and shared knowledge and objectives (Swales 1990; Bhatia 1993). These observations are in line with Bhatia's suggestion to get in some contexts a "deeper understanding of the immediate, as well as the broader context, including intertextuality and more importantly interdiscursivity, in addition to lexico-grammar, textualization, and textual organization" (2008, p. 174).

To date, much of the research on disinformation and CTs on COVID-19 vaccination campaign has been conducted with the intention to illustrate

how disinformation is achieved through language. Indeed, an analytical focus should be balanced with a parallel attention on the empowerment-discourses designed to build ‘trustworthiness’, not ‘public harm’ and successfully reorder information and reliability without necessarily struggling against them. Starting from Martin and Rose’s (2007) idea of strategically redistributing power among the discourse participants through discourse, this study attempts to identify the linguistic/discoursal strategies used by the European Commission against COVID-19 disinformation to empower both the EU institutions and the EU citizens / interested stakeholders (i.e., positioning these latter as agents of social change, informing them about what they can accomplish, and advising them on possible future actions), and to outcast groups that breach the standards of normative behaviour from the society (i.e., sustaining the EU’s status quo and power structures) (Fairclough 1989; van Prooijen 2018).

3. Working documents of the European Commission

The European Union (EU) has been actively tackling disinformation since 2014.¹⁴ In its role of developing the EU's overall strategy and designing and implementing EU policies, the European Commission has played an active role in the field of ‘communication’ and ‘disinformation’¹⁵. In October 2018, the *EU Code of Practice on Disinformation* (hereafter, *Code of Practice*) signed by the European Institutions, Facebook, Google, Twitter and Mozilla, as well as trade associations representing online platforms and the advertising industry, represented the first self-regulatory tool to tackle disinformation. Then, the *Joint Communication* to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions of December 2018 (hereafter, *Action Plan against Disinformation* 2018, p. 5) followed suit presenting four pillars for the EU’s fight against disinformation: “1) improving the capabilities to detect, analyse and expose disinformation; 2) strengthening coordinated and joint responses; 3) mobilising the private sector to tackle disinformation; 4) raising awareness

¹⁴ Following a decision of the European Council in March 2015, the East StratCom Task Force in the European External Action Service (EEAS) was set up. In 2016, the *Joint Framework on countering hybrid threats* (https://ec.europa.eu/commission/presscorner/detail/en/IP_16_1227 (14.01.2022)) was adopted, followed by the *Joint Communication on increasing resilience and bolstering capabilities to address hybrid threats* in 2018, https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4123 (14.01.2022).

¹⁵ It is the only institution that can propose legislation in European Community law, and as such, a large proportion of its documents relate to the legislative process.

and improving societal resilience”¹⁶. In the subsequent *Joint Communication* of June 2019, the European Commission and the High Representative of the Union for Foreign Affairs and the Security Policy concluded that while the European elections of May 2019 were not free from disinformation, the actions taken by the EU have contributed to narrow down the space for third-country influence as well as coordinated campaigns to manipulate public opinion.¹⁷

In line with this action, a separate webpage in the European Commission website “Shaping Europe’s digital future” has been specifically created to ‘tackle online disinformation’. Here it is clearly stated that:

Large-scale disinformation campaigns are a major challenge for Europe and require a coordinated response from EU countries, EU institutions, social networks, news media and EU citizens. The Commission has developed a number of initiatives to tackle disinformation¹⁸.

Among the EU’s latest initiatives, there is the COVID-19 monitoring and reporting programme, carried out by signatories of the Code of Practice, that acts as a transparency measure to ensure accountability in tackling disinformation¹⁹. This was officially stated first in the Press Release “Coronavirus: EU strengthens action to tackle disinformation” of the 10th of June 2020 (hereafter, PR2020), where the European Commission and the High Representative announced their intention ‘to assess their steps to fight disinformation around the Coronavirus pandemic and propose a way forward’. This official announcement was, then, restated and emphasised in the Press Release of the 26th of May 2021 (hereafter, PR2021), where the European Commission and the High Representative proposed a guidance to strengthen the Code of Practice on Disinformation²⁰.

In the practice of SFL analysis (see Section 4 here), the *textual meaning* could be exemplified showing how elements of texts of PR2020 and PR2021 cohesively and coherently refer to the preparatory documents of the EU legislation on COVID-19 disinformation issued by the European

¹⁶ https://ec.europa.eu/info/sites/default/files/eu-communication-disinformation-euco-05122018_en.pdf (14.01.2022), see p.5.

¹⁷ The Commission issues large numbers of working documents every year. As a result of changes introduced by the Lisbon Treaty, in 2012 a new category of documents viz., *Joint Communications*, was introduced. These documents, which were formerly part of the so-called second pillar of the European Union (Common Foreign and Security Policy or CFSP), have been fully integrated into the EU’s legal system and are jointly issued by the European Commission and the High Representative of the Union for Foreign Affairs and Security Policy.

¹⁸ <https://digital-strategy.ec.europa.eu/en/policies/online-disinformation> (14.01.2022).

¹⁹ <https://digital-strategy.ec.europa.eu/en/policies/online-disinformation> (14.01.2022).

²⁰ https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1006 from the Press Material of the Spokesperson’s Service - European Commission at <https://ec.europa.eu/commission/presscorner/home/en> (14.01.2022).

Commission: the *Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. Tackling COVID-19 disinformation - Getting the facts right* - Brussels, 10.6.2020 JOIN(2020) 8 final²¹ (hereafter, JOIN2020), and the Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. *European Commission Guidance on Strengthening the Code of Practice on Disinformation* - Brussels, 26.5.2021 COM(2021) 262 final²² (hereafter, COM2021). Then, the *experiential* and *logical meanings* can raise awareness of how the European Commission represents reality in fairly negative or positive ways (i.e., mainly in terms of processes, participant roles, circumstance ‘etc.’); whereas, the *interpersonal meaning* can point to the nature of the interactive relationship perceived by the European Commission with the EU citizens and other stakeholders (i.e., mood, declarative or interrogative) (Halliday, Matthiessen 2013, pp. 61-63) in both the Press Releases (PR2020-PR2021) and the preparatory documents of the EU legislation (JOIN2020-COM2021).

4. Analysis

4.1. European Commission Press Releases on COVID-19 disinformation

In this section, the investigation focuses on the linguistic resources (Bhatia 2008) which are employed by the European Commission to construct ideas designed to effect social change. In particular, the analysis of the key words related to the idea of *disinformation* around Coronavirus reveals the communicative strategies of the European Commission addressing the changing relationship between EU institutions, EU citizens and the interested stakeholders in the field of information. In this regard, it is interesting to look at the PR2020 and PR2021 on disinformation that exemplify how the language used presents the EU’s policy as an inevitable consequence of the way the world is.

Contextually, the mode of PR2020 is a short report or bulletin, written-to-be-spoken. In terms of regularities of organization, the document has a fairly standardised structure with some scope for variation within this general discourse structure of the European Commission Press Releases. The analysis

²¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020JC0008> (14.01.2022).

²² <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=COM:2021:262:FIN> (14.01.2022).

reveals a typical use of lexico-grammar to signal movement between various rhetorical moves (Bhatia 2008):

1st move - identifying important themes (themes of some significance are expressed by nominalised forms, example 1 below);

2nd move - elaboration on themes and evidence for claims (use of present continuous when referring to current action and perfect tense when referring to outcomes, examples 2 and 3 below);

3rd move - looking forward (a continued challenge signaled by expressions such as *there is a need to provide / to enhance cooperation, ensuring freedom of expression, empowering citizens*, example 5 below).

PR2020 starts with a paragraph declaring:

- (1) Today, the Commission and the High Representative are assessing their steps *to fight disinformation* around the coronavirus pandemic and are proposing *a way forward*. This follows the tasking by European leaders in March 2020 *to resolutely counter disinformation* and *reinforce resilience* of European societies. The coronavirus pandemic has been accompanied by *a massive wave of false or misleading information*, including attempts by foreign actors *to influence EU citizens and debates*. The Joint Communication analyses the immediate response and proposes *concrete action* that can be quickly set in motion (My emphasis).

Right from the beginning, it is possible to identify some features that are typical of the 'empowerment-discourse' made in history to combat terrorist attacks (Silberstein 2002; Graham *et al.* 2004; Bhatia 2018):

- (i) the creation of a legitimate and wholly good authority (the Commission and the High Representative are assessing their steps *to fight disinformation* around the coronavirus pandemic and *to propose a way forward*);
- (ii) appeal to the cultural values and traditions (the tasking by European leaders ... *to resolutely counter disinformation* and *reinforce resilience* of European societies);
- (iii) the construction of an evil 'other' (*a massive wave of false or misleading information* ... attempts by foreign actors *to influence EU citizens and debates*) and the appeal for unity behind the good and legitimate source of authority (The Joint Communication analyses the *immediate response* and proposes *concrete action* ...).

This first paragraph (example 1) is immediately followed by two extracts taken from the speeches respectively given by the High Representative/Vice-President Josep Borrell and the Vice-President for Values and Transparency

Věra Jourová, in which they promote major EU actions to counter COVID-19 disinformation:

- (2) High Representative/Vice-President Josep Borrell said: “*Disinformation in times of the coronavirus can kill. We have a duty to protect our citizens by making them aware of false information, and expose the actors responsible for engaging in such practices. In today's technology-driven world, where warriors wield keyboards rather than swords and targeted influence operations and disinformation campaigns are a recognised weapon of state and non-state actors, the European Union is increasing its activities and capacities in this fight.*”
- (3) Vice-President for Values and Transparency Věra Jourová said: “*Disinformation waves have hit Europe during the Coronavirus pandemic. They originated from within as well as outside the EU. To fight disinformation, we need to mobilise all relevant players from online platforms to public authorities, and support independent fact checkers and media. While online platforms have taken positive steps during the pandemic, they need to step up their efforts. Our actions are strongly embedded in fundamental rights, in particular freedom of expression and information.*”

As well as in the creation of a narrative about a socio-political phenomenon such as terrorism, in both extracts ‘the logic of binarism’ (Lazar, Lazar 2004) establishes as a political fact the existence of a clear and specific threat (*Disinformation in times of the coronavirus can kill* (Borrell); *Disinformation waves have hit Europe during the Coronavirus* (Jourová)). Further, binarism eludes the different kinds of degrees of threat, to constitute a largely undifferentiated enemy (*warriors wield keyboards rather than swords [...] disinformation campaigns are a recognised weapon of state and non-state actors* (Borrell); *to fight disinformation [...] to mobilise all relevant players [...] to step up their efforts*) (Jourová)), and allow ‘us’ and ‘them’ to be represented in clear, simple and unidimensional lines (*We have a duty to protect our citizens [...] European Union is increasing its activities and capacities in this fight* (Borrell); *They originated from within as well as outside the EU [...] Our actions are strongly embedded in fundamental rights* (Jourová)) through a strategic narrative (Lazar, Lazar 2004). By means of the “out-casting process, a process by which individuals and/or groups are systematically marked and set aside as outcasts” (Lazar, Lazar 2004, p. 227), the dichotomy between ‘us’ (EU institutions, EU citizens, interested stakeholders) and ‘them’ (out-groups) becomes legitimate because it is made to appear clear and ingrained in conventional wisdom (Bauman 1990; van Dijk 1995; Lazar, Lazar 2004, pp. 226-227).

Then, PR2020 presents a section with a list of ‘key aspects’ introduced by the sentence:

- (4) The crisis has become a test case showing how the EU and its democratic societies deal with the disinformation challenge. The following aspects are key for a stronger and more resilient EU.

Here (examples 4 and 5), the strengthening overreaching narrative enforces a dominant definition of what is 'good' (*democratic societies, stronger and more resilient EU, empowering citizens, raising citizens awareness and increasing societal resilience*) and 'bad' (*the crisis, test case, disinformation challenge*), who is 'we/us' (*the Commission, stronger and more resilient EU, other international actors*) and 'they/them' (*myths around the coronavirus, practices that infringe consumer protection law*) (Chang, Mehan 2006):

- (5) Understand: First, *it is important to distinguish between illegal content and content that is harmful but not illegal*. [...] there is a need to provide more data for public scrutiny and improve analytical capacities.

Communicate: *During the crisis, the EU has been stepping up its work to inform citizens about the risks and to enhance cooperation with other international actors to tackle disinformation*. The Commission has been rebutting *myths around the coronavirus*, which have been viewed more than 7 million times.

Cooperation has been an important cornerstone of the fight against disinformation: [...] many consumers were misled to buy overpriced, ineffective or potentially dangerous products, and platform have removed millions of *misleading advertisements*. The Commission will continue to cooperate with online platforms [...]

Transparency: The Commission has closely monitored the actions of online platforms under the Code of Practice on Disinformation. *There is a need for additional efforts, increased transparency and greater accountability*.

These 'key aspects' further confirm the existence of a dichotomising discourse which shapes and reshapes what 'we' understand as 'objective reality' (*During the crisis, the EU has been stepping up its work to inform citizens about the risks and to enhance cooperation with other international actors to tackle disinformation misleading advertisements ...; Cooperation has been an important cornerstone of the fight against disinformation ...*, example 5).

The last part of the PR2020 presents two final sections providing some background in terms of the European Union actions already taken to tackle disinformation, and some useful links for those who need further information. The analysis of PR2021 reveals that it follows the same standardised format with a typical use of lexico-grammar to signal movement between the rhetorical moves found in PR2020, and shown in the extracts below:

- (6) Today, the Commission publishes its guidance on how the Code of Practice on Disinformation, the first of its kind worldwide, should be strengthened *to become a more effective tool for countering disinformation. It sets out Commission expectations, calls for stronger commitments by the signatories and foresees a broader participation to the Code.* Based on a robust monitoring framework and clear performance indicators, *signatories should reduce financial incentives to disinformation, empower users to take an active role in preventing its spread, better cooperate with fact-checkers across EU Member States and languages, and provide a framework for access to data for researchers* (1st move - identifying important themes)
- (7) Thierry Breton, Commissioner for Internal Market, said: “We need to *rein in the infodemic and the diffusion of false information putting people's life in danger.* Disinformation cannot remain a source of revenue. *We need to see stronger commitments by online platforms, the entire advertising ecosystem and networks of fact-checkers. The Digital Services Act will provide us with additional, powerful tools to tackle disinformation* (2nd move - elaboration on themes and evidence for claims).

The main difference has been found in the 3rd rhetorical move - ‘looking forward’ – that, in comparison with the other moves, constitutes the main and more extended part in PR2021 (from *A strong, stable and flexible Code to support the fight against disinformation. The Guidance calls for reinforcing the Code by strengthening it in the following areas* section, to the *Next Step* and *Background* final sections), as example 8 below illustrates:

- (8) A strong, stable and flexible Code to support the fight against disinformation. The Guidance calls for *reinforcing the Code by strengthening it in the following areas*; larger participation with *tailored commitments; must take responsibility* and better work together [...] *exchanging information* on disinformation [...]; include *tailored commitments* to ensure transparency; *empower users* to understand and flag disinformation; *users need* to have access to tools to better understand and safely navigate [...]

Next step

The Commission *will call upon* [...]; It also encourages [...]; the Commission will reach [...]; The signatories should proceed swiftly [...]; the Commission will also propose this year a legislation to improve the transparency [...]

Background

The coronavirus crisis starkly illustrated the threats and challenges disinformation poses to our societies. The ‘infodemic’ has posed substantial risks to personal and public health systems, crisis management, the economy and society. *It has shown that, despite*

important efforts taken to date, there is an urgent need to step-up efforts to fight disinformation. The EU approach to countering disinformation is deeply rooted in the protection of freedom of expression and safeguarding an open democratic debate. It aims to create more transparency and accountability in the online environment and empower citizens. It goes hand in hand with the other aims of the European Democracy Action Plan, namely promoting free and fair elections and protecting media freedom and pluralism. The EU has mobilised industry, media, academia, public authorities and civil society and encourages a broader participation in the Code (3rd move – looking forward)

An interesting aspect of the two PRs (2020 and 2021) is the time sequence of events; they begin with present implications of past events and go towards future events or expectations. The amount of engagement with past events depends on how well the EU institutions have performed in the preceding years. If the EU institutions have performed well, it is more likely to find an elaborate account of the achievements. In the event of unexpected and impending challenges (*The coronavirus crisis starkly illustrated the threats and challenges disinformation poses to our societies...* (PR2021)), we find a detailed and elaborate engagement with future and expected events as the analysis of PR2021 has revealed in its final sections (example 8).

4.2. JOIN2020, COM2021 and the fight against disinformation

At this point, the analysis has concentrated on the discursive and textual features of the two European Communications on COVID-19 disinformation, namely JOIN2020 and COM2021. Generally speaking, Joint Communications (JOIN) and Communications (COM) are part of a standard procedure followed by the European Commission when it faces a policy challenge. They are policy papers, addressed to the European Parliament and the Council, to inform them about a specific situation and usually include proposals for solving the problem. As clearly explained in the *Fact Sheets on the European Union 2021*, “the power of proposal is the complete form of the power of initiative, as it is always exclusive and constrains the decision-making authority to the extent that it cannot take a decision unless there is a proposal and its decision has to be based on the proposal as presented”.²³

Following the SFL approach, the analysis reveals that the *experiential*, *interpersonal* and *textual meanings* found in JOIN2020 and COM2021 are strongly permeated by the discursive strategies of PR2020 and PR2021. The two texts have a total amount of 19,369 tokens, with COM2021 being relatively longer than JOIN2020. In terms of the textual meaning, being the European Commission’s role to write JOINS and COMs that present a brief,

²³ <https://www.europarl.europa.eu/factsheets/en/sheet/25/the-european-commission> (14.01.2022).

clear, and accurate outline of the major points of the legislative proposal, and make use of an easy-to-read format, both texts present sections numbered consecutively, and organised into units/paragraphs and subunits/subparagraphs that are preceded by an ‘Introduction’ and ended by a ‘Conclusion’.

In terms of the experiential and logical meanings, the paragraph ‘Introduction’ sets the tone and the register of both documents, structuring the experience of the world by the content component of language (i.e., participating entities, processes, and circumstances):

- (9) The COVID-19 (‘Coronavirus’) pandemic has been accompanied by an unprecedented ‘infodemic’²⁴. A flood of information about the virus, often false or inaccurate and spread quickly over social media, can – according to the World Health Organisation (WHO) – create confusion and distrust and undermine an effective public health response. Responding to the call of the members of the European Council and EU Foreign Affairs Ministers, as well as to the concerns of the European Parliament, this Joint Communication focuses on the immediate response to disinformation around the coronavirus pandemic, looking at the steps already taken and concrete actions to follow, which can be quickly set in motion based on existing resources (JOIN2020, p. 1).
- (10) The ‘infodemic’ – the rapid spread of false, inaccurate or misleading information about the pandemic – has posed substantial risks to personal health, public health systems, effective crisis management, the economy and social cohesion [...]. From its inception, the EU approach to countering disinformation has been grounded in the protection of freedom of expression and other rights and freedoms guaranteed under the EU Charter of Fundamental Rights [...]. To this end, the EU has sought to mobilise all relevant stakeholders, including public authorities, businesses, media, academics and civil society (COM2021, p. 1).

As the readers/addressees need to feel the information being given is relevant, some linguistic strategies are used in JOIN2020 and COM2021 to attract their attention. In this case, the analysis reveals few occurrences of *we/our/us*. This may be due to the intention of the discourse producers to provide a clear reference to the European Commission or the EU institutional organizations themselves:

- (11) The COVID-19 ‘infodemic’ has demanded a rapid response from the EU and its Member States. Disinformation can have severe consequences: it can lead people to ignore official health advice and engage in risky

²⁴Footnote 1 of JOIN2020 provides some information about the origin of the term ‘infodemic’: “The term has been used and described by WHO: ‘infodemics are an excessive amount of information about a problem, which makes it difficult to identify a solution. They can spread misinformation, disinformation and rumours during a health emergency. Infodemics can hamper an effective public health response and create confusion and distrust among people’ [...]”.

- behaviour, or have a negative impact on *our* democratic institutions, societies, as well as on *our* economic and financial situation (JOIN2020, p. 2).
- (12) Fact checking is fundamental for all of *us* to have access to reliable information as well as to a plurality of views (JOIN2020, p. 9).
 - (13) The pandemic has also elevated the role digital technology plays in *our* lives, making it increasingly central to how *we* work, learn, socialise, provide for material needs, and participate in the civic discourse (COM2021, p. 1).

Even though present in a small number, personal pronouns *we/our/us* when used help to discursively construct an intimate tone between text producers and the target-readers (Maillat, Oswald 2009; Fairclough 2013), and similarly the target-readers to feel part of a universal community (Ott, Cameron 2000; Hunston, Thompson 2003). In this regard, the analysis reveals an interesting difference in the number of occurrences between JOIN2020 (*we* 0 occurrence, *our* 12 occurrences, *us* 1 occurrence) and COM2021 (*we* 1 occurrence, *our* 2 occurrences, *us* 0 occurrence). This may be due to the European Commission's intention to principally address the 'other/relevant stakeholders' in a 'call to arm discourse' (Silberstein 2002; Graham *et al.* 2004) to tackle online disinformation and assess the trustworthiness of information sources:

- (14) This Guidance sets out the Commission's views on how platforms and other relevant stakeholders should step up their measures to address gaps and shortcomings in the Code and create a more transparent, safe and trustworthy online environment (COM2021, p. 3).

Overall, sentences are fairly short and technical jargon is rarely used. Active voice is the norm (Cooperation with social media platforms *is* a key element...; "This 'infodemic' *feeds* on people's most basic anxieties (JOIN2020); "This Guidance *calls for* developing the Code...; Empowering users *is* key to limiting the impact of disinformation (COM2021)), with few instances of passive voice ("*it is important* to determine..."; "*The EU Rapid Alert System has been used* to share information and analysis to generate a comprehensive picture of the information environment around COVID-19..." (JOIN2020); "*information manipulation is used* with the effect of causing significant public harm..."; "*The techniques identified should be* sufficiently defined..." (COM2021)) that serves to discursively construct a set of responsibilities for readers/addressees as active participants, who are presented with possible scenarios and actions to think about and act upon. In this regard, it is interesting to notice that the expressions 'there is a need' and 'sb/sth needs', as well as the passive form 'sth is needed', are used to

construct a dual nature of disinformation as a two-way phenomenon that involves EU institutions and online platforms:

- (15) Against this background, *one of the lessons learned from this crisis is the need to clearly differentiate between the various forms of false or misleading content revealed by the ‘infodemic’ and to calibrate appropriate responses* (JOIN2020, p. 3)
- (16) *A calibrated response is needed from all parts of society, depending on the degree of harm, the intent, the form of dissemination, the actors involved and their origin. Thus, misinformation can be addressed through well-targeted rebuttals and myth busting and media literacy initiatives; disinformation, on the other hand, needs to be addressed through other means, including actions taken by governments, as spelled out amongst others in the Action Plan against Disinformation* (JOIN2020, p. 4)
- (17) [...] *there remains a need to further improve the EU’s capacity to deliver timely, consistent, coherent and visible messages to external audiences globally [...]* (JOIN2020, p. 5)
- (18) *There is therefore a need for additional efforts and information-sharing by social media platforms, as well as increased transparency and greater accountability. This highlights the need to enforce and strengthen the policies that the platforms have committed to implement under the Code of Practice* (JOIN2020, p. 8)
- (19) In addition, *there is a need for dedicated research infrastructure to detect, analyse and expose disinformation and foreign influence operations across the whole EU territory* (JOIN2020, pp. 9-10)

and carries with it ‘obligations’ as well as ‘rights’ for all:

- (20) *there is an urgent need to step-up efforts to fight disinformation* (COM2021, p. 1)
- (21) *There is a need for stronger and more specific commitments in all areas of the Code to address gaps and shortcomings, including new and emerging risks* (COM2021, p. 4)
- (22) *Users need to be empowered to contrast this information with authoritative sources and be informed where the information they are seeing is verifiably false* (COM2021, p. 5)

However, the initial suggestion of an ‘agreed response system’ underpinning a dynamic two-way ‘fight against disinformation’ becomes a one-way path that mainly online platforms active in the EU, as well as other relevant players (i.e., ‘other/relevant stakeholders’), are expected to go through:

- (23) For a consistent and effective application of the commitments, *a shared understanding among signatories of ‘political advertising’ and ‘issue-based advertising’ is needed which adequately takes into account the existing applicable national legal frameworks* (COM2021, p. 9).

Modals, such as *should*, *can*, *could*, *may*, and *might* (Table 1) mostly serve an ‘advisive role’ (Tsui 1994),

modals	JOIN2020 7,699 tokens	COM2021 11,670 tokens
<i>should</i>	25	71
<i>can</i>	16	28
<i>could</i>	6	30
<i>shall</i>	0	1
<i>may</i>	4	11
<i>might</i>	0	2
<i>must</i>	3	1

Table 1
Number of occurrences in JOIN2020 and COM2021.

suggesting a course of action, and accommodate general epistemic statement about what is ‘advisable’ and ‘convenient’, or ‘probable’:

- (24) When such behaviours are illegal, they *should* be addressed by the competent authorities in line with applicable legal norms (JOIN2020, p. 4).
- (25) Building on experience in fighting COVID-19-related disinformation so far, the EU *can* take further concrete and short-term actions to help empower citizens, building better cooperation within the EU and with partners around the world (JOIN2020, p. 11).
- (26) It *can* affect the right of voters to receive information, since micro-targeting allows political advertisers to send tailored messages to targeted audiences, while other audiences may be deprived of this information (COM2021, p. 11).
- (27) The Commission *may* also provide further guidance on how signatories *should* address remaining shortcomings and gaps in the Code (COM2021, p. 24).

Here, a variety of elements are shown as ‘advisable’ or ‘convenient’ in the effort to step up the fight against disinformation, conveying the European Commission’s representation of reality in authority-marking scheme, and eventually being reinforced by the expressions: ‘the Commission/the EU’ will support... (4 times) / will propose... (4 times) / will continue... (4 times (JOIN2020)); the signatories should report... (12 times (COM2021)) and the Code should provide...” (9 times (COM2021)).

In the case of COM2021, the prominent use of modals like *should* (0,60%), *could* (0,25%) and *can* (0,23%) might be explained with the European Commission's intention to denote and connote:

- future obligation, dynamic necessity or advisability:
 - (28) Online platforms and all other players of the online advertising ecosystem *should* thus take responsibility and work together to defund disinformation. Furthermore, the revised Code *should* step up commitments to limit manipulative behaviour, strengthen user empowerment tools, increase the transparency of political advertising, and further empower the research and fact-checking community [...] The strengthened Code *should* also aim to achieve a broader participation with new signatories, including additional online platforms active in the EU as well as other relevant players (COM2021, p. 3).
- informal request, generalization, or suggestion by implication:
 - (29) New signatories *could* also include other stakeholders that *can* have a significant impact through their tools, instruments, solutions or relevant specific expertise, including fact-checkers, organisations providing ratings relating to disinformation sites or assessing disinformation, as well as providers of technological solutions that *can* support the efforts to address disinformation. Such organisations *can* contribute considerably to the efficient implementation of the Code and its success (COM2021, p. 7).
- tentative invitation, general possibility, or suggestion in consideration of the urgent need to improve the efforts to fight COVID-19 disinformation set forth by the JOIN2020 (Facchinetti *et. al.* 2012):
 - (30) However, wider participation from both established and emerging platforms *could* provide a more comprehensive and coordinated response to the spread of disinformation (COM2021, p. 8).

Interestingly enough, *must* (3 occurrences in JOIN2020, and 1 occurrence in COM2021) substitutes *shall* (0 occurrence in JOIN2020, and 1 occurrence COM2021) in its mandatory function, or it rather imposes a legal obligation on the readers/addressees (“Public authorities *must* ensure transparency of their work...” (JOIN2020), “...very large platforms *must* take risk mitigation measures” (COM2021)). This is perfectly in line with the modal revolution in legal writing and the growing tendency of ‘shall-free legislation’ (Garzone 2013, p. 69) embraced by the Plain English Movement (Williams 2006).

Occasionally, JOIN2020 and COM2021 have marked evaluative lexis

to engage directly with the reader/addressee:

- (31) Such content is not necessarily illegal but can *directly endanger* lives and *severely undermine* efforts to contain the pandemic (JOIN2020, p. 3).
- (32) The Commission will *strongly* encourage other relevant stakeholders [...] (JOIN2020, p. 10).
- (33) Signatories should also specifically consider the situation of children *who can be particularly vulnerable* to disinformation (COM2021, p. 14).
- (34) *This work critically depends* on access to platform data. (COM2021, p. 18).

In some cases, while emphasizing dangers, the European Commission is also encouraging by introducing a need to do something about prevention:

- (35) Coordination and collaboration with actors at both EU and global levels, together with the WHO and online platforms, *will be essential* to monitor and *effectively respond* to these challenges (JOIN2020, p. 5).
- (36) A *better understanding* of the functioning of online services, as well as tools that foster more responsible behaviour online or that enable users to detect and report false and/or misleading content, *can dramatically limit* the spread of disinformation (COM2021, p. 14).

As a matter of fact, *directly, strongly, particularly, critically, effectively, dramatically*, are not particularly evaluative in their meaning (Hunston, Thompson 2003), but in the context of COVID-19 disinformation they take on an emotive and forceful meaning.

Mirroring the PR2020 and PR2021, JOIN2020 and COM2020 start off identifying both EU institutions and EU citizens as priorities when it comes to tackle disinformation:

- (37) The COVID-19 'infodemic' has demanded a rapid response from the EU and its Member States. Disinformation can have severe consequences: it can lead people to ignore official health advice and engage in risky behaviour, or have a negative impact on our democratic institutions, societies, as well as on our economic and financial situation. *The crisis has opened the door to new risks, for citizens to be exploited or be victims of criminal practices in addition to targeted disinformation campaigns by foreign and domestic actors seeking to undermine our democracies and the credibility of the EU and of national or regional authorities.* Combatting the flow of disinformation, misinformation and foreign influence operations, including through proactive and positive communication, calls for action through the EU's existing tools, as well as with Member States' competent authorities, civil society, social media platforms and international cooperation, enhancing citizens' resilience.

This work must be done in full respect of freedom of expression and other fundamental rights and democratic values (JOIN2020, p. 2).

- (38) Public authorities must ensure transparency of their work, which contributes to building trust towards citizens and allows for scrutiny of decision-making (JOIN2020, p. 10)

or, the EU rights and freedoms of the EU citizens:

- (39) From its inception, the EU approach to countering disinformation has been grounded in the protection of freedom of expression and other rights and freedoms guaranteed under the EU Charter of Fundamental Rights. In line with those rights and freedoms, rather than criminalising or prohibiting disinformation as such, the EU strategy aims to make the online environment and its actors more transparent and accountable, making content moderation practices more transparent, empowering citizens and fostering an open democratic debate. To this end, the EU has sought to mobilise all relevant stakeholders, including public authorities, businesses, media, academics and civil society (COM2021, p. 1).

However, the European Commission already signals a preference for the relevant stakeholders' role and their embracement of the values guaranteed under the EU Charter of Fundamental rights as the main driver of "clear and accessible communication and accurate information" (JOIN2020, p. 7), and "reliable information for public interest" (COM2021, p. 15). To further index this preference, JOIN2020 and COM2021 specifically call for an effort to stress respect for the identities of the Member States and the European Union and for their fundamental rights and freedoms:

- (40) The current COVID-19 crisis has shown the risk that some measures designed to tackle the 'infodemic' can be used as a pretext to undermine fundamental rights and freedoms or abused for political purpose in and outside the European Union. Hence, the need to be vigilant and uphold our fundamental rights and common values, which should be central to our response to COVID-19. In this context, free and plural media is key to address disinformation and inform citizens (JOIN2020, p. 10).
- (41) The Guidance is based on the Commission's experience to date in monitoring and evaluating the Code and on the Commission's report on the 2019 elections. It also contributes to the Commission's response to the December 2020 European Council conclusions. To collect input to the Guidance, the Commission organised multi-stakeholder discussions as well as a workshop for Member States. This Guidance sets out the Commission's views on how platforms and other relevant stakeholders should step up their measures to address gaps and shortcomings in the Code and create a more transparent, safe and trustworthy online environment (COM2021, p. 3).

Overall, both texts construct the European Commission's identity, and more broadly the EU's identity, as both fixed and inevitably attached to a series of values and practices that are presented as inherently positive and European. In relation to this perceived need to preserve the freedom of expression and other rights and freedoms guaranteed under the EU Charter of Fundamental Rights, JOIN2020 and COM2021 discursively construct the position of the European Commission and EU institutions as a legitimate and good authority, objectify disinformation as a 'threat' of 'common values and democratic institutions', and call 'for support cooperation and sharing of best practice' mobilising 'all relevant stakeholders, including public authorities, businesses, media, academics and civil society'.

The micro-linguistic data examined from SFL perspective have shown the most relevant elements (i.e., pronouns, adjectives, active/passive voice, questions, modal verbs, etc.) that shape aspects of knowledge and relationships in the language and discourse of the European Commission deployed in JOIN2020 and COM2021. Linguistic data, such as modals *should*, *can* and *could*, co-occurring with other grammatically structured features of the texts, reveal a specific interest to construct direct concern and contact with the EU institutions, and 'other stakeholders', who are encouraged to take an active role against COVID-19 disinformation. Eventually, tackling disinformation as an undertaking relies upon the European Commission organizational capacity of discourse to mobilise forces, direct resources, and legitimise actions, and to create 'the enemy' via a discursively objectification of disinformation as a 'threat' and a 'public harm' against which the European Commission, 'in the full respect of democratic values, calls for action through the EU's existing tools, mobilising the Member States' competent authorities, civil society, social media platform, international cooperation and enhancing citizens' resilience' (JOIN2020 and COM2021).

5. Conclusions

Misleading healthcare information and deceptions with false claims, CTs and consumer fraud have endangered public health on a global scale. More recently, the COVID-19 pandemic has been accompanied by a substantial wave of disinformation and CTs attempts to influence debates in the official discourses, breeding on the fertile ground of people's most basic anxieties and the present-day social and economic uncertainty. In its role of developing the EU's overall strategy and designing and implementing EU policies, the European Commission has played an active role in the field of 'communication' and 'disinformation'.

This paper has investigated the discourse of the European Commission in a small corpus of documents, viz. PR2020 and PR2021, and JOIN2020 and COM2021, to tackle COVID-19 disinformation that supports alternative views on official science. By focusing on the meaning-making resources of language within the European Commission's 'fight against COVID-19 disinformation' documents, the SFL has become a valuable instrument for the investigation of the grammatical choices that are available in a language and discourse. Drawing upon genre studies that reveals how a specific genre is geared towards a socially accepted and shared knowledge and objectives (Swales 1990; Bhatia 1993), and following the SFL approach, which offers model options that carry significant meaning available to speakers to create meaning in context, the analysis has revealed that the experiential, interpersonal and textual meanings found in JOIN2020 and COM2021 (Subsection 4.1) are permeated by the discursual strategies (i.e. the outcasting process, dichotomizing narrative) of PR2020 and PR2021 (Subsection 4.2). The results of analysis have revealed the European Commission's discursive process of conceptualising 'verifiably false or misleading information' as 'public harm', while distancing it from the 'European Commission's fight against disinformation' that is discursively constructed as 'the protection of the EU values'. The analysis has shown how linguistic data, such as short-length sentences, the avoidance of technical jargon, pronouns *we* and *you* co-occurring with other grammatically structured features of the texts, reveal a specific interest to construct direct concern and contact with readers/addressees, who feel part of a universal community and are encouraged to become active agents in the fight against disinformation. In this regard, the definition of what is 'good' (*authoritative sources, clear and accessible communication and accurate information*) and 'bad' (*false, inaccurate, or misleading information, the COVID-19 disinformation threat*), as well as the recognition of who is 'we/us' (*our democracies, all EU institutions, other international actors*) and 'they/them' (*fraudulent websites, foreign interference in the information space*) are effectively supported by the over-reaching narrative of the selected documents. Eventually, the phraseological interaction discursively removes the harmful potential of CTs actors legitimising significant control measures as the most effective way to guarantee 'freedom of expression and other rights and freedoms' (PR2020, COM2020), and the EU's image as the shield protecting and 'empowering European citizens and fostering an open democratic debate' (PR2021, JOIN2021).

Future research might consider the impact of the upcoming European legislation on tackling disinformation with the target-readers/addressees, for instance, the narrative that the two main decision-making bodies of the EU, namely the European Parliament and the Council of the European Union, will

construct to raise socio-political support and sustain the EU's power structures.

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References

- Bauman Z. 1990, *Thinking Sociologically*, Blackwell, Oxford.
- Baxby D. 1999. *Edward Jenner's Inquiry After 200 Years*, in “British Medical Journal” 318 [7180], p. 390.
- Bhatia V.K. 1993, *Analysing Genre: Language Use in Professional Settings*, Routledge, London.
- Bhatia V.K. 2008, *Towards Critical Genre Analysis*, in Bhatia V.K., Flowerdew J. and Jones R.H. (eds.), *Advances in Discourse Studies*, Routledge, London / New York, pp. 166-177.
- Bhatia A. 2018, *The Discursive Construction of Terrorism and Violence*, in Flowerdew J. and Richardson J.E. (eds.) 2018, *The Routledge Handbook of Critical Discourse Studies*, Routledge, London, pp. 434-446.
- Bloor M. and Bloor T. 2018, *Systemic Functional Linguistics*, in Flowerdew J. and Richardson J.E. (eds), *The Routledge Handbook of Critical Discourse Studies*, Routledge, London, pp. 151-164.
- Carey J.W. 1992, *Communication as Culture: Essays on Media and Culture*, Routledge, London / New York.
- Chang C.G. and Mehan H.B. 2006, *Discourse in a Religious Mode: The Bush Administration's Discourse in the War on Terrorism and its Challenges*, in “International Pragmatics Association” 16, pp. 1-23.
- Davidson D. and Gilbert H. 2012, *Semantics on General Language*, D. Reidel Publishing Company, Boston.
- Demata M., Heaney D. and Herring S., 2018, *Language and Discourse in Social Media: New Challenges, New Approaches*, In “Altre Modernità” 10, pp. I-X.
- Dubé E., Laberge C., Guay M., Bramadat P., Roy R. and Bettinger J.A. 2013, *Vaccine Hesitancy: An Overview*, in “Hum Vaccin Immunother” 9, pp. 1763-1773.
- Facchinetti R., Palmer F. and Krug M. 2012, *Modality in Contemporary English*, Mouton de Gruyter, Berlin.
- Fairclough, N. 1989, *Language and power*, Longman, New York.
- Fairclough N. 1992, *Discourse and Social Change*, Polity, Cambridge.
- Fairclough N. 2001, *Language and Power*, Pearson, Harlow.
- Fairclough, N. 2005, *Blair's Contribution to Elaborating a New “Doctrine of International Community*, in “Journal of Language and Politics” 4 [1], pp. 41–63.
- Fairclough, N. 2012, *Critical discourse analysis*, in Gee J. and Handford M. (eds.), *The Routledge handbook of discourse analysis*, Routledge, London, pp. 9–20.
- Fairclough N. 2013, *Critical Discourse Analysis. The Critical Study of Language*, Routledge, London.
- Flowerdew J. and Richardson J.E. (eds.) 2018, *The Routledge Handbook of Critical Discourse Studies*, Routledge, London.
- Garzone G. 2013, *Variation in the Use of Modality in Legislative. Focus on Shall*, in “Journal of Pragmatics” 57, pp. 68-81.
- Gelfert A. 2018, *Fake News: A Definition*, in “Informal Logic” 38 [1], pp. 84–117.
- Graham P., Keenan T. and Dowd A.M. 2004, *A call to Arms at the End of History: A Discourse – Historical Analysis of George W. Bush's Declaration of War on Terror*, in “Discourse & Society” 15 [2–3], pp. 199-221.
- Halliday M.A.K. 1978, *Language as Social Semiotic*, Edward Arnold, London.
- Halliday M.A.K. and Matthiessen C.M.I.M. 2013, *Introduction to Functional Grammar*,

- Routledge, London / New York.
- Halliday M.A.K. and Matthiessen C.M.I.M. 2014, *Halliday's Introduction to Functional Grammar*, Routledge, London / New York.
- Halliday M.A.K. and Webster J.J. 2014, *Text linguistics: The How and Why of Meaning*, Equinox, Sheffield.
- Hunston S. and Thompson G. 2003, *Evaluation in Texts. Authorial Stance and the Construction of Discourse*, Oxford University Press, Oxford.
- Kalsnes B. 2021, *Fake News*, In "Oxford Research Encyclopedia of Communication" <https://oxfordre.com/communication/view/10.1093/acrefore/9780190228613.001.0001/acrefore-9780190228613-e-809> (14.01.2022)
- Larson H.J., Cooper L.Z., Eskola J., Katz S.L. and Ratzan S. 2011, *Addressing the Vaccine Confidence Gap*, in "Lancet" 378, pp. 526–535.
- Lazar A. and Lazar M.M. 2004, *The Discourse of the New World Order: 'Out-casting' the Double Face of Threat*, in "Discourse & Society" 15 [2–3], pp. 223–242.
- Maillat D. and Oswald S. 2009, *Defining manipulative discourse: The pragmatics of cognitive illusions*, in "International Review of Pragmatics" 1, pp. 348–370.
- Martin J.R. and White P.R.R. 2005, *The Language of Evaluation: Appraisal in English*, Palgrave Macmillan, Basingstoke.
- Martin G.R. and Rose D. 2007, *Working with Discourse. Meaning Beyond the Clause*, Continuum, London and New York.
- Marwick A and Lewis R. 2016, *Media Manipulation and Disinformation Online*, Data & Society Research Institute, [Data & Society \(datasociety.net\)](https://datasociety.net) (14.01.2022).
- Orosz G., Krekó P., Paskuy B., Tóth-Király I., Böhte B. and Roland-Lévy C. 2016, *Changing Conspiracy Beliefs through Rationality and Ridiculing*, in "Frontiers in Psychology" 7 [1525], pp. 1-9.
- Ott B. and Cameron W. 2000, *Intertextuality: Interpretive Practice and Textual Strategy*, in "Critical Studies in Media Communication" 17 [4], pp. 429-446.
- Schmid, P. and Betsch C. 2019, *Effective Strategies for Rebutting Science Denialism in Public Discussions*, in "Nature Human Behavior" 3, pp. 931-939.
- Silberstein S. 2002, *War of words: Language, politics and 9/11*, Routledge, London.
- Sinclair J.M. 2001, *Preface*, in: Ghadessy M. et al. (eds.), *Small Corpus Studies and ELT: Theory and Practice*, John Benjamins, Amsterdam, pp. vii-xv.
- Stern A.M. and Markel H., 2005, *The History of Vaccines and Immunization: Familiar Patterns, New Challenges*, in "Health Affairs" (Millwood) 24[3], pp. 611-21.
- Swales J.M. 1990, *Genre Analysis. English in Academic and Research Settings*, Cambridge University Press, Cambridge.
- Thanh Le T., Andreadakis Z., Kumar A., Gomez Roman R., Tollefsen S. And Saville M. 2020, *The COVID-19 Vaccine Development Landscape*, in "Nature Reviews Drug Discovery" 19, pp. 305–306.
- Tsui A. 1994, *English Conversation*, Oxford University Press, Oxford.
- Ullah, K.S. Khan, M.J. Tahir, A. Ahmed and H. Harapan 2021, *Myths and Conspiracy Theories on Vaccines and COVID-19: Potential Effect on Global Vaccine Refusals*, in "Vacunas" 22 [2], pp. 93-97.
- Umberti D. 2016, *The real history of fake news*, In "Columbia Journalism Review" https://www.cjr.org/special_report/fake_news_history.php (14.01.2022)
- van Dijk, T.A. 1995, *Ideological Discourse Analysis*, in "New Courant" 4, pp. 135-161.
- van Dijk T.A. 2011, *Discourse Studies: A Multidisciplinary Introduction*, SAGE Publishing, US.

- van Prooijen J.W. 2018, *Empowerment as a Tool to Reduce Belief in Conspiracy Theories*, in Uscinski J.E. (ed.), *Conspiracy Theories and the People who Believe Them*, Oxford University Press, Oxford, pp. 432–442.
- Wardle, C. and Derakhshan H. 2017, *Information Disorder: Toward an Interdisciplinary Framework for Research and Policy Making*, Council of Europe Report DGI, Strasbourg.
- Williams C. 2006, *Fuzziness in Legal English: What Shall we Do with Shall?*, in Wagner A. and Cacciaguidi S. (eds.), *Legal Language and the Search for Clarity: Practice and Tools*, Peter Lang, Bern, pp. 237-263.

COVID-19 AND THE GLOBAL HEALTH THREAT OF “VACCINE HESITANCY”

Analyzing Anti-vax Discourses in Brazilian Portuguese and in German on Twitter

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Abstract – On March 11, 2020, the WHO declared the Novel Coronavirus Disease (COVID-19) outbreak as a pandemic. Along with that, discussions regarding vaccination have revived anti-vaccine movements around the globe. Social media play a key role in the spread of disinformation and conspiracy narratives (Maci 2019). Having that in mind, this study’s objective is to describe discursive patterns and arguments of *anti-vax* campaigns posted on Twitter in Brazilian Portuguese and in German in January 2021 under the hashtags #vacina and #impfung. This piece of research relies on Social Media Critical Discourse Studies (KhosraviNik 2018) and made use of a software-based corpus linguistic approach to identify recurrent themes and textual patterns in *anti-vax* campaigns. Linguistic resources were examined with a focus on the Transitivity System proposed by Halliday and Matthiessen (2004, 2014). The comparative analysis has shown that the socio-political context in which the users formulate the Tweets clearly shapes the German and Brazilian Portuguese *anti-vax* Tweets. At the same time, similarities were found in terms of the discursive patterns of *anti-vax* arguments. These include a strong focus on interrogative statements and a de- and recontextualization of discourses originally put forward by (historically) marginalized groups to construct *anti-vax* activists as victims of a “dictatorship of pro-vaccine policies”. To address issues such as “vaccine hesitancy”, it is necessary to understand arguments and ideologies that support and are spread through *anti-vax* movements. Analyzing *anti-vax* discourses in Brazilian Portuguese and German has been a first step to provide new insights from a context-sensitive and language-comparative perspective.

Keywords: Anti-vax discourse; Social Media Critical Discourse Studies; Transitivity Analysis; Brazilian Portuguese; German.

1. Introduction

The COVID-19 pandemic has accelerated the spread of disinformation and conspiracy narratives and has further revived anti-vaccine movements around the globe. The World Health Organization (WHO) calls “vaccine hesitancy” a leading global health threat and defines it as “the reluctance or refusal to vaccinate despite the availability of vaccines” (World Health Organization

n.d.).

Within an era marked by “the postmodern medical paradigm” (Kata 2012), people increasingly challenge the legitimacy of science and authority and seek health-related information online. Given the affordances of Web 2.0, the online realm offers a wide range of user-generated content published by (self-declared) health experts (Kata 2012, p. 3779). This is particularly true for social media platforms, where so-called “alternative discourses” marked by specific “anti-languages” (Halliday 1976) of health communication have emerged. These discourses use fake news and misinformation to oppose “official” media and science and have gotten the attention of researchers, given their key role in accelerating “vaccine hesitancy” (see also Meyer *et al.* 2019; Zimmerman *et al.* 2005). Indeed, a crucial first step to address issues such as “vaccine hesitancy” is to understand these “alternative discourses”, its “anti-languages” as well as related ideologies that drive these online anti-vaccination movements on a global scale.

The exploration of anti-vaccine discourses has recently also joined the research agenda of linguists and critical discourse analysts (see for example Maci 2019). Researchers have started to describe elements of a distinct anti-vaccine rhetoric (Ruiz *et al.* 2014) and have identified textual patterns to enable automated methods of fake news identification (see for example Moraes *et al.* 2019). Studies have also focused on specific discursive strategies and ideological dynamics in relation to *anti-vax* campaigns, for example on Twitter (Maci 2019). However, with a few exceptions most studies have focused on English (Kata 2010; 2012; Maci 2019; Gunaratne *et al.* 2019; Ma *et al.* 2017).

To the best knowledge of the authors, no empirical research has so far studied discursive patterns in fake-news circulated by anti-vaccine activists from a language-comparative perspective. Research does suggest, however, that “fake news” and *anti-vax* discourses differ across countries and languages (e.g., Humprecht 2019; Zuk *et al.* 2019; Becker *et al.* 2016). Consequently, this study wants to analyze *anti-vax* Tweets posted during the COVID-19 crisis in German and Portuguese from a context-sensitive and language-comparative perspective.

In line with KhosraviNik (2018), a Social Media Critical Discourse Studies (SM-CDS) approach will be used to shed light on context-specific differences of *anti-vax* discourses. The study uses a software-assisted mixed-methods design and draws on a multidisciplinary critical discourse analysis framework (Fairclough 2003, 2010) to contribute to a better understanding of *anti-vax* discourses. The study is centered on the following research question: How do *anti-vax* Tweets in Brazilian Portuguese and German differ or coincide in their experiential and representational meaning and/or mirror the

specific socio-political context in which the users have formulated them?

To answer this research question, a corpus encompassing Tweets posted in January 2021 under the general hashtags #vacina and #impfung in Brazilian Portuguese and German was compiled and subsequently coded. The focus on January 2021 was motivated by the period in which the first COVID-19 vaccines were authorized by the European Commission (on 21st December 2020) and the Brazilian government (on 17th January 2021). Studies have shown that it is specifically around the time of a vaccination program's introduction in which public discussions reach their peak (Becker *et al.* 2016, p. 6166).

After embedding this comparative analysis as well as the phenomenon of vaccine hesitancy in the respective context, we will explain the research objective and its broader theoretical-methodological framework. The two language-specific subcorpora including #impfung and #vacina Tweets will then be contextualized with a focus on the main identified topics and arguments as well as the dominating attitudes towards vaccination, followed by a description and comparative discussion of experiential and representational meanings identified in *anti-vax and vax-skeptical* Tweets. A final section will include concluding remarks.

2. Vaccine hesitancy & anti-vax rhetoric in Brazilian Portuguese and German

The *infodemic* “an overabundance of information, both online and offline [...] [including] deliberate attempts to disseminate wrong information to undermine the public health response and advance alternative agendas of groups or individuals” (World Health Organization 2020) is a worldwide phenomenon and lies at the roots of vaccine hesitancy. Studies have shown a strong relation between conspiracy endorsement and compliance with infection-reducing, containment-related behavior (Imhoff *et al.* 2020), which speaks for the need to study *anti-vax* rhetoric and conspiracy narratives that reflect and uphold what has been labelled *conspiracy mentality*. Imhoff, Social Psychologist at the Gutenberg University Mainz, defines *conspiracy mentality* as “a generalized belief that powerful forces operate in secret to rule the world” (Imhoff *et al.* 2020, p. 1111).

In both contexts under scrutiny here, Brazil and the German-speaking region, the phenomenon of vaccine hesitancy is driven by a high level of *conspiracy mentality* and the resistance to the COVID-19 vaccine is strikingly high. German-speaking countries have been characterized as particularly strong in *conspiracy mentality* (Manakas 2021). The COVID-19 crisis and insecurities that came along with it, have also led to a dramatic

increase in racist, discriminatory, and anti-Semitic behavior. A recently published report on the effect of the pandemic on German-speaking extremist communities shows how these try to benefit from the pandemic through their interpretations of the crisis (Guhl *et al.* 2020). The ZARA report on racism also shows that the effect of extremist COVID-19 related discourse is not restricted to the digital domain but results in racist, discriminatory and anti-Semitic behavior on- and offline (Verein ZARA Zivilcourage & Anti-Rassismus-Arbeit 2021). As an example, between March 17 and the end of 2020 a total of 284 gatherings were documented in which anti-COVID measures were accompanied by anti-Semitic statements such as the equation of the Nazi persecution of Jews with anti-COVID measures (Federal Association RIAS e.V. 2021, p. 7).

The *conspiracy mentality* seems to be similarly high in Brazil. Indeed, the Brazilian fact checking services have recorded enormously high numbers of false or distorted statements on the pandemic. An extensive amount of misinformation about the coronavirus disease was spread on social networks and alternative media, counting with the support of doctors, journalists, and politicians (Silva 2021). *Aos Fatos* found in a period of six months (March to September 2020) more than 600 of Brazilian extreme right wing President Jair Bolsonaro's statements on COVID-19 to be false or distorted (Ribeiro *et al.* 2020). When the WHO announced COVID-19 a pandemic on March 11, 2020, Bolsonaro kept calling the disease also weeks later “uma gripezinha ou resfriadinho” (a little cold) and disregarded recommendations by health experts regarding distancing and hygiene when attending demonstrations and protesting crowds (Leschzyk 2020, p.110). The political scientist Guilherme Casarões refers to the Brazilian president's actions towards the COVID pandemic as “sanitary populism” or “medical populism”. This creates a division of opinions regarding mass vaccination and distracts the population and thereby spreads and perpetuates “a situation of moral panic” (Gragnani 2021). A strong scientific denialism combined with the political context seem to be the relevant factors for the growing *anti-vax* movement in Brazil (Lucia *et al.* 2021). According to the scholar Glícia Grino, this misinformation campaign against the vaccines explains the considerable amount of Brazilian citizens who do not want to get vaccinated (Lucia *et al.* 2021).

While a similarly high level of *conspiracy mentality* and vaccine hesitancy is evident in both contexts, the governments in the German-speaking countries and in Brazil deal with the pandemic situation very differently. Various social actors drive the *infodemic* with distinct discursive strategies, as for example analyzed by Leschzyk (2021) with a focus on Germany and Brazil. This makes the contexts particularly interesting for an analysis of *anti-vax* Tweets from a comparative perspective.

3. Theoretical framework and methodological approach

This research relies on Social Media Critical Discourse Studies (SM-CDS), which is a “socially committed, problem-oriented, textually based, critical analysis of discourse” (KhosraviNik, 2018, p. 586) and uses evidence from two language-specific corpora based on the German #impfung and the Portuguese #vacina to investigate sites of meaning-making within *anti-vax* Tweets. In the following subsections the corpus-based multidisciplinary SM-CDS framework will be introduced and key concepts that are at its core will be described. Further, the process of data collection and methods of data analysis will be detailed.

3.1. Corpus-based multidisciplinary SM-CDS framework

As proposed by KhosraviNik’s (2018) SM-CDS model, this analysis tries to link the discursive practices, that is, the micro-features of the textual analysis as well as the vertical context substantiation to the societal discourses-in-place (KhosraviNik, p. 585). Therefore, the “thick” context (Couldry 2012) as represented in the processes and meanings of the text itself is in the spotlight of this analysis. The aim is to interpret the language of the *anti-vax* Tweets within a wider socio-political context of two distinct language communities. A Systemic Functional Linguistics’ (SFL) approach is employed for the textual analysis to identify and describe the micro-features of the *anti-vax* Tweets.

As previously mentioned, the theoretical approach of language which this study draws on is SFL, developed by Halliday (Halliday *et al.* 2004, 2014). The study further builds on the language-specific descriptions of the Transitivity system with regard to German (Steiner *et al.* 2014) and Brazilian Portuguese (Fuzer *et al.* 2014). According to SFL, language functions as a meaning-making resource with the purpose of accomplishing communicative goals, and it is inextricably connected to its social and cultural contexts. The notion of ‘systemic’ refers to language as a network of interconnected systems. In this sense, language works as any other semiotic mode whose produced meanings are made of choices within the available possibilities (Fuzer *et al.* 2014). In addition, Halliday and Matthiessen (2014) state that language enacts three metafunctions working simultaneously at the semantic level: Ideational, Interpersonal, and Textual meanings. The first metafunction is related to the construction of human experience, the second refers to the use of language in interaction, and finally, the last one has to do with the organization of the information in texts.

Having in mind the objectives of this study, our analysis focuses on the ideational metafunction of the Tweets, specifically on the experiential

meanings realized through the Transitivity System, hence on the lexico-grammatical level of meaning-making. This system is related to “the choice of process types and participant roles seen as realizing interactants’ encoding of their experiential reality: the world of actions, relations, participants and circumstances that give content” to any text (Eggins 2004, p. 208). The world of actions characterizes the “ongoings” of the event - depictions of happening, going, saying, sensing, being or having - and they are represented by processes (verbs). For a summary of the main process types and participants involved in each process, see Halliday (2014, p. 311).

3.2. Methods of data collection and analysis

Hashtags are used in microblogging services such as Twitter to label the topic of microposts; in this sense, they are forms of metadata which constitutes an integral part of Tweets (Zappavigna 2012). In order to collect discourses related to vaccine hesitancy and COVID-19 in Portuguese and German, this analysis used the affordances provided by what has been labeled “searchable talk” (Zappavigna 2012, 2015). A corpus of 15,398 Portuguese Tweets and 15,722 German Tweets was built based on the discourse tags #impfung and #vacina. Only posts published during January 2021 in German and Portuguese including the hashtags #impfung and #vacina within the microposts have been included in the corpus. Tweets posted in this period and languages, excluding retweets, were purchased by Vicinitas and imported into Maxqda, a software for qualitative content analysis. The two experiential hashtags #vacina and #impfung have been selected given their popularity, their relevance to a broader audience as well as due to the pertinence to the problem at hand “vaccine hesitancy”. In contrast to other types of hashtags, for example, interpersonal hashtags such as #retweet, experiential tags relate to the “aboutness” of a post (Kehoe *et al.* 2011) and have a classificatory function of indicating the topic of microblogs.

In order to gain a good overview of the data and the unfolding of meaning within the Tweets, the language-specific sub corpora were analyzed by means of AntConc in a first step of analysis. A specific focus was given to frequent content words.

In a second step, a randomized cross-section considering a wide variety of posting times of 100 German data segments and around 75 Portuguese data segments per day of January 2021 were manually coded in Maxqda. This amounts to a total of 2,762 coded German and 2,116 coded Portuguese verbal segments including intertextual elements and another 338 visual elements illustrating the German Tweets and 410 visual elements illustrating the Portuguese Tweets. A total of 3,100 verbal and visual data segments related to the German Tweets and a total of 2,526 verbal and visual data segments

related to the Portuguese Tweets form a smaller subcorpus that was in the spotlight of this analysis. Focusing on a randomized smaller subcorpus for the qualitative analysis allowed us to guarantee an in-depth, manual analysis of the Tweets and to accompany the development of *anti-vax* narratives over a comparatively long period of one month in both languages.

Verbal and visual elements of the randomized cross-section were qualitatively coded based on the identified message tone and a common codebook as *pro-vax*, *anti-vax*, *vax-skeptical*, *neutral*, *unclear* and *not-covid-related*. A Tweet was coded as *pro-vax* if it contained a clear positioning in favor of the COVID-19 vaccine (e.g., clear reference to a wish of getting vaccinated, testimonials about a past COVID-19 vaccine and similar). A Tweet was coded as *anti-vax* if it contained a clear positioning against the COVID-19 vaccine e.g., information to convince others that the vaccination is dangerous and harmful e.g., based on fake news. A Tweet was coded as *vax-skeptical* if it did not have a clear positioning in favor or against of the COVID-19 vaccine but referred to possible side effects, risks, dangers or casualties possibly related to the vaccination. Tweets which aimed at sharing informative content regarding vax-related topics, opinions around different vaccine types or comments on the national vaccination policies not including any positioning regarding the vaccination per se, were coded as *neutral*. Tweets whose message tone could not be identified due to a lack of context, missing intertextuality or suspended links were coded as *unclear*. Tweets not referring to the COVID-19 vaccination but to other types of vaccination were coded as *not-covid-related*.

In a third fine-grained coding step, Tweets were further coded based on their main arguments and topics. In order to identify the Tweets message tone as well as recurrent themes, intertextual elements explicitly referred to in the Tweets via hyperlinks, such as YouTube videos, newspaper articles, related Tweets and similar were consulted and separately coded. Based on the message tone and the topic analysis the coded elements were merged and attributed to six distinctive code sets: ‘*anti-vax or vax-skeptical*’, ‘*pro-vax*’, ‘*neutral*’, ‘*intertextual elements*’, ‘*visuals*’ and ‘*unclear or not-covid-related*’.

In a fourth step, the qualitatively coded verbal and visual elements pertaining to the cumulative code set ‘*anti-vax or vax-skeptical*’ were further examined with a focus on the Transitivity System proposed by Halliday and Matthiessen (2004, 2014). Textual elements on visuals were considered within the analysis. Due to the huge amount of German *anti-vax and vax-skeptical* data, for the Transitivity analysis, the coded segments of the cumulative code set ‘*anti-vax or vax-skeptical*’ were exported from Maxqda to AntConc and the wordlist was screened for the main verbal processes. The concordance lines of the top 10 most frequent verbal processes were then

analyzed for participants and circumstances. Concordance lines are particularly useful for analyzing microblogs along both syntagmatic and paradigmatic axes (Zappavigna 2012, p. 45). Given the low amount of Portuguese *anti-vax* and *vax-skeptical* data, all coded 71 Tweets were considered within the Transitivity analysis. For an overview of the steps of analysis, see Table 1.

Step 1:	Analysis in AntConc of frequent content words within the complete, language-specific corpora #impfung and #vacina to gain insight in the unfolding of meaning in the Tweets
Step 2:	Qualitative coding of message tone of a randomized language-specific cross-section of #vax Tweets based on identified attitude and a common codebook (<i>pro-vax</i> , <i>anti-vax</i> , <i>vax-skeptical</i> , <i>neutral</i> or <i>unclear</i>) including the consultation of intertextual elements (hyperlinks, etc.) for the disambiguation of the Tweets' message tone
Step 3:	Fine-grained qualitative coding based on the main arguments and topics of the cross-section of #vax Tweets
Step 4:	Transitivity analysis of verbal data (including those on visuals) of Tweets pertaining to the cumulative code set ' <i>antivax</i> or <i>vax-skeptical</i> '
Step 5:	Interpretation, discussion and comparison of results within a SM-CDS framework

Table 1
Overview of steps of analysis.

3.3. Limitations of this study

Due to the intention to perform a manual Transitivity Analysis, the authors limited the close analysis to a randomly sampled smaller corpus including 70-100 Tweets posted in each language on each day in January 2021. The intent of this was to allow for a close reading with a focus on experiential meaning for the purposes of trying to understand tendencies of re-interpretation and local adaptations of *anti-vax* and *vax-skeptical* narratives. The authors hope that the results of this rather small qualitative analysis can provide first insights and hypotheses for further research.

4. Results and Discussion

This section describes the results of the analysis and will focus on both the main results for each language-specific subcorpus and a comparison of the two sub corpora so as to highlight context-specific peculiarities regarding topics and experiential meaning.

4.1. Contextualizing the data

An analysis of the language specific word lists of both sub corpora covering 15,398 Portuguese Tweets and 15,722 German Tweets in AntConc shows similar results for the first most frequent 50 words. This speaks for the systematizing function of the selected parallel hashtags #impfung and #vacina as links to thematic timelines as opposed to ad-hoc hashtags or only locally significant ones (Dayter 2016, p. 85).

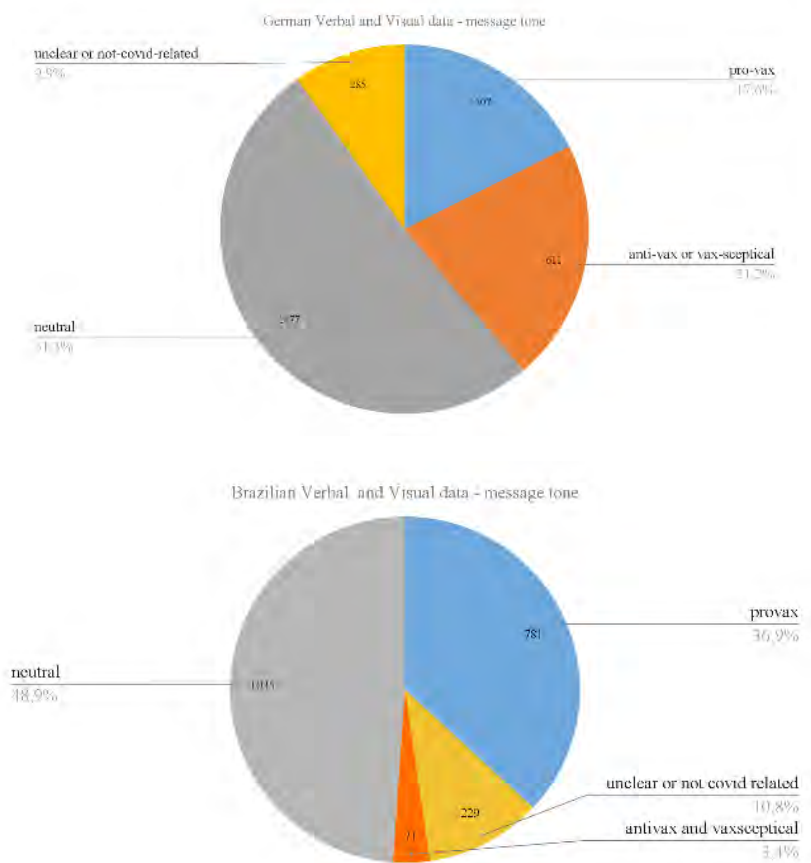
The most frequent non-content words include items that can be related back to typical characteristics of the language of microblogs, as outlined by Crystal (2011). This regards the top 10 items in the word list such as “nbsp” “https” “www” or “co” which relate to the format of the Tweets as messages embedded in a matrix of support information referenced via hyperlinks and short links.

Content nouns among the Top 50 German words, excluding those that can be related back to distinctive elements of Tweets per se (such as for example “android” or “iphone”) are 1.*impfung* (vaccination), 2.*corona*, 3.*covid*, 4.*impfstoff* (vaccine), 5.*coronavirus* and 6.*menschen* (people). Content nouns among the Top 50 Portuguese words are 1.*vacina* (vaccine), 2.*covid*, 3.*brasil*, 4.*coronovac*, 5.*bolsonaro*, 6.*coronavirus*, 7.*vacinação* (vaccination), 8.*vacinas*, 9.*doses* (shots), 10.*saúde* (health), 11.*pandemia*, 12.*anvisa* (Brazilian Health Regulatory Agency) and 13.*butantan*. Given these frequencies, the Portuguese data seem to be more heterogeneous with regard to the participants and circumstances in the verbal processes as compared to the rather non-specific participants, such as *menschen* (people) in the German data. The comparatively stronger focus on abstract and implicit actors within the German data as opposed to the Brazilian Portuguese data was also confirmed by the results of the Transitivity analysis.

Given that, generally speaking, Tweets do not include complete geotagged information, also not geotagged Tweets posted in the selected languages were considered for the corpus and the analysis. However, 5,155 hits for *Brazil* and 1,275 hits for *Deutschland* (Germany) point towards a tendency of German Tweets relating mostly to the socio-political context of Germany and Portuguese Tweets relating mostly to the Brazilian context. This is further confirmed by high frequent words such as *Bolsonaro* (2585

hits, position 32), a reference to the Brazilian President and *Anvisa* (1365, position 46), a reference to the Brazilian Health Regulatory Agency and *Spahn* (630 hits, position 109), a reference to the German Minister of Health.

The word list also points to key issues that have been identified, as can also be seen in the qualitative analysis of the smaller subcorpora. These relate for the German corpus to discussions of a possible mandatory vaccination (615 hits for *Impfpflicht*, position 111) and discussions of vaccination policies and involved political actors in general (712 hits for *Politik*, position 99), which are two of the most common topics referred to within the German Tweets coded as *neutral* in their message tone. Similarly, in the Brazilian Portuguese data, frequent content words point to discussions around vaccination policies and key political actors, as well as central agencies involved in the production of the vaccine (*Butantan*). The high frequency of *Coronavac* can be related to discussions around this vaccine and acknowledgments of Brazilian scientists as well as discussions regarding the process of negotiation of the raw material for the *Coronavac* vaccine and its production in Brazil, which involved serious political tensions.



Graphs 1-2
 Overview of message tone in verbal and visual data
 (left: German data, right: Portuguese data).

The qualitative coding of the message tone shows for the German data a majority of Tweets coded as *neutral* (51%). A similar amount of data has been coded as *pro-vax* (18%) or either *anti-vax or vax-skeptical* (21%). Around 10% of the data were coded as *unclear* due to lacking intertextual elements or suspended links. Data coded as *unclear* have not been further considered for the fine-grained qualitative coding. Similarly to German data, the majority of Portuguese Tweets analyzed were identified as *neutral* (49%). *Pro-vax* Portuguese Tweets are 37% of the coded data, while only 3% represents *anti-vax* and *vax-skeptical* Tweets. A rather small number of Tweets was identified as *unclear* or *not covid related* (11%). See also Graphs 1 and 2 above for an overview of the distribution in message tone identified for the German and Portuguese data.

4.2. Trending topics

After the message tone analysis, we moved to the analysis of *trending* topics. *Trending* hereby refers to topics that re-occurred within the German and Brazilian Portuguese data within the respective code sets. Firstly, we looked at the main topics within the neutral Tweets.

A large majority of German *neutral* Tweets (68%) are comments on national vaccination policies in German-speaking countries with a strong focus on Germany and discussions around the prioritization of professional categories in the respective vaccination plans. Several Tweets also refer to the purchase of vaccinations on the European level and related issues. A significant number of *neutral* Tweets also discusses privileges that vaccinated people should or will have as well as a possible mandatory vaccination policy (e.g. care personnel). A smaller number of *neutral* Tweets (20%) focuses on displaying how many people have been vaccinated around the world and in German-speaking countries. Strong focus is also put on Israel and its vaccination progress. Another rather heterogeneous category of *neutral* Tweets includes discussions regarding the choice of vaccines as well as general vaccine-related comments and questions (12%).

Concerning neutral Tweets from Brazil, most of them (89%) are updates related to the procedures of acquiring the vaccine and negotiations, including measures coming from federal institutions such as the Ministry of Health and the State governors. Several *neutral* Tweets also have an informative purpose and tell people where they could get vaccinated. Such informative Tweets increased in frequency after the first administration of the vaccine in São Paulo (after 17th January). Additionally, some Tweets display the number of people who have been vaccinated nationally and around the world, including politicians and celebrities. A small number of neutral Tweets (7%) are comments on national vaccination policies in Brazil; the

comments include criticism against the government's non-strategic measures for the purchase of the vaccine. An even smaller number of neutral Tweets (4%) discusses vaccine types.

A fine-grained coding of trending topics in the 507 German *pro-vax* elements shows that these are mostly reactive. Interestingly a majority of Tweets (42%) directly refers to *anti-vax* narratives. Three reactions are most common: 1. making fun of *anti-vax* activists and their narratives, 2. trying to convince *anti-vax* activists by an appeal to reason and the sharing of scientific articles or by contradicting *anti-vax* narratives by means of scientific articles and 3. attacking *anti-vax* activists (e.g., by calling them names).

Frequent hashtags employed with the aim to attack and insult *anti-vax* activists are #Covidioten (compound of *COVID-19* and *Idiot*), #Impfswurbler (compound of *Impfung* (vaccine) and *Schwurbler*, a pejorative personal noun referring to people talking nonsense, (Duden n.d.) and #Querdenker. The latter one being a denomination for sympathizers of a political movement referred to as *Querdenken* that has emerged during the COVID-19 pandemic and is amongst others against the COVID-19 vaccination (see also Acevedo *et al.* 2021). *Pro-vax* Tweeters frequently refer to themselves by means of #Impfluencer, compound of *Impfung* and *Influencer*. A further 13% of Tweets include informative narratives and share data and statistics on the vaccination's safety and effectiveness, without a direct reference to *anti-vax* narratives.

Another 27% of the analyzed *pro-vax* German Tweets can be described as *vax*-related testimonials. These Tweets include reports on the physical well-being after a concluded COVID-19 vaccination with a focus on light side-effects and no side-effects as experienced by the Tweeter or their relatives. These testimonials also frequently refer back to common *anti-vax* narratives and ironize them. One of the ironic Tweets states for example *Zweiter Chip erfolgreich implantiert! #impfung* (The second chip has been successfully implanted #vaccine).

Another related group of testimonials includes "celebrity testimonials" with a focus on showcasing that role models got vaccinated. Further testimonials include reports on a successful registration for the vaccination. Another group of *pro-vax* data can be described as rather proactive and focuses on convincing and informing others that the vaccination is useful by means of an appeal to reason and the sharing of scientific articles, informative threads, videos, diagrams and similar. Within these Tweets the vaccination is presented as the best solution to the pandemic. Related to this group of data a smaller category of around 7% of *pro-vax* Tweets specifically includes calls to action to get vaccinated or to get registered for the vaccination programs. Another category of around 11% of the analyzed *pro-*

vax Tweets refers to the wish and desire of getting vaccinated soon.

Compared to the *pro-vax* German Tweets, a larger number of Brazilian Portuguese Tweets are narratives in favor of vaccination (50%). Among them, several Tweeters inform on the importance and safety of the vaccination and reinforce that the vaccination is a safe procedure. Several arguments present informative content, such as study results published in the general media, explanatory videos and diagrams from official health institutions (such as World Health Organization, for instance) to fight fake news about the vaccines.

The second most recurrent *pro-vax* narratives are related to *anti-vax* discourse (20%). As occurs in German Tweets, these narratives represent reactions towards *anti-vax* narratives; among the Brazilian Portuguese Tweets the tone of making fun of people's arguments against vaccination is predominant. The presence of a large amount of comic strips in which vaccinationists make fun of or criticize anti-vaccinationists is noticeable. These comic strips also refer to politicians such as the Brazilian president.

Other *pro-vax* Tweets display arguments to convince *anti-vax* activists by an appeal to reason and the sharing of information based on studies and official institutions. *Pro-vax* testimonials represent 13% of *pro-vax* narratives; these Tweets are in favor of vaccination and report on and describe a concluded vaccination. During the month of January in Brazil, only health professionals could get vaccinated, therefore most of the Tweets or pictures were related to these professionals.

Finally, the last type of *pro-vax* narrative is related to the wish of getting vaccinated soon. Similar to the German data, in the Brazilian Portuguese Tweets people express their desire to get vaccinated by sharing illustrations of how they would feel or how they would be after the immunization. Some of them are mockeries of *anti-vax* narratives, as for instance, a meme with illustrations of alligators. These alligators are pictured as the result of a transformation after getting vaccinated. These memes are related to an event held in Bahia in which the Brazilian president Bolsonaro mentioned that the government was not responsible for the side effects of the vaccine Pfizer, and if people would become alligators once they got vaccinated, they would be on their own. This joke is also present in several *pro-vax* narratives and testimonials.

A detailed analysis of the main arguments mentioned in the 611 *anti-vax* or *vax-skeptical* German visual and verbal data shows a clear majority of *vax-skeptical* data (59%) compared to the *anti-vax* narratives (41%). The main distinguishing factor between those two categories is that *vax-skeptical* data are rather doubt-driven and mainly raise skeptical questions or comments while *anti-vax* data seem to be rather purpose-driven and focused on calling the audience to “wake up”. The main topics identified within the

vax-skeptical messages are 1. possible future side effects that cannot yet be foreseen due to the short testing period, 2. reference to other alternative solutions to the vaccine that seem to be less risk-intense (e.g. “natural infection”) and/or more efficient (e.g. #nocovid) and 3. an articulated skepticism and the sowing of doubt around the vaccination and its aims or implications due to a felt lack of transparency regarding information on deaths induced by the vaccination or lack of transparency on vaccination contracts and regarding strategies of administration. Further, reference is also made to other scandals related to pharmaceuticals such as for example the Contergan Scandal, one of the major drug scandals in German history, that led to congenital malformations and was uncovered in the 1960s.

The *anti-vax* data include a very small amount of reactions to *pro-vax* narratives. Specific reference is made to *pro-vax* “celebrity testimonials”. These are Tweets typically including pictures of celebrities or well-known people accompanied by a short text on a successfully concluded vaccination. These “celebrity testimonials” are classified within *anti-vax* Tweets as “fake news” and “lie”. Further, reference is made to *pro-vax* supporters mainly in three ways: 1. to attack them as brainwashed and stupid, 2. to defend themselves and state that *pro-vax* supporters are vilifying them groundlessly and 3. to offer them help. Particularly when defending themselves from *pro-vax* supporters, *anti-vax* supporters frequently recur to analogies of the persecution of Jews during National Socialism in Germany.

Anti-vax narratives not reacting directly to *pro-vax* supporters are mainly centered on side effects of the vaccination. Several narratives report on cases of death as a result of the vaccination. These are also based on fake news articles, which are referenced in short links. Moreover, *anti-vax* Tweeters establish that the vaccination is killing people on purpose and making the COVID-19 crisis worse. They relate the vaccine, amongst others, to several not further defined physical reactions such as *Zytokinsturm* (cytokine storm), *Immuneescape*, an increased risk of HIV and similar issues which are mainly framed as deadly and described by means of heavy medical terminology.

A similarly large number of Tweets focuses on informing about what is called within the *anti-vax* Tweets the “plandemic”. The (mainstream) media, Big Pharma, politicians as well as public people such as Bill Gates are defined as key actors in the planning of this pandemic. Mainly, Tweets refer to one of the subsequent three goals of the “plandemic”: 1. making profit, 2. establishing a dictatorship or new order, 3. provide a solution for an ‘ongoing problem’, such as the high number of elderly people. The first goal is mainly related to actors such as Big Pharma and Bill Gates, while the second one is commonly related to the German green party and left parties as well as rich elites. Again, Nazism is referred to very frequently and *anti-vax* Tweeters are

identifying themselves as new victims of a new fascist and a *pro-vax* regime that have the aim to subjugate and to silence them. On several occasions reference is made to censorship and the mainstream media that would support this newly established *pro-vax* regime.

Another issue frequently referred to in the *anti-vax* data regards liability issues around the administration of the vaccine stating that doctors administering the vaccine will face prison sentences in the future and similar. Also “celebrity testimonials” against the vaccination are common within the Tweets. Reference is made to courageous doctors speaking the truth against the vaccine as well as other countries, such as Tunisia and Argentina, or former employees of Pharma companies such as Pfizer who all warn against the vaccination.

Anti-vax and *vax-skeptical* Tweets from Brazil represent the smallest number of the analyzed data (3,4%). Only 71 Tweets were found, including visuals. Among these 71 Tweets, 62% belong to *anti-vax* narratives, while 38% are *vax-skeptical*. Hence, most of the Tweets are narratives against vaccination which have the aim to convince others that vaccines are not safe due to its side effects or to question the emergency approval of vaccine use that were still in the phase of ongoing studies. As also occurring within the German data, these questions mainly relate to the possible side effects that cannot yet be foreseen due to the short period of testing - people who are getting vaccinated are for example called experimental “guinea pigs”.

Pro-vax supporters are also insulted and called names, such as “stupid”. Visuals and other references among the *anti-vax and vax-skeptical* Tweets are mainly related to the side effects of the vaccine after someone is vaccinated, and they serve as a resource to give support for their *anti-vax* arguments. Similar to the German Tweets, the Brazilian Tweets also strongly rely on interdiscursivity and medical terminology. Some of the side effects reported in these references were facial paralysis, erectile dysfunction, and cases of deaths supposedly because of the vaccination.

Narratives regarding the freedom of choice or the freedom to not get vaccinated are also present in the data along with warnings that vaccine policies harm the individual rights of free choice. In addition, some narratives argue for an “early treatment” of COVID-19 with Hydroxychloroquine, as proposed by the Brazilian president Bolsonaro; several *anti-vax* Tweets also show support of the president's actions to face the pandemic. Among the trending narratives in the Brazilian *anti-vax* data, one is calling the vaccine a Chinese strategy to devour people and to dominate the world.

Finally, some Tweets also report that evangelical pastors were intervening in the process of indigenous people taking the vaccine, pushing them away to not get immunized. Differently from German Tweets, none of the Brazilian ones refer to Big Pharma. *Vax-skeptical* Tweets in both the

Brazilian Portuguese data and the German data also have a pattern of referring to news, which present side-effects and deaths around the vaccination. Interestingly, these Tweets tend to be posted in a question mode, asking the reader to interact with the doubt proposed and find the answer on the visual aids and references. In these cases, some of them present an ironic tone (almost as a rhetorical mode), in the sense of questioning the vaccine's effectiveness.

4.3. Transitivity patterns

535 German verbal segments and 76 visual elements were coded as either *vax-skeptical* or *anti-vax* in their message tone. The top 10 most frequent verbs among the verbal segments are *ist* (freq. 176), *werden* (freq. 61), *hat* (freq.50), *wird* (freq.48), *sind* (freq.47), *impfen* (freq.40), *haben* (freq.38), *gibt* (freq.26), *kann* (freq.23) and *war* (freq.23). Repetitive concordance lines as well as hyperlinks were excluded within the analysis.

A majority of processes with *ist* and *sind*, the singular and plural 3rd person of “to be” in the present, are relational. This is also the case for *war*, which is employed to construct relational processes with “to be” in the past. In a smaller number of clauses, *ist* also serves as auxiliary in material processes realized in the past. Similar to *ist* also *hat* serves as auxiliary in material processes realized in the past and figures as well in possessive relational processes. The processes with *werden* and *wird* are mainly material and the verbs function as auxiliaries for the passive voice or future tense. *Impfen* mainly appears in the infinite mode together with a finite modal verb and *lassen* or is simply employed as a *#Impfen* attached to the Tweet. *Gibt* figures almost exclusively in existential processes, while *kann* mainly appears as modulation in material clauses. Accordingly, the top 10 verbs point towards a clear majority of relational and material processes within the German *anti-vax* and *vax-skeptical* data.

<p>Die #Impfung ist sicher PUNKT</p> <p>Wenn Tod nach Impfung, dann hat das nichts mit dem #Impfstoff zu tun PUNKT</p> <p>Fragen unerwünscht PUNKT</p> <p>#COVID19 #lockdown2021 https://t.co/vmztOhrf98</p> <p>https://twitter.com/Lei/Alexe/status/1351820093714554881</p> <p>♡ 5 🗨️ 2 💬 0 📌 0</p> <p>Twitter Web App · Jan 20, 2021 09:39:05</p>	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Weltweit. Überall da wo aktuell geimpft wird - ist es zeitlich zufällig.</p> <p>+++ 14:14 Wahrscheinlich "zeitlich zufällig": Zehn Schwerkranke sterben kurz nach Impfung +++</p> <p>Das Paul-Ehrlich-Institut prüft bislang zehn Todesfälle kurz nach einer Corona-Impfung - ein Zusammenhang gilt den Experten zufolge aber als eher unwahrscheinlich. In diesen Fällen waren schwer kranke Menschen innerhalb von vier Tagen nach der Immunisierung gestorben, berichtete das für Impfstoffe und biomedizinische Arzneimittel zuständige Bundesinstitut im hessischen Langen. "Aufgrund der Daten, die wir haben, gehen wir davon aus, dass die Patienten an ihrer Grunderkrankung gestorben sind - in zeitlich zufälligem Zusammenhang mit der Impfung", sagte Brigitte Keller-Stanislawski, die zuständige Abteilungsleiterin für die Sicherheit von Arzneimitteln und Medizinprodukten. Über Einzelfälle könne sie aus Gründen des Personenschutzes nichts sagen, "aber es handelt sich um sehr schwer kranke Patienten mit vielen Grunderkrankungen". Manche seien palliativ behandelt worden.</p> </div>
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<p>The #vaccination is safe FULL STOP If dead after vaccination, then this is not related to the #vaccine FULL STOP Questions unacceptable FULL STOP #COVID 19 #lockdown2021 [link]</p>	<p>[in white letters on black background] Worldwide. Wherever people are currently getting vaccinated - it is a mere chance. [picture of article regarding cases of death after vaccination]</p>
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Example 1.

Interestingly, the narrative of censorship and the idea that a *pro-vax* regime aims at subjugating and silencing anti-vaccinationists mentioned in 4.2 is strongly conveyed by means of sarcastic relational clauses in which *#impfung* appears as Carrier. These relational clauses define the vaccine as completely safe and free of side effects. By means of graphic elements such as capitals, emoticons, onomatopoetic elements or through repeated negation the relational clauses construct the Carrier as the opposite of what the Attribute explicitly refers to.

The example 1 above on the left-hand side shows how the Tweeter renders the idea of sarcasm and of an ongoing censorship by writing in full and in capital letters *PUNKT* instead of using the punctuation mark of a full stop. Similarly, in visuals, comments are included on top of visuals emphasizing “how true” these newspaper articles are (compare example 1 on the right). Thereby the Tweeter conveys the idea “this is what mass media wants us to believe”. It can be assumed that these strategies are employed for two-fold reasons. Firstly, to illustrate the idea of an ongoing censorship and secondly to successfully circumvent automatic fake-news checkers that have been introduced on Twitter already in December 2020 (Twitter 2021).

We have already mentioned in section 4.2. that the *anti-vax* data seem to be rather purpose-driven and focused on calling the audience to “wake up”. This “wake up call” is realized by means of an excessive number of questions rather than declarative statements. This regards both relational processes and material processes. Within relational processes the Attributes of the Carrier *#vaccine* are questioned, such as in *Ist die #Impfung die Rettung?* (Is the #vaccination the salvation?) or *#COVID19: Was, wenn die #Impfung wirkungslos ist?* (*#COVID19: What if the #vaccination is useless?*). Partially, the hashtags following the main text of the Tweet give the answer to these rhetorical questions such as in *Wie sicher ist die #Corona #Impfung? #todsicher* (How safe is the #corona-#vaccination? #deadcertain). Further, questions are used to juxtapose two seemingly unrelated bits of information and to thereby sow doubt. This same strategy is also pursued within the visuals, in which different newspaper articles, such as a picture of a person getting vaccinated and their death notice, are juxtaposed to provide evidence for death cases after the vaccination.

<p>Es stärkt meinen Verdacht, dass die Schwächsten in unserer Gesellschaft als Testpersonen für #Corona #Impfung missbraucht werden Nicht nur in Altersheimen, jetzt auch die Sterbenden Das ist #Faschismus</p> <p>@rki_de @DasErste @BMI_Bund Bin so fassungslos, dass mir die Worte fehlen !!!</p> <p>@pmq @quapinta · Jan 4 Musste soeben erfahren, dass in einigen deutschen #Hospizen gegen #COVID #geimpft wird! An einem Ort, der nur zum Sterben da ist. Für nichts anderes. Ich bin fassungslos. #panidemia #VaccineStrategy #Unbelievable @QuakDr</p> <p>1:06 AM · Jan 5, 2021 · Twitter Web App</p>	<p>Wer #Covid19 infiziert ist stirbt ausschließlic AN #Corona. Wer geimpft wurde und verstirbt, stirbt NACH der #Impfung. Natürlich gar kein Zusammenhang! 🙄 Und warum werden überhaupt schwerkranke Menschen geimpft? Das ist ja schon fahrlässige Tötung! 🙄</p> <p>Boris Reitschuster · Jan 29 89 Menschen sind nach der Impfung verstorben, so PEI-Chef Dichtek auf der #BPK. Allerdings habe es sich um Menschen mit schweren Grunderkrankungen gehandelt. Es gebe keine Anzeichen für Zusammenhänge mit Impfung. Also anders als bei Covid-19-Toten mit Grunderkrankungen.</p>  <p>1:10 PM · Jan 29, 2021 · Twitter for iPhone</p>
<p><i>It strengthens my suspicion that the weakest in our society are abused as test subjects for #Corona #vaccination</i></p> <p><i>Not only in retirement homes, now dying people too</i></p> <p><i>This is #facism [...]</i></p>	<p><i>Those infected with #Covid19 die exclusively BECAUSE OF #Corona. Those who have been vaccinated and die, die AFTER #vaccination. Of course no connection at all! [eye-rolling emoticon]</i></p> <p><i>And why are seriously ill people vaccinated at all?</i></p> <p><i>This is #negligent homicide! [...]</i></p>

Example 2.

When analyzing the relational clauses in more detail, a significant amount of circumstantial relational clauses can be identified, in which the circumstantial element is realized by a hyperlink and then taken up in the relational clause as Carrier by means of *das* (this). The information within the hyperlink element is established within the main Tweet body as a fact and then defined by the relational clause as e.g. [#Faschismus](#) (fascism) (compare example 2 on the left), [#Gehirnwäsche](#) (brainwashing), *der Plan* (the plan), *Mord* (murder), *fahrlässige Tötung* (negligent homicide) (compare example 2 on the right), *Körperverletzung* (bodily harm). See examples above.

Further, the vaccination as Carrier is defined within relational clauses as *Gift* (poison); *gefährlich* (dangerous); *COVID21*; *unerforscht* (unexplored); *das einzige Ziel* (the only aim); etc. and similarly the virus as Carrier is defined as *Hirngespinnst* (fantasy); *Perpetuum Mobile des Notstands* (a perpetuum mobile to uphold a state of emergency); etc. Several future-oriented relational clauses further give an idea of how life would be if we were to get vaccinated. Future-oriented material clauses give insight into the main goals that dominate this future scenario. Both relational and material clauses strongly relate the future scenario to the National Socialist *Third Reich* of the German and Austrian past. See example 3 and 4 below.

#2021makeawish wird genauso beginnen wie #2020Ends:
Neue #Nazis, getarnt als #Antifa, werden berechtigte Kritik am #Corona -Wahnsinn mundtot machen.
Zusammen mit #ARD #ZDF und dem @derspiegel werden diese neuen Lügen-Verbreiter ihre ungetestete #Impfung als Allheilmittel feiern.

#2021makeawish will begin just like #2020Ends: New #Nazis disguised as #Antifa will silence legitimate criticism of the #Corona madness. Together with #ARD #ZDF and @derspiegel, these spreaders of lies will celebrate their untested #vaccination as a panacea.

Example 3.

Wann wohl der erste Politiker die Grenze überschreitet
und Impfunwillige weg sperren will?

Weit ist das nicht mehr hin...

Man könnte an die Lager ja
„Impfen macht frei!“ schreiben!

Spätestens dann ist aber wohl alles zu spät...

#Lockdown3 #lockdown2021 #Impfung #Impfpflicht

Translate Tweet

11:50 PM · Jan 11, 2021 · Twitter for iPhone

When will the first politician cross the line and lock up those not willing to get vaccinated?

It is no longer far until then...

One could write on the camp "Vaccinating makes free!"

At the latest then everything is probably too late...

#Lockdown3 #lockdown2021 #Vaccination #Mandatory Vaccination

Example 4.

In example 4 above the Tweeter asks in a future-related material clause "when will the first politician cross the line and lock up those not willing to get vaccinated?" answering that it is no longer far until then. In an impersonal verbal clause the obscured impersonal Sayer "one" is constructed as the one who will "write" the Verbiage "Vaccinating makes free" on future camps where anti-vaccinationists will be locked up. "Vaccinating makes free" is a clear analogy to the lettering "Arbeit macht frei" appearing on the entrance of Auschwitz and other Nazi concentration camps.

Moreover, it is interesting to look into the relational clauses that construct a self-definition of those who do not believe in the vaccination program. The self-definition focuses on reactive definitions and on a correction of labels given to anti-vaccinationists by others. Self-definitions include *nicht generell gegen Impfungen* (not against vaccines in general) or *keine Verschwörungstheoretiker* (not conspiracy theorists). At the same time Attributes such as *mutig* (courageous) are used to define the group of anti-vaccinationists. Further, a large number of relational clauses also establishes those not believing in the vaccination program as the clear majority, who are

however silenced by a powerful elite. Pie charts and diagrams also illustrate this idea of majority in the *anti-vax* visuals.

In contrast, relational clauses constructing an anti-vaccinationists' definition of vaccinationists focus on Attributes such as *verloren* (lost), *blind* (blind), *dumm* (stupid) and *tot* (dead), thereby constructing *pro-vax* people mainly as victims who are already lost and dead. Several material processes also focus on how vaccinationists have died or gotten sick. This is also in the spotlight of visuals and intertextual elements, in which the vaccination is related to death and devastating side effects. This might also explain the rather small number of Tweets that explicitly refer to *pro-vax* narratives. Vaccinationists are not constructed as opponents of anti-vaccinationists but rather as already lost victims of those in charge of the "plandemic".

The ones enforcing the "plandemic" on both anti-vaccinationists and vaccinationists remain largely abstract and obscured in material processes realized either in the passive or constructed in the active by means of an impersonal and/or abstract Actor. In the few material processes where Actors are explicitly referred to, these are commonly known actors appearing in conspiracy narratives such as *die #WHO* (the World Health Organization), *#BillGates*, along with pharmaceutical industries. Also, (local) politicians in charge of vaccination strategies and the mass media are constructed as Actors, who give energy input to the "plandemic". Further actors explicitly named are *neue #nazis getarnt als #antifa* (new #nazis disguised as #antifa, see example 3 above). Again, reference is made to the Nazi period employed also here as a dystopia scenario towards which "plandemic" leads and that the readers should be worried about.

The strong focus on the passive and abstract and or impersonal Actors also shows how the orientation of the *anti-vax and vax-skeptical* narratives are focused on the Goals of some unknown and obscure entity. The vaccination as well as the COVID-19 crisis itself are frequently realized as Goal in material processes, along with other Goals such as killing, the creation of new virus variations or features for the discrimination of people. See the Tweets in example 5 below.

Existential processes further strongly focus on what is not existent such as *keine Immunantwort* (no immune response), *keine einzige (!) zugelassene #mRNA-Impfung außer Corona Impfung* (not a single (!) approved #mRNA vaccination except for Corona vaccination), *keine medizinische Grundlage* (no medical basis), *keine Langzeitstudien* (no long-term studies), *keine erworbene Herden-Immunität* (no acquired herd immunity), *keine veganen Impfstoffe* (no vegan vaccines), *keine guten Sender* (no good media stations). Together with the strong focus on negative self-definitions, this focus on what is not existent can be related to Halliday's description of the characteristics of *anti-languages* (Halliday 1976, p. 576). Self-attributes in

relational processes and existential processes construct an anti-reality defined by what anti-vaccinationists are *not* and what there is *not* within a *pro-vax* reality. The alternative reality of *anti-vax* activists is therefore constructed through language in strong opposition to *pro-vax* ideas.

<p>Das #coronavirus ist das Perpetuum Mobile des Notstands: Um den Notstand zu beenden, soll geimpft werden, doch durch die #impfung werden neue Varianten erzeugt, gegen die Impfung nicht hilft. #LockdownForever</p> <p><small>Translate Tweet</small></p> <p>„Je mehr wir impfen, desto mehr Varianten werden auftreten“</p> <p>RKI-Chef Lothar Wieler zeigt sich wegen der neuen, wohl ansteckenderen Corona-Varianten besorgt. Unklar sei, ob sich zuvor Infizierte oder Geimpfte damit erneut anstecken können. Die Verbreitung würde die Lage in kurzer Zeit deutlich verschlimmern.</p> <p><small>1:27 PM · Jan 29, 2021 · Twitter Web App</small></p>	<p>Das tödliche Versagen der #Merkel-Regierung in der #Corona-Krise und der #impfung kann kaum noch vom politisch-medialen Komplex vertuscht werden, auch wenn der Eindruck entsteht, dass keine Meldung mehr ohne #Zensur durch das #Kanzleramt veröffentlicht wird. #RKI #Neuinfektionen</p> <p><small>Translate Tweet</small></p> <p><small>7:20 AM · Jan 8, 2021 · Twitter Web App</small></p>
<p>The #coronavirus is the perpetuum mobile of the emergency: to end the emergency, vaccination is supposed to be used, but the #vaccination creates <u>new variants</u> against which vaccination does not help.</p> <p>#LockdownForever</p>	<p>The <u>deadly failure</u> of the #Merkel government in the #Corona crisis and #vaccination can hardly be covered up by the political-media complex anymore, even if the impression is created that no news is published anymore without #censorship by the #Chancellor's Office.</p> <p>#RKI #new infections</p>

Example 5.

Due to the small amount of *anti-vax* narratives of Brazilian Tweets, the Transitivity analysis was conducted for all Tweets, and the number of each processes’ occurrences were counted. In this sense, we found that the Transitivity patterns in the 71 *anti-vax* and *vax-skeptical* Brazilian Tweets present predominantly material processes (68 occurrences), which means that, in the world of representations, people or things are engaged in concrete actions.

The second most recurrent process is the relational one (41 occurrences), which represents how people or things are being described, characterized or classified. Although the relational process is the second most recurrent type of process, the process *ter* (to have/to be - in some cases) is the process which appears more in terms of frequency. It means that, although things are being described through different concrete events (material

process), people are constantly relating things and people to Carriers and Possessions.

Mental processes are the third most recurrent one (24 occurrences). Among them we found perceptive processes, such as *ver* (to see), *perceber* (to perceive), cognitive ones, such as *acreditar* (believe), *achar* (to think), and processes expressing desire, such as *querer* (to want). Different from the German Tweets, mental processes in the Brazilian Portuguese Tweets play a key role. This can be related to the fact that people are being involved with the vaccination in an affective/desiring tone (not wanting to).

Verbal processes are also present in the narratives (15 occurrences). Verbal processes report on what people said, like *relatar* (to report), *dizer* (to say), *chamar* (to name), and in other verbal processes Tweeters engage in the action of affirming and speaking. Existential and behavioral processes occur just once in the narratives. The examples provided here will focus on the relational and mental processes due to the fact that they depict characterizations, people's feelings and ideas about the vaccine.

In terms of participants, the ones found in the narratives are the pronoun “you” as the active social actor of the sentences (sometimes elliptical in an imperative mode), which presents a strategy of interaction, whereby Tweeters address the readers by means of orders, questions or make them part of the narratives through their identification of the ideas or situations exposed. Some other participants are identified as “I”; these participants are predominantly engaged in mental processes of wanting and thinking (guessing), which shows that some writers are exposing their desire or ideas directly related to the vaccine as individual statements. Other active social actors include: the Brazilian President (*Bolsonaro*); the federal government; the now former-Minister of Health (*Pazuello*); the governor of São Paulo state (*João Doria*); vaccine companies, such as *Pfizer*, *vaccine*; family members such as *grandfather*, *uncle*; and *evangelical pastors*.

Regarding the social actor “Bolsonaro”, it is important to mention that he appears predominantly as someone who the Tweeters give support to. According to Fetter (2020), the anti-scientific movements in Brazil have increased in the last two years, and the President has been the personification of such movements, especially due to his discourse, in which he clearly states that he is against safe measures to combat the COVID-19 crisis and discredits the discoveries of science. Therefore, Brazilian Portuguese Tweets differ from the German ones in the sense that social actors, such as authorities, are more explicitly mentioned.

<p>Tirem suas próprias conclusões.</p> <p>Só vai tomar essa porcaria quem é trouxa e alienado.</p> <p>#vacina para o abate! 🤮</p>  <p>5:21 AM · 22 de jan de 2021 · Twitter for Android</p>	<p>Vocês não sabem o que é trauma de #vacinação 🤮</p> <p>#vacina https://t.co/GtQUHMIV6M</p>  <p>Twitter Web App · Jan 16, 2021 15:03:02</p>
<p><i>Draw your own conclusions. Only those who are stupid or alienated will take this crap [...]</i></p>	<p><i>You don't know what vaccination trauma is like [...].</i></p>

Example 6.

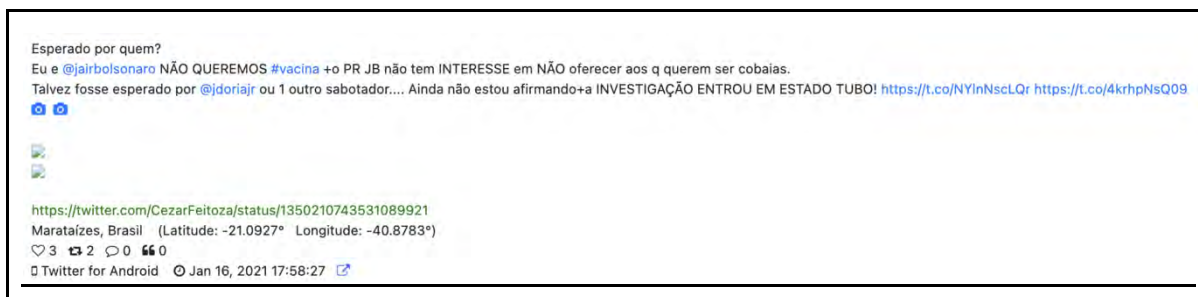
The two Tweets in example 6 illustrate negative Attributes to “vaccine”. In the first Tweet, an imperative sentence was used as a strategy for interaction in order to call people's attention and watch a video, asking them to draw their own conclusions regarding the non-reliability of the vaccine. Here, we find mental, material and relational processes, of “draw” (conclusions), “take” (the vaccine), and “be” (stupid and alienated), respectively. The short video shows closely that the disposable syringe was empty before being administered to an authority. The tone of the video seems to be asking whether syringes were having problems with their sealing protection. After the Tweeter asks people “to draw their own conclusions”, he characterizes the people who take the vaccine as “stupid and alienated” (Attributes). The vaccine itself is named “this crap”. In this sense, both immunized people and the vaccine have negative connotations in the narrative. Finally, in the hashtag of the vaccine, it is compared with the process of “butchering”, that is, to kill animals and prepare their meat to be sold.

The second example represents a similar pattern regarding the use of “you” as a strategy of interaction and a negative connotation approached to vaccination. The pronoun “you” is the Senser of the mental process “to know”, and there is a projected relational clause of “being”, which relates the “trauma of vaccination” to what the Senser does not know. Vaccination is one of the hashtag words, and, in the sentence, it shares a part of the noun phrase with the word “trauma”. It represents that the words have an equal level of meaning, which in this case, expresses a negative idea. The Tweet brings a picture of a child crying and being vaccinated in the 70s or 80s. One

adult, probably the child's parent, is holding the child, while a man is administering the vaccine. This visual aid reinforces the idea that the act of taking a vaccine can traumatize people, taking into consideration that people might have memories of vaccination as a painful procedure and also something that they were obliged to do when they were children.

Regarding the Tweets that present named participants engaged in mental and relational processes, the following narrative depicts the writer “I” and the “Brazilian president” as Sensors of the mental process “not wanting” the Phenomenon “Vaccine” (highlighted in the hashtag). The message starts with the question “expected by whom?”, a passive mental process which refers to the pictures which inform the delay of the airplane coming from India with Pfizer vaccines, and it was expected to arrive on a specific due date. The writer is questioning which people were expecting the vaccine as a way to introduce the message that she was not included in this group. Next, the writer puts herself at the same level of the president, in the sense that both share the same wish. After that, the president is mentioned again and he is negatively related as the Carrier of the Attribute “interested”, which projects a negative material process of “offering” (the vaccine) to people who want to take the vaccine. In this case, these people are called “guinea pigs”, implying that they are being part of an experiment, something that is not considered safe due to an ongoing and unconcluded study. Another participant, the governor of São Paulo state, João Doria, is mentioned as the person that might be expecting the vaccines, and she connects him to “other saboteurs” as a way to criticize the politician.

It is important to contextualize that, due to the several unsuccessful procedures from the national immunization plan to supply the country with vaccines, governors from 15 states in Brazil decided to negotiate their acquisition directly with the laboratories, including the vaccines that were not approved by the national health agencies at that moment. Bolsonaro's supporters, then, criticized these governors, as we can observe in the following Tweet:



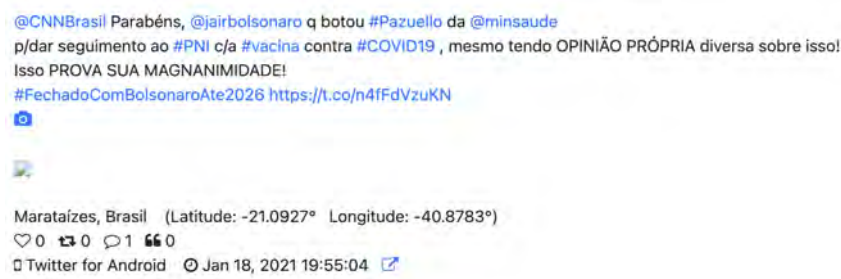
Expected by whom?

I and @jairbolsonaro don't want #vacina + PR JB [president Jair Bolsonaro] is not interested in not offering it to the ones who want to be a laboratory animal (here: guinea pigs). Maybe it would be expected by @jdoria or 1 other saboteur...[...]

Example 7.

Moreover, the following example represents the act of taking the vaccine as a matter of choice, which is based on an individual's opinion. The writer congratulates the president for pursuing the national plan of immunization and acquiring the vaccines, although he is against vaccinations. Regarding the processes and participants, the president is engaged in the material process to “put” the Minister of Health to pursue the National Plan of Immunization.

Interestingly, the choice to put someone to work illustrates the vision of a hierarchical power relation between political positions. In this specific case, the president holds the power to command the Ministers. This perception aligns with the president's authoritative discourse. Later on, this representation is linked with the connector “even though” (expressing an opposite idea), and the president is again connected with a relational process of “having” the Attribute “own different opinion” about the vaccination. The writer finishes the Tweet by stating that the president's action is related to his magnanimity and generosity. These qualities seem to be present in Bolsonaro's supporters' Tweets, which show that they see him as a heroic figure. The Tweet is presented in the example 8 below:



Congratulations, @jairbolsonaro that put #Pazuello of @minsaude [Ministry of Health] to follow up the # PNI [Immunization National Plan] related to #vaccine against #COVID19, even having his OWN different OPINION about it! It shows your magnanimity!

Example 8.

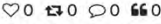
Another example on the same topic is a *vax-skeptical* Tweet, which questions the vaccine's effectiveness and the freedom of choice regarding vaccines.




This Tweet is basically formed by two modularized question mode sentences, expressing meanings of permission (Can (we) have...?). As Fuzer *et al.* (2014) point out, these are called *deontic modalities*, in which modal verbs indicate the level of commitment with what is being said. Although this is part of interpersonal meanings, it is important to be mentioned here because the relational processes (to be; to have) are modularized and this changes the meaning of the clause. In other words, this Tweet is questioning whether people are allowed (by someone more powerful than them) to *be suspicious* and to *have the freedom of choosing* the vaccine or not due to the fact that Twitter removed a Tweet of the supreme leader of Iran stating that foreign vaccines are not trustworthy. The Tweet suggests that this act of removal served the particular interest of not alarming people by stating bad things about the vaccines. Similarly to what has been found in the German Tweets, here the Tweet also renders the idea of an ongoing censorship. Such discourse reflects the socio-political ideology of neoliberalism which has influenced the vaccine hesitancy movements in contemporary societies (Sanders & Burnett, 2019). According to Sanders and Burnett (2019), the neoliberal principles that impact health care practices seem to be incorporated in *anti-vax* discourses, such as a) individualism, b) decentralization and deregulation, and c) free-market solutions via privatization. The claim of freedom of choice to be vaccinated or not is an example of the attempt to preserve individual rights as seen in the following Tweet:

Pode se ter ou não desconfiança? Pode-se ter a liberdade de escolher ou não? Por que tanto medo de que falem mal das #vacina? Afinal o que ela tem e qual o interesse de proibir covid-19: Twitter remove tweet do Líder Supremo do Irã chamando vacinas estrangeiras de 'não confiáveis'

<https://t.co/nUvX0oEA5f>

<https://twitter.com/MiddleEastEye/status/1347912668821258241>



 Twitter Web App
  Jan 09, 2021 14:35:38
 

Can we have distrust or not? Can we have the freedom to choose [the vaccine] or not? Why so much fear of talking badly about the #vaccine? What does it have and what's the interest in prohibiting..?" [reference:] "covid-19: Twitter removed tweet of the Iran Supreme Leader calling the foreign vaccines as "not trustworthy".

Example 9.

Finally, the last Brazilian Portuguese example shows an appropriation of discourse from feminist movements related to sexual and reproductive rights. The processes, such as material, relational and verbal are part of the narration established by the fictional dialogue presented in the Tweet (not want to; put at risk; to be (right); talk about).

In this Tweet, the relational process of “not desiring” the Phenomenon

“vaccine” is present, as is true for other *anti-vax and vax-skeptical* Tweets. The choice of not getting vaccinated is compared to the women's human rights struggle defended by the feminists' movements regarding the right to have body autonomy and access to safe abortion. The rationale of the argument in this Tweet relies on both the sexual reproductive rights and *pro-vax* common statements. A fictional dialogue is created in order to illustrate the author's main point, and it starts stating that person A does not want to take the vaccine because of “my body, my rules” (part of feminist discourse). The fictional participant B states that the fact of not taking the vaccine “puts at risk the lives of other people” (part of *pro-vax* arguments). The fictional participant A answers that participant B is right; later on, participant A asks “now let's talk about abortion?”. In this sense, the appropriation of the discourses found in this Tweet to make up an argument shows that the writer is against the abortion.

Um diálogo qualquer:

- Eu não quero tomar a vacina. Meu corpo, minhas regras!
- Mas isso também coloca em risco a vida de outras pessoas...
- Verdade, você tem razão. Agora vamos falar sobre aborto?

[#vacina](#) [#VacinaParaTodos](#) [#AbortoNAO](#) [#Aborto](#) [#BolsonaroOrgulhoDoBrasil](#)

♡ 0 🔄 0 💬 0 📱 0

Twitter for Android · Jan 21, 2021 22:22:20

A random dialogue:

- I don't want to take the vaccine. My body, my rules!
- But this also puts other people's lives at risk...
- True, you're right. Now let's talk about abortion?

[...]

Example 10.

5. Final remarks

The comparative analysis has shown that the socio-political specificities mentioned in section 2 clearly shape the German and Brazilian Portuguese *anti-vax* Tweets. For the German *anti-vax* Tweets, it was particularly striking to notice how the narrative guides the perspective of the readers towards dystopian, *Third Reich*-related Goals pursued by an obscured, abstract entity. The German *anti-vax* Tweets thereby strongly relate to the history of Germany and Austria and mirror the socio-political context in which the users have formulated them. In contrast, there was a much stronger focus on explicit Actors in the Brazilian Portuguese data. The *anti-vax and vax-skeptical* narratives constructed, for example, the Brazilian president Bolsonaro as heroic Actor. Moreover, it was interesting to notice how

discussions in Brazil regarding abortion and women's human rights struggle were de- and re-contextualized to argue against the vaccine in the Brazilian data.

Indeed, in both subcorpora, we found an appropriation and re-contextualization of discourses. More specifically discourses put forward by (historically) marginalized groups are decontextualized and subsequently re-contextualized within the COVID-19 pandemic. They thereby construct *anti-vax* activists as victims of a “dictatorship of pro-vaccine policies”. This is for example the case in the Brazilian Portuguese data in which the pro-abortion discourse defended by feminist movements in Brazil centered around “my body, my rights” is de- and re-contextualized by Brazilian anti-vaccinationists within the COVID-19 pandemic to argue for the right of body autonomy in choosing whether to get a vaccination or not. The Brazilian *anti-vax* data thereby constructs health measures for protection against COVID-19 as imposed measures and as a “dictatorship” of politics and health institutions. As previously stated, such aspects reflect the neoliberalism principles that have been incorporated in *anti-vax* discourse. In this sense, Sanders & Burnett claim that “the undercurrent of neoliberal sensibilities expressed in these stories points to another key factor that must be considered when seeking public health solutions to the growing vaccine hesitancy movement” (Sanders *et al.* 2019, p. 151).

In the German data, *anti-vax and vax-skeptical* Tweeters represent themselves as both figures of resistance and “awake victims” relating themselves to resistance fighters who fought against National Socialism in the Third Reich. *Anti-vax* Tweeters equate themselves with victims of National Socialism, such as Jews, as illustrated in example 4 and equate the treatment of *anti-vax and vax-skeptical* people with conditions in concentration camps. Thereby, *anti-vax* activists and “Querdenker”, commonly characterized as open to right-wing extremism, engage in processes of historical revisionism and construct the COVID-19 vaccination as an attempt to re-install a new dictatorship. The findings, therefore, show that the COVID-19 pandemic is interpreted based on already established ideological patterns. *Anti-vax* discourses build on previous narratives and scapegoats by linking them to the ongoing crisis and use these discourses to mobilize against minorities, representatives of the scientific community and government measures to contain the pandemic, as also found by Guhl *et al* (2020, p.7).

Apart from the socio-political specificities to which the *anti-vax and vax-skeptical* data refers to, another striking difference within the two language-specific datasets was the amount of *anti-vax and vax-skeptical* Tweets posted under the #vacina and #impfung. Based on an analysis of the language specific word lists of the two corpora in AntConc showing similar

frequent content words, it can be argued that the hashtags do have a systematizing function and are locally significant in both the Portuguese and the German-speaking context.

However, only 71 Brazilian verbal and visual segments were coded as *anti-vax or vax-skeptical* opposed to 611 German verbal and visual data segments. In contrast, 507 German verbal and visual data segments were coded as *pro-vax* as opposed to 781 Brazilian verbal and visual data segments. Hence, the Brazilian Portuguese Tweets posted under the #vacina seem to be much more characterized by a *pro-vax* message tone than the German Tweets posted under the #impfung.

It can be assumed that the *pro-vax* orientation of the Austrian and German governments can be related to the larger amount of *anti-vax and vax-skeptical* Tweets. Twitter possibly served more than in Brazil as a valve to express *anti-vax* content and as a platform where activists created a public sphere in which *anti-vax* content could be shared openly. Further, the strategy of employing a sarcastic tone to spread *anti-vax* content - notwithstanding Twitter’s COVID-19 Fake News policy - seemed to be particularly exploited within the German data and less in the Brazilian Portuguese Tweets, which therefore already might have been deleted to a larger extent. The Brazilian Portuguese data further point to the higher importance of other platforms such as WhatsApp for the sharing of *anti-vax* narratives, as mentioned in the *pro-vax* Tweets that had references to *anti-vax* discourse. It means that other platforms of communication - such as WhatsApp - might be the spaces in which Brazilian *anti-vax* supporters communicate more than on Twitter.

At the same time, several similarities were found in terms of discursive patterns of Brazilian and German *anti-vax* arguments. These particularly include a strong focus on interrogative statements e.g. regarding the vaccine’s effectiveness and safety with the aim to call the audience “to wake up”, frequently also accompanied by hyperlinks to videos and newspaper articles. Such interrogative statements also easily succeed in circumventing automatic fake news checks given the focus on questions rather than declarative statements based on fake news. Rather than relating fake Attributes to the Carrier “vaccine” an emphasis is on doubting established Attributes in an interrogative mode. Particularly in the German data several *anti-vax* relational clauses define the vaccine as completely safe and free of side effects in a sarcastic mode and use graphic elements such as capitals, emoticons, onomatopoetic elements and excessive negation to construct the Carrier “vaccine” as the opposite of what the Attribute explicitly refers to. They thereby render the idea of censorship and, possibly circumvent automatic fake news checkers. Further, in both Brazilian Portuguese and German data a strong relationship between the “vaccine” as Carrier and negative Attributes such as poison, COVID-19, danger and similar is

established.

Another common element in both language-specific subcorpora is the strong emphasis on negative polarity and on negative self-definitions, as, for example, in the case of the German existential processes. In the Brazilian Portuguese Tweets this negative polarity was strongly present in mental processes, especially in the ones expressing desire, such as “not wanting”. This can be related to Halliday’s description of the characteristics of anti-languages (Halliday 1976, p. 576). Relational, existential and mental processes within the *anti-vax* data construct an anti-reality defined by what Actors are not or do not believe in, and what is not existent.

The authors hope that the results of this comparative analysis contribute to a better understanding of discourses around the vaccination against COVID-19 on Twitter. Results give insights into local re-interpretations of *anti-vax and vax-skeptical* discourses in the Portuguese speaking and German speaking context. Only very few studies have so far focused on *anti-vax* discourses published in languages other than English. However, our results clearly point towards the importance and significance of analyzing *anti-vax* narratives from a language-comparative perspective, to examine re-interpretations in different languages and countries. To address issues such as “vaccine hesitancy” and to start “a more relevant and less accusatory dialogue on the topic” (Kata 2009, p. 1715), it is necessary to understand the specific arguments and ideologies that support and are spread through *anti-vax* movements and that are shaped by the socio-political context in which the users post and embed them.

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References

- Acevedo R.G. and Pitters J. 2021, *Staat versus Querdenker: Eine sozial- und kommunikationspsychologische Betrachtung der Coronavirus-Pandemie* in “IUBH Discussion Papers - Sozialwissenschaften”, 3/2021, IUBH Internationale Hochschule, Bad Honnef.
- Becker B.F.H., Larson H.J., Bonhoeffer J., van Mulligen E.M., Kors J.A. and Sturkenboom M.C.J.M. 2016, *Evaluation of a multinational, multilingual vaccine debate on Twitter*, in “Vaccine” 34 [50], pp. 6166–6171.
- Fuzer C. and Cabral S.R.S. 2014, *Introdução à gramática sistêmico-funcional em língua portuguesa*, Mercado de Letras, Campinas.
- Couldry N. 2012, *Media, society, world: Social theory and digital media practice*, Polity, Cambridge/Malden.
- Crystal D. 2006, *Language and the Internet* (2nd ed.), Cambridge University Press, Cambridge.
- Dayter D. 2016, *Discursive self in microblogging: Speech acts, stories and self-praise*, John Benjamins Publishing Company, Amsterdam/Philadelphia.
- Duden n.d., *schwurbeln* in “Duden Wörterbuch online”. <https://www.duden.de/rechtschreibung/schwurbeln> (28.9.2021).
- Eggs S. 2004, *Introduction to systemic functional linguistics*, A&C Black, London.
- Fairclough N. 2003, *Analysing discourse: Textual analysis for social research* (1. publ.), Routledge, London.
- Fairclough N. 2010, *Critical discourse analysis: The critical study of language* (2. ed.), Longman, Harlow.
- Federal Association RIAS e.V. 2021 (ed.). *Antisemitic incidents in Germany 2020*. https://report-antisemitism.de/documents/Antisemitic_incidents_in_Germany_Annual-Report_Federal_Association_RIAS_2020.pdf (10.01.2022).
- Gragani J. 2021, *Bolsonaro Cria Divisões E distrai população com 'Populismo Sanitário' na pandemia, Diz Cientista Político* in “BBC News Brasil”. <https://www.bbc.com/portuguese/brasil-56759301> (14.01.2022).
- Guhl J. and Gerster L. 2020, *Crisis and Loss of Control—German-Language Digital Extremism in the Context of the COVID-19 Pandemic*, ISD - Institute for Strategic Dialogue, <https://www.isdglobal.org/isd-publications/crisis-and-loss-of-control-german-language-digital-extremism-in-the-context-of-the-covid-19-pandemic/> (17.01.2022).
- Gunaratne K., Coomes E.A. and Haghbayan H. 2019, *Temporal trends in anti-vaccine discourse on Twitter*, in “Vaccine” 37 [35], pp. 4867–4871.
- Halliday M.A.K. 1976, *Anti-Languages* in “American Anthropologist” 78 [3], pp. 570–584.
- Halliday M.A.K. 2014, *Halliday’s introduction to functional grammar* (4. ed.), Routledge, London.
- Halliday M.A.K. and Matthiessen C.M.I.M. 2004, *An introduction to functional grammar* (3. ed., 1. publ.), Hodder Arnold, London.
- Humphrecht E. 2019, *Where ‘fake news’ flourishes: A comparison across four Western democracies* in “Information, Communication & Society” 22 [13], pp. 1973–1988.
- Imhoff R. and Lamberty P. 2020, *A Bioweapon or a Hoax? The Link Between Distinct Conspiracy Beliefs About the Coronavirus Disease (COVID-19) Outbreak and*

- Pandemic Behavior*, in “Social Psychological and Personality Science” 11 [8], pp. 1110–1118.
- Kata A. 2010, *A postmodern Pandora’s box: Anti-vaccination misinformation on the Internet* in “Vaccine” 28 [7], pp. 1709–1716.
- Kata A. 2012, *Anti-vaccine activists, Web 2.0, and the postmodern paradigm – An overview of tactics and tropes used online by the anti-vaccination movement*, in “Vaccine” 30 [25], pp. 3778–3789.
- Kehoe A. and Gee M. 2011, *Social tagging: A new perspective on textual ‘aboutness.’* in “Studies in Variation, Contacts and Change in English” 6 [5].
- KhosraviNik M. 2018, *Social media critical discourse studies (SM-CDS)* in Flowerdew J. and Richardson J.E. (eds.), *The Routledge Handbook of Critical Discourse Studies* (1st ed), Routledge, London/New York, pp. 582–596.
- Leschzyk D.K. 2021, *Infodemic in Germany and Brazil: How the AfD and Jair Bolsonaro are Sowing Distrust During the Corona Pandemic* in “Zeitschrift Für Literaturwissenschaft Und Linguistik” 51 [3], pp. 477–503.
- Lucia I. and Fernandes L. 2021, *Movimento Antivacina no Brasil: Entenda Esse Fenômeno e seu fortalecimento durante a pandemia*, in “Lamparina”. <https://sites.ufop.br/lamparina/blog/movimento-antivacina-no-brasil-entenda-esse-fen%C3%B4meno-e-seu-fortalecimento-durante> (14.12.2022).
- Ma J. and Stahl L. 2017, *A multimodal critical discourse analysis of anti-vaccination information on Facebook*, in “Library & Information Science Research” 39, pp. 303–310.
- Maci S. 2019, *Discourse Strategies of Fake News in the Anti-vax Campaign** in “Lingue Culture Mediazioni - Languages Cultures Mediation” 6, pp. 15-43.
- Manakas M. 2021, *Warum die Verschwörungsmentalität im deutschsprachigen Raum so ausgeprägt ist, in „DER STANDARD“*. <https://www.derstandard.at/story/2000132200963/warum-die-verschwoerungsmentalitaet-im-deutschsprachigen-raum-so-ausgepraegt-ist> (10.01.2022).
- Meyer S.B., Violette R., Aggarwal R., Simeoni M., MacDougall H. and Waite N. 2019, *Vaccine hesitancy and Web 2.0: Exploring how attitudes and beliefs about influenza vaccination are exchanged in online threaded user comments* in “Vaccine” 37 [13], pp. 1769–1774.
- Moraes M.P., de Oliveira Sampaio J. and Charles A.C. 2019, *Data mining applied in fake news classification through textual patterns* in “Proceedings of the 25th Brazilian Symposium on Multimedia and the Web”, pp. 321-324.
- Ruiz J.B. and Bell R.A. 2014, *Understanding vaccination resistance: Vaccine search term selection bias and the valence of retrieved information* in “Vaccine” 32 [44], 5776–5780.
- Sanders C. and Burnett K. 2019, *The neoliberal roots of modern vaccine hesitancy* in “Journal of Health and Social Sciences” 4 [2], pp. 149-156.
- Silva H.M. 2021, *The Brazilian scientific denialism through the American Journal of Medicine* in “The American Journal of Medicine” 134 [4], pp. 415–416.
- Steiner E. and Teich E. 2014, *Metafunctional profile of the grammar of German* in Caffarel-Cayron A., Martin J.R. and Matthiessen C.M.I.M. (eds), *Language typology: a functional perspective*, John Benjamins Publishing Company, Amsterdam, pp. 139-184.
- Twitter 2021, *COVID-19 misleading information policy* in “Twitter Help Center”. <https://help.twitter.com/en/rules-and-policies/medical-misinformation-policy>

- (29.9.2021).
- World Health Organization n.d., *Ten threats to global health in 2019* in “WHO Newsroom Spotlight”. <https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019> (29.9.2021).
- World Health Organization, 2020, *Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation*. <https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation> (17.01.2022).
- Zappavigna M. 2015, *Searchable talk: The linguistic functions of hashtags* in “Social Semiotics” 25 [3], pp. 274–291.
- Zappavigna M. 2012, *The Discourse of Twitter and Social Media: How We Use Language to Create Affiliation on the Web*, Continuum International Pub. Group, London/New York.
- Verein ZARA Zivilcourage and Anti-Rassismus-Arbeit 2021 (ed.), *Rassismus Report 2020, Analyse zu rassistischen Übergriffen & Strukturen in Österreich*, https://assets.zara.or.at/media/rassismusreport/ZARA-Rassismus_Report_2020.pdf (17.01.2022).
- Zimmerman R.K., Wolfe R.M., Fox D.E., Fox J.R., Nowalk M.P., Troy J.A. and Sharp L.K. 2005, *Vaccine Criticism on the World Wide Web* in “Journal of Medical Internet Research” 7 [2], e17.
- Żuk P., Żuk P. and Lisiewicz-Jakubaszko J. 2019, *The anti-vaccine movement in Poland: The socio-cultural conditions of the opposition to vaccination and threats to public health* in “Vaccine” 37 [11], pp. 1491–1494.

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