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Special issue

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Guest edited by:

Donya Alinejad , Adriano José Habed, and Jaron Harambam

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SPECIAL ISSUE: TRUST, MEDIA, AND SCIENCE IN THE CONTEXT OF THE COVID-19 PANDEMIC

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with a preface by José van Dijck[a]

ABSTRACT

The first global pandemic of the information age has revealed how the coordinated spread of accurate information and the communication of relevant expert knowledge rely on functioning media channels, platforms, and institutions. As such, the coronavirus pandemic has exposed, and sometimes even catalyzed, longer-running societal processes through which traditional gatekeepers of scientific truth and expertise have been challenged or side-stepped, as alternative actors and institutions have taken the media stage and influenced policymaking spheres. To what extent has the changing media landscape contributed to (dis)trust in expertise? How do different political contexts shape the dynamics between science, policy, and diverse media publics? And in which ways does the contemporary spread of (mis/dis)information take shape? The articles in this collection address these questions by presenting original empirical analyses from a range of geographic and disciplinary vantage points.

Keywords: trust, science, social media, Covid-19 pandemic, disinformation, media landscape.

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PREFACE

José van Dijck

In 2021, in the midst of the pandemic, a Dutch government policy study[i] showed that a low base of trust – the mutual trust between citizens and between citizens and government – threatened social cohesion and compliance with corona measures. During the first eighteen months of the pandemic, trust in politics and government substantially declined; Dutch citizens' trust in government fell from nearly 70 percent in April 2020 to less than 30 percent in September 2021. An interesting detail of the study revealed that people for whom social media was their main source of information about the virus had less trust in government, health institutions, and mainstream (mass) media; they were also less likely to be vaccinated. Another study[ii] showed that the corona information Dutch people received from friends and family was trusted more (39%) than information coming from journalists at newspapers, radio, and TV (34%).

The coronavirus pandemic has laid bare how conventional systems for communicating scientific knowledge have been transformed by new, alternative actors. In this context, social media networks play an important role in the declining trust of Dutch citizens in government and other institutions. Institutions such as science, politics, governments and mainstream media have long been the pillars of our trust in democratic governance – the ability to organize ourselves as a society. Digital platforms, especially social media networks such as Facebook, Twitter, YouTube, Instagram, Telegram and TikTok, have become crucial links in public communication. Their impact on the distribution of information is significant as they have gained an increasingly central and centrifugal place in the communication flows between science, politics, government and policy, media and citizens. What was once considered a public square has turned into an online marketplace where anyone can start their own channel, instantly request information, and mobilize groups. Governments and institutions have played little role in the design of that online marketplace—a data-and-algorithm driven ecosystem in which voices are filtered through the automated commercial logic of attention (clicks) and ads.

Since 2016, there have been many discussions about the "subversive" power of these platforms. From disinformation and fake news on Facebook to polarization via YouTube's rabbit holes: through social media platforms, groups of users show a substantial decline in trust not only of the established media, but of all institutions. And even if science and scientists are still considered one of the most trusted of institutions and professional groups, we must understand how their societal role has shifted as part of a changing media landscape (Van Dijck & Alinejad, 2021). This special issue takes on important questions in this regard. How do legacy media and social media reflect and contribute to a declining trust in expertise? Who were the main actors and what were the most important dynamics in processes of disinformation during the pandemic? And how has this communication dynamic

affected the status of our institutions, not just in Western Europe and the US, but in the Global South and beyond? The various geographic and disciplinary viewpoints explored in this Special Issue are important for future comparative studies concerning trust in expertise 'after' the pandemic.

The pandemic symbolized not just a moment of temporary crisis but likely epitomizes a protracted shift in the relationship between governments, independent institutions, and the public. Not just the type of actors changed but also their communication styles. For instance, mass media professionals traditionally relied on government spokespersons explaining and questioning official sources—professionals or experts—during the corona pandemic. However, governments also started to hire influencers to inform a wider public, which in some instances completely changed the tone and content of their message. Such influencers then became important new actors in public debate, following a social media logic where emotion, seduction, commerce, and opinion abound. In this dominant logic, content is more important than context, and gaining attention is more important than accurate information. The online circulation machine gives as much weight to laypeople with informed or uninformed opinions as it does to experts with institutional authority. Scientists and policymakers accustomed to a world of nuanced reasoning and proven hypotheses must suddenly manifest themselves in a world where opinions are more lucrative than facts, where assertions do better than arguments, and where clickbait triumphs over common ground and common sense.

But the affordances of social media platforms should not be seen simply as carriers of distrust or abolishers of trust in expertise. They have become crucial factors in allotting and defining validity and act as filters of online reality. At the same time, they are important societal stakeholders that have a huge interest in sustaining democratic pillars of trust. Therefore, platforms such as Facebook, YouTube, Twitter and TikTok should take their responsibility as new gatekeepers very seriously. The pandemic may have accelerated the need for governments to act—regulatory or otherwise—if only to avoid new 'infodemics' in the future. What is the responsibility of Very Large Online Platforms (VLOPs) vis-à-vis other forms of (legacy) media? Do they carry special responsibilities towards reigning in disinformation and hate speech, due to their size and scope?

Governments, in particular the European Union, have already started to take up these issues in drawing the Digital Markets Act and Digital Services Act (DMA/DSA). This is a significant step towards a more responsible, fair, and democratic online landscape. However, regulation alone will never be enough to counter the still ongoing, decline in trust in institutions. Other questions arise, such as: do we need to create alternative online venues—perhaps smaller platforms catered towards niche audiences—that afford more trusted online environments? And on what public values should these platforms be based? There is a pressing need for decentralized, privacy-friendly social media platforms that are based on nonprofit, opensource principles and which share communal standards such as interoperability and dataportability. Technologies that facilitate the formation of

communities and support public organizations in designing their own trusted communication environments may not directly lead to more democracy, but they could be one step towards the construction of a more transparent and digital architecture.

Indeed, social media platforms are neither cause nor effect of declining trust in governments, media, and other institutions. But the online dynamic has penetrated the deepest capillaries of society and has a huge impact on public discourse. With the next stage of generative AI-powered technology already crossing our doorsteps—technology that will undoubtedly be integrated into existing social media tools—we need to face urgent societal and regulatory challenges with regards to trust in institutions. The articles in this Special Issue will help readers not only to look back on the pandemic as a single episode of crisis, but also anticipate the next stages of this important discussion.

INTRODUCTION

Donya Alinejad, Adriano José Habed, and Jaron Harambam

Some of the most heated public contestations of our time directly implicate scientific knowledge claims. As the global outbreak of the Sars-Cov-2 virus has demonstrated, public communication about, and trust in, such knowledge and its implications are as crucial for effective crisis management as the production of scientific knowledge, itself. The first global pandemic of the information age has revealed how the coordinated spread of accurate information and the communication of relevant expert knowledge rely on functioning media channels, platforms, and institutions. Institutionalized news journalism has long played an important role in generating public legitimacy for scientific knowledge in modern mass democracies (Franzen et al., 2011), and during the rise of public health concerns in the context of the pandemic, the public role of media came into sharp focus (Murdock, 2021). The coronavirus crisis also highlighted the operations of social media platforms at the interface between science and the public, fostering new spaces for intensified forms of public communication about scientific expertise on the matter. The private, commercial status of social media corporations, and their proclaimed agnosticism towards the truth value of the information they circulate, has led some to argue that a "platformisation of truth" is taking place, in which the truth-value of information is second to its commercial or political value (Cotter et al., 2022).

As such, the coronavirus pandemic has exposed, and sometimes even catalyzed, longer-running societal processes through which traditional gatekeepers of scientific truth and expertise have been challenged or side-stepped, as alternative actors and institutions have taken the media stage and influenced policymaking spheres (Van Dijck & Alinejad, 2020). The pandemic has been a stress test for public communication of/about scientific knowledge, with lasting ripple-effects. In this special issue on trust, media, and science in the context of the Covid-19 pandemic, we focus on how political contestations against the background of shifting media logics are reshaping public engagement with scientific knowledge and expertise. To what extent has the changing media landscape contributed to (dis)trust in expertise? How do different political contexts shape the dynamics between science, policy, and diverse media publics? And in which ways does the contemporary spread of (mis/dis)information take shape? The articles in this collection address these questions by presenting original empirical analyses from a range of geographic and disciplinary vantage points.

The six articles are organized around three national/regional contexts of differing geographic scales: the Netherlands, Brazil, and North America. The divergences and overlaps that emerge within and across these three societal contexts in the same global health crisis offer important indications of how the socio-political particularities of each national setting, the societal standing of (medical) science, and media play into public engagement with relevant scientific expertise. Furthermore, the papers focus on multiple media (plat)forms, approached through a range of research methods, and analyze data traces, usage practices, and content on platforms such as Instagram, YouTube, and TikTok, as well as relating social media phenomena to mass media events and their social meanings. Together, they build the Special Issue's intervention into the current discussion of what the Covid-19 pandemic can teach us about the role of contemporary media environments when it comes to how public trust in science is built and contested. In what follows, we outline three key conceptual debates or tensions that lie at the core of the discussions the papers in this Special Issue address. These pertain, respectively, to the concept of trust, the role of changing media affordances, and the relationship between scientific knowledge and mis-/disinformation.

1 TRUST

Media and communication scholarship has long been apt at discussing issues of public trust and distrust in media. Institutional analyses have highlighted how reduced funding for journalism, commercial logics overshadowing the public value of information, and platformization of the media landscape have fed a problematic decline in mass media's commitment to the public interest (van Dijck and Poell, 2013). Such analyses compellingly described the media landscape upon which the current pandemic has been unfolding since 2020. However, the coronavirus crisis has since sparked renewed interest in a crisis of trust in media, and a related decline in trust in political leaders/institutions, thus ostensibly constituting "a global trust deficit disorder" (Flew, 2021). Such recent work has tended to focus on the important changes that media institutions are undergoing, but it has largely left out the issue of the public's trust in *scientific* institutions and the knowledge and expertise they produce. Trust in science can be seen as analytically distinct from trust in other societal sectors and institutions (such as journalism) that make their own kinds of claims to epistemic authority (Gauchat, 2011). Polls before the pandemic had found that, in the US, a fair amount of trust in scientists and science was prevalent (when compared to other institutional authorities).[iii] Moreover, a poll from December 2021 cited in the NYT found that trust in science and scientists increased globally during the pandemic.[iv] And survey data from 2022[v] shows that across a range of European countries, a high proportion of the public has positive feelings towards scientists working at universities. What does the apparent discrepancy between high levels of trust in science and a wider crisis of trust mean? Do we, indeed, have a generalized crisis of trust in institutionalized scientific

expertise on our hands? And what is particular about science and scientific institutions when it comes to public trust?

Through the contributions in this special issue, we address trust in (primary medical) scientific expertise as an object of study analytically distinct from trust in media, even as we address how the former is intertwined with the latter in light of an increasingly close relationship between media, policy, and science within "knowledge societies" (Weingart, 1999). While some have distinguished the nature of journalistic truth from the relationship that science has to truth (Michailidou and Trenz, 2021), discussions of "post-truth politics" often conflate the two. The analyses of trust that the papers present reflect the different ways in which the authors operationalize public trust in science. This helps to support and give flesh to the concept of trust that the special issue advances. Specifically, the different conceptualizations coalesce around a perspective that understands the ostensible public "trust deficit" as more complex than a problem with the public's lacking understanding of scientific knowledge (cf. Harambam & Aupers, 2015). Rather, the papers' empirical cases highlight specific media phenomena that expose the ways in which trust in scientific expertise is distinguishable from, but interwoven with, trust in, for instance, (micro)celebrities and other public personas, how it is mobilized through emotional appeals, and how it relies on narrative representations of scientific knowledge. Notably, these features of trust are discussed as being intertwined with – and not necessarily opposed to – the rational, deliberative features that media publics also engage in.

Such bases for authorizing and contesting scientific knowledge appear to fit well with what has been identified as a cultural "obsession with authenticity," an idea that helps us understand how immediacy or a (claimed) lack of mediation can produce trust in an era of ubiquitous mediation (Enli, 2016). This has been particularly apparent in political communication, where populist leaders have made claims to a more immediate relationship with their constituencies (Enli and Rosenberg, 2018), but it has also been described as an important feature of influencer media culture (Cunningham and Craig, 2018). The way trust is increasingly socially configured through social media formats' perceived immediacy of communication has important implications for science, too. According to this idea, trust becomes organized more around the people we know, for instance, with the rise of "social trust" in news that is consumed via social networks (Flew, 2021). This development has been suggested to signal a shift away from generalized trust or trust in institutions. Yet, we see a simultaneous intermeshing of social media network logics with more established institutional media, as a considerable share of science communication by scholars, universities, and research institutes, comes to be performed via social media (Weingart and Guenther, 2016), and as social media platforms seek to gain public trust by working with public institutions.

By closely examining the workings of public trust and mis-/distrust in pandemic science within different publics, the papers in this issue expose the key social and political forces that mediate public trust in science. The authors examine various phenomena involving public scrutiny and distrust of scientific expertise, furthering our understanding of the range of social forces contemporary scientific experts must contend with when seeking/gaining the public's trust in their epistemic authority. For example, looking at the film, *Plandemic,* which was widely circulated on YouTube in the pandemic's early stages, Tarun Kattumana's article examines the main devices that this documentary style production uses in its aim of garnering trust among its audience; it seeks to convince them, in turn, to distrust scientific and state bodies. The paper shows how appeals to scientific credentials and emotion, far from being presented in opposition to one another, operate in tandem through the film's attempts to gain trust within a primarily social media-based, international public. Sharing a focus on YouTube but analyzing the rise of a popular Brazilian science communicator, Carlos d'Andréa and Verônica Costa's article shows how trust in (medical) science is inextricably linked to the social media skills of communicators. Within the contemporary media landscape, these skills can be seen as forms of expertise that become increasingly relevant for building public trust in scientific knowledge.

2 CHANGING MEDIA AFFORDANCES

Early hopes for the emancipatory potentials of The Social Web and the rise of social media platforms have tended to reproduce some of the utopian narratives about the early internet, itself. One of the main potentials receiving attention has been the communicative affordances of platform media technologies for public discourse and relatively boundless participation. Yet, critiques of celebratory notions of participatory media culture have consistently pointed out the shortcomings of a focus on participation as a panacea for more democratic decision-making. Media scholars have long critiqued the celebration of online participation that masks the underlying profit motives of platforms (Deuze, 2008, Schäfer, 2011). Such parameters in the political economy of platforms contribute to the commodification of information on social media (Marres, 2018), substituting the formal qualities of information within platform economies (e.g., virality and shareability) for its truth value. In recent years, including in the context of the pandemic, we have also seen how the very same media affordances that (are claimed to) foster participation, inclusion, and healthy political dissidence have been mobilized towards the spread of conspiracy theories, manipulative communication strategies, and political ideologies interested in exploiting the flaws in liberal democratic systems (Bennet & Livingston, 2018).

Indeed, in liberal democracies, illiberal democracies, and autocratic regimes alike, digital counter-publics as a source of politically progressive participation have made

way for the power of reactionary "counter-publics" that have the same potentials for entering and influencing mass media spheres through the affordances of digital platform media (Kaiser and Puschmann, 2017). The relationship between counter-publics and "mainstream" mass media spheres is consistently at stake in the papers of this special issue. The different media-institutional contexts and histories in each of the national settings discussed in the papers reveal how the different meanings of the political and media mainstream in each country shape the ways digital counter-publics position themselves. For example, Nina Santos' paper demonstrates how the rapidly growing ecosystem of alternative media sources that Bolsonaro's supporters link to within their Twitter networks position themselves in clear opposition to mainstream Brazilian media. Santos reminds us that, critical counter-publics opposing the mainstream media have historically been left-wing, especially with "the struggle for press freedom during the military dictatorship (1964-1985)" (Santos, this issue). But she shows that with more recent shifts in the Brazilian political terrain – including a right-wing presidency – it is the government's left-wing opponents who refer most to traditional mainstream media sources on Twitter. On the other hand, Jaron Harambam's paper, situated in the Dutch context, discusses the media practices of users who would be labelled as conspiracy theorists by those outside their media counter-publics. This counter-public's relationship to national mainstream media public emerges as a strong influence on the former's articulations of distrust in scientific bodies. In contrast to Santos' account of the polarization between the government and mainstream media, Harambam shows how his respondents' suspicions are aroused, precisely, by the close alignment between the narratives presented by mainstream media, political figures, and scientists in the Netherlands' coordinated national pandemic response.

The pandemic has paradoxically highlighted both the strengths and weaknesses of how the increasingly close relationship between media, policy-making, and science operates (Van Dijck & Alinejad, 2020). It has also given rise to new frames, narratives, and terms - such as "the Infodemic" - for publicly articulating the dark sides of the role of media and its relationship to science and the spread of scientific knowledge. Yet the merging of media and scientific expertise did not start with the pandemic. The notion of the "mediatization" (or "medialization") of science (see Weingart, 2022) has long been influential in emphasizing the mutual dependence between media and science. This dependence is necessary for generating public legitimacy for science by making the knowledge it produces available for public understanding and deliberation. In the media landscape of the platform society, "scientists are able to communicate directly with an audience, bypassing the gatekeeping of journalism" (Bucher, 2020). This development opens up a whole array of new interaction possibilities between experts and citizens. But what does the breakdown of mass media's role in (re)presenting scientific knowledge, and the possibility for scientists (and non-scientists) to access and produce their own networked publics online, mean for science communication and the status of

scientific expertise (Roedema et al., 2022)? The papers in this issue demonstrate how the (counter-)publics that form around alternative expertise and/or lay ideas compete in the changing media landscape, vying for legitimacy in emerging ways. In particular, platform-specific media cultures and technological affordances that generate their own formal and aesthetic features shape the ways information is spread via social ties, how expertise is defined and contested, and how scientific knowledge is represented and accepted as epistemically authoritative for/by media audiences.

3 SCIENTIFIC KNOWLEDGE & ONLINE DISINFORMATION

In the context of the coronavirus pandemic, it has increasingly come to light that the platforms that long eschewed taking a stance on the content of the information they are used to spread are becoming more invested in the truth-claims their users are making. Fact-checking initiatives, policies on flagging fake news and disinformation, and tweaking of the algorithmic rankings of certain content fly in the face of claims about platforms as neutral or disinterested mediators of information. They also suggest a trend in platform governance towards platforms' increasing intervention when it comes to drawing a line between what counts as information and mis-/disinformation. As Terry Flew puts it, "the days of being merely the conduits for messages sent by others, ranked by popularity unbounded by truth-claims, have passed, and a more activist role is asserted" (2021). However, in practice, decisions about information governance that approach certain claims as out-of-bounds is often not decided on epistemic grounds, alone. Such interventions typically take place when public outcries, political motives, and/or commercial interests concentrated around high-profile issues exact pressure on platforms and other powers to respond by making/brokering compromises with/between powerful parties (Gillespie, 2018). Moreover, few of these platform content moderation practices take place in transparent ways, nor do they offer forms of accountability as to what is being removed and following which criteria (Harambam, 2021). While some measures give precedence to addressing societal harms over elite interests, these matters raise questions about the implications of prioritizing any societal values over epistemic bases for information governance. Can addressing social harms offer sufficient justification for curbing more open media participation, and can such interventions have the desired effect of increasing warranted trust in scientific knowledge?

The nature of scientific knowledge production means that it is reliant not only on evidence, agreed-upon facts, and articulating consensus claims but also on ongoing debate, reasoned disagreement, and competing interpretations between experts. The inherently open-ended character of scientific enterprise as an unfinished project of truth-seeking contains within it uncertainty, tentative-ness, and

partiality. As such, it is not always immediately self-evident on which basis science disinformation ought to be distinguished from dissenting scientific views (Harambam, 2020). While encouraging dissent is important for science, facilitating public contestations of expert knowledge raises challenges of its own (Feinstein, 2015). This is especially the case in today's platform-oriented media landscape, which prioritizes controversy and popularity over expertise and the truth value of information (Alinejad & Van Dijck, 2023). How can experts' knowledge be critiqued by those without expertise, themselves? And can we discern between dissent that is critique and that which manifests as a form of excessive or misplaced distrust in science and produces an obstructionist stance without a competing epistemic claim? Such challenges raise an important tension between interventions to curb mis-/disinformation, on the one hand, and the nature of scientific knowledge and its processes of production, on the other (Marres, 2018). This tension compounds the challenges that already exist around approaches to disinformation in today's media landscape, including the problem with the dominant definition of disinformation (as distinct from misinformation) as being inaccurate information that is spread with the intention to deceive. The provenance of information circulating online is notoriously difficult to pin down, often making it too difficult to estimate the original intentions with which it was produced and spread (Treen et al., 2020).

Some scholars argue that it is incredibly difficult to distinguish problematic public science dissent from that which constitutes healthy disagreement; so much so that we should avoid trying (de Melo Martin and Intemann, 2018). Others suggest that while some degree of politically framing science and science-informed policy is necessary for public sense-making and disagreement, the politicization of science can sometimes become excessive, coming to stand in the way of deliberative dissent (Pielke, 2007; Rekker, 2021). As the papers in this issue reflect, the politicization of scientific knowledge is done by democratic and less democratic state authorities, alike, as well as a range of media participants, including experts and non-experts, both those who are trusting and distrusting dissenters. This collection of papers does not reveal a straightforward answer to questions about which approach to take to defining, understanding, and responding to different forms of epistemically unfounded information circulating in complex contemporary media spheres. But, through the contexts these papers detail and analyze, they effectively highlight what the significance and the stakes are of the presence/absence of agreement about basic facts.

For instance, in their article, Brianna Wiens and Shana MacDonald show how the use of various social media platforms by "Public Health Influencers" (this issue) in the Canadian context presents a relatively successful mode of curbing the spread of disinformation through a reorientating of platform-based communications towards evidence-based facts. The paper takes an approach that problematizes the political

polarization that is responsible for a lack of agreement about such basic facts. This approach allows the authors to trace local, context-specific media practices that actively seek to counter disinformation not only in the interest of public trust in medical expertise, but also in the interest of those "who have been disproportionately affected by both disinformation and the pandemic" (Wiens and MacDonald, this issue). On the other hand, like multiple authors in this Special issue, Robert Prettner and his coauthors prefer an approach that does not make any determination of the truth value of the media content they analyze. Nevertheless, they come to a similar conclusion as Wiens and MacDonald about the social processes through which mediated trust is built in expertise. Specifically, they stress the importance of authorities using dialogical communication with the public in order to demonstrate compassion for their complex concerns and help make explicit the more implicit moral valuations publics are working with.

4 FEATURED IN THIS SPECIAL ISSUE

We open the Special Issue with Carlos d'Andréa and Verônica Costa's "One Biologist, One Million Deaths: Expertise between Science, Social Media, And Politics during the Covid-19 Pandemic in Brazil." The article zooms in on the figure of science communicator Atila Iamarino, whose YouTube channel gained sudden popularity at the onset of the Coronavirus crisis in a highly polarized political context. During the heydays of the pandemic, Brazil was in fact the setting of intense conflicts between people holding denialist, conspiracist, and populist stances – in line with President Jair Bolsonaro's weltanschauung – and people committed to scientific evidence and procedures. As a science communicator, Atila belongs to the latter group. Through a thorough analysis of his increasing visibility and public presence during the pandemic, both online (on YouTube and Twitter) and offline (in TV programmes, newspapers, and transnational bodies), d'Andréa and Costa show that Atila managed to navigate different media environments and multi-layered areas of expertise. In particular, they argue that Atila successfully confronted the attacks by anti-science movements and pro-Bolsonaro users by embodying a specific condition – that of the "science influencer" – located at the crossroads of epistemic institutions and digital platforms.

Nina Santos' contribution, "Networked Information Pro and Contra Bolsonaro's discourse on Coronavirus," analyses the respective information sources that the supporters and detractors of President Jair Bolsonaro share on Twitter. Internationally, Brazil's leadership had one of the most high-profile science denialist policy responses to the coronavirus pandemic. Tracing the immediate tweet responses to the divisive President's momentous speech about the virus, Santos shows that certain information sources were responsible for creating coherent alternative narratives about Covid-19. She argues that information sources shared on social media must therefore be understood as important "mediators" of

the discursive realities through which people made sense of the pandemic. In a platform environment where information sources are authorized through network dynamics rather than hierarchies of relevant expertise, the analysis demonstrates how alternative media sources vastly overshadow traditional media reporting within anti-science networks, raising important questions about the consequences of epistemic authority being negotiated in a networked way.

Brianna Wiens and Shana MacDonald show in their insightful article "Meme-ifying Data: The Rise of Public Health Influencers on Instagram, TikTok, and Twitter during Covid-19" how the affordances and logics of social media can also be deployed to garner trust in public institutions and fight disinformation instead. They analyze the social media communication practices of three key *Public Health Influencers* (PHI's) during the pediatric vaccination campaigns of late 2021 in their local context, Ontario, Canada, and argue that their memetic tactics enable them to engage the public in ways traditional science communication cannot: by directly interacting with citizens and their concerns and by showing affect and sympathy. Driven by a larger impulse to combat health inequities that are exacerbated by the different forms of disinformation circulating on social media, these PHI's make use of several memetic bricolage techniques coupled with affective 'micro-celebrity' practices in order to build trustworthy relationships with their audiences to advance stalled public conversations and to reorient the spread of disinformation back to evidence-based facts. Their article shows how the concerted social media efforts against disinformation by these PHIs contributes to advocacy for more accessible, just, and equitable health care for Ontarians. And it adds a much-needed nuance to our negative understanding of the role of social media in contemporary discussion about health disinformation.

Tarun Kattumana's "Alternative Credibility, Empathy, and the Plandemic: Trust in Conspiracy Theories during the Covid-19 Pandemic" conducts a philosophically inflected analysis of *Plandemic: The Hidden Agenda behind COVID-19*. The video, which went viral in Spring 2020 among right-leaning Americans in particular, consists in a long interview to an alleged "revolutionary scientist," Judy Mikovits, who dares speak against the risks of wearing masks, the interests behind pharmaceutical companies and the state, the dangers of vaccines, and the like. Without dismissing those who are persuaded by the *Plandemic* as paranoid, Kattumana scrutinizes the video and points out a few devices it mobilizes to build trust. Concretely, the article focuses on people's distrust toward public institutions and, especially, on the construction of an "alternative credibility" by micro-celebrities such as Mikovits, who give their audiences an impression of authenticity and relatability. Both traits are conveyed through a (mediated) form of empathy as well as a strategic storytelling that promotes intimacy while conveniently crafting the narrative in such a way that Mikovits herself appears to be the victim of public health officials and institutions. By dissecting the sentiments that were mobilized

in the early stages of the Coronavirus pandemic, Kattumana warns us about how these same sentiments can be mobilized in the future, should there be another critical moment in which trust and science are at stake.

In his article, "Distrusting Consensus: How a Uniform Corona Pandemic Narrative Fostered Suspicion and Conspiracy Theories," Jaron Harambam examines how distrust emerged among certain groups in response to the Dutch national pandemic response. By seeking out an ethnographic understanding of the perspectives of those who would typically be categorized as conspiracy theorists, Harambam uncovers a consistent rationale behind their media production and consumption, namely: too much consensus among official bodies breeds distrust. A lack of heterodox scientific perspectives within the public discussion, together with an alarming media narrative about pandemic, and a limited set of key policy options are argued to have created the conditions for people to turn away from institutionally authorized accounts and towards a search for more complexity and alternative voices. In discussing the implications of his conclusions, Harambam offers the insight that suspicion among parts of the public can potentially be mitigated by avoiding the oversimplification of the complexities inherent to the communication and application of relevant scientific knowledge in the respective realms of media and policy.

Robert Prettner, Hedwig te Molder, Maarten Hajer, and Rens Vliegenthart close off this Special Issue with their article "Light at the End of the Tunnel? The Staging of Expertise During the COVID-19 Vaccination Campaign." Using data from official press conferences, Twitter responses of the public and political motions put forward by Members of Parliament, this group of Dutch scholars compares the governmental, public, and parliamentary framings of expertise in The Netherlands during the first Covid-19 vaccination campaign between January 1st and April 30th, 2021. To analyse their empirical material, they combine an interactional framing approach with a discursive psychology perspective to better understand how framings between stages modify, contest, or build upon each other. They argue that the press conferences show a persistent technocratic framing as science and policy is univocally connected. Political leaders unproblematically convey the message that there is light at the end of the tunnel, if only citizens will get vaccinated, fusing scientific predictions with political desirability. Once the AstraZeneca vaccine comes under fire, however, they point to scientific experts are again, who are then held accountable for the policy changes. This technocratic framing is disputed on Twitter and in Parliament, albeit in different ways, by making hidden moralities relevant, such as the government's assumed complacency, rigidity, and inability to explain policies with the available evidence. Their paper shows the contested and complex relations political leaders have with science.

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ENDNOTES

[i] WRR/KNAW (2021) 'Navigeren in onzekere tijden' (Navigating uncertain times') At: https://www.wrr.nl/publicaties/publicaties/2021/09/02/navigeren-en-anticiperen-in-onzekere-tijden

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ONE BIOLOGIST, ONE MILLION DEATHS: EXPERTISE BETWEEN SCIENCE, SOCIAL MEDIA, AND POLITICS DURING THE COVID-19 PANDEMIC IN BRAZIL

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ABSTRACT

The article discusses the multiple forms of expertise articulated by a specific kind of digital influencer - online science communicators - during the COVID-19 pandemic in Brazil. Our case study focuses on the performance of Atila Iamarino, a PhD in Microbiology that achieved an unprecedented public recognition after predicting, in a YouTube live transmission, that more than a million people could die in the country due to the coronavirus. Assuming the relational and networked dimension of expertise, the article discusses how Atila combined and interchanged academic, affective, and sociotechnical abilities in his performances on social media and on other (media) institutions during a public health crisis marked by the lack of coordination and the political instrumentalization of science by the Brazilian federal government. The case study is based on a systematic observation of Atila's accounts on YouTube and Twitter, and on additional material published from March to August 2020. In the conclusions, based on how the Brazilian science influencer managed his visibility, alliances, and scientific background during the radical uncertainty period, we highlight how the expertise was built based on conditions of possibility that emerged in Brazil during the pandemic, which reveals contemporary tensions between science, politics, media, and other epistemic institutions.

Keywords: expertise; COVID-19; social media; science communication; digital influencer

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1 INTRODUCTION

On March 20, 2020, when Brazil had already reported 793 confirmed cases (Our World in Data, n.d.) and eleven deaths caused by COVID-19, the biologist and PhD in Microbiology Atila Iamarino made a live transmission on YouTube about "what Brazil should do in the coming days". Acting for more than a decade on his online science communication projects, especially on YouTube, Atila - as he is known to the broad public - used his own channel (Atila Iamarino, n.d.) to predict that Brazil could reach around one million deaths if nothing was done to stop the spread of the virus. Based on a study by the Imperial College, the "one million deaths live", as the transmission became known, achieved more than four million views in a week and launched Atila to a new level of public acknowledgment by and visibility on distinct kinds of media and public institutions.

The singular repercussion of this video - and of the following months' episodes starring Atila to be discussed in this study - illustrates how the COVID-19 pandemic, as a period of radical uncertainty (Callon, Lascoumes and Barthe, 2009), triggered an intense search for people or institutions that could be recognized as up-to-date and well-informed sources. The intense circulation and disputes involving quantitative data as well as general public recommendations culminated not only in an "infodemic", as addressed by the World Health Organization (2020), but also in a rearrangement of diverse kinds of expertise.

More than in most other countries, the public health crisis in Brazil must be understood in light of the lack of coordination (Calife & Maciel, 2022) and the ambiguous and conflicting position of authorities on issues such as the severity of the illness caused by the new virus and even the relevance of making investments in vaccines (Taylor, 2021). Thus, it could be stated that the scientific and the sanitary populism (Oliveira, 2022; Magalhães & Casarões, 2022) assumed by Jair Bolsonaro's government raised the pandemic's tensions between politics and science (Jasanoff et al., 2021) and opened room for disputes and conflicts between public experts, a high-engaged online audience and science communicators.

In this scenario, Atila Iamarino became a prominent voice in Brazil especially for engaging on YouTube and Twitter with the current scientific debates and with the (frequently contradictory) public health recommendations. Rankings elaborated by the IBPAD Institute and the data platform Science Pulse pointed out that Atila was the most influential voice among Brazilian scientists on Twitter in 2020 and 2021 (Meirelles, 2020; Meirelles & Rodrigues, 2021). On this platform, his numbers grew five-fold during the pandemic, and, by the end of 2020, he also reached one million followers on Twitter. On YouTube, the total number of views of Atila's channel increased 786% from February 27 to May 31, 2020 (Robalinho el al., 2020). His "extraordinary YouTube career" was highlighted by the YouTube Team (2021), who stated that Atila made his "standout year" live streaming "the microbiological aspect of the pandemic and making science and tech explainer videos".

Previous studies have already analysed Atila Iamarino's performance on social media in different moments of his career as a science communicator (Costa, 2019; Sousa, 2019; Oliveira, 2021; Blanco et al., 2022). By focusing on the negotiations and tensions between scientific expertise, social media practices and materialities, and political issues in Brazil during the COVID-19 pandemic, this article takes Atilla Iamarino's recognition as a prominent science influencer as a singular example of how different kinds of expertise are frequently combined in order to make someone both visible and trustful in the contemporary media landscape. Our main questions are: how did Atila Iamarino combine and interchange expertises in his public performances on social media platforms and on other (media) institutions during the COVID-19 pandemic in Brazil? How does he manage his scientific background and his experience as an online communicator during the disputes triggered by ambiguous policy recommendations and political instrumentalization of science? How does his growing presence as a science influencer can inform us about the tensions between science, politics, media, and other epistemic institutions in Brazil?

Our broader aim in the article is to contribute to the dialogue between different research fields, such as expertise, public communication of science, platform, and digital influencer studies. The debate here proposed is not guided by the analysis of public policies and scientific expertise as conducted by the Brazilian Federal Government during the pandemic. Instead, it focuses on Atila's performance as a science influencer that managed different expertises to navigate in a troubled media and political landscape. The professional use of social media by scientists and science communicators (and their dialogues with legacy media), their conflicts with politicians and activists inspired by extremist and/or negationist perspectives, and also the affective relationship with the audience are some of the topics related to the platformization of science discussed in this article.

The article is divided into the following sections: First, we briefly assume scientific expertise - a topic investigated by a diverse body of scholars - as a network that reorganizes power relations and dynamically negotiates authority, credibility, and similar notions. In the contemporary world, new forms of engagement and the increasing influence of science-related (far-right) populism are some of the aspects that put at stake, for instance, the role of science advisors. This issue is discussed having Brazilian pandemic and governmental context in mind. For public communication of science, expertise is additionally approached as an ongoing process that combines media-related activities, affects, and politics.

Next, the article discusses how science communication nowadays is intricately connected with the socio-technical expertise enacted by the logics of social media platforms. By managing popularity, visibility, and monetization, a multi-layered expert such as Atila Iamarino should also be framed as a science influencer. We discuss the singularities of this self-entrepreneur activity, including a call for intimacy, accessibility, and relatability with the audience. A brief chronology of

Atila's activities informs how these relational abilities relate to his recognition as a scientist and, especially, as a science communicator.

The section "Material and Methods" details the empirical research design. Anchored in Atila's social media accounts on YouTube and Twitter, the case study also explores a more diverse corpus (articles, interviews, statements, etc.) to discuss his process of expertise building during the COVID-19 pandemic. The following empirical study is divided in two parts: first, the focus is on live transmissions starred by Atila on television and on YouTube (including the already mentioned "one million deaths live") from March to August 2020. The goal here is to understand how Atila's science-related arguments are co-produced with his social media performance. A second empirical effort relies on Atila Iamarino's broader networks, which includes partnerships with epistemic institutions (including legacy media and the World Health Organization), the attacks directed at him by supporters of President Jair Bolsonaro and the acknowledgment mobilizations by his followers.

In the conclusions, we discuss how the multi-layered expertise articulated by Atila during the pandemic relates to the conditions of possibilities that emerged in Brazil during the pandemic, which includes the lack of coordination by public authorities. It is discussed how, while simultaneously dealing with in-process science research, contradictory public policies and (social) media logics, the science influencer mobilised institutions and audiences, and became a spokesperson of science in Brazil.

2 SCIENTIFIC EXPERTISE AND THE COVID-19 PANDEMIC

Due to its significant role in politics, public communication, and science itself, scientific expertise has been a topic of concern among a diverse body of scholars during the past decades. While some authors adopt a classificatory approach (Collins et al., 2017) or argue for the death of expertise (Nichols, 2017), others propose a more relational, negotiated, and heuristic sociotechnical approach. For Eyal (2013, p. 871), expertise must be framed when, through practices and conditions of possibility, it is still "in the making". In the process of formulating or addressing a problem, expertises are "networks that link together objects, actors, techniques, devices, and institutional and spatial arrangements" (p.864). To claim and to be recognized as a spokesperson, an expert should be engaged in making alliances and in rearranging power relations.

More recently, Eyal (2019) has pointed out that the contemporary "crisis of expertise" is a phenomenon that puts at stake the "authority, legitimacy, credibility, and reputation" especially of the science sub disciplines that are expected to provide "policy recommendation", which includes public health. The emergency of the COVID-19 pandemic made more evident to a broader public that, especially in shared uncertainty periods (Callon, Lascoumes and Barthe, 2009), the scientific consensus and guidelines are part of an unstable process. Analysing how different countries reacted to the pandemic, Jasanoff et al. (2021) stated as a "fallacy" the

supposed effectiveness of the science advisors' support to policymakers. In some of the studied countries - including Brazil - "experts rarely speak with one voice" and "conflicting expert advice is the norm." While discussing the 'fall of experts' during the COVID-19 pandemic in Brazil, Roque (2021) argues that instability of health authorities' recommendations were used as arguments for the negationism of politicians[1]. These cacophonic and unstable relationships can also be identified in the public communication of scientific research and their outputs. On the one hand, the intense use of epidemiological data culminated in broad circulation of metrics, simulations and predictive models that worked as "ways of assessing and managing *uncertainty*" (original italics) (Eyal, 2019, p.12). On the other hand, its everyday use by different publics culminated in a continuous scrutiny of these indicators (and of the complex ongoing scientific experiments and arguments that support them), increasing, for instance, political disputes. Additionally, the accelerated search for orientations or treatments and the sharing of preprints and not yet validated recommendations enacted a complex regime of circulation characterized not only by misinformation, but also by information overload – or an "infodemic", as addressed by the World Health Organization (2021).

The contemporary understanding of expertise should also be framed based on the expansion of a science-related populism. An "antagonism" between ordinary people and an "academic elite" and the call for a civil and individual "sovereignty" in the decision-making are two of the characteristics of this anti-establishment movement identified in different countries (Mede & Schäfer, 2020). During the COVID-19 pandemic, President Bolsonaro coordinated a singular case of scientific and sanitary populism marked by "political instrumentalization" of science (Oliveira, 2022) as well as by a "charismatic healer" who opposes the economic power of the pharmaceutical industry. (Magalhães & Casarões, 2022)

While the centralised participation of the scientific community in decision-making arenas (Dagnino, 2007) has historically contributed to the implementation of evidence-based public policies, including in public health (Maciel et al., 2022), during the COVID-19 pandemic, the Federal government "undermined science" mostly for ignoring "tried-and-tested pandemic-containment strategies" (Taylor, 2021). According to Kalil et al. (2021), the denialism, conspiracy theories and other populism tactics spread specially on social media by Jair Bolsonaro were converted "into official state discourse as well as public policy". Among other episodes, this attitude can be recognized in an official pronouncement on TVs and radios in late March 2020, when President Bolsonaro ignored his Minister of Health's efforts to

[1] When the World Health Organization (WHO) declared that lockdown practices should not be the main method to control the pandemic, President Jair Bolsonaro took the somewhat confusing statement as evidence that he had always been right about the supposed inefficiency of social distance. Another important example was the use of masks: in April 2020 WHO indicated the use of masks only for health professionals and symptomatic patients. Two months later, the guidelines were updated (masks were recommended for general use), but the previous orientation continued to be evoked by some to justify the so-called 'freedom of choice'.

manage policies in accordance with the global health guidelines known by then and asked mayors and governors to roll back "scorched-earth" policies like closures of businesses and schools (Coronavirus: Bolsonaro downplays..., 2020).

Relevant works on science communication also recognize how the public communication of scientific expertise blurs the lines between science and politics in modern democracies (Scheufele, 2014). Peters (2021) defines as "public experts" those scientists that are engaged in 'public events', such as media interviews, "when they not only talk about their research in public but relate scientific knowledge to orientation needs of a lay audience or political problems of society at large" (p.114). Acting as advisors or as public communicators, science experts are supposed to cross "the boundary of science, entering society as an actor and exposing oneself to internal and external criticism" (p.124). As such, scientists who engage themselves in social media and media events often become increasingly popular, enacting a "feedback loop" (Peters, 2021, p.122) that redefines the logic of "visible scientists" previously identified by Goodell (1977).

In dialogue with these authors, we assume that scientific expertise, especially in its interfaces with public communication, is determined not only by the academic background or the institutional legitimacy, but also by how he/she manages to combine visibility and reliability by articulating different media-related materialities and practices in a given situation. Thus, what makes someone recognizable as a scientific expert is closely related to the "affect and feelings" (Líndén, 2020) involved in the public engagement with scientific issues, triggering a continuous process of negotiation around empathy and confidence. As states Eyal (2019), expertise cannot be taken as "a set of skills possessed by an individual or even by a group, but a historically specific *way of talking*" (original emphasis).

2.1 Scientific influence and social media expertise

The comprehension of scientific expertise as part of an interplay that involves different actors, objects, devices, institutions, etc. (Eyal, 2013) evokes new challenges when one aims to go deeper into the entanglements between the contemporary public communication conducted by experts and the data-driven and normative dynamics of online platforms. In dialogue with the previous studies that claim a media-oriented expertise analysis (Peters, 2021; Egher, 2020), we argue that social media platforms must be taken not only as 'social networks' in which a previous expertise can be performed or (re)negotiated, but mainly as infrastructures that demand specific socio-technical expertise to manage popularity, visibility, and monetization.

To discuss the performative dimension of expertise in digital media contexts, Chan (2019) studied how a group of experts in a specific professional activity (Uber drivers) articulate their presence in a social media platform (YouTube). Despite having experience with algorithmically driven systems, such as the Uber Driver app and the surge pricing embedded into it, drivers need to reshape and amplify their

expertise to also become youtubers. While some of the self-presentation practices discussed by Chan (2019, p.16), such as constructing "know how" and realness, seem to be more related with drivers and other workers of the gig economy, the performance of the "uniqueness" and the "relatability with audiences" can be taken as common efforts of other kinds of experts (such as scientists) on social media platforms.

Following the discussion, it can be said that an analytical effort to understand the presence of science experts and science communicators in social media platforms could rely on the notion of "digital influencer". In a study focused on the broader concept of internet celebrity, Abidin (2018) discusses the specificities and challenges of an influencer. The maintenance of his/her visibility and the creation of a sustained business, argues the author, require "economic, technical, cultural, and social skills" (p.98) that are related with the logics of the industry (fashion, music, etc.) and of the medium.

While studying the knowledge-building and interpretive processes by Instagram influencers, Cotter (2018, p.897) highlights the importance not only of playing the 'visibility game' with the algorithms, but also of building 'a sense of intimacy, accessibility, and relatability' with the audience. In a complementary way, Van Driel e Dumitrica (2021) put into light the process and tensions of self-professionalisation. To become a brand and an entrepreneur, a digital influencer is expected to conciliate the authentic performance desired by followers and attractiveness to advertisers.

For scientists, acting and being recognized as an influencer may take to new levels a closer relationship between scientists and their audiences discussed previously by authors such as Brossard (2013). However, communication and engaging with science topics in an influencers-oriented media environment does not come without trouble. Analysing Brazilian communication efforts during the pandemic, Tatiana Roque (2021) states that one of the consequences of the lack of trust in institutions is the excessive emphasis on the "personal manifestations of specialists, who became celebrities on the internet and on television".

Another issue in Brazil is the increasing involvement of all types of digital influencers in political debates. During the pandemic, a journalistic investigation found out that nineteen Brazilian influencers (with hundreds of thousands of followers each) had been paid by the Federal administration to support "early treatments" that were already refused by health authorities (Fleck & Martins, 2021). Felipe Neto, one of the most popular youtubers worldwide (around 44 million subscribers), acted in the opposite direction, publishing in the New York Times' opinion section a video called "Trump Isn't the Worst Pandemic President - Just ask Brazilians" (Neto, 2020)[2].

[2] The piece triggered intense online attacks by the far-right president supporters and was later presented as an argument to the digital influencer's inclusion in another list: the 100 most influential personalities of 2020, according to Time Magazine. Not by coincidence, the other Brazilian listed was President Bolsonaro himself, criticized by Neto.

Before presenting the case study of Atila Iamarino's performance as science influencer during the pandemic, a brief chronology of his career may enlighten how his public recognition has long been associated with the capacity of building networked expertises as a scientist and especially as a science communicator. *Science Blogs Brasil*, a project co-funded by Atila in 2006 (Fagundes, 2013), is a singular example of the "new wave of science communication" (Bauer,1997) enacted by massive government investments in research institutions and universities in the early 2000's (Massarani and Moreira, 2016).

In 2008, during his PhD in Microbiology at the University of São Paulo, Atila created his own science blog (*Rainha Vermelha*) (Iamarino, n.d.) and a Twitter account (@oatila). After working as a postdoctoral fellow at USP and Yale University, Atila was invited in 2015 to host *Nerdologia* (n.d), that later became one of the biggest science and technology Brazilian YouTube channels (3.29 million subscribers in November 2022). By exploring the interfaces between nerd culture (movies, games, sci-fi, etc.), Science and Humanities (Blanco et al., 2022), the now former scientist expanded his original science communication bubble and realised that his dream was becoming a "teacher of the crowds" (Iamarino, 2020i).

In August 2019, Atila created his own YouTube channel, which two years later achieved over 1.52 million subscribers. Becoming a Youtuber made Atila finally a one-man brand that could be commercially explored. A variety of videos were published in the first months, including sponsored-like / vlog content about companies such as Tesla (Iamarino, 2019)[3] and Apple (Iamarino, 2020e). Publishing 'advertorials' without clear distinctions between science content and ads was also a frequent practice in Atila's former channel *Nerdologia* (Blanco et al., 2022) and continued to be an issue after his peak of visibility and popularity[4], revealing a long-term effort to explore commercial value of his science-based credibility.

3 MATERIALS AND METHODS: INTERCHANGING EXPERTISES

This case study is based on an intense empirical observation aimed to identify Atila Iamarino's key actions during the COVID-19 pandemic as well as the public repercussions and deployments triggered by his performance as a multi-layered expert. Two social media accounts managed by Atila are deeply scrutinised in the study: his YouTube channel and his Twitter account. However, we work with a multiple and more diverse corpus that includes not only Atila's own publications

[3] In the process of editing this article, the video was put in private mode and is no longer available on the channel.

[4] In May 2021, he published an "editorial video" (Iamarino, 2021a) in which explains how sponsored content is signalized and clarifies that, as the sponsor only decides a final advertising message, he had total editorial freedom on his channel. Additionally, he explains that he had decided to have few but coherent sponsors that do not have any conflict of interests with his content.

but also video interviews, statements from followers, newspaper articles and other content that contribute to the understanding of the phenomenon.

The observation begins with a video published on March 20, although previous content, such as a video from January 31, is briefly cited to contextualize how and since when Atila was mobilizing his followers around topics related to the pandemic. The empirical analysis ends on August 2nd, 2020, with the mobilization of Atila's supporters through the hashtag #ObrigadoAtila (Thank you, Atila).

The first section of empirical analysis is dedicated to five YouTube videos starring Atila (four published on his channel and one by a TV show). In this section, we also use CrowdTangle - a Meta-owned data analytics tool - in a preliminary analysis to identify how the first of his videos resonated in other social media platforms. While those five videos published on YouTube are analysed to highlight Atila's arguments on scientific evidence, public policies and related issues, his more diverse use of Twitter guided a broader 'backstage' mapping of how the scientific digital influencer managed his social media expertise as well as how his increasing public visibility mobilized a highly engaged audience.

The methodological efforts of this study also include a second section with the systematisation of Atila's main dialogues and partnerships with traditional epistemic institutions, including legacy media. The aim was not to delimitate a corpus or to assume a systematic approach, but to follow how tweets, opinion articles, pictures, trending topics and hashtags could help us analyse Atila's performance as both an influential communicator and a visible scientist that is publicly recognized as an expert.

3.1 "Broadcasting himself" and explaining COVID-19 on YouTube and TV

The COVID-19 crisis was first mentioned on Atila's channel in the video "What if the CORONAVIRUS arrives in Brazil?", published on January 31 - a day after the WHO declared "Public Health Emergency of International Concern" and before the circulation of the new coronavirus had been officially identified in Brazil. Until March 2020, a few other of his videos attempted to interpret the latest information from global health authorities and scientific research.

Nine days after the WHO declared the ongoing crisis as a pandemic, Atila broadcasted a live transmission on YouTube that would suddenly transform his presence in the media and on digital platforms. Later known as the "the one million deaths live", the video broadcasted on March 20 under the title "What Brazil needs to do in the next few days" (Iamarino, 2020f) projected that the number of deaths from COVID-19 in Brazil could reach one million people in the next months depending on the policies adopted.

The estimation presented by Atila was based on a so-called "very reputable study" by the Imperial College (Ferguson et al., 2020) that "was guiding policies all over the world", as Atila argued. It did not present specific data related to Brazil,

but, in a scientific effort, Atila made a prediction analysis based on the UK-researchers' model and stated that, if nothing was done to prevent the spread of the coronavirus - as "some are preaching", he said - the country would reach 1,4 million deaths caused by COVID-19 by August 2020. Even if Brazil adopted "mitigation" efforts, one million people "or more" could die in the next few months[5]. A "suppression" policy like the one adopted by China would flatten the COVID-19 curve to a "few thousand deaths", according to him.

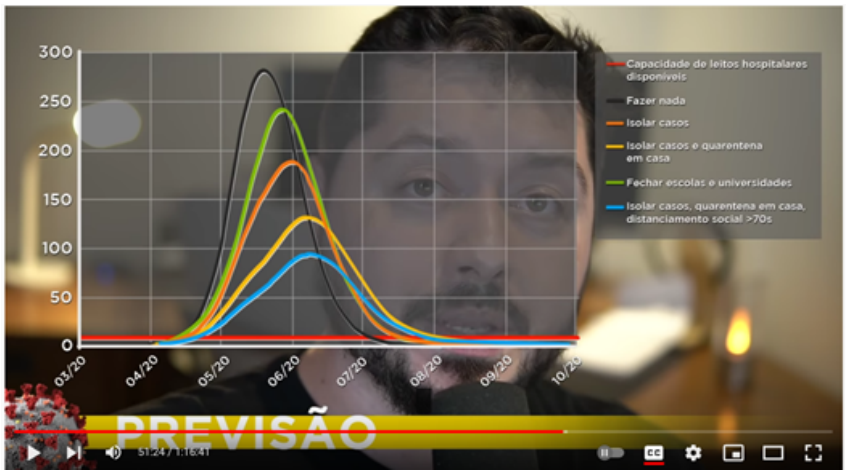

Figure 1. Different scenarios, such as "doing nothing" (in black) and "isolating cases and home quarantine" (orange), were presented in a multiple line chart.

As a science communication piece, the live transmission by Atila on March 20 combines scientific terms, descriptions and charts that illustrate the challenge of flattening the curve of deaths that could be caused by the new coronavirus (Figure 1)[6].

This video reached remarkable numbers: in less than a week, it had already passed 4.6 million views, and reached a large and diverse audience on other platforms. Using CrowdTangle, a Meta-owned tool for data analytics, we identified the YouTube video URL was shared in 94 public pages and verified profiles, and in 390 public groups. The live broadcast was also largely watched outside YouTube. According to CrowdTangle Team (2021), a full version published by an entertainment fan page followed by more than 8 million Facebook users was shared

[5] The discussions on isolation policies were then taking its first steps in Brazil. A few hours before Atila's "one million deaths live", the then minister of Health, Luiz Henrique Mandetta, had made his most emphatic public statement to date, warning that the new coronavirus spread could "collapse" the public health system in the upcoming weeks.

[6] The articulations between scientific and social media expertise by Atila can be observed in other moments. Right at the beginning of the video, he recommended that people should not watch it if they were feeling anxious, because he would have a "not very nice" conversation with the audience. He deactivated the chat and emphasized the necessity of "using his license" as a scientist and his expertise as a biologist and researcher with post-doctorate in virus studies to alert about the seriousness of the situation. An hour later, just after presenting the data he had estimated to Brazil, his camera turned off and his voice echoed: "This is the worst live to have technical problems", he said, sweating and tense.

17,176 times and reached more than 1,1 million views on this platform (Mistérios do Mundo, 2020).

Another milestone in its media visibility and the crossing of politics in his science speeches happened ten days later (on March 30), when Atila joined a traditional TV show that invites journalists on a weekly basis to interview public personalities (Roda Viva, 2020). Hosted for decades by the public channel *TV Cultura* (Botin, 2016), Roda Viva regularly mobilizes its audience on social media, but, that night, the show reached the Worldwide Trending Topics on Twitter, and the highest TV audience of Roda Viva since 2018, when the then presidential candidate Jair Bolsonaro had been the guest. The YouTube video quickly reached more than three million views and became the second most watched on the TV show channel (the first is Bolsonaro's 2018 video). A few hours after the show aired, the host presenter, Vera Magalhães, tweeted:

> 1:33 am. #RodaViva is still the first Twitter topic in Brazil. AND THE THIRD IN THE WORLD. The respondent is a scientist. I said in the (TV show) opening text: perhaps the only positive point of this nightmare is the rescue of science. @oatila completed: and journalism. Together (Magalhães, 2020)

As the tweet indicates, an alliance between two epistemic institutions (science and journalism) had been reinforced during that Roda Viva edition. In crisis situations such as the outbreak of the pandemic, both "scientists and journalists are like heralds of bad news", Vera Magalhães had stated during the TV show.

One of the most discussed issues during the program was the role of Brazilian political leaders, specially of then-President Jair Bolsonaro. The infection of twenty-two officials after a visit to the United States led by the President and an interview in which Bolsonaro had declared that, for someone like him, COVID-19 "would be at most just a little flu" was some of the situations mentioned by journalists during Roda Viva. In his answers, Atila tried to avoid evaluating or even mentioning the President's denialist actions and discourses, and opted to emphasize the importance of the initiatives coordinated by the Minister of Health, such as adapting the public health system's infrastructure and buying equipment and tests. Beyond this confidence in the events coordinated by public health experts, Atila also assumed that scientific evidence would overlap the denialist perspective of some authorities:

> With covid, the consequences come in two weeks, a month. Whoever is denying the truth now, I just must sit back and wait because what these people are saying is going to change in two weeks. Same thing goes for leaders. (Roda Viva, 2020)

For evading making political statements and for not criticizing the president and other authorities, Atila was labelled by many on Twitter as an "exempted", or "*isentão*", a popular slang in Brazil to name those who do not want to take a clear position about politics.

In Roda Viva, the prediction analysis Atila had made based on the Imperial College study was mentioned only once, when the journalist Mariana Varella asked

which scenario he was more inclined to believe in. Atila answered he was optimistic because "prevention measures were adopted soon enough", as recommended by the study made in the UK.

Despite the new optimistic view, the "one million deaths" live transmission was turned into a permanent issue for his followers and, specially, haters, as we detail in the next section. For instance, on the first day of August - the month in which the "prediction" was supposed to be reached - his scientific expertise was put into question because Brazil had registered "only" 93,563 deaths caused by COVID-19. As an answer to these critics, one of the lives broadcasted on late March (Iamarino, 2020g) was partially reproduced by Atila on Twitter (Iamarino, 2020d) to reinforce that, at that time, he had presented an updated version of the study (Walker et al., 2020) made by the Imperial College COVID-19 Response Team.

The fragment that Iamarino (2020g) recirculated months later makes visible the controversial process of science making. While Atila reinforces the authority of the UK-based research team – "in the words of the New York Times, they are the gold standard that orient public policies", he said – he mentions that part of the original study had been immediately questioned by other researchers. Shedding light into the "in process" dynamics of science in an uncertain period did not avoid criticisms. One of the tweets mentioned by the analysis of Almeida and Santos (2021) regarding Atila's legitimacy by that time argues that "relying on a single study and presenting models without knowing how to make a real one is sailing on a ship that is doomed to sink", questioning his expertise.

Figure 2. Atila comments on his first attempt to make a predictive analysis in a later video called "Where is the one million".

The most important reaction to the critics was a live transmission, by the end of August, called "Where is the one million?" (Iamarino, 2020h) (Figure 2). To resume and explain what was at stake in the broadcast which, more than once, he qualified as "fateful", Atila evoked a more specialized terminology, for instance by

distinguishing "predictions of the future" from the "possible scenarios" outlined by epidemiological studies. The model proposed in early March by the Imperial College was not considering intermediate scenarios - such as what would happen if "everyone was locked at home" - because, according to Atila, this possibility was "unthinkable" at that moment.

To defend himself from critics, Atila points out (with a disappointed smile on his face) that he had been "very innocent" when he announced the estimated scenario: "I did not know why official pronouncements do not give punctual numbers, fixed estimates of what could happen. It is because you will be charged for it". This self-criticism reveals Atila's perception that, at least in March 2020, he was acting not only as a science communicator, but also as an informal advisor who, even though he was dealing with best science-evidence data available, should have been more cautious to avoid the increase of uncertainties.

3.2 Pandemics and beyond: partnerships, monetization and affects

The visibility achieved by Atila in the first months of the pandemic crisis culminated in expressive changes both on his online science communication projects and his insertion in a broader public debate. The expansion of Atila's expertise network (Eyal, 2013) can be identified, for instance, through partnerships and dialogues with legacy media, public organizations, and other epistemic institutions. In April 2020, Atila received financial support from Serrapilheira Institute (Iamarino, 2020b), a private non-profit organization focused on innovative science projects, to produce his YouTube videos. He also became a columnist at *Folha de S.Paulo*, one of the most traditional newspapers in Brazil. Beyond science communication, he also joined an Electoral Supreme Court project to combat disinformation, and was awarded, by the Municipal Council of São Paulo, with the Anchieta Medal and the Gratitude Diploma due to his work on behalf of São Paulo citizens. Also, Atila's participation in the WHO global conference on communicating science during health emergencies (June 2021) can be interpreted as the "peak" of his political and scientific recognition. He was the only Latin American among five science communicators invited, in the opening session, to present "how to effectively convey research results to different target audiences" during a pandemic (World Health Organization, 2021).

During these demanding institutional engagements, Atila was also dealing with his increasing popularity and credibility on social media, and consequently managed different and new expertise in this leading and high visibility role. His Twitter account was used to talk not only about COVID-related content, but also about YouTube's policies and the algorithmic-mediated performance of his science communication pieces. In the breakout of the COVID-19 pandemic, for instance, YouTube temporarily suspended the monetization of all videos related to the still very unknown public health issue (Fonseca & d'Andréa, 2020) - and Atila tweeted in accordance with the platform policy (Iamarino, 2020a). On April 17, for

instance, Iamarino (2020b) asked followers to share one of his previous live transmissions because it had been "blocked" by YouTube and could not be found by anyone. On May 13, the visibility achieved on the video platform was celebrated (Iamarino, 2020c): his interview with Marcia Castro - a Professor of Demography at Harvard University - was in the second position on the trending ranking curated by YouTube. During this live interview, he also displayed a plaque provided by YouTube after his channel reached one million followers.

Atila and his audience also had to deal with the worsening of the pandemic in Brazil as well as with an escalation of the political polarization. In the mid of 2020, the denial of the health crisis and the lack of strategic decisions by Jair Bolsonaro, the inertia of the new Minister (which was the third since the beginning of the pandemic[7]) and the President's insistence on advocating early treatments (e.g., with chloroquine) culminated in the president's worst public evaluation so far. However, the strong rejection did not seem to change the online behaviour of the President's supporters, who continued to stand up for his recommendation of ineffective drugs and the boycott of social isolation measures to "secure the economy".

Regarding this radicalization, Atila was increasingly targeted by anti-science movements and pro-Bolsonaro users. In the analysis of the public responses to Atila's pinned tweet from March to June 2020, Almeida & Santos (2021) make visible a range of aggressive attacks or ironic references, like a photomontage of the activist Greta Thunberg with his face. One of the collected tweets states that Atila is the "*tupiniquim version* [in Portuguese, this a pejorative expression that relates to the Indigenous people with a bad quality national copy of something] of Al Gore". Like Thunberg, the former US vice president is a global personality known for combating global warming denialism.

Not coincidentally, the escalation of online hate attacks peaked at the end of July, exactly four months after the prediction analysis made during the "fateful" live. On July 14th, for instance, his name reached Twitter Trending Topics: according to detractors, Atila should be "cancelled" for overestimating the risk of the pandemic. But Atila made efforts to defend himself by performing his expertise as scientist and science communicator both on social media and on legacy media. On July 30, Atila even used his *Folha de S.Paulo* article to criticize the "active ignorance" of those who spend time and energy to, aggressively, keep people in doubt about ongoing issues such as the tests phase of the vaccines research (Iamarino, 2020j).

The most emphatic response to all the attacks, however, was articulated by Atila's supporters, who organized the hashtag-oriented mobilization #ObrigadoAtila (Thank you, Atila) to thank him for being engaged in science

[7] After Henrique Mandetta was fired, Nelson Teich was chosen for the position, but resigned less than a month later. The next Minister of Health was Eduardo Pazuello, member of the Military, who was involved in investigations for omission in the coronavirus crisis. At the time of the writing of this article, Brazil has its fourth minister of health, Marcelo Queiroga.

communication for more than a decade, and for acting as an online advisor dedicated to mitigating the consequences of the pandemic. Among the tweets that boosted the campaign towards Twitter Trending Topics on August 1st and 2nd is a highly shared cartoon published by Ruas (2020) (Figure 3).

Figure 3. The cartoon shows Atila in some quotidian moments of an indoors quarantine remembering a character that he should not go outside home yet

Although the pandemic kept showing signs of decreasing in Brazil, due to the pace of vaccination and consequent reduction of cases and deaths, Atila seems to have developed a consistent digital presence, which consolidated his role in the scenario of public communication of science in Brazil, beyond the COVID-19 crisis.

4 CONCLUSIONS

This article aimed to discuss the multiple expertise articulated by Brazil's most well-known online science communicator during the COVID-19 pandemic. Atila Iamarino's performance on social media platforms - and on legacy media -, his growing dialogues with traditional epistemic institutions, and the continuous engagement with a polarised online audience are some of the aspects studied to shed light into the contemporary entanglements between science, politics, and media in Brazil.

Based on the case study, it could be stated that the performance of Atila Iamarino during the outbreak of the public health crisis, in 2020, puts in evidence how the recognition of science expertise is increasingly embedded into conditions of possibilities that combine - and sometimes collide - institutional, material, political, and economic arrangements. While the first cases of COVID-19 were still being detected in Brazil, the lack of coordination by public authorities, absence of

public experts and the ambiguity of the policy recommendations made room for an unprecedented public recognition of an already experienced science communicator.

Having a PhD in Microbiology and previous positions as a researcher allowed Atila to immediately claim the position of a science expert. This can be easily recognized during the 'one million deaths live', when he evoked his academic background as a "license" to "manage uncertainty" (Eyal, 2019) by riskily making a predictive analysis based on a just released epidemiological model. In the following months, while receiving several types of criticism, Atila defended himself emphasizing his scientific authority, such as using more precise terms ("predictions of the future" and "possible scenarios"), producing and exhibiting inscriptions (tables, graphs), and highlighting the importance of a continuous literature review.

If months later Atila recognized that he had been "very innocent" - in his own words - for having publicly made risky predictions, just one week after the 'one million deaths live' - in Roda Viva's interview - one can identify a more cautious posture, or a more careful management of the visibility. At the same time, the exponential increase of his own YouTube channel - coincidentally released a few months before the pandemic - allowed Atila to explore new formats and commercial deals, consolidating the science communicator as a one-man brand. Playing the algorithmic visibility game, interpreting the platform governance, combining monetization resources, mobilising an intimate audience, and dealing with detractors or haters were some of the daily activities that allow us to recognize Atila as a specific kind of expert: a science influencer.

Not coincidentally, the entanglements between social media and science communication expertise were the key arguments mentioned by the WHO and YouTube - two transnational institutions with quite diverse backgrounds - to highlight Atila's contribution during the pandemic. In the words of Eyal (2019), it could be stated that he was recognized as a contemporary multi-layered expert due to his "historically specific way of talking" while using different platforms' affordances and infrastructures to contribute to the public understanding of, and to engagement with science.

Also, the platformization of science communication occurs in connection with a broader media and institutional environment. Being recognized as a science influencer escalated his dialogues and his partnerships with different national epistemic institutions and made Atila an *ad hoc* public expert or even a policy advisor. The invitations to be 'the' person interviewed in the beginning of the pandemic in an "academic elite" TV show as Roda Viva and to discuss, with the Supreme Electoral Court president, the sanitary conditions for holding an election are key examples of how becoming a contemporary "visible scientist" (Goodell, 1977) require a tactical articulation a multi-layered expertise.

The intense rearrangement of alliances and other power relations in the expertise network elevated Atila to the position of "super" science communicator and, at least during some months in 2020, of the main spokesperson of science in

Brazil[8]. For being recognized as a kind of representative of the 'establishment', Atila became a target of far-right politicians and activists that insisted on denying scientific procedures and evidence. Not coincidentally, the main argument used to attack him was the super estimated predictive analytics made on the "one million deaths live". As Mede & Schäfer (2020) discuss, taking advantage of the instability of science efforts during periods of radical uncertainties is a known tactic of the "science-related populism".

In this online science war, the #ObrigadoAtila mobilization can be taken as a singular example of the affective relationship built with the audience only during the pandemic, but also after years acting as a science communicator. If, especially in the breakout of the pandemic, science and journalism had been the "herald of bad news", as the Roda Viva presenter tweeted, in the 'quarantined' everyday life Atila was recognized by many as an intimate and trustworthy "real person" available to reinforce the "stay at home" recommendation and to clarify other stressful quotidian issues. This sense of intimacy became even more clear on the day Atila made his speech at the WHO. Once again, his name was on Twitter's Trending Topics, not because of his talk, but due to the announcement of a personal event: his wife was pregnant, and he would soon become a father (Iamarino, 2021b).

The (ongoing) COVID-19 pandemic renewed the public call for a better comprehension of how the long-standing mixture between science and politics is being reshaped by the multiple uses of social media by scientists, politicians, activists, and other actors. Among the possible broader contributions of this article to this unprecedented research challenge, we emphasize that a contemporary notion of expertise should consider the role of digital platforms not only to orient an online science communicator's performance, but also their capacity to rearrange power relations between institutions, public authorities, and citizens. More specifically, we argue that the current debate on scientific expertise should be framed considering centrality and the complexity of the alliances and the conflicts between epistemic institutions and the platform-oriented dynamics articulated by influencers, fans, and other actors. In this sense, interdisciplinary dialogues between scholars of fields like platform and public communication of science studies should consider how expertise is nowadays an attribute that articulates academic, affective, and sociotechnical abilities based on specific institutional, political, and material conditions.

AFTERWORD

Most examples and situations described during this study are concentrated in the first six months of the pandemic in Brazil (March to August 2020). During this

[8] Natalia Pasternak (microbiologist and founder of Questão de Ciência Institute) and Margareth Dalcolmo (doctor and research at Oswaldo Cruz Foundation) are some of the experts that later acquired significant public visibility, what includes being at Roda Viva (June and December 2020, respectively).

period, the mortality caused by COVID-19 increased daily until late May 2020, when the moving average stabilized at around 1,000 deaths a day. This number decreased until early November and then increased progressively until April 2021, when, on average, 3,000 people died everyday due to the new coronavirus. At the end of 2021, when the first version of this article was edited, the data - and the fear - linked to the pandemic were, thanks to the vaccination, progressively decreasing. By the end of 2022, more than 680,000 Brazilians have been fatal victims of the virus. A 1,289 pages report approved in October 2021 by a parliamentary commission of inquiry established that part of the death rate was due to the irresponsible way the crisis was conducted by the President, other public authorities, and even by health institutions (Comissão Parlamentar de Inquérito da Pandemia, 2021). On the eve of approval of the report's last version, the Brazilian Senators decided to exclude from it the term "genocide" to qualify the indictment of President Jair Bolsonaro for committing "crime against humanity, in the modalities extermination, persecution, and other inhumane acts". A few months before - and a year after making efforts to separate science and politics in Roda Viva - Atila gave an interview to *BBC Brasil* and the highlight was: "Brazil bet on a 'genocidal' strategy to fight COVID-19, says Atila Iamarino" (Barrucho, 2021).

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NETWORK INFORMATION PRO AND CONTRA BOLSONARO'S DISCOURSE ON CORONAVIRUS

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ABSTRACT

This article analyzes the information sources of a corpus made of 135,000 tweets with the hashtags #Bolsonarotemrazão and #OBrasilprecisapararBolsonaro. By analyzing and categorizing the hyperlinks in these messages, the study investigates the information sources used in the construction of opposing discourses about the coronavirus, identifying the types of sources mobilized in both positions. The results indicate that while pro-Bolsonaro discourses prevail in alternative media, those containing hashtags opposing him come from diverse sources, especially traditional media. Drawing on the notion of mediation, the article argues for understanding information sources as an essential part of how the Twitter discussion about the coronavirus pandemic mediated this event for the two different hashtag publics.

Keywords: coronavirus; information sources; mediation; Twitter.

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1. INTRODUCTION

The coronavirus pandemic introduced yet another layer to the problem of anti-scientific discourse in Brazil. Although discourses such as flat-Earth theory and climate change denialism were already circulating in Brazilian society and could be pointed to as evidence of an epistemic crisis (Benkler, Faris, Robert, 2018; Gomes, Dourado, 2019), the coronavirus inaugurated a new episode of denialism, one with more serious and immediate consequences than previous cases. In this context, Brazilian President Jair Bolsonaro became a central actor by opting to further radicalize his disbelief in science and his attack on institutions. Bolsonaro defended actions that went against all medical and scientific organizations, as well as the vast majority of international experience[1].

Bolsonaro's statement to the nation on radio and television on the night of March 24, 2020, was a milestone in the positioning adopted by the politician towards the disease. In a speech that attacked the press and mentioned no source external to the government itself, the president advocated the end of social isolation by urging people to return "to normality," calling coronavirus "a little flu or little cold."[2] Bolsonaro's denialist stance towards the pandemic was reinforced in many moments, but that speech remains a reference point for understanding his position. This paper focuses on the moment following the announcement, when social media, particularly Twitter, became the scene of tens of thousands of messages about the speech. That focus allows me to analyze how people reacted to the President's speech and how it was incorporated into societal debate, online.

The day after the announcement, the hashtag #Bolsonarotemrazão (Bolsonaro is right) appeared among the country's trending topics, which soon led to the creation of the hashtag #OBrasilprecisapararBolsonaro (Brazil needs to stop Bolsonaro), both of which were widely used to share messages with clearly opposite goals. Against this backdrop, this paper is interested in the differences between the information sources mobilized by the publics that formed around each of these two opposing hashtags. To this end, 135,000 tweets containing the hashtags were analyzed considering the information sources they promoted. The paper argues that amidst a strong attack on scientific institutions, certain information sources functioned as mediators in the construction of different discourses about the coronavirus. Before presenting the results, I shall briefly discuss the notion of mediation and its relationship with the analysis of the information sources.

[1] The first case of coronavirus in Brazil was confirmed on February 26, nearly 2 months after the first reported case in China and weeks after the first cases in European countries such as Germany, Italy, and France. One might think that the different preventive measures adopted by these countries would allow Brazil to know the various routes of the disease transmission; on the contrary, the president positioning despised or discredited these prior experiences as valid information.

[2] The full transcript of the speech is available on the official government website: https://www.gov.br/planalto/pt-br/acompanhe-o-planalto/pronunciamentos/pronunciamentos-do-presidente-da-republica/pronunciamento-em-cadeia-de-radio-e-televisao-do-senhor-presidente-da-republica-jair-bolsonaro.

2. MEDIATION AND INFORMATION SOURCES

Analyzing the information sources of different positions in a political debate allows us to understand an important part of the communication dynamics in that debate. Yet, I believe that such analysis is not merely a matter of indicating which information sources are used the most by which groups. Rather, I adhere to the idea that the digital environment entails a complex and diverse "mediation process" (Santos, 2020). This means that due to the multiplicity of actors within the digital environment, social groups can attribute legitimacy to information sources in different ways, thereby generating distinct degrees of visibility for different media messages.

In the context of an epistemic crisis, beyond understanding each media's role, one must thoroughly understand which media are recognized and legitimized as information sources according to different social groups. Because journalistic parameters are no longer the only ones in effect, it is important to explore how the authorization of information takes place in the context of networked communications. As Sonia Livingstone (2009) argues, analyzing "mediation processes" essentially reveals changes related to the interactions between social structures and agents, more than processes that relate to media, themselves. I understand mediation as a process that takes place between information and citizens, thus allowing us to analyze important phenomena that make up the current communication and political scenario in a non-fragmented way. Such a perspective has also been adopted by recent Brazilian studies that highlight the role of communication mediation processes and information sources in structuring a democratic debate (Lemos, 2020; Lycarião, 2014; Moraes; Adghirni, 2012; Silva; Mundim, 2015)

Thus, identifying information sources goes beyond knowing media relationships or where a URL directs a reader. Information sources act as mediators to whom one may resort as authorities in information dissemination. As I see it, these relations of legitimacy, visibility, and authority – pillars that also underpin democratic representation – are key to understanding communicative flows and their current political impacts. Although further highlighted by the pandemic context and the politicization of this theme in Brazil, these issues are not restricted to this historical moment and can provide essential clues to understanding contemporary political processes.

Mediation [3] originally emerged simultaneously with mass media, when visibility processes were no longer limited to the here and now and started being mediated (Thompson, 2005). Thus, mediation outlines the possibility of obtaining knowledge from information emerging not from one's experience, but rather from a communication system. For a long time, the discussion about mediation was tied

[3] Here, we attribute no intrinsically negative meaning to the mediation process (Santos, 2010), which is understood as part of the construction of reality and not as a process that involves a loss of in relation to the real (Rubim, 2002).

almost exclusively to the role of journalists and traditional media as the legitimate social actors selecting what should be disseminated to the general public, thus giving them the role of information gatekeepers (Meraz; Papacharissi, 2013; Segerberg; Bennett, 2011; Shoemaker, 2001).

With the emergence of Web 2.0 and the new actors who make up the polyphony of voices in digital networks (Lemos, 2008), this debate becomes more complex and gives rise to new interpretations of the phenomenon of mediation, which can be grouped around three central lines. The first focus of analysis centers on the fact that certain audiences can be addressed without the need for journalistic institutions, which would culminate in a so-called "disintermediation." This debate gained momentum in the first decade of the 2000s, with blogs (Aldé; Escobar; Chagas, 2006; Penteado, Santos, Araujo, 2009; Santos, 2010), and continues to develop with social media (Eldridge II; García-Carretero; Broersma, 2019; Gerbaudo, 2012) and instant messaging applications, always focusing on the possibility of a supposed direct communication between a given sender and its audience, without the action of traditional media. This formulation introduces widely used concepts such as "mass self-communication" (Castells, 2009) and "personal publics" (Schmidt, 2014).

Stemming from this discussion, a line of analysis emerged to analyze new media forms. Since traditional media no longer have near-exclusive control of the sphere of public visibility, the question that arises is: who are the new actors capable of generating social visibility and how do they emerge? (Bastos; Mercea, 2015; Garcia; Trere, 2014; Rodríguez; Ferron; Shamas, 2014). Finally, a third interpretative line focuses on understanding the role of mediators as going beyond that which emits or disseminates information. These studies address the role of a series of technological elements that become part of mediation processes, such as platforms and their algorithms (Lemos, 2020; Hepp, 2020), but also the new roles that people themselves start to play in the processes of information dissemination (Gomes, 2016; Santos, 2019).

Separating these three lines helps in understanding the different analytical approaches to the phenomenon of mediation in the context of digital media's rise. Empirically, though, their intertwining has been more frequent. Several studies show that traditional media continue to play an important role in the media ecosystem, including disseminating messages from leaders and organizations that communicate essentially via social media (Mitozo; Costa; Rodrigues, 2020; Newman et al., 2019; Stier; Schünemann; Steiger, 2018), so that the role of alternative mediators may be restricted to certain social circles. Thus, rather than considering the digital environment as a horizontal source, we should understand the specificities of the new types of verticalities that emerge from inequalities within digital dynamics (Gerbaudo, 2020; Joathan, Alves, 2020).

In this scenario, Chadwick (2013) proposes an especially interesting approach, which conceives this new media ecosystem as a space of coexistence and interaction between various means and communication logics. For the author, the

novelty introduced by this environment emerges not from the technology itself, but from the different possible combinations between new and old communication logics that interact within this new environment. This means to say that discussing the current mediation processes implies considering them as a complex intertwining of actors with various logics, functioning as an intermediate instance between people and how they perceive the world.

As aforementioned, thinking about communication mediation at a time of epistemic crisis becomes even more challenging. In a context where reaching consensus about who is able to produce knowledge and establish the truth is a complex task, information sources become central elements, for they allow us to investigate both the role of traditional media and the valorization of possible new mediators that start to serve as a basis for certain discourses. Thus, analyzing what are the information sources mobilized by people in a public debate is a promising starting point for understanding the current processes of mediation in a networked environment.

3. METHODOLOGY

Operationalizing mediation processes presents a series of challenges related to either the construction of analytical instruments or the possibility of obtaining data that enables a more comprehensive analysis of the informative path. This study intends to deepen the debate around these challenges by examining links used in messages posted on Twitter.

Although still quite restricted, examining the hyperlinks shared in a given social network indicates a series of processes. Meraz and Papacharissi (2013) assume a networked gatekeeping within social media, which would incorporate a multilevel process with new actors of diverse levels of power. Yet another difference from the traditional gatekeeping concept – where journalists act as the main social mediators - is that such reinterpretation of the concept considers sociability as a new variable in the information flow. Meraz and Papacharissi categorize the different actors interacting in this information selection process as elite and non-elite, introducing the novel insight that non-elite actors have more possibilities of decision in relation to the information flow.

Segerberg and Bennet (2011, p. 202) offer an alternative for approaching the combination of mediation processes at work, stating that Twitter flows, at the same time, "incorporate and are incorporated into gatekeeping processes." That is, while Twitter has its own mediating processes – defined by the platform itself, its organization and filtering algorithms, and the social networks established there, – the communicative flow of tweets depends on external mediators who will provide the content shared on the platform.

Considering these two approaches, understanding how links are shared on Twitter allows us to understand multiple processes underlying the choices users make about which information to share. Specifically, this study aims to understand

mediation in two different levels: a) at the point where information is produced, understanding who are the actors that are being referred to in the discussion; and b) at the platform level, approaching Twitter's role as a mediator and how it works specially through tools such as retweeting and hashtagging.

This communicative environment was chosen not with the intent of analyzing it in isolation or deeming it as representative of the entire media system; on the contrary, we recognize the urgent need not to consider media in isolation, as well as to understand the logics driving current media functioning (Chadwick, 2013). Being a communication environment especially used for political debate and real-time exchange of political messages[4], Twitter served as the starting point of our investigation.

The data I analyzed was collected by gathering messages that contained either one of two hashtags. The first hashtag search produced a corpus consisting of 98,141 messages with the hashtag #Bolsonarotemrazão, posted between 10:00 pm on March 25, 2020, and 11:00 am on March 27 of the same year (37h-period). The second corpus is comprised of 37,573 tweets with the hashtag #OBrasiltemqueparar Bolsonaro. That hashtag emerged later than and in response to the first one. These messages were collected between 8:00 pm on March 27, 2020, and 9:00 am on March 29 of the same year (37h-period). These two hashtags were chosen for being widely used, featuring among Twitter's trending topics, and representing opposing positions in relation to President Jair Bolsonaro's statement to the nation, on March 24.

Hashtags are used to broaden the audience of a particular tweet far beyond the initial circle of followers of a particular user, besides identifying messages addressing a given issue and helping organize the conversation around important topics. Moreover, it "signals a wish to take part in a wider communicative process" (Bruns, Moe, 2014, p. 18), thus bringing together different audiences around the same topic. Regarding hashtags associated with certain political or social events, the timeline can act as a certain narrative of the event, constructed by different and multiple information and opinions (Bruns, Moe, 2014). However, members who use a hashtag do not necessarily follow that keyword conversation timeline, meaning that doing so may function as a bookmark more than as engagement with a cause.

Data were collected using the Get Tags[5] tool, which extracts tweets from the platform API, thus implying limitations as to the number of messages. Extractions were performed at every hour, considering the limit allowed by the API. The corpus does not claim to represent the totality of messages on the subject, but rather a

[4] Due to space limitations, we will not be able to resume track record of Twitter as a preferred platform for political debates and real-time coverage. An in-depth debate on the subject can be found in the book Twitter and Society, edited by Katrin Weller, Axel Bruns, Jean Burgess, Merja Mahrt, and Cornelius Puschmann, and published in 2014.

[5] https://tags.hawksey.info/get-tags/ (Accessed on: July 21, 2020).

sample of them. Data processing, analysis, and visualization were performed using the Tableau and R software, with the aid of Microsoft Excel.

The research question regarding information sources used as mediators of discourses on measures to combat the spread of coronavirus was answered by means of a two-step analysis. The first step consists of investigating the types of hyperlinks in the messages, considering that links play an important role not only in information flow, but also in the organization forms of certain discourses (Segerberg, Bennett, 2011). Links also connect different actors in the communicative ecosystem, allowing an analysis that goes beyond the media itself.

To verify the information sources, links used in the two corpora were analyzed and separated into six categories. Each media was coded by the author and then presented to peers in order to discuss the pertinence of the categorization.

- Traditional media: all websites linked to large media companies with at least one television, newspaper, magazine, or radio vehicle. For example: all media from Globo company and the newspapers Folha de S. Paulo and Estado de São Paulo.

- Alternative media: those produced outside traditional media institutions and networks[6] (Atton, Couldry, 2003). If, on the one hand, some of these media can be deemed as strengthening the relations between media and civil society (Waisbord, 2009), on the other, they have been considered as important actors in disinformation processes, especially when characterized by hyperpartisanization (Recuero, Soares, 2020). For example: Jornal da Cidade Online, Folha Política, Diário do Centro do Mundo, Brasil247.

- Regional media: as highlighted by Peruzzo (2005), the history of local and regional media approaches that of community media, given their importance for building a sense of community. Thus, considering the specificity of their relations with local network, which differ from vehicles of national amplitude, these media were deemed as a separate category (non-classifiable as traditional or alternative). For example: O Tempo, O Povo, Rondônia ao Vivo.

- Social media: categorized from the classic definition formulated by boyd and Elisson (2007), which states that social media sites "allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (p. 211). In face of the exponential growth in these media use from mobile devices (Canavilhas, Rodrigues, 2017), the investigation also included access to these platforms by means of applications. For example: Facebook, Instagram and YouTube.

[6] The choice for a broad concept of alternative media does not aim to disregard the long tradition of studies in this field or the efforts to characterize the relations of these media with traditional media, social movements, and the overall society in a more precise way. For further reading on this debate, see Ferron, 2010; Waisbord, 2009; Suzina, 2019. This work approaches the presence of these media in the analyzed corpus – which will certainly have to be refined later, both due to the diversity of websites and the challenges that their models represent for the traditional categories of this research field.

- Organizations: websites of state institutions or civil society organizations, including those of political parties or politicians. For example: the Senate, ministries, CUT and Lula's Institute.

- Others: those that did not fit into any of the aforementioned categories.

As explained in this article introduction, President Jair Bolsonaro's statement on March 24 went against all recommendations widely accepted by international health agencies and disseminated by traditional media to prevent the spread of COVID-19. As shown by Nielsen and colleagues (2020), despite the increasing search for information from traditional media in the pandemic context, confidence in this type of information source tends to be lower among North American right-wing voters of President Donald Trump, whose attitude towards the coronavirus pandemic was similar to that of Jair Bolsonaro. A recent study conducted by Recuero and Soares (2020) also verified an important connection between discourse networks about coronavirus and those of political information, showing how the speeches of President Jair Bolsonaro impacted the circulation of fake news and how reaction networks were articulated. According to the authors,

> messages that belied [false] information were mainly produced by opinion leaders such as journalists and researchers, who produce more technical content, and influencers, such as digital journalism; whereas misinformation was mainly produced by opinion leaders associated with political agendas, such as politicians and political commentators, as well as hyperpartisan vehicles (p. 22, our translation).

Based on this, we assume that messages of support for Bolsonaro will rely less on general information sources and specific traditional media sources, thus resulting in our first two hypotheses:

H1: the corpus of messages with the hashtag #OBrasilprecisapararBolsonaro will provide proportionally more links than that of the hashtag #Bolsonarotemrazão.

H2: those using the hashtag #Bolsonarotemrazão will rely less on links that lead to sources linked to traditional media than those using the hashtag #OBrasiltemqueparar Bolsonaro.

Moreover, given the key role of "opinion leaders associated with political agendas, such as politicians and political commentators, as well as hyperpartisan vehicles" (Recuero, Soares, 2020) in reinforcing pro-Bolsonaro discourses, and considering that social media provides a space for the emergence and dissemination of voices dissenting from traditional media (Chadwick, 2013; Meraz, Papacharissi, 2013), we believe that social media will be information sources frequently cited among messages with the hashtag #Bolsonarotemrazão. Hence our third hypothesis:

H3: the social media category will be more relevant in the corpus #Bolsonarotemrazão than in the #OBrasiltemqueparar Bolsonaro.

4. ANALYSIS AND RESULTS

The first hypothesis was tested by analyzing the frequency of hyperlink use in the two corpora, verifying the domains of the most shared links within each sample[7]. By doing that, we were not interested in analyzing the sharing of specific content, but rather in identifying the recurrence of certain information sources in tweets[8].

As shown in Table 1, the rate of external links is both low, but significantly higher among tweets defending Bolsonaro's proposals, thus refuting our first hypothesis. Whereas 8.6% of messages with the hashtag #Bolsonarotemrazão include links external to Twitter, only 4.9% of those with the hashtag #OBrasilprecisapararBolsonaro does.

Firstly, we believe this low rate of links can account for the conversational nature of the Twitter platform. Although links may be used to share information and make statements, the dialog between users remain the center of the platform's dynamics. Secondly, such a two-fold higher rate of tweets with external links among messages in support of the President suggests that this audience recursively searches for an external validation of their arguments – a phenomenon that seems less common among those publishing messages against the President. It also shows that not only they search for validation, but also, they encounter a considerable amount of content online that is used to validate these discourses.

Table 1. Use of external links in both corpora

#Bolsonarotemrazão			**#OBrasiltemqueparar Bolsonaro**	
Tweets	98,141		Tweets	37,573
Tweets with links	8,566		Tweets with links	1,847
Percentage	8.6%		Percentage	4.9%

Then, links were classified according to the categories presented in the methodology section and analyzed. For the first analysis, all sites appearing in the

[7] This analysis was performed according to the following stages: a) links were extracted from tweets; b) the corresponding addresses were de-shortened, since Twitter presents all links shortened, thus allowing for domains identification; and c) links were broken to compile a list of main domains, without considering subdomains and protocol markings.

[8] The "twitter.com" domain was the most common in both corpora. Links to Twitter comprise 81% of all hyperlinks among tweets with the hashtag #Bolsonarotemrazão, and 92% of those with #OBrasiltemqueparar Bolsonaro. These high rates are justified by the large number of messages citing other tweets, that is, when people refer to a message on the network itself. Such finding portrays a strongly endogenous dynamic of the platform, which is more significant among messages against the president. As discussed by Alexandra Segerberg and W. Lance Bennet (2011), gatekeeping processes in Twitter conversations can be analyzed both internally and externally. However, for now, we will focus on links to content external to the platform. To test our first hypothesis, we considered only external links.

sample were listed, grouped into categories, and analyzed as to recurrence. We identified 122 different websites in messages with the hashtag #Bolsonarotemrazão[9] and 129 in those with #OBrasilprecisapararBolsonaro.

The second analysis considered the number of times each website appeared in the sampled tweets, that is, each link replication rate. In this stage, we identified 8,566 tweets with external links in the #Bolsonarotemrazão corpus and 1,847 in the #OBrasilprecisapararBolsonaro corpus.

Regarding tweets in support of Bolsonaro, the two most frequent types of sites are those with content from alternative and traditional media vehicles (28.69%), followed by regional media vehicles (18.85%). However, when we consider the dissemination of these links (that is, the number of times they are replicated), the difference between categories becomes much more evident: alternative media accounts for 78.78% of links, traditional media for 10.26%, and regional media for 2.2%. Besides alternative media, the only other representative category when considering its dissemination are links to social media, which go from 4.29% to 8.31%.

Table 2. Categories of domains and tweets with links – #Bolsonarotemrazão

Categories	% of websites (n=122)	% of tweets with links (n=8566)
Alternative Media	28,69%	78,78%
Traditional Media	28,69%	10,26%
Regional Media	18,85%	2,20%
Others	12,30%	0,32%
Organizations	6,56%	0,13%
Social Media	4,92%	8,31%

When performing the same analysis in the #OBrasiltemqueparar Bolsonaro corpus, we found very similar results as to each category percentage in relation to the total

[9] For data treatment, different domains referring to the same website were put together, thus unifying variations such as mobile sites or URLs internal sections.

sites, with only traditional and regional media presenting significant differences: while the first is higher (36.43%), the second is lower (14.95%).

However, such a similarity dissipates when we consider these links replication rates, in which case traditional media category goes from 36.43% to 48.02% and links that lead to organization pages go from 5.43% to 16.46%. Different from messages in support of Bolsonaro, this last category showed links to websites of political organizations or politicians. The alternative media category, which represents 25.58% of the total sites in the sample, represents only 22.58% of tweets with links.

Table 3. Categories of domains and tweets with links - #OBrasilprecisapararBolsonaro

Categories	% of websites (n=129)	% of tweets with links (n=1847)
Alternative Media	36,43%	48,02%
Traditional Media	25,58%	22,58%
Regional Media	13,95%	1,79%
Others	13,18%	3,09%
Social Media	5,42%	8,07%
Organizations	5,43	16,46%

The results suggest that, despite presenting similar categories of information sources, the dissemination patterns of the two corpora are quite different, thus confirming our second hypothesis. Among messages against the President, traditional media accounted for a higher percentage in relation to both the number of sites (36.43% vs. 29.69%) and the number of tweets with links (48.02% vs. 10.26%).

In turn, our third hypothesis was not confirmed. In both dimensions analyzed, the use of social media as information sources external to Twitter is quite similar between the two corpora. While the percentage of social media sites is slightly higher among messages with the hashtag #OBrasilprecisapararBolsonaro

(5.43% vs. 4.92% in #Bolsonarotemrazão), we verified the opposite when considering these links dissemination (8.07% vs. 8.31%, respectively).

Moreover, messages in support of Bolsonaro tend to replicate tweets with links to alternative media, whereas those criticizing the President show a greater replication diversity, focusing mainly on traditional media. Such a difference is also evident when considering shared domains. Among messages in support of Bolsonaro, the Jornal da Cidade Online is responsible for 73.45% of links to sources outside Twitter, being the most shared. This media became known as a non-reliable website that commonly published fake news items that were later debunked by many fact-checkers. In turn, for messages against the President, the most shared link is to the UOL portal, accounting for 20.7% of the total. It is important to highlight that this prevalence of one information source has been found by other studies (Alves, 2019; Santos, Chagas, Marinho, 2022), which shows the importance of virality of information in anti-science ecosystems.

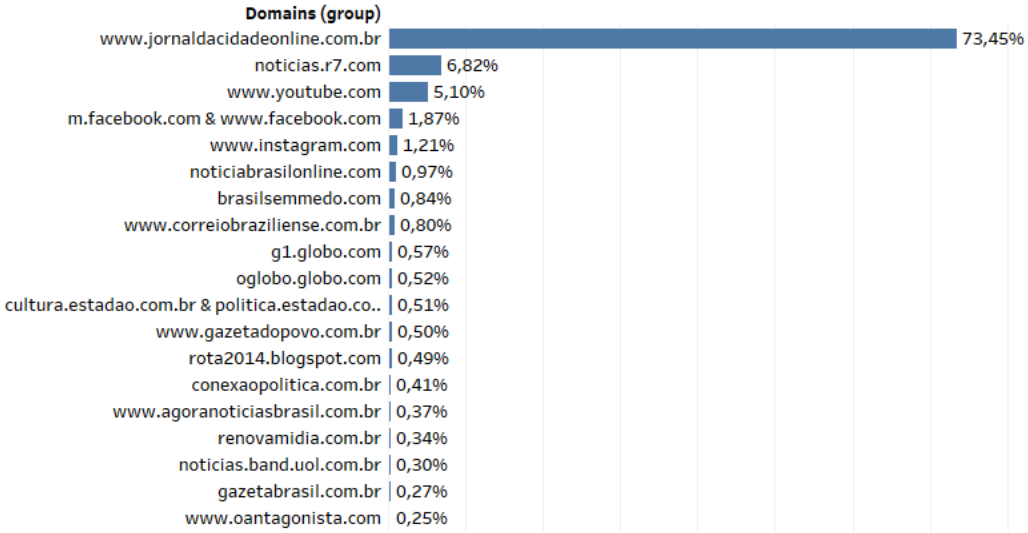

Figure 1 - Most shared sites with the hashtag #Bolsonarotemrazão

Such higher prevalence of alternative media in messages with the hashtag #Bolsonarotemrazão suggest the importance of "opinion leaders associated with political agendas, such as politicians and political commentators, as well as hyperpartisan vehicles," as key actors for this speech (Recuero and Soares, 2020). Furthermore, they are commonly referenced with links to their websites, what highlights the fundamental importance of this new media ecosystem that is not based on traditional or social media, but which has a strongly supported discourse on social platforms.

5. CONCLUSION

This study allows us to perceive important indicators of the current Brazilian media system (Chadwick, 2013). Tweets supporting or criticizing the March 24 statement

of President Jair Bolsonaro refer to partially similar website domains. However, such similarity disappears when we analyze the number of times each source appears in the corpus. In this case, alternative media are prominent among messages with the hashtag #Bolsonarotemrazão (79%), while those with #OBrasilprecisapararBolsonaro show a greater distribution, mainly including traditional (48%) and alternative media (23%). Moreover, only one third of the information sources referenced are equivalent in both corpora. That not only shows that supporters of non-scientifical positions search for external validation for their positions (Oliveira et al., 2021), but also that there is a variety of content that supports those views.

These results provide four important findings. The first concerns the different treatment of traditional media as mediators by audiences with different political positions. We found a smaller scale of information dissemination from these media in messages that support Bolsonaro, which seems aligned with the president's frequent and aggressive attacks on the press and journalism in general. This phenomenon is not limited to Brazil. A recent survey conducted by the Reuters Institute during the COVID-19 pandemic shows people's consumption of, and trust in, various information sources and institutions (Nielsen et al., 2020). By relating data on political positioning in the United States with data about trust in information sources, the researchers found that 70% of self-declared left-leaning individuals trusted media organizations, while this rate fell by half among those self-declared right-leaning individuals. In turn, 43% of left-leaning individuals reported trusting in their acquaintances, increasing to 48% among right-leaning.

Even though the bi-partisan system in the US cannot be directly compared to the multi-partisan Brazilian reality, such a trend of less trust in, and dissemination of, traditional media sources among self-declared right-leaning individuals – who, in our sample, would represent those using the hashtag #Bolsonarotemrazão – raises a number of questions. In the Brazilian reality historically, criticism of the media has been built as part of the Brazilian left-wing agenda, emerging with the struggle for press freedom during the military dictatorship (1964-1985) until the movements against media concentration after democratization (strongly active after the re-democratization process, from the nineties on). By 2013, this phenomenon had already spread throughout society, causing the media, especially Rede Globo, to be accused of trying to overthrow President Dilma Rousseff and, at the same time, working for her re-election (Santos, Almada, 2019). Such processes seem to have accentuated even further over recent years, increasing criticism of the traditional media on the part of the right-wing[10], which may be due to the fact that a right-wing political party has reached presidency. Although criticism of traditional media comes from both sides of the

10 We have no intention, here, to present the criticisms of the left- and right-wing parties to the Brazilian media as equivalent. On the contrary, in other texts, we made an effort to understand how these discursive lines differ and are guided by different types of society.

political spectrum, and considering the historical proximity of Brazilian national media and more conservative political perspectives to one another, our data shows that, today, left-leaning citizens tend to rely more on traditional media than right-leaning ones.

This criticism of the traditional media, combined with the potential of Web 2.0, leads us to our second finding: a new ecosystem of alternative media that comes to occupy a central place in the mediation process. Media built outside or in opposition to mainstream media have always existed, from fanzines to union newspapers and blogs. Thus, the issue is not in the novelty of the phenomenon, but in the magnitude and characteristics it currently acquires. These information sources appear eight times more than traditional media among messages in support of Bolsonaro, besides being the second most referenced source among messages against him – a fact that shows alternative media's central importance in the current media ecosystem. Although novel communication dynamics are often ascribed to social media, the importance of sources that feed them is unmistakable. These findings highlight the need for a more detailed analysis of alternative media sources, allowing the construction of a consistent typology.

Our third finding is that virality seems to be a central element for anti-scientific networks. That becomes clear when we compare how information sources are distributed among both groups of actors analyzed here. While there are similarities between the information sources mobilized by the groups, when we consider how these different information sources spread among the groups, the differences are huge. The virality of certain types of information sources, notably Alternative Media, is striking. More than that, there is also a high level of concentration among those alternative sources, which makes only one website responsible for more than 70% of the mentions. That is another indication of how virality is at the center of the spread of this content.

Finally, the fourth point that seems central is the broader articulation of other types of mediation than that produced by traditional journalism (Alves, 2019). In both corpora, mentions of social media represent 8% of the links, with a predominance of YouTube in both cases. Despite its relevance in determining the information sources, the social media category is too general to give an indication of the kinds of actors being referred to. Different typologies of different social media actors have already been developed (Santos, 2019; Alves, 2019), suggesting the need for an improved understanding of how this content is circulated. While the political debate is fed by a rich ecosystem of websites, communication spaces imply specific sociability, visibility, and authority dynamics that not only circulate information, but add meanings to it. Thus, it is not simply a matter of receiving information from certain sources, but of receiving it through certain social bonds (that often feed into digital media). Previous research has shown how instant messaging applications are pivotal spaces for the circulation of such messages (Santos et al., 2019), suggesting the need for further research across different platforms and communication spaces. The paper has shown the need for understanding mediation

in terms of both its complexification by various digital communicative spaces and its diverse appropriations by different social groups in their attempts to formulate their discourses.

The limitations inherent to this study include, first, the reliance on data that is limited to the Twitter platform, as well as the focus on two hashtags used at a specific moment of time. Broader analysis could potentially reveal the wider relevance of this paper's findings, and further research may help refine the analytical categories used to analyse the links in order to more accurately describe the media environment. In any case, I believe that the data and reflections presented in this study may indicate important research paths for understanding contemporary mediation processes and the social roles of mediators, be they traditional media actors or those emerging from this new media context. Such understanding seems crucial to grasp the current communication dynamics and, above all, its political impacts on democratic functioning.

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MEME-IFYING DATA: THE RISE OF PUBLIC HEALTH INFLUENCERS ON INSTAGRAM, TIKTOK, AND TWITTER DURING COVID-19

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ABSTRACT

This article argues for the importance of the memetic tactic of bricolage within contemporary social media science communication for its capacity to curate and distill approachable, accessible, and shareable Covid-19 content. We suggest that the social media communication practices of what we call 'public health influencers' (PHIs) on Instagram, Tik Tok, and Twitter make use of memetic bricolage techniques of stop motion, collage, infographics, and placarding, coupled with an ethos of 'micro-celebrity,' in order to advance stalled public conversations and to reorient the spread of disinformation back to evidence-based facts. To make this argument, we analyze the cross-platform social media work of three key PHIs during the pediatric vaccination campaigns of late 2021 within our local context of Ontario, Canada to reflect on the effectiveness of social media presence, communication, and advocacy. Through memetic tactics, we argue that PHIs' efforts to engage the public are driven by a larger impulse to combat health inequities that are exacerbated by the different forms of disinformation circulating on social media. Ultimately, this article illustrates how the concerted effort against disinformation by PHIs on social media via memes contributes to advocacy for more accessible, just, and equitable health care for Ontarians.

Keywords: Covid-19, misinformation, social media influencer, public health, memes.

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1 INTRODUCTION

This article examines the emerging use of meme-based communication practices by what we call 'public health influencers' (PHIs). We define PHIs as public health experts who use social media to engage non-expert audiences in health-related conversations that greatly impact them but are often not made accessible for broader understanding, acceptance, and implementation. As emerging figures in the social media playing field, we frame PHIs as a subset of healthcare and medical experts and will explore in what follows how, as a developing form of micro-celebrity, they used social media messaging during the beginning days of the pandemic. We argue that, in the context of the pandemic, PHIs surfaced as key communication figures dedicated to public health messaging and the combatting of disinformation,[1] and their memetic practices matter for the ways that they distilled technical scientific Covid-19 messaging from government officials to the public. To reflect on the effectiveness of PHI social media presence, communication, and advocacy, we analyze the evidence-based Covid-19 messaging of three PHIs during the pediatric vaccination campaigns across three popular social media platforms (Twitter, Instagram, and TikTok) in our local context of Ontario, Canada. We focus on the social media work of Naheed Dosani (MD), Sabina Vohra-Miller (MSc, Pharmacology; Doctor of Public Health student), and Samantha Yammine (PhD, Cell and Molecular Biology and Neuroscience). Expanding MacDonald's discussion of 'science influencers' with Melissa Couto Zuber in the *Toronto Star* in 2021, we look specifically to how these three PHIs have curated meme-based practices of bricolage to share accessible health messaging amidst the fear, anxiety, and disinformation[2] circulating around the approval of the pediatric vaccine in Canada for children ages five to eleven in November 2021.

Analyzing how PHIs translate public health data into memeified messaging helps us understand how their social media posts operate as "lively data" (Luka and Millette, 2018) insofar as what they post shifts and transforms within the flows and demands of the ever-changing landscape of digital discourse. Drawing on Lisa

[1] We define PHIs as medical experts who have: (1) embraced their roles as public figures with pandemic-related medical and science expertise, and (2) developed digital communication strategies. In some cases, the strength and popularity of PHIs have impacted the direction of public conversations and helped build back public trust. The value of PHIs is found in their function as a mediating force, translating expert knowledge, government policy, and public health measures, to broad audiences. PHIs in Southern Ontario include, but are not limited to, Isaac Bogoch (MD, @BogochIsaac); Andrew Baback Boozary (MD, @drandrewb); Naheed Dosani (MD, @NaheedD); Kelly Grindrod (PharmD, @kgrindrod), Jennifer Kwan (MD, @jkwan_md); Sabina Vohra-Miller (Msc, @SabiVM), Lisa Richardson (MD, @RicharLisa); Krishana Sankar (MD, @KrishanaSankar); Abdu Sharkawy (MD. SharkawyMD); Birgit Umaigba (RN, MEd, @birgitomo); Michael Warner (MD, @drmwarner); Samantha Yammine (PhD, @heysciencesam); as well as science communication accounts such as Science Up First (@ScienceUpFirst), Pandemic Pregnancy Guide (@PandemicPreg), and 19toZero (@19tozero).

[2] We define disinformation as an intentional spread of false information, misinformation as the unintentional spread of false information, and malinformation as the spread of false information to deliberately enact harm (Phillips and Milner 2021, p. 4). In this paper, we use disinformation as an umbrella term for all three.

Gitlemen (2013) and Debora Lupton's (2015) work on everyday data, Luka and Millette (2018) describe lively data as centering on "life itself," which, three years into a global pandemic, very much includes health. Content posted and circulated online should thus be understood as largely "intertwined with other daily and historically shaped social relations, activities, and realities," which become "dynamic, influential, and reciprocal" (Luka and Millette, 2018, p. 2). This is key because, over the course of the pandemic, PHIs like Vohra-Miller, Yamminie, and Dosani, among others, have adapted their communication approaches in response to public engagement and reaction, marking them as leaders in building and centering public trust. As Elisa Sobo (2021) points out in her studies on conspiracy theories in pediatric vaccine discourse, such theories themselves "are never finished" and always evolving, as such we need to "develop culturally relevant messaging to encourage a shift away from dangerous propositions over time" (p. 62). In focusing conversation on accessible evidence-based, actionable discussions to encourage public faith in masking mandates, vaccination, social distancing, and testing measures, PHI's use of social media illustrates an approach to such messaging via the tools of social media. A further benefit is how it demonstrates the ways non-government actors can inform how public health policy takes shape at the level of the government; PHIs are of course both citizens as well as experts who can model productively ways of agitating for change. This can be seen in Ontario where citizen-backed pressure, including PHIs, demanded that provincial governments release rapid antigen tests to the general public in grocery stores and liquor stores when the first Omicron variant spread throughout the province in December 2021 (Dosani, 2021b; Wilson, 2021).

On November 19, 2021, amid the rapidly rising Omicron (BA.1) cases, Canada announced the authorized use of Pfizer-BioNTech's two-dose vaccine for five- to eleven-year-olds. The announcement came one week in advance of its availability across most public health units across the country. Because the United States had started vaccinating the same age group a month prior, this announcement had been highly anticipated for Canadians—Health Canada approvals often follow a similar path to the neighboring U.S. Shortly after the announcement, various press conferences were held by the federal, provincial, and municipal government officials (Health Canada, 2021). In the Greater Toronto Area (GTA) and surrounding regions, however, these press conferences were held not by Premier Doug Ford but by public health units. While mayors and leaders at the municipal level were actively communicating in support of pediatric vaccines, and while the Minister of Health tweeted a press release about pediatric vaccines at 11:30 am that day, Premier Ford did not comment until November 23, 2021, when the pediatric vaccine booking systems had already been officially opened.

This lack of direct communication from the highest provincial official has been consistent with public perceptions of how Covid-19 communication was handled by the Ontario government, including its apparent lack of awareness of how the pandemic has been affecting provincial citizens, and, specifically, the most

vulnerable among us not only in terms of health but also in social, cultural, and economic terms. The provincial government's consistently indirect and vague approach to public communication resulted in a loss of public trust in government responses to the ongoing needs of the pandemic: a fact bolstered by additional recent funding cuts to education, legal aid, and children's aid, among others (Dhanraj, 2021; Jeffords, 2021; PressProgress, 2021; Rozdilsky, 2021). This tension between the provincial government and the public offers important context for why PHIs sought new ways to circulate public health messages to wider populations on their social media channels. If the provincial government could not be relied upon, then keeping the diverse Ontario public updated and engaged, and to attempt to build—and maintain—trust, became a key goal for PHIs and helps to explain their emergence and popular followings at this time. Because the PHIs we examine here were already daily social media users with various forms of publicity, larger followings, and expertise in their respective area, social media became the obvious tool in this moment to advance public conversations that had been stalled or to reorient spreading misinformation back to evidence-based facts. PHIs are thus an important area of research in the ongoing conversation around pandemics, disinformation, social media, and influencer culture, but not one that is yet well studied.

We argue that the cross-platform approach used by Vohra-Miller, Yammine, and Dosani was successful because of its reliance on the meme-based tactic of bricolage, which makes their information-sharing approachable, accessible, and shareable. The term 'meme' itself, coined by Richard Dawkins in 1976, refers to aspects of culture or language that replicate and spread broadly across populations. Within the context of meme culture, 'bricolage' suggests both a DIY aesthetic and practice of media, art, and knowledge remixing or mash-up to invite new meanings to arise from these previously separate parts (Evnine, 2022; Markham, 2018; Schmidt and de Kloet, 2017, all drawing on Lévi-Strauss, 1962). On the Internet, memes can take many forms. We include the standard 'image-macro' memes, which combine image with text, alongside broader practices like hashtags, TikTok videos, Instagram posts and reels, and any other digital content that has the possibility of broader circulation. As Limor Shifman (2014) argues, memes encapsulate "some of the most fundamental aspects of contemporary digital culture" (p. 4). Because they are easily shared, parodied, and remixed, memes bring together "popular culture, politics, and participation in unexpected ways" (Shifman 2014, p. 4). In this way, they encourage important forms of intertextuality and public engagement through their circulation. This broader focus on meme culture is thus crucial for tracking how complex conversations, such as those surrounding Covid-19 and vaccinations, are unfolding online. This, we suggest, is how PHIs can reach larger audiences in ways that respect and work with the vernacular of different social media subcultural spaces. Memes are clearly a central driving force of our networked digital culture with "significant social, cultural and political merit," insofar as they function as "effective communicative devices for alignment building and for stimulating socio-

political discussion" (Zeng and Abidin, 2021, p. 4). This is useful in the case of PHIs, given their roles as both experts and public participants.

Within platform capitalism (Srnicek 2017), what distinguishes Public Health Influencers from other mirco-celebrity social media influences in the popular alternative health and wellness industry is that, first, they are part of recognized science-based institutions; the information they circulate comes from their embedded experience and expertise within these scholarly and cultural community spaces. Yammine, for instance, is on the board of trustees for the Royal Canadian Institute for Science and, alongside Dosani and Vohra-Miller, is part of ScienceUp First, an anti-misinformation organization that includes a "collective of independent scientists, researchers, health care experts and science communicators" devoted to sharing "the best available science in creative ways to stop the spread of misinformation."[3] Participation in these national organizations means all three PHIs are in dialogue with a variety of experts dedicated to the public communication of evidence based science for the public good. Second, the intent of PHIs is not to generate income from their social media publics, but to instead create spaces for conversations around more transparent, equitable, and accessible public health measures and practices. This is explicitly different from wellness influencer culture. Here, PHIs do not offer a lifestyle and they do not criticize audiences in order to offer solutions to their failings; they are not selling supplements, vitamin drips, or branded wellness programs. Rather, they point to larger structural problems, rather than individual failings, as the source of our health inequities and they advocate for great Covid-19 vaccine uptake to advance greater public safety. PHIs resist the larger tendency within scholarship to collapse wellness and health social media communities into conspiracy-laden spaces of the internet.[4]

The value of these distinctions is articulated by Carlos Andrea and Veronica Costa's assessment, found in this special issue, that the forms of distrust that arose in the pandemic "culminated in an intense search for people or institutions that could be recognized as up-to-date and well-informed sources on the ongoing crisis" (2023). What PHI's work reveals is a necessary and productive "entanglement between social expertise and science communication" (Andrea and Costas 2023, p.18). As humanities-based feminist media scholars, we are drawn to the forms of relationality that PHIs have infused into their social media practices as they intervene into the space, circulating meme-ified science-based Covid-19 information and to, as the term suggests, influence the public. While we do not mean to suggest that PHIs offer a purely utopic space within these network ecologies (we recognize far too well the constraints of capitalism, platform affordances, and media saturation), like other feminist media scholarship (e.g., Baer 2016, 2021; Conley 2017, 2022; MacDonald et al. 2021; Sharma and Singh 2022;

[3] See https://www.scienceupfirst.com/

[4] This collapsing is a process that Eva Wiseman (2021) attributes to Charlotte Ward and David Voas who use the term "conspirituality" or the "sticky intersection" of these "two worlds: wellness and alternative medicine and alt-right conspiracy".

Wiens et al. 2023) we seek to map the possibilities that emerge from those who refuse the toxicity of our current media systems and take up instead the hopeful discourses that can and must circulate in such spaces—in this case, that of a meme, grounded in evidence-based scientific fact, that simultaneously communicates compassion, enthusiasm, and urgency.

2 DISINFORMATION, ONLINE HATE, AND MEME-IFIED DATA

Since the early days of the Covid-19 pandemic, memes and other forms of viral communication have been central to the circulation of information around the virus. Within this context the term 'infodemic' has also emerged to describe the forms of Covid-19 disinformation that run rampant on social media (Zarocostas, 2020). Or, as Tarun Kattumana (2023) notes in this special issue, the notion of a pandemic that circulated early on "was a strategically viral phenomenon". Alongside the virus' global reach and the related social, political, and economic consequences, pandemic related disinformation has weakened trust in governments and health systems, fracturing already precarious relationships. Scholars, politicians, and news media have raised the alarm time and time again on the infodemic spreading across social media platforms (Islam et al., 2020; Lovari, 2020; Mheidly and Fares, 2020), highlighting its negative impacts on Covid-19's spread. In some cases, this has directly informed how different geographic regions respond to the threat of the virus and the degree to which citizens comply with lockdown and masking measures, as well as vaccination efforts (Desmon, 2021; WHO, 2021). The pandemic has brought to the fore the already existing consequences of disinformation within our social and political landscapes (Bennet and Livingston, 2018; Chun, 2021; Donovan and Friedberg, 2019; Guess and Lyons, 2020). What remains clear from the persistence of disinformation throughout the Covid-19 pandemic, and the diligent counter-responses to it by PHIs and other public figures, is the crucial role of communication in facilitating public (dis)trust in science, particularly on social media platforms, whose affordances play a key role in sustaining the public spread of, and engagement with disinformation campaigns.

Anti-vaccine rhetoric has greatly benefited from how blogging culture, Web 2.0, smartphones, and social media platforms have been previously employed in the targeted spread of medical disinformation (Bettens, 2021; Maloy and De Vynck, 2021; Tangherlini, 2016). As Whitney Phillips and Ryan M. Milner (2021) point out that disinformation is part of a larger "network crisis" wherein a demonstrably "hardening polarization" of positions in our "information ecosystem…have asymmetrically pushed the right to more extreme ideological temperatures" in such a way that "the left and the right increasingly struggle to agree on even basic facts" (p. 3). Through this, disinformation spreads diffusely across global borders ensuring a "hypernetworked reach of information" (Phillips and Milner 2021, p. 5). Many within public health communication have blamed the wide-spread access to anti-

vaccine disinformation on the plateauing of vaccination uptake, especially regarding the pediatric vaccines that became largely available in North America in the Fall of 2021, right before the surge in BA.1 infections. Within this context, Covid-19 disinformation is part of a larger history of online conversations and hate campaigns that fuel racist, sexist, colonial, queer and transphobic, and ableist politicized spaces—an issue that requires further scholarly attention. Rachel Kuo and Alice Marwick (2021) note that "disinformation is a primary media strategy that has been used in the U.S. to reproduce and reinforce white supremacy and hierarchies of power at the expense of populations that lack social, cultural, political, or economic power." Covid-19 disinformation and anti-vaccine messaging have given more media traffic and attention to catch-all conspiracies like those advanced by the alt-right and QAnon (Bloom and Moskalenko, 2021), which continue to destabilize the functions of democratic institutions (Chun, 2021, pp. 30-31).

Given these narratives, rife with disinformation, Phillips and Milner suggest, "we need new stories" and ways of addressing these imbalances in ways that "foreground interconnection and interdependence" (2021, p. 6). One way to circulate these much-needed new stories is through the memetic forms of social media communication used by PHIs as they work to offer a mediating middle ground for public engagement. PHIs' efforts to engage the public are often informed by a larger impulse to combat health inequities that are exacerbated by the different forms of disinformation circulating on social media; their concerted push against virulent misinformation, while also applying political pressure in ways that have corresponded with meaningful shifts in direction and policy by the local Ontario government, demonstrate an ethos of intersectional justice and a push for health equity. Against this backdrop, in what follows we think with Wendy Chun's question posed in *Discriminating Data* (2021) of "[w]hy and how… people come to trust any form of media?" (p. 33). We approach Chun's question from the position of those actively countering disinformation through local, context-specific practices to (a) rebuild public trust in evidence-based medical and science information and (b) generate community compassion for people who have been disproportionately affected by both disinformation and the pandemic. Critical assessments of digital networked cultures have outlined that our daily technologies, including social networking sites, are responsible for circulating mediated forms of power (Benjamin, 2019; D'Ignazio and Klein, 2020; Noble, 2018; Sharma and Singh, 2022), and that, in doing so, they operate just as they were meant to (Chun, 2021). On social media sites like YouTube, TikTok, Twitter, and Instagram, platform affordances (or, what the design features of a platform allow us as participants to do with them) are crucial for the circulation of viral information (Alves des Santos Jr, Lycardiao, and A de Aquino, 2019; Anable, 2018; Copland, 2020; Bucher and Helmond, 2018), including that which supports Covid public health initiatives and those that further distrust in them.

3 METHOD AND RATIONALE

Our guiding research question for data collection centered around the relationship between Public Health of Canada pediatric vaccine messaging, PHI translations of this messaging, and the public reception of the messages. To approach this question, we collected social media data over a two-week period in November 2021 during the roll out of pediatric vaccines for children ages five to eleven in Canada. This moment for collection and analysis was key given that pediatric vaccines have been at the core of anti-vaccine and vaccine hesitancy conversations since the early 2000s. From a public health perspective however, vaccines in this age group were deemed crucial for suppressing further variants and waves, while also ensuring schools could remain open and learning could continue in-person (*Coronavirus outbreak and kids*, 2021). Within Ontario, pediatric vaccination was especially pressing given the fact that our primary and high school students experienced the longest period of lockdown-mandated online school of any group of students in North America (Gallagher-Mackay et al., 2021). Given this context, the availability of Covid-19 vaccinations for children quickly became a fraught discursive media space as well as a crucial site of prevention in the fight against the virus.

Since, in North America, pediatric vaccines became available six to ten months after adult vaccinations, there was a good sense of the shape and scope of anti-vaccine and vaccine hesitant discourse, how it circulated, and how to counter it in public space. As such, much care was given by public health units, public science communicators, and researchers to ensure the messaging for pediatric vaccines was effective and productive. Together, these reasons make pediatric vaccine discourse, which includes official government messaging, PHI tactics, and public response, an especially good case study for how the interplay between these different social actors shaped this later, but crucial, phase of the pandemic. In this article, we argue there is a need to pay greater attention to the representational aspects of digital and social media cultural production—what has been called the meme-ification of the Internet (Milner, 2016; Zeng and Abidin, 2021), through the expansive creative mode of bricolage. This requires a need to move away from single-platform analysis of social media discourse on a text-based platform like Twitter and towards an examination of visual textual interplay of still and moving images and audio on Instagram and TikTok.

During data collection, we employed a team of six researchers to manually gather social media communication posts from Twitter, Instagram, and TikTok beginning on November 19, 2021, the day the announcement of pediatric vaccine availability was made in Canada. We started with a focus on official government accounts, the Public Health of Canada account, and well-known local PHI accounts. We then manually collected from public accounts responding to the announcement using snowball sampling using the hashtag #CovidVaccine which was trending locally. We further collected posts for two weeks with the same hashtag; this timeline included the initial days of vaccine distribution to children

that began on November 26, 2021. In total we created a coded data set with 150 individual posts from across all three platforms. Alongside the posts themselves, we collected and analyzed audience engagement by manually sorting through and examining comments on each post. To contextualize these posts, we collected and analyzed news media articles on our spotlighted PHIs to include a detailed sense of various aspects of public perception of PHIs alongside the ongoing news media focus on the growth of public distrust in more official government messaging. The collected data was coded and compiled into a spreadsheet including metadata on the post date, a link to the original post for later cross referencing, a short summary of post, platform and media type of post, hashtags used, tags and keywords, and any additional comments.

For data analysis, we first focused on patterns in the gathered posts and before engaging in close-textual readings of our specific PHIs and their cross-platform posts for the form, content, and meme-based tactics each employed. The posts were then analyzed for their paratextual interactions and outcomes to determine the ways that different PHIs engaged with public audience questions and comments. Next, we revisited the entire scope of Covid related posts from our select group of PHIs across their different social media accounts to watch the development of tactics not only in the two weeks of data collection but also in their content production periods over the 20 months leading up to this pediatric vaccine announcement to determine how their tactics shifted between different platform media over time. From this two-part analysis, we then mapped PHIs' use of meme-based communication practices assessing their effective use of relationality, adaptiveness, and using the tools available to translate difficult concepts into sharable and accessible bits of information.

4 PHI MEMETIC RESPONSES TO THE PEDIATRIC VACCINE ANNOUNCEMENT: ANALYSIS AND EXPLORATION

Between November 19, 2021, and December 3, 2021, pediatric vaccine information could be found circulating in earnest across Twitter, Instagram, and TikTok in advance of the vaccine administration date. Naheed Dosani, Samantha Yammine, and Sabina Vohra-Miller (alongside a larger group of Ontario PHIs outlined in footnote 2) began the task of distilling and amplifying the Health Canada information on pediatric vaccines to their followers.[5] During this week, however, Yammine, Vohra-Miller, and Dosani's Twitter accounts were active with not only pediatric vaccine information but a range of related health equity concerns. Dosani, for example, tweeted about the need for paid sick days in Ontario, concerns around the slow government response to Omicron (BA.1) and its effects on already

[5] On November 23, 2021, booking systems opened in Ontario for the pediatric vaccine, prompting another set of messaging. A third and crucial moment in the rollout was three days later on November 26, 2021, when most regions opened their pediatric vaccine clinics.

marginalized and vulnerable people, his experiences of racism and xenophobia, advocacy for housing as a healthcare right, and critiques of global vaccine distribution inequity, among others. Vohra-Miller's Twitter included infographics on vaccine efficacy, examples of the online hate she receives, pushback and call outs against anti-vaccine disinformation circulating online, a flow chart with advice on how to safely gather over the holiday season, and explicit critiques of the Ontario government's lack of access to rapid tests and boosters for the general population, noting that this is very much a health equity issue. Yammine, similarly, tweeted about global vaccine inequity and STEM education outreach, offering a sixty second primer on Omicron (BA.1) and amplifying the accounts of vaccine experts that she follows, as well as details about a talk she had recently moderated on public health journalism in the era of fake news.

This extensive list of healthcare issues foregrounded by all three PHIs demonstrates the different areas of healthcare activism they consistently bring awareness to with their public content. Further, it suggests that each of the PHIs is building a brand-specific form of influence that incorporates vaccine promotion in a larger set of public health concerns. As mentioned in the introduction, while PHIs employ similar strategies to other genres of wellness influencers, Dosani, Yammine, and Vohra-Miller do not sell or advertise health products as a revenue stream. Dosani is a palliative care physician at St. Michael's Hospital, Toronto. Yammine works with established Canadian communication entities such as Science Up First and the National Speakers Bureau as a consultant, digital media producer, and science communicator with regular public speaking engagements. Vohra-Miller is co-founder of the Vohra-Miller Foundation whose stated focus is to "improve the health of the planet and its people".[6] In this way, the content they produce on vaccines is not monetized within the platform but does further their brand as experts in public health messaging and activism. To demonstrate how each leverages their micro-celebrity to inform public opinion on the vaccine via meme tactics of bricolage, below we explore PHIs posts around the pediatric vaccine to highlight the ethos and creative collaging they each bring.

5 SAMANTHA YAMMINE, AKA, SCIENCE SAM: STOP MOTION MEME TACTICS AND INVITATIONS OF INTERPERSONAL CONNECTION

Dr. Samantha Yammine (PhD, Cell and Molecular Biology and Neuroscience) is the founder of Science Sam Media, a digital media production center for science communication and was named one of the top fifty influential people in Toronto for 2021 (Toronto Life, 2021). Her Instagram has 132k followers, Twitter has 32K followers, and her TikTok has 8769 followers at the time of writing in April 2023. Described on the *Toronto Life* list as "the Covid Queen of TikTok," the feature

[6] See https://www.vohramillerfoundation.ca/)

notes that "where public health has failed to reach the 16- to 24-year-old demographic with their coronavirus messaging, Science Sam bridges the gap" (2021). Yammine's approach uses stop motion video, both in her Instagram reels and TikToks, and includes an open invitation for followers to message her personally via DM for one-on-one conversations about science questions. This offers a mode of relationality and accessibility to her role as an influencer. As the Toronto Life profile on Yammine notes, "[w]hat followers don't see are conversations she's having with people via DM—anti-vaxxers who curse at her, vaccine-hesitant pregnant women, and those who beg her to debunk Covid propaganda. The majority though, she says, are just people who need someone to explain the science without being condescending" (2021). This communicative focus on compassion and accessibility is key and much needed for fostering trust in science and medical experts in a time of deep pandemic malaise, exhaustion, and uncertainty for so many.

On the day of the pediatric vaccine announcement, Yammine shared one of her signature sixty-second summary videos across her TikTok, Twitter, and Instagram accounts less than an hour after Heath Canada's approval announcement (Fig 1). The video frames Yammine in the center-left section of the frame, giving for closed captioning of her talking points and an image of the Health Canada Twitter announcement (@GovCanHealth) on the right side. The short video covers key points, including the announcement itself, the volume of children's doses, its efficacy in trials, and the National Advisory Committee on Immunization's (NACI) recommendation for an eight-week interval between doses to reduce the risk of myocarditis (MIS-C). She also addresses key vaccine-hesitant talking points directly, noting that vaccines help to ensure that kids have a lower risk of virus severity, reduce transmission overall, and strengthen greater household safety, while avoiding the concerning potential for MIS-C and long Covid in children. On TikTok, the video has 2000 views, 15 shares, and almost 300 likes (Yammine, 2021a). On Twitter, the video has 16,000 views, 279 likes, 85 retweets, and a small series of comments that Yammine responds to directly. On Instagram, the comment section was the most active, informed by reassurance from Yammine that "this is a judgment-free space to ask questions." Here, she also outlined a code of conduct,[7] emphasizing that "this is a place for learning, not harassing already stressed-out parents" (Yammine, 2021b). She then replies in detail to many of the questions asked in the comments and directs audiences to her 'Kids FAQ' story highlights section, which includes reposted memes from Vohra-Miller's account (@unambignousscience) as well as infographics from Focused Covid Communication and Science Up First[8] with links to their downloadable content

[7] The full statement in the comment section just below the video post notes: "You can comment whatever you want as its own separate comment, but if you reply to another parent harassing them about their choice one way or another, I am deleting your comment. Leave other parents alone while they decide. This is a place for learning, not harassing already stressed-out parents."

[8] Yammine is involved directly as an expert advisor on science communication for both groups.

and additional text overlaid on the original posts to support them. Yammine uses the reposting function on Instagram stories to provide accessible translations of complex science information, leveraging content by her peers to reinforce their overall shared messaging. She also includes snapshots of Q&As from her DMs and offers links to public media and news appearances where she is answering questions on pediatric vaccines. All these tactics are saved in her 'Kids FAQ' stories highlights offering an array of approaches to disseminating and archiving key resources and knowledge mobilization. Here, layering different elements of information via the platform's story feature helps to foster public buy-in on a platform that is less fictitious and divisive given the nature of its affordances and how audiences consume content. Similarly, Yammine uses the tagging function (@) to draw awareness to different accounts that share the same messaging thus establishing for audiences a larger connected network of engaged science communicators. Bringing together these various points of knowledge, art, and media to create her stop motion reels and TikToks demonstrates an adaptive use of social media features to build a model of evidence-based discourse as a form of community conversation among experts and their publics.

6 NAHEED DOSANI, AKA, NAHEED D: PLACARD MEME AESTHETICS, AMPLIFICATION, AND AFFECTIVE PERSONA

In addition to being a palliative care physician, Dr. Naheed Dosani (MD) is the founder of the Palliative Education and Care for the Homeless. He is also the Medical Director of the Covid-19 Isolation/Housing Program for the Region of Peel and a recipient of the Governor General's Service award from Humanitarianism (Dosani, 2022a). He has 38.5K followers on Instagram, 89.5K followers on Twitter, and 12.1K followers on TikTok as of April 2023. Dosani is most active on Twitter, where he shares information and develops his critique of government policy through healthcare activism and advocacy. His Instagram profile serves as a space to re-post select tweets interspersed with photos that are used to address issues of social justice and anti-racist and anti-colonial activism in healthcare, including affordable housing and medical outreach for people who are currently unhoused. This messaging is displayed on Instagram as white text against a black background, employing a simple placard aesthetic. His TikTok account mixes Covid-19 messaging with equity activism, as well as advocacy for palliative care as an essential right.

Dosani's approach to communicating about the pediatric vaccine differed from Yammine's, as he does not delve into communicating the science behind the announcement. Rather, true to his brand on both TikTok and Twitter, he shared the news of the vaccination's approval and availability in a celebratory, enthusiastic manner, relying on his appeal and personal relatability as a physician to his audience

for the impact of his delivery. Taking to Twitter on November 18, 2021, the evening before the pediatric vaccine approval announcement, Dosani tweeted:

> @NaheedD: Few things lift my spirits more than the thought of children having the safety & protection they deserve from Covid. With Health Canada set to likely approve vaccines for children 5 to 11 tomorrow, that "thought" has become a reality…How awesome is that? (2021a).

The tweet garnered 1200 likes, 67 quotes and retweets, and 49 comments, with comments including users sharing a sense of relief, hopefulness, and excitement, as seen through a range of emojis and GIFs. Other comments shared worries about the Ontario government's ability to smoothly roll out pediatric vaccines and that pediatric vaccine rates would not be high. Some commenters asked questions about when the vaccine for children under five years of age would be available, and a small number of anti-vaccine comments made their way into the thread. Overall, though, most responses to Dosani's tweet were sympathetic, supportive, and celebratory.

On November 19, 2021, twenty minutes after the official announcement was made, Dosani tweeted:

> @NaheedD: JUST IN: Hey Canada…it's official! Health Canada has just approved Pfizer's Covid-19 vaccine for children aged 5-11. Now let's get out there & get our kids vaccinated so they can get the protection & safety they deserve (2021c).

This tweet amassed over 6100 likes, 1100 retweets, and 513 comments (Fig 2). The first comment underneath it was a link shared by another account to a confidential Covid-19 Q&A service (@Covid_19_Canada). In this tweet, the ratio of responses between those happy with the announcement and those sharing anti-vaccine sentiments was more equally split. For every parent sharing excitement (largely via GIFs and emojis) there were as many replies with Covid-19 vaccine misinformation talking points. Beyond the initial tweet itself, Dosani did not weigh into public debates unfolding in the comments, which keeps with his practices across his social media accounts. Dosani did, however, share a screenshot of the tweet to his Instagram account where he has almost 22,000 followers to bring attention to what kinds of disinformation his audience should expect in the coming days. Like the post on Twitter, the comment section was split between those celebrating the availability of the pediatric vaccine and anti-vaccine pushback, to which Dosani did not intervene. And, while Dosani is quite active on TikTok, he did not post about the pediatric vaccine announcement there. This makes sense as TikTok was not a useful venue as it requires time to produce videos and Dosani worked with speed of response on Twitter.

Using Twitter as a main stage for information circulation makes a good deal of sense for Dosani due to his dedicated following. Relying heavily on his established Twitter persona and expertise as a healthcare worker tied to issues of activism, advocacy, and equity, the posts have an earnest tone, easily share emotion, and direct conversation on vaccination around safety and hope for the future in

context of vaccine efforts. Taking up a meme tactic of narrative or narrator address, which is familiar and easily engaged with by social media users, Dosani's posts are direct and to the point, but they also offer a picture of a brighter future: of hope and of praise. They are a feel-good celebration added to what often seems like a dark and uncertain conversation from a knowledgeable, dependable, and equity-focused figure with action-oriented responses and a range of helpful resources.

Dosani brings attention to issues for his followers while amplifying the work of other PHIs who are also experts in the field. For example, Dosani often re-posts Sabina Vohra-Miller's work for greater views and to circulate the important work she is doing. In this way he relies on his micro-celebrity status to model support of vaccines and influence greater enthusiastic support, bringing a positive persona to it. Notably, this differs from his critical stance on government policies from the current conservative Ford government in Ontario; as such, the celebratory manner with which he engages with and amplifies messaging around the announcement of the pediatric vaccine sets an important tone with followers. These text-based placard-like posts from Dosani are, in contrast to Yammine, short and tied to emotion, and do not set out to foster a space for answering questions one-on-one. As we will see Vohra-Miller, below, they are instead focused on creating sound bites, memes for people to quickly glance at, understand, and repost. Given the format of Twitter, this makes a great deal of sense, and responses reflect the platform affordances and format of his content. The result is a group of followers sharing their emotions via gifs and emojis in the comments: stand-ins not for information on the science of vaccines but on affective states and attitudinal positions.

7 SABINA VOHRA-MILLER, AKA, UNAMBIGUOUS SCIENCE: COLLAGED MEMES, INFOGRAPHICS, AND PARENTAL GUIDANCE

Whereas Yammine and Dosani shared between one and three posts on pediatric vaccines in the period of data collection, Sabina Vohra-Miller's (MSc Pharmacology) social media accounts consistently post more frequently on the issue. This is, perhaps, because of her established role as an advocate for evidence-based science around parenting, pediatric health, and childhood vaccines more broadly. In addition to her role as co-founder of the Vohra-Miller Foundation, she is also the founder of Unambiguous Science, a digital platform for evidence-based scientific information to combat disinformation, and the South Asian Health Network that aims to enhance the health and well-being of South Asian and racialized communities in Canada (Vohra-Miller, 2022). As of April 2023, she has 22.1k followers on Instagram, 26.6k followers Twitter, and is the only one of the three who does not publicly use TikTok. Vohra-Miller began actively circulating content on the pending pediatric vaccine in advance of the announcement, beginning with a multiple-slide post on Instagram titled "Six reasons for getting

kids 5-11 vaccinated" that was published to her media accounts on October 30, 2021 (Vohra-Miller, 2021a). In the days leading up to the approval announcement, Vohra-Miller shared resources on Twitter from other public health oriented medical professionals, as well as offered direct pushback to anti-vaccine posts circulating around that time. On November 23, 2021, she retweeted the Health Canada announcement of the official pediatric vaccine approval, retweeting her October 30 infographics to clarify key information that might be confusing or convoluted to the public. Additionally, Vohra-Miller shared a four-part Twitter thread with infographics (Vohra-Miller, 2021b) prepared by the Focus Covid Communications group where she, like Yammine, is a core member. That same day, Vohra-Miller shared links on Twitter to media interviews she had participated in alongside other leading public health figures in the region to fortify the resources already shared among her social media accounts and to provide answers to questions that many Canadians were asking. This cross-platform approach takes advantage of various forms of media, not just what we think of as "social media," to spread her messaging, engaging with a technique of bricolage to do so.

This is clearly seen on Instagram where Vohra-Miller shared a combination of infographics, information carousels, and select reposts from her Twitter account. The carousels posted on November 19, 2021, included key take-aways on recommended dosage and intervals for this age group, spacing of other vaccinations around the Covid-19 vaccine, and guidance around myocarditis (Fig 3). The Focused Covid Communication posts shared by Vohra-Miller over the following three days include risk to benefit analysis with child-friendly aesthetics (enjoyable for both children and adults) and a downloadable copy of a "vaccinated superhero" certificate that she created to distribute to kids when after they received their first dose (Vohra-Miller, 2021c). Each of these actions explicitly sought to engage children and their caregivers. Throughout her posts, Vohra-Miller uses the memetic tactic of text overlay on solid colour-block backgrounds with abstract images. Because this kind of collage technique is the most recognizable form of image-text Internet meme used on Instagram, it signals to the user a set of information in a visually pleasing way that reflects the primacy of visual content on the platform. Through the use of overlay, Vohra-Miller works with the platform affordances to ensure information is circulated and received by viewers scrolling through content on their feed. Using a carousel of various slides with the same or similar background image and different text is a memetic practice that allows the creator to include a large amount of information in one post without overwhelming the audience. Importantly, it is not just the accessibility of these images and posts that makes them effective, but it is Vohra-Miller's willingness to engage with her audience in the comments and answer questions that makes them so successful. Indeed, in her comment section on Instagram, there was little vitriol, and, from a textual analysis of such comments, the comments appear to be a space of information gathering by self-identified caregivers. If any common anti-vaccine

questions arose, Vohra-Miller expertly directed audiences to official public health channels for their inquiries.

The most significant public appearance by Vohra-Miller came on December 3, 2021, two weeks after the approval announcement, when she hosted a Live Q&A with the Prime Minister of Canada and her colleague, Dr. Sharkawy, on Twitter (Fig 4). The trio answered live questions from children and parents across the country, often drawing from their own experiences and stories. In the introduction to the event, Vohra-Miller noted that from her position as head of the Vohra-Miller Foundation and Unambiguous Science she "believes in having open, honest, and compassionate discussions to build confidence and empower people" (Vohra-Miller, 2021d). The Q&A covered central themes of vaccine benefits, risks of Covid-19, and the need for all citizens to do their part and ensure our most vulnerable are protected. It offered an example of the different kind of publicity that PHIs like Yammine, Vohra-Miller, and Dosani bring to a broad audience, in contrast to government leaders like Prime Minister Trudeau, to help steer the conversation back toward clear imperatives for getting through the pandemic based on scientific recommendations. Overall, Vohra-Miller bricolages using a multi-pronged that blends the memetic approach of collages, infographics, and reels with high-profile public appearances and consistent messaging.

8 MEME TACTICS: THE BRICOLAGING ETHOS OF YAMMINE, DOSANI, AND VOHRA-MILLER

Across Yammine, Dosani, and Vohra-Miller's memes, a clear use of bricolage (Deuze, 2006; Johnson, 2012; Markham, 2018) is used to draw together and remix various media—often those that are popular in the moment, like voice overs, simple text on background, overlay, moving image, collage—in order to instill and communicate a simultaneous sense of urgency, enthusiasm, and celebration. Bricolage here suggests using "any available means or whatever is at hand" alongside "a critically oriented, multiperspectival, and reflexive" frame to "make sense of a situation or solve a problem" (Markham, 2018, p. 43-47). Just as they bricolage memes, the success of this creative technique lies in the bricolage ethos that each PHI brings as they offer stop motion memes and invitations of interpersonal connection (Yammine), placard memes and an affective persona in service of activism and amplification (Dosani), and collaged memes and infographics that support parents and others looking for vaccine and Covid-19 related advice (Vohra-Miller).This bricolage ethos, alongside the material bricolage of digital content, is what "allows researchers" and, we would add PHIs, "to acknowledge and work within situations and relations of complexity" (Markham, 2018, p. 46). The rise of PHIs on Twitter, Instagram, and TikTok over the course of the pandemic offers a clear example of employing the memeification of knowledge for wide-spread distribution. Like the infodemic itself, much Covid-19 discourse is memetic in the traditional use of the term: memes are understood as the circulation or viral spread

of a concept, idea, or practice across people within a culture. As many have witnessed, Covid-19 discourse is memetic insofar as "individual participatory media texts…intertwine into threads of interaction, eventually forming whole tapestries of public conversation" (Milner, 2016, p. 2). It makes a great deal of sense, then, that PHIs like Dosani, Vohra-Miller, and Yammine would use platform affordances and the meme-ification of evidence-based information about the pandemic and vaccines to counter such narratives. What they offer then is precisely what scholars like Sobo (2021) have called for: actions that allow "core concerns" of vaccine hesitancy or distrust "visible" by those best suited to "address them" and they do so through as she suggests "creative acts of translation" (p. 65). Their work during the pandemic shows such creative acts, using social media tools for an adaptive, dynamic, responsive approach to disseminating clear science messaging and opening up communicative networks as a response to the complex media ecology that has developed around Covid-19.

Looking at the trajectory of Dosani, Yammine, and Vohra-Miller's social media presence throughout the pandemic, each PHI refined and shifted their approaches and tactics in tandem with the shifts in the scientific and public conversation. Each gained larger followings and became quickly recognized locally as part of a group of medical experts that were widely featured in news media and engaged with by public social media audiences. In this way, they became part of a cohort of PHIs who informed approaches to public communication and public health practice at local and national levels. What the examples from each PHI above show is a set of internet micro-celebrity practices that use meme-based information sharing tactics that diverge from institutional forms of communication. In doing so they are "adapting the logic and dynamics of social media" to restore some public trust in "institutional authority" (Van Dijck and Alinejad, 2020, p. 2). As scientific experts in their respective fields, Yammine, Dosani, and Vohra-Miller draw on their knowledges to translate medical jargon from scientific journals into everyday language that can be easily understood by the public: a crucial way that they use their status to mediate and circulate information to followers.

What is most compelling in these examples is how this networked form of communication had such a significant impact on not only public opinion but also government responses and policy. For instance, the *Toronto Star* hailed Vohra-Miller as the "misinformation fighter" noting how her outreach work at one health center with a fifty percent vaccination rate ensured an "uptake [in the] shot of up to 90 per cent." Further, "after she spoke one-on-one to several individuals, uptake then rose to 100 per cent" (Ogilvie et al., 2021). Such work has paid off, and in the greater Toronto region where all three PHIs are located the average vaccination rate is 91% for those eighteen and older, 92% for those 12 and older, and 89% for those five and older (City of Toronto, 2022). What is shared among all three PHIs in their strategic approaches is an invitation for social media audiences to interact or engage with them in open and non-threatening ways. While this looks different in each example, the core principle of interaction is present among all three

approaches. This is a crucial development in science communication by PHIs; in the shift "from an institutional model towards a networked model," PHIs' use social media platforms as "propellers of networked information flows" that circumvent "top-down information transmission" (Van Dijk and Alinejad, 2020, p. 26). The result can be seen in the work described above which uses the creative memetic tactics of bricolage to bring together a variety of aesthetics, communities, and facts to build greater public trust.

In this way, there is not just the one-way communication and parasocial relationships that social media has been stereotyped as cultivating, but a "*translation*" where PHIs act as a mediator for the "constant interaction and adjustment between health experts, government officials, mass media, and citizens" (Van Dijk and Alinejad, 2020, p. 36). Vohra-Miller, Yammine, and Dosani's work, as it relates specifically to the context of vaccine hesitancy, offers an example of the imperative for "new stories" (Phillips and Milner 2021, p. 6). What we bring out in their work on vaccine hesitancy is a new story: one that highlights social media specific communication models and practices for re-gaining public trust in science through the memetic practice of bricolage. In the face of disinformation and political radicalization in online spaces, the use of an affective bricolage via overlay and collage, voice over videos and the invitation to DM one-on-one, and simple text on a background, used respectively by PHIs Vohra-Miller, Yammine, and Dosani in their reliance on the meme-ification of scientific data, offer creative ways into these questions of public trust in media by offering alternative narratives directed toward greater social and public health equity.

9 CONCLUSION

While the role of social media platforms in facilitating the circulation of both evidence-based medical information and falsehoods cannot be overstated, we must also acknowledge the problem of our oversaturated mediascapes. We, like Van Dijck and Alinejad (2020), are concerned with the ways that "nonexpert emotions, experience, sentiments, feelings, and trends are distributed through social media and are processed algorithmically, affecting the information cycle in real time" by "deploying text, context, and logic to convince recipients, and more on a many-to-many style of communication that utilizes opinions, visuals, memes, and short clips to mobilize crowds (p. 3). Scholarship thus needs to attend to the complex configurations of information brought forth by this pandemic, including the growing cultural distrust of science and government; a neoliberal world forced to work, communicate, and connect online; and a global network of citizens tending to very personal forms of grief, trauma, precarity, and loss.

Considering these concerns, this article has sought to extend existing studies of Covid-19 communication practices (Back, Tulsky and Arnold, 2020; Malecki, Keating, and Safdar, 2020; Mheidly and Fares, 2020; Reddy and Gupta, 2020) by exploring and, indeed, celebrating the memetic practices of PHIs that make use of

their micro-celebrity status to engage followers based on the pillars of Internet credibility: "relatability, authenticity, and accountability" (Lewis, 2019, p. 214). Here, we see PHIs as independent mediating figures in the flow of information between governments, public health units, and public citizen audiences. While PHIs are public citizens, they are also medical and scientific experts as well as members of their own cultural communities and they offer important mediating perspectives that are both more accessible and disarming to an overwhelmed and distrustful public as the pandemic wears on. Through highlighting the importance of PHIs within the tumult of the pandemic, we suggest that an analysis of Covid-19 science communication necessarily must look to multiple platforms to better understand the kinds of memetic practices of bricolage (stop motion, placard, collaged, and infographic memes) employed by different pandemic influencers and how these shift depending on both platform affordances and the audiences that employ different platforms. Across these tactics, interpersonal affects of compassion, enthusiasm, and urgency are grounded in evidence-based scientific facts in pursuit of health equity and greater public understanding. And we are not alone in emphasizing the importance of such affects—these affects reflect the conclusions of Harambam's (2023) paper in this special issue that highlight the need for novel and multiple forms of science communication that better align with the cultural worldviews of the various communities that make up our societies. The PHI messaging considered here shows explicitly the value of offering different approaches and communication styles to disseminating messaging as Harambam suggests is needed. As we have demonstrated, across the work of Yammine, Dosani, and Vohra-Miller, there is no "one communicative paradigm" being used, but rather a bricolage of ways of making do with the material potential of social media platforms to disseminate a diverse set of practices to communicating a positive message around pediatric vaccines.

In focusing on the role that memes practices and aesthetics play in conveying information in accessible ways, comments on posts indicate that they are more readily circulated by publics in ways that positively convey evidence-based information. As Milner (2016) argues, "[o]ur cultural tapestry is more vibrant…[o]ur public conversations are bigger and louder than they've ever been," largely because "memetic media…push us further away from simple 'top down' understandings of media influence" (p. 2). Meme-based communication offers us a clearer illustration of the role participatory media has in ensuring a greater connection between "individual citizens and broader cultural discourses" (Milner 2016, p. 2). PHI figures like Yammine, Vorha-Miller, and Dosani have taken up the memetic practices of different platforms to meet everyday citizens where they are, countering the virulent forms of disinformation we can encounter on a day-to-day basis on social media. To these points, the rise of PHI figures, specifically on Instagram, Twitter, and TikTok, has offered significant gains in re-engaging the Ontario public at crucial moments in the pandemic, and, in doing so, have provided

a venue for reaching social media users and demographics not tied solely to one social media platform.

Through advancing an ethos of equity, compassion, and enthusiasm grounded in evidence-based scientific facts, PHI posts from Dosani, Vohra-Miller, and Yammine have brought clarity to public discussions, mirroring efforts by news media to recenter expert messaging at crucial conjunctions in pandemic vaccine rollouts. They did so by translating often inaccessible scientific language into publicly recognizable forms of social media communication. Operationalizing genres and modes of communication familiar to their audiences, these PHIs worked the affordances of the various platforms they use and the memetic conventions they uphold to broadcast their message to larger audiences. Their specific influencer personas on social media gathered attention around issues many were experiencing confusion and fatigue around, giving voice to their concerns. They thus amplified and made more accessible institutionally framed information, ensuring that it has been circulated broadly to populations not engaged with traditional news sources or press conferences, or who may be wary of government communications. Because of their popularity on Instagram, Twitter, and TikTok, Dosani, Vohra-Miller, Yammine, and other PHIs have been able to engage in direct and meaningful critique of governmental public health measures and actions. These posts have circulated not only in dynamic flows to their respective audiences, combating disinformation, but also to news media outlets, shifting public conversations to government accountability and leadership, which has, indeed, impacted the Ontario government's course of action on several key issues.

Within such overloaded media systems, it becomes increasingly important to commit to the work of distinguishing between forms of false information for unpacking, as Sarah Sharma articulates, the "medium-specific techno-logics of how power operates in culture" (Sharma in Sharma and Singh 2022, p. 8). Unpacking how disinformation operates in networked spaces is one way of locating the circulation of power in culture. If nothing else, this article has demonstrated the importance of Public Health Influencers' social media advocacy through meme-based communication as a mediating presence between institutions and the public, building stronger discursive relationships for multi-directional communication and more transparency around science information as we continue to navigate the challenges of not only an ongoing pandemic, but an infodemic.

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ALTERNATIVE CREDIBILITY, PHENOMENOLOGICAL EMPATHY, AND THE PLANDEMIC: TRUST IN CONSPIRACY THEORIES DURING THE COVID-19 PANDEMIC

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Abstract

Plandemic: The Hidden Agenda behind COVID-19 is a twenty-six-minute film that went viral during the spring of 2020. The film invited controversy for sowing doubt in the official account of the COVID-19 pandemic by presenting an alternate perspective on several key issues such as masking, vaccines, and COVID-19 control measures. The film also vilified public health institutions and officials like Antony Fauci, among others. This paper aims to evaluate how conspiracy theories like the *Plandemic* find fertile ground during moments of crisis like the COVID-19 pandemic. To accomplish this the paper has two aims: (i) highlight the crucial role played by 'alternative credibility' and 'empathy' in garnering trust; (ii) identify how both concepts operate in the opening segment of the *Plandemic*, when the film's protagonist Judy Mikovits is introduced in a manner that commentators claim played a crucial role in gaining the audience's trust.

Keywords: Trust; Credibility; Empathy; Conspiracy Theories; COVID-19 Pandemic

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1. INTRODUCTION

Plandemic: The Hidden Agenda behind COVID-19 is a twenty-six-minute film that went viral during the spring of 2020. The film was uploaded on the 4th of May and was viewed more than 8 million times by the 11th of May (Naughton, 2020). Although platforms such as YouTube, Facebook, and Vimeo took the film down, it continued to spread and generate countless follow-up posts (Frenkel et al., 2020; Naughton, 2020). The label 'conspiracy theory' has been quickly, and widely applied to the *Plandemic*. Some have even argued that the film fulfills the quintessential criteria for a conspiracy theory (Cook et al., 2020; Haelle, 2020).

Conspiracy theories are often understood as attempts to make meaning when life feels radically contingent (van Prooijen & Douglas, 2017). Although intended as a descriptive assessment, it can lead to dismissive readings. Richard Hofstadter, for instance, claims that there is a tendency among supporters of conspiracy theories to exhibit a "paranoid" style or "way of seeing the world and expressing oneself" (Hofstadter, 1996, p. 4). In the American context, Hofstadter notes that this paranoid style manifests as a "feeling of persecution" where one's social group, cultural way of life, and nation-state are perceived to be under attack (Hofstadter, 1996, p. 4). However, other researchers have argued that it may be more fruitful to examine how and why people make certain meanings rather than dismiss them out of hand (Harambam, 2020). This paper takes the latter approach and does not evaluate the truth or falsity of *Plandemic*'s claims, a task that has been extensively undertaken in the immediate aftermath of the film's release (Cook et al., 2020; Enserink & Cohen, 2020; Lytvynenko, 2020; Neuman, 2020; Newton, 2020; Skwarecki, 2020). Instead, this paper examines *how* the *Plandemic* assuaged feelings of persecution among right-leaning and conservative Americans to garner trust for its claims about corruption among public health officials and institutions.

The *Plandemic* received significant media and academic attention. These responses identified how the film took an anti-institutional perspective to sow doubt in the official public health account of the pandemic. This was accomplished by having the audience connect with the *Plandemic*'s protagonist Judy Mikovits, the conveyor of the film's claims. However, the exact manner in which the film managed to get audience members to identify and relate with Mikovits is not sufficiently discussed. To address this gap, the paper undertakes a philosophical approach that employs the concepts of alternative credibility and empathy to elaborate *how* the film's audience was able to connect with, and trust, Mikovits.

It is important to stress that the present philosophical treatment does not employ qualitative or quantitative research methodology. Building on existing philosophical research that distinguishes between trustworthiness (qualities that constitute a subject as worthy of trust) and credibility (perception of the subject's said qualities), this paper follows Rebecca Lewis to identify the crucial role played by *alternative* credibility or credibility built upon one's anti-institutional credentials (Lewis, 2018, 2020). This is supplemented by a phenomenological consideration of

empathy highlighting the underlying interchangeability of experience that enables subjects to co-experience a phenomenon. Both concepts are employed to offer a close reading of the transcript of the *Plandemic*'s opening segment, a section that commentators argue contributed to the audience trusting Mikovits (Haelle, 2020; Skwarecki, 2020). This allows the paper to highlight the crucial role played by alternative credibility and empathy in garnering trust among the film's audience.

The paper is divided into six sections. The first presents the immediate American context in which the *Plandemic* went viral. This includes a brief introduction to the film's claims along with a consideration of the uncertainty that characterized the early phase of the COVID-19 pandemic. Section two elaborates on the important role that trust plays in supporting conspiracy theories. The third section distinguishes between trustworthiness and credibility to introduce the concept of alternative credibility. Section four puts forward a phenomenological consideration of empathy and its close association with alternative credibility. The fifth section employs both alternative credibility and empathy to offer a close reading of the opening segment of the *Plandemic*. The paper concludes by discussing possible objections to the claims put forward.

2. THE IMMEDIATE CONTEXT OF THE PLANDEMIC

The main feature of the *Plandemic* is a conversation between filmmaker Mikki Willis and the protagonist Judy Mikovits. During this conversation several claims are made that include, but are not limited to (Willis, 2020):

i. Masks do not protect against the virus but activate it.
ii. The flu vaccine makes one more susceptible to COVID-19.
iii. Making vaccines mandatory is a money-making scheme.
iv. Antony Fauci, director of the National Institute for Allergy and Infectious Diseases (NIAID) in the United States of America, is orchestrating a major cover-up for his own gain.
v. That the virus was not naturally occurring but was manipulated and released from a laboratory.[1]

Much of the immediate media response to the film sought to check *Plandemic*'s factual inaccuracies (Cook et al., 2020; Enserink & Cohen, 2020; Lytvynenko, 2020; Neuman, 2020; Newton, 2020; Skwarecki, 2020). Commentators argued that by releasing the film during the early phase of the pandemic, a period characterized by widespread uncertainty, the *Plandemic* built on public anxieties and presented alternative explanations that sowed doubt in the official account of the pandemic (DiResta & Garcia-Camargo, 2020; Haelle, 2020). In what follows,

[1] This issue became a point of contention as the COVID-19 pandemic continued to unfold. It is outside the scope of the present research to evaluate the truth or falsity of the *Plandemic*'s claims. Instead, this paper only focuses on presenting a philosophical proposal for how the film managed to garner trust.

I briefly consider the uncertainty and doubt that existed prior to the *Plandemic*'s release in the United States to evaluate how it contributed to the film's impact.

The early phase of the COVID-19 pandemic was an increasingly unpredictable period. Dave Altig and colleagues (2020, p. 8) note that most indicators of uncertainty reached their highest levels on record during this period. Pandemic-related questions about infectiousness and lethality of the virus, the time needed to develop and deploy vaccines, whether a second wave of the pandemic would emerge, duration and effectiveness of social distancing remained unclear at this time (Altig et al., 2020, p. 1). Uncertainty also extended beyond strictly COVID-19-related concerns. The early period of the pandemic saw increased psychological distress as a result of financial insecurity, job loss, and reductions in social contact following COVID-19 control measures to name a few (Robinson & Daly, 2020, p. 581). In the spring of 2020, when the *Plandemic* was released, anxiety and depression among adults in the United States was three times higher than it was in 2019 (Twenge & Joiner, 2020, p. 955). Some of these uncertainties grew in intensity with every passing month. Others receded to the background only to resurface on occasion and were experienced with different intensities depending on gender, race, class, and other social demographic parameters.

This period was also a time of acute political polarization in the United States (Donald Trump's impeachment trial, Democratic presidential primary). Such polarization spilled over onto the pandemic where partisan perspectives clashed over competing framings of COVID-19 control measures. Sheila Jasanoff and colleagues noted that right-leaning voices saw public health interventions as having "inflicted unwarranted economic damage and violated individual rights", while left-leaning voices largely supported COVID-19 control measures and blamed the pandemic's devastating consequences on "underreaction, irresponsible behavior, and rejection of science-based policy by conservatives" (Jasanoff et al., 2021, p. 108). The situation was exacerbated by Trump's rhetoric that downplayed the severity of the pandemic and pitted 'the people' against a group of experts, elites, and public institutions (Gugushvili et al., 2020; Kattumana & Byrne, 2023, pp. 221–222; Lasco, 2020, p. 1418,1422-1423; Sabahelzain et al., 2021, pp. 93–94).

The uncertainty, psychological distress, and polarization during the pandemic's early phase was "fertile ground" for conspiracy theories to develop and become "widespread" (Freeman et al., 2022, p. 262; Romer & Jamieson, 2020, p. 6; Uscinski et al., 2020, p. 6). The *Plandemic* built upon this fertile ground to become a viral phenomenon (DiResta & Garcia-Camargo, 2020; Enserink & Cohen, 2020; Frenkel et al., 2020; E. Gallagher, 2020; Kearney et al., 2020; Lytvynenko, 2020; Naughton, 2020). The film had a major impact on online activity, especially Twitter, and influenced discourse in a manner that allowed for convergence between, and helped fuel, other conspiracies that demonized public health institutions and figures like Antony Fauci and Bill Gates. In doing so, the *Plandemic* actively leveraged right-leaning discontent toward the official public health narrative. Moreover, the film's producers openly asked that the *Plandemic*

be downloaded and distributed on other platforms to "bypass the gatekeepers of free speech" (Nazar & Pieters, 2021, p. 2). Such rhetoric resonated with right-leaning sentiments and resulted in widespread sharing by groups like Reopen America, which was working to end stay-at-home measures, as well as other groups with links to the QAnon conspiracy theories, conservative politicians, and media personalities (DiResta & Garcia-Camargo, 2020; Frenkel et al., 2020; Nazar & Pieters, 2021, p. 9). DiResta and Garcia-Camargo mention that some liberal and left-leaning groups also shared *Plandemic*-related material (DiResta & Garcia-Camargo, 2020).

Another reason for the film's appeal was the professional way it was produced and its use of documentary style conventions (lighting, pacing, and camera angles) that have broadly come to be associated with conveying factual information (DiResta & Garcia-Camargo, 2020; Haelle, 2020; Nazar & Pieters, 2021, p. 2). Some commentators noted how this played a part in the film garnering trust and contributed to Mikovits' poise and authoritative tone. Jane Lytvynenko noted that "[u]nlike other conspiracy theorists, who can shout or ramble, Mikovits is composed and speaks calmly. Her air of reasonable cadence is bolstered by selective clips from news reports and an interviewer who appears curious and sympathetic" (Lytvynenko, 2020). Particular emphasis has been placed on the opening ten minutes when Mikovits is introduced. In terms of temporal division, this opening introductory segment amounts to more than one third of the film. Beth Skwarecki notes that by the end of this introduction and before Mikovits even begins to speak about COVID-19, "we've gotten to know her and we're on her side" (Skwarecki, 2020). As Tara Haelle argues, "the only purpose of the first 8-10 minutes [of *Plandemic*] is get the audience to trust Mikovits" (Haelle, 2020). This trust is achieved by Mikovits narrating "a personal story that helps viewers connect with her" (Haelle, 2020). Before philosophically examining how the introductory segment and the *Plandemic*'s presentation of Mikovits' personal story was able garner trust, I briefly discuss trust as it relates to conspiracy theories.

3. TRUST AND CONSPIRACY THEORIES

Kyle Whyte and Robert Crease define trust as "deferring with comfort and confidence to others, about something beyond our knowledge or power, in ways that can potentially hurt us" (Whyte & Crease, 2010, p. 412). This definition highlights the vulnerabilities of trusting. Trust does not come with absolute guarantees and is inherently tied to the possibility of betrayal, an issue that is often considered essential to any account of trust (Holton, 1994, pp. 66–67; Kattumana, 2022, pp. 648–649; Ozar, 2018, p. 149; Petranovich, 2019, p. 134). But despite this, trust is an ever-present feature of daily life because it helps reduce the complexity of decision-making, in turn resulting in certain courses of action becoming possible (Larson et al., 2018, p. 1599; Luhmann, 2017, p. 25). Trusting those we live with allows us to leave the house without fear for our belongings.

Balancing the vulnerabilities of trusting with the associated benefits of reduced complexity represents the dilemma that underlies any act of trust. Extending the discussion to trust in conspiracy theories, I first consider the benefits of reduced complexity before elaborating on the vulnerabilities of trust.

Trust in conspiracy theories like the *Plandemic* reduces the complexity of decision making. Conspiracy theories provide explanations that limit uncertainties, restore a sense of security, all the while elevating the concerns of one's social group (Douglas, 2021, pp. 270–272; Freeman et al., 2022, p. 252). As discussed previously, Mikovits' claims were shared and endorsed by individuals/groups who were predominantly right-leaning. The film achieves this by drawing on tropes associated with "white victimhood", that emerged in the United States during the 1970s and 80s, stressing the need to protect personal freedoms against restrictive public health interventions during the pandemic (Prasad, 2021, p. 7). This follows a general trend where belief in conspiracy theories during the pandemic saw reduced compliance with, or opposition to, COVID-19 control measures (Douglas, 2021, p. 271; Freeman et al., 2022, p. 262; Romer & Jamieson, 2020, p. 2). In other words, the *Plandemic* limits the confusions of an increasingly uncertain period by providing explanations that reassure those who remained unconvinced by the official public health narrative.

The benefits of reduced complexity help situate support for conspiracy theories, both generally and during the pandemic. But complications arise when discussing the vulnerabilities associated with trust in conspiracy theories. As previously noted, trust does not come with absolute guarantees and is closely associated with the possibility of betrayal. Supporters of conspiracy theories, however, do not seem to exhibit the feeling of being betrayed when shown evidence to the contrary. For instance, the *Plandemic* has been fact-checked on numerous occasions highlighting the many inaccuracies in Mikovits' claims. But these findings do not seem to result in feelings of betrayal among Mikovits supporters (Haelle, 2020; Nazar & Pieters, 2021). Instead, in many cases, advocates of a conspiracy theory are seen to double down on their support or shift allegiance to another conspiracy theory making comparable claims (Cook et al., 2020; Douglas, 2021, p. 272; Ichino & Räikkä, 2020, p. 7).

This perceived lack of vulnerability could be explained by drawing attention to the distinction between trust and belief. The lack of guarantees associated with trust implies a certain degree of uncertainty. Consequently, underlying trust is the hope that those we are trusting will not let us down (Marín-Ávila, 2021, p. 241). But this is not the case with beliefs. There is a high degree of certainty associated with beliefs. Those holding beliefs tend to exhibit a sense of confidence that overlooks the possibility of disappointment because such a possibility is perceived to be unlikely (Luhmann, 1988, p. 97). Supporters of conspiracy theories complicate this neat distinction and express their trust in terms of belief. Anna Ichino and Juha Räikkä argue that a "meta-cognitive mistake" occurs where the advocate of a conspiracy theory "does not believe, but rather merely hopes, that the

theory is true; but she mistakenly takes her hope to be a belief" (Ichino & Räikkä, 2020, p. 8). This does not, however, mean that those supporting conspiracy theories have no beliefs whatsoever. More general beliefs pertaining to the untrustworthiness of public institutions or the system continue to be at play (Ichino & Räikkä, 2020, p. 8). In this regard, support for conspiracy theories represents an indirect way to signal or express a firm belief that public institutions are not trustworthy (Ichino & Räikkä, 2020, p. 10).

The suspicion that public institutions are elaborately faking an appearance of trustworthiness is a significant feature of contemporary conspiracy culture (Aupers, 2012, p. 24). In the case of science, close collaboration with external influences like industry and politics sits uneasily with, and does not live up to, the idealized public image of scientific institutions as being detached and objective (Harambam, 2020, p. 197). Furthermore, support for conspiracy theories are often "politically loaded" and can be correlated to their "position on the spectrum between left and right" (Douglas & Sutton, 2015, p. 101). During the pandemic, research shows that right-leaning individuals and groups closely following conservative media were more likely to support conspiracy theories (Douglas, 2021, p. 272; Romer & Jamieson, 2020, p. 6). This is not surprising as Gordon Gauchat notes that conservatives and those who frequently attend church in the United States show long-term declines in trust in science since the 1970s (Gauchat, 2012, p. 182). However, Gauchat stresses that reduced trust in science cannot be attributed to lower levels of education as is often presumed. Educated conservatives were also seen to have decreasing trust in science and its institutions (Gauchat, 2012, p. 182).

Distrust of scientific institutions and right-leaning ideology might explain the *Plandemic*'s appeal among the film's intended audience, but it does not speak to the film's ability to frame Mikovits as a trustworthy source. How does the opening introductory segment where Mikovits narrates her personal story get the audience acquainted with, and trusting, her version of events (Haelle, 2020; Skwarecki, 2020)? To elaborate on how the film manages to cast Mikovits as worthy of trust, I briefly consider the distinction between trustworthiness and credibility to introduce alternative credibility.

4. TRUSTWORTHINESS AND ALTERNATIVE CREDIBILITY

According to John Hardwig, trustworthiness concerns the "moral and epistemic qualities" or "character" traits that indicate a person is worthy of trust (Hardwig, 1991, p. 700). Concerned with trust among scientific researchers, Hardwig lists honesty, competence in a specific domain, conscientiousness, and the ability to epistemically self-assess oneself adequately as traits indicating trustworthiness (Hardwig, 1991, p. 700). However, the emphasis on character traits and their purported correspondence with trustworthiness has been criticized. Kristina Rolin questions Hardwig's underlying assumption that a researcher's character traits are transparent to others. Assuming such transparency fails to take into account that

the perception of these traits are often mediated, for instance, by prejudiced and biased institutional evaluation (Rolin, 2002, p. 105). For Rolin, this oversight results from conflating trustworthiness (a researcher's moral and epistemic qualities) with credibility (perception of the researcher's said qualities) (Rolin, 2002, pp. 96, 100). Citing both historical and recent research on institutional sexism, Rolin highlights that a researcher could be trustworthy without being recognized as such owing to their lack of credibility (Rolin, 2002, pp. 102–111).

The mismatch between trustworthiness and credibility can also move in the opposite direction. Credibility could be framed in a manner that indicates trustworthiness even though this may not be the case (Fricker, 1998, p. 167). Something similar is seen to occur with right-leaning voices aiming to gain a following online. Rebecca Lewis examines the kind of credibility mobilized by right-leaning micro-celebrities, or personalities on the internet who use self-presentation techniques that mobilize strategic intimacy to appeal to their niche audiences (Lewis, 2018, pp. 16–21, 2020, pp. 3–4; 12–13). Such credibility, and its intended appearance of trustworthiness, is *alternative* because the intention is never to meet institutional standards of reputation or ideals of objectivity (Lewis, 2020, p. 12). Rather, unlike credibility discussed thus far which seeks to operate within the bounds of institutional norms, alternative credibility is openly anti-institutional.

The anti-institutional character of alternative credibility is garnered through the performance of three qualities (Lewis, 2018, pp. 17–20). Given the immediate application of these qualities to the film and Mikovits, I only consider the first two qualities (relatability and authenticity) and not the third (accountability). [2] *Relatability* refers to the manner in which micro-celebrities heighten their appeal by presenting themselves as accessible and being just like those in the audience, unlike mainstream and legacy media outlets whose appeal is based on institutional credibility and reputation (Lewis, 2018, pp. 17–18). *Authenticity* concerns openness and a highly personal relationship with the audience established through affective storytelling techniques (Lewis, 2018, pp. 18–19). This differs from the mainstream media who establish their expertise by maintaining a degree of separation from the audience, emphasizing their institutional neutrality.

Achieving relatability and authenticity is the purpose of the *Plandemic*'s introductory segment, which commentators argue contributed to the audience trusting Mikovits (Haelle, 2020; Skwarecki, 2020). This part of the film sees the

[2] Accountability, as it refers to micro-celebrities, concerns the attempt to invite increased audience participation through feedback and likes, all while stressing the importance of such participation for content creation. The manner of said participation concerns context-specific factors of the social media landscape that do not immediately apply to the *Plandemic*. For instance, accountability would require sustained interaction with the audience. Such interaction allows for repeated instances where a micro-celebrity can ask for increased audience involvement and request likes. However, Mikovits did not have a continued and sustained relationship with the *Plandemic*'s audience after the film's release, except for a couple of interviews. Therefore, the opportunities for repeatedly emphasizing and inviting audience participation did not occur.

use of self-presentation techniques that frame Mikovits as being *relatable* and personal storytelling which makes her perspective appear *authentic*. However, the precise manner in which these two qualities operate requires elaboration. Further analysis is needed to explain how the effective mobilization of relatability and authenticity can grant the appearance of trustworthiness. For this reason, I consider the relation between alternative credibility, empathy, and trust which in turn sets up the theoretical framework to examine the introductory segment of the *Plandemic*.

Before proceeding it is important to stress that the philosophical analysis in the next section draws upon phenomenological philosophy. Authenticity is a much discussed and complex phenomenological notion most prominently found in Martin Heidegger's works. Lewis' use of authenticity does not speak to its phenomenological meaning but concerns a strategically mobilized personal relationship characterized by affectively laden story-telling techniques. To avoid confusion, I will refer to the second quality associated with alternative credibility as *strategic storytelling* to avoid conflation with the phenomenological notion of authenticity.

5. EMPATHY, TRUST, AND ALTERNATIVE CREDIBILITY

Empathy has often been conflated with sympathy, or the feeling of compassion for another person. However, phenomenological considerations of empathy differ significantly in this regard.[3] According to Edmund Husserl, empathy refers to instances where "the empathizing I experiences the inner life (*Seelenleben*) or … the consciousness of the other I" (Husserl, 2006, p. 82). The inner life (emotions, memories, affective states) of another subject is not perceivable or directly experience-able like an object (Husserl, 2006, p. 83). Instead, empathy concerns an intentional directedness towards the other's lived experiences on the basis of an embodied and shared inter-subjective experience of the world. This underlying shared experience enables the subject to experience the other as having the same experience that "I should have if I should go over there and be where he is" (Husserl, 1960, p. 117). In other words, the phenomenological conception of empathy refers to the *potential* interchangeability of standpoints. The emphasis placed on potentiality serves to stress that empathy does not entail literally taking the place of the other and embodying their experiences as if they were my own. To clarify the

[3] Empathy is also incorrectly discussed in relation to the 'argument from analogy' associated with the problem of other minds. The argument from analogy follows the subject's observation that certain behavior or action is closely correlated with certain experiences. Consequently, if the other were exhibiting the same behavior or action, then the subject can infer by analogy that the other was having the same associated experience. However, the phenomenological approach proceeds differently as empathy *does not occur in stages*. Empathy, phenomenologically conceived, does not begin with purely physical behavior, and then infer an associated subjective experience. Rather, the other is immediately experienced as an embodied subject. See Gallagher & Zahavi (2010, pp. 181–183) for a brief consideration of this issue.

specific sense of interchangeability at play, I will discuss the close relation between empathy and relatability.

The phenomenological conception of empathy represents a condition for relatability, and alternative credibility by extension, to be achieved. To appear relatable, right-leaning influencers do not present themselves in terms of institutional success or professional track record. Rather, following Erin Duffy, Lewis notes that to be relatable micro-celebrities try to "disavow" status markers that would set them apart to claim that they are "just like" their audience (Lewis, 2018, p. 17). Such disavowal increases the possibility of the audience relating with the micro-celebrity. Similarly, if the *Plandemic* aims to be relatable, Mikovits needs to be presented in such a way that the audience relates with her perspective. The film's intended audience must feel that that Mikovits is 'just like' them. Phenomenologically speaking, this entails emphasizing that Mikovits and her audience share a common experience of the world. This would enable the audience to feel that if they were to potentially take Mikovits' standpoint, they would have similar experiences. In other words, relatability presupposes the potential inter-changeability of experience that Husserl highlights is crucial for empathy. Here interchangeability does not involve the *Plandemic*'s audience literally substituting themselves in place of Mikovits. Rather, efforts to appear relatable aim to show the preexistence of a concordance between Mikovits' experiences and that of her audience. The close association between empathy, relatability, and concordant experiences can be further elaborated by considering implications of the current discussion for trust.

Operating in a non-phenomenological vein, Olivia Bailey provides a similar[4] perspective on empathy and points to its close relationship with trust. For Bailey, empathy involves "using one's imagination to 'transport' oneself, and more particularly that it involve[s] considering the other's situation as though one were occupying the other's position" (Bailey, 2018, p. 143). Transporting oneself or occupying the other's position echoes the Husserlian emphasis that empathy implies a potential inter-changeability of experiences. Following Bailey, we can extend Husserl's phenomenological insight towards trust by noting that in transporting myself to another's situation there is an implicit assessment of whether the other's experience is plausible or not. This assessment of plausibility is based on our emotionally colored experience of the world, which is often uncritically taken at face value to stand for a default experience of the world (Bailey, 2018, p. 146). Hence when I empathize with another person, the other's experience has passed

[4] Non-phenomenological approaches to empathy tend to focus on the more evident or active dimension of empathy. Phenomenological approaches tend to supplement the active dimension of empathy with an analysis of the underlying passive dimension. The passive dimension involves consideration of time consciousness, associations, structures of fulfillment, and anticipations among others. See Husserl (2001), especially Part 2, for more on the passive dimension of conscious life. By claiming that Bailey's non-phenomenological perspective is similar to Husserl, I argue that her account presupposes and implicitly builds upon a passive analysis.

this assessment of plausibility. This is possible because it correlates with what I take to be in keeping with my experience of the world. As Husserl argues, when we empathize the "things posited by others are also mine: in empathy I participate in the other's positing" (Husserl, 1989, p. 177). When empathizing we are transporting ourselves into the other's position thereby imaginatively taking part in their account of the events. When this account strongly correlates with our own emotionally colored experience of the world, Bailey argues we trust the other's perspective because it "is extremely difficult if not impossible to dismiss them as wholly inappropriate" (Bailey, 2018, p. 148).

Trust based on empathy, however, has limits. The test of plausibility does not imply literally or actively transporting oneself to embody another. Rather, it is an imaginative attempt that depends on the extent to which the subjects in question have a strong concordance between their respective emotionally colored experience of the world. Similarly, as already noted, the interchangeability of standpoints underlying phenomenological empathy does not entail a subject literally or actively taking the position of the other and experiencing the world as they do. Instead, it concerns a perceptual leap where one considers what it may be like if I were to live through what the other is experiencing; a leap that depends on a shared embodied experience of the world. This highlights the need to distinguish between at least three levels of empathy (Husserl, 1973, p. 435): i) recognizing the other as an active embodied corporeal subject capable of interpreting, attending to, and comprehending the environment; ii) apprehending the other's actions at a "lower layer" in terms of bodily comportment;[5] iii) recognizing the purposefulness of the other's actions. If I were empathizing with a conductor leading an orchestra, my extremely limited understanding of western classical music would imply that empathy occurs at the first and second levels. I empathize with the conductor as an embodied other who acts based on a particular interpretation, attention, and comprehension of their environment. However, empathy at the third level does not occur as I do not understand the purposefulness of the conductor's hand movements. In other words, I do not fully comprehend what the conductor's hand movements has achieved, or intends to achieve, in relation to other musicians in the orchestra. This example serves to emphasize that achieving the first two levels of empathy is not sufficient for a rich interpersonal understanding of the other's actions. These clarifications have implications for the present discussion of trust. Adequately accomplishing empathy requires a pre-existing correlation between subjects and their emotionally colored experience of the world. I need to understand the conventions of western classical music to fully empathize with the conductor. Similarly, without a shared understanding of conventions and intra-group associations, the potential to empathize as it pertains to trust is compromised.

[5] The following line builds on a translation of the German text which reads as follows: "Ein Zweites ist dann das Handeln in einer Unterschichte, nämlich das in die rein körperliche Natur als solche hineinwirkende Handeln" (Husserl, 1973, p. 435). I thank Gregor Bös for checking my translation.

This highlights the importance of the second quality of alternate credibility: strategic storytelling. In the case of right-leaning micro-celebrities, strategic storytelling sees said influencers interacting directly with the audience, being increasingly transparent about their lives and content-making process (Lewis, 2020, p. 5). The intention behind appearing transparent is to further buttress relatability and emphasize that these influencers are just like their audience, setting up the appearance of a concordance between the influencer and an audience's default experience of the world. When successful, the audience can feel like they have been transported into micro-celebrity's world as part of their inner circle. Mikovits is not a micro-celebrity but commentators note that the *Plandemic*'s opening segment puts forward an increasingly personal story to help viewers connect with, and trust, Mikovits' version of events (Haelle, 2020; Skwarecki, 2020). As will be discussed in the next section, Mikovits' personal story paints a highly negative picture of the inner workings of public health institutions. This makes transparent what occurs behind the scenes of institutions that are opaque to the *Plandemic*'s intended audience. The film's negative portrayal of public health personalities and institutions is in keeping with right-leaning discontent towards said institutions. Such a portrayal confirms their suspicions and potentially results in Mikovits' account seeming plausible. Therefore, Mikovits and the audience are shown to have a similar negative experience with public health institutions and its prominent figures. This shared experience is then leveraged to achieve empathy and allows the audience the empathic possibility of being transported into Mikovits' world and potentially trusting her version of events.

In the next section, I will closely follow the opening segment of the *Plandemic* to highlight how the film evokes empathy by mobilizing relatability through strategic storytelling to garner alternative credibility, bestowing upon Mikovits, and her claims, the appearance of trustworthiness.

6. EMPATHY, ALTERNATIVE CREDIBILITY, AND JUDY MIKOVITS

The initial ten minutes of the *Plandemic* plays a key role in making the audience trust Mikovits (Haelle, 2020; Skwarecki, 2020). To examine how this is accomplished, this section considers how the two qualities of alternative credibility (relatability and strategic storytelling), and underlying empathic possibilities are mobilized to grant Mikovits the appearance of trustworthiness. The film begins with the following voice over introducing Mikovits:

> Dr. Judy Mikovits has been called one of the most accomplished scientists of her generation. Her 1991 doctoral thesis revolutionized the treatment of HIV AIDS. At the height of her career, Dr. Mikovits published a blockbuster article in the journal *Science*. The controversial article sent shockwaves to the scientific community, as it revealed that the common use of animal and human fetal tissues were unleashing devastating plagues of chronic diseases for exposing their deadly

> secrets. The minions of Big Pharma waged war on Dr. Mikovits, destroying her good name, career, and personal life. Now, as the fate of nations hang in the balance, Dr. Mikovits is naming names of those behind the plague of corruption that places all human life in danger (Willis, 2020).

The voice over positions Mikovits as a revolutionary scientist. Such institutional credentials and monumental success, as noted previously, by itself may not portray Mikovits as relatable; especially among *Plandemic*'s intended audience. But this is immediately followed by a series of disavowals. Her research is claimed to have sent 'shockwaves to the scientific community' and 'exposing their deadly secrets'. Furthermore, Mikovits' work has allegedly invited the ire of the scientific establishment, in particular big pharmaceutical companies thereby casting her as a whistle-blower challenging institutional malpractice (DiResta & Garcia-Camargo, 2020; Lytvynenko, 2020). The film's opening highlights its intention to frame Mikovits as an expert who is knowledgeable about issues relating to public health. But her expertise is not framed in terms of institutional credibility. Instead, Mikovits is portrayed as an anti-institutional outsider. The conversation that follows reiterates this implicit framing in an explicit fashion (Willis, 2020):

> Willis: So, you made a discovery that conflicted with the agreed upon narrative.
>
> Mikovits: Correct [nervous laugh].
>
> Willis: And for that, they did everything in their powers to destroy your life.
>
> Mikovits: Correct.
>
> Willis: You were arrested?
>
> Mikovits: Correct.

These disavowals of institutional credibility are coupled with a portrayal of Mikovits as a victim of public health officials and institutions. Immediately following the above exchange is a discussion of an alleged gag order. According to Mikovits, the heads of major public health institutions colluded to destroy her reputation and told her that if she were to break her silence "they would find new evidence and put me back in jail. And it was one of the few times I cried it was because I knew there was no evidence" (Willis, 2020).

Throughout the opening segment, and before a single claim has been made about the COVID-19 pandemic, public health institutions are discussed in nefarious terms. This overall negative characterization is exemplified by Antony Fauci, who is accused of being untrustworthy and deliberately spreading propaganda that benefits him and the institutions that he works for. Mention is made of conflicts of interest that are overlooked, further indicating an institutional culture of corruption in public health institutions. The example that holds these allegations together is a personal one. Fauci is accused of deliberately sabotaging

Mikovits' research relating to HIV/AIDS. This research is claimed to have had the potential to save lives and prevent the devastation caused by the AIDS epidemic. The allegations against Fauci are further buttressed with a clip of writer Larry Kramer calling Fauci "the Bernie Madoff of science", which Bernadette Jaworksy calls the *mise-en-scène* of the *Plandemic* (Jaworsky, 2021, p. 13; Willis, 2020). Other villains in the *Plandemic* narrative include Robert Redfield, the head of the Center for Disease Control and Prevention [CDC], who is accused of colluding with Fauci, and Bill Gates to allegedly orchestrate a worldwide conspiracy.

Contrary to much of the immediate response to the film, these opening exchanges show that the film does not *position itself* as anti-science. Rather, the film's criticism is aimed at institutional corruption and the alleged fabrication of evidence. Mikovits is presented as an honest whistle-blower calling out the system. She repeatedly emphasizes that institutions (CDC, NIAID) and public figures (Fauci, Redfield, Gates) playing a key role in dealing with the COVID-19 pandemic are corrupt. The film argues that they have a history of fabricating evidence, mismanaging earlier crises (HIV AIDS epidemic), and using their power to oppress Mikovits. This institutional criticism acts as a launch pad for the more controversial claims of the film. Amit Prasad argues that a reified construction of scientific objectivity and value-neutrality of science is used by the *Plandemic* as scaffolding to make anti-scientific claims (Prasad, 2021, p. 5).

A case in point is Mikovits' claims about vaccines during the film's opening segment. When asked if her anti-institutional views make her an anti-vaccine advocate, Mikovits responds "absolutely not, vaccine is immune therapy. Just like interferon alpha is immune therapy. So I'm not anti-vaccine. My job is to develop immune therapies. That's what vaccines are" (Willis, 2020). These assurances are used as scaffolding to make other claims. For instance, during an exchange with Willis, Mikovits asserts that there is currently no effective vaccine against RNA viruses (Willis, 2020). Furthermore, Mikovits raises the stakes of compliance with public health recommendations noting that vaccines would kill millions and argues that mandatory vaccinations are in essence a money making scheme (Willis, 2020). Another instance of raising the stakes to oppose public health control measures occurs towards the end of the introductory segment, before moving to discuss the pandemic. Willis asks Mikovits why she is stepping forward now to expose unjust schemes, especially given the power of those she is fighting. Mikovits responds: "[b]ecause if we don't stop this now, we can not only forget our republic and our freedom, but we can forget humanity because we'll be killed by this agenda" (Willis, 2020). The agenda being discussed is that of Fauci and major public health institutions. Mikovits berates Fauci for spreading lies during the pandemic: "[w]hat he's saying is absolute propaganda, and the same kind of propaganda that he perpetrated to kill millions since 1984" (Willis, 2020). By repeating the link between Fauci's personal interests that allegedly lead to the mishandling of the AIDS epidemic, Mikovits raises the possibility that the same thing will occur during the COVID-19 pandemic.

By framing Mikovits as a victim of public health institutions, Jaworsky notes that the film seeks to "achieve psychological identification and cultural extension with the audience" (Jaworsky, 2021, p. 19). These attempts to have the audience identify with Mikovits rely on her being 'just like' those feeling victimized by powerful forces within public health institutions. In other words, Mikovits and her audience share a similar relationship with public health institutions, which makes her relatable thereby increasing empathic possibilities. This is further bolstered by Mikovits' strategic storytelling which is highly personal and loaded with affective cues; stimulating a sense of intimacy with her, as she recounts feeling helpless in her fight against unjust public health authorities. Prasad argues that framing Mikovits as a victim allows the film to orchestrate an "alignment of interests" between her and those among the audience who are feeling victimized by the same institutions and public figures during the COVID-19 pandemic (Prasad, 2021, pp. 7–8). Mikovits' account passes the assessment of plausibility for the *Plandemic*'s audience, the bulk of whom were American conservatives disgruntled by the official public health narrative during the pandemic's early phase. For these reasons, I argue that Mikovits' reliability and strategic storytelling made her account seem plausible thereby setting up empathic possibilities, potentially garnering alternative credibility for the *Plandemic*'s audience to trust her account.

7. EMPATHY ONLINE AND JUDY MIKOVITS' ALTERNATIVE CREDIBILITY

Before concluding, further clarification is needed to justify extending empathy towards trust garnered through alternative credibility. These clarifications serve to further substantiate the claims made thus far.

Traditionally, phenomenological analyses of empathy emphasize face-to-face interaction where we can witness the other's experience in-person.[6] Such interaction is embodied and experientially rich given the direct back and forth with the other, which has been argued is crucial to empathic experiences. Discussing empathy in the case of the *Plandemic* would then seem like a dead-end as the audience's relationship with Mikovits is technologically mediated and therefore does not have the benefits of in-person interaction. In what follows, I question the negative characterizations of technologically mediated interactions by stressing the phenomenological distinction between the physical body and the living body.

Husserl argues that the "physical body and living body *[Körper und Leib]* are essentially different" (Husserl, 1970, p. 107). The physical body (*Körper*) refers to the body as object, i.e., it's standardized physical attributes such as color, weight, or height. By contrast, the living body (*Leib*) refers to the body as subject, i.e., one's

[6] Part of the reason for this emphasis is that Husserl is trying to articulate the most basic mode of empathy which occurs at the level of implicitly/passively 'understanding' the other as an embodied subject. As will be seen in this section, such an emphasis does not preclude the more complex or mediated modes of empathetic experience.

unique experience of their own body from the first-person perspective. By emphasizing face-to-face encounters, the traditional literature on empathy conflates the living body with the physical body. According to Lucy Osler, such conflation "can be attributed to the trend of talking about being able to 'see' someone's experiences," thus forgetting that the living body "extends beyond the skin" (Osler, 2021, p. 8).

If Osler is correct, then empathy is no longer restricted to face-to-face interactions making it more applicable to cases like the *Plandemic*. However, three potential objections persist. The first two are posed and responded to by Osler in making a phenomenological case for empathy online, while the third questions the possibility of empathy given the particularities of the COVID-19 pandemic.

The first objection notes that by allowing for empathy at a distance, the rich experiential nuances of face-to-face interaction are lost. Osler's response broadly follows her example that getting extremely close to the other's mouth does not help in empathically experiencing their smile (Osler, 2021, p. 21). The adequate distance for empathy is then recast as a context-dependent issue. While the interaction between Mikovits and her audience is technologically mediated, I argue that it does not limit empathic possibilities. The lack of face-to-face interaction is substituted for a well-crafted documentary style film-making techniques with timely pauses, close ups, images, and statements that only serve to buttress Mikovits' claims. All this allows for Mikovits' strategic storytelling to be presented in a relatable fashion and activates the underlying inter-changeability of empathic experiences. This results in the audience being privy to, and co-experiencing, Mikovits' narrative of organized institutional persecution.

A second objection could be raised that technologically mediated interactions come with a time-delay, which undermines the often-emphasized point that empathy refers to one's *present* experience of another's *present* experience (Osler, 2021, p. 22).[7] While it is definitely true that there is a temporal delay between Mikovits stating her claims and the audience engaging with it, I argue that this only adds to the possibility of empathizing. As previously noted, the *Plandemic* was released in the early phase of the COVID-19 pandemic when the public experienced an exacerbated sense of uncertainty that amplified the film's appeal (DiResta & Garcia-Camargo, 2020; Haelle, 2020). During this time, high-ranking politicians and 'break-away experts' attributed the cause of these uncertainties to public health pronouncements, in many cases made by those whom Mikovits cast as villains. Hence, engaging with the film during the early uncertain phase of the pandemic was not a limiting instance of temporal delay but precisely the moment when the villains in Mikovtits' narrative came to be known and disliked by portions

[7] Osler refers to Edith Stein while raising this possible objection. Osler's response considers the possibility of empathy over text messages despite there being a temporal delay (Osler, 2021, pp. 22–23). My response to the objection of temporal delay in case of the *Plandemic* is inspired by, but does not take the same approach as, Osler.

of the public. In other words, the limitations of technologically mediated interactions do not restrict the empathic possibilities of the *Plandemic*.

A third and final potential objection could claim that trusting Mikovits during the COVID-19 pandemic is not a case of empathy but of emotional contagion. According to Søren Overgaard (2018), empathy differs from emotional contagion in that the former is other-directed while the latter occurs when one 'catches' the other's emotion without necessarily being directed at said other. An example of emotional contagion is feeling invigorated among others at a protest. Although there is some emotional connection with those around, it is not necessarily directed at the other. The plausibility of this objection rests on the fact that the *Plandemic* was a viral phenomenon at a time of immense public uncertainty. In responding it is important to stress that many learned of the *Plandemic* as it circulated online. Not all who hear of the film will go ahead and watch it. The main focus of this paper and the present argument concerns those who watched *Plandemic* and engaged with the film's portrayal of Mikovits personally. For this immediate audience, it would not be controversial to argue that they were directed at Mikovits thus satisfying the criteria for empathy as other-directed.

Being a viral phenomenon, however, the *Plandemic* had a less-immediate audience as well. This includes those who may have merely shared the film's claims; made available by the *Plandemic*'s immediate audience or promoters. They may not have personally engaged with the film's content and could be argued as representing a case of emotional contagion rather than empathy. However, this need not be the case. Following Francesca De Vecchi, empathy comes in degrees of fulfillment (De Vecchi, 2019, pp. 235–238). The underlying scale of such fulfillment depends on the extent to which the empathizing subject and the empathized subject share a "personal type" (De Vecchi, 2019, p. 237). Following Edith Stein, De Vecchi notes that a personal type is constituted by the "hierarchy of values that structures and orients the person … and by her historical, social and cultural profile" (De Vecchi, 2019, p. 237). If the empathizing subject and the empathized subject share a personal type, then the likelihood of empathy is increased. Mikovits and the *Plandemic* spoke directly to right-leaning American sensibilities. Moreover, the film was conceived in a way that enables American conservatives to find Mikovits' framing as a victim plausible and relatable. The film drew upon conservative themes such as white victimhood, distrust of scientific institutions, and an emphasis on personal freedom (Prasad, 2021, pp. 7–8). This is further evidenced by that fact that the film was widely shared by right-leaning politicians and media personalities, conservative groups like Reopen America, and QAnon supporters (DiResta & Garcia-Camargo, 2020; Frenkel et al., 2020). These individuals or groups may not have seen the film but share a 'personal type' of similar value structures and overlapping historical, social, and cultural profiles with the *Plandemic*'s portrayal of Mikovits and its immediate audience.

Sharing a 'personal type' increases the possibility of mediated empathetic experiences, the possibility of which has already been gestured to in the responses to the potential objections thus far. Mediated empathy among the *Plandemic*'s less immediate audience is actualized by the social character of information in the contemporary social media landscape. What constitutes information is less determined by content and more influenced by the degree to which a detail or event has been shared, circulated, and gained influence within a group (Marres, 2018, p. 427). This possibility is heightened within what C. Thi Nguyen calls 'echo chambers' where members share beliefs and can be epistemically isolated from those outside the group (Nguyen, 2020, p. 142).[8] Consequently, there is a "significant disparity of trust between members and non-members" that is based on a "general agreement with some core set of beliefs" that functions as a "prerequisite for membership" (Nguyen, 2020, p. 146). That supporters of conspiracy theories constitute an example of an echo chamber is seen in Nguyen's treatment of the notion and responses to the *Plandemic* (DiResta & Garcia-Camargo, 2020; Nazar & Pieters, 2021, p. 13; Nguyen, 2020, p. 148). Although not the same, there is recognizable resonance between the Stein and De Vecchi's notion of shared personal type and an echo chamber, where the latter can be interpreted as an extreme intersubjective variant of the former. In other words, the *Plandemic*'s less-immediate audience has the potential to empathize with Mikovits based on shared a 'personal profile' within an echo chamber-like setting. However, the empathy achieved is of a lesser degree of fulfilment, owing to the film's promoters or immediate audience mediating this group's engagement with Mikovits' claims. Further research is needed to substantiate how empathy in lesser degrees of fulfilment, arrived at in a mediated fashion, operates in the case of conspiracy theories.

8. CONCLUSION

This paper examines how the *Plandemic* and its protagonist Judy Mikovits garnered trust during the early phase of the COVID-19 pandemic. The film was released during an extremely uncertain and anxious period characterized by a high degree of political polarization. During this time, research shows that there was a tendency among right-leaning Americans to feel imposed upon by public health institutions and those who wielded its power. In this context, the film orchestrated an alignment of interests between Mikovits and the film's intended audience. Mikovits was

[8] The existence of echo chambers is a much-debated issue. Nguyen (2020) follows this debate to argue that questions regarding the existence of echo chambers emerge owing to a conflation of two closely related but distinct phenomena: epistemic bubbles and echo chambers. An epistemic bubble refers to groups where opposing voices have been left out through various forms of accidental omission. But this is distinct from an echo chamber where opposing voices are actively discredited, and their omission is explicitly carried out. The analysis thus far shows that the *Plandemic*'s intended audience constituted an echo chamber in their active discrediting and excluding of official public health narratives and sources.

presented as a victim to the machinations of the same personalities and institutions that American conservatives had come to be suspicious of during this early phase of the pandemic. Thus, the film utilized underlying empathic possibilities that leveraged similar negative experiences of public health institutions to successfully mobilize alternative credibility, hence granting Mikovits the appearance of trustworthiness. By focusing on the *Plandemic*, this paper highlights how anti-institutional sentiments can be mobilized to gain trust in the changing media landscape during the COVID-19 pandemic in particular, and periods of crisis and uncertainty in general. Among those unconvinced by the official public health narrative trustworthiness, or its appearance, was not gained by adhering to institutional norms of credibility. Rather, it was achieved by actively framing oneself in anti-institutional terms to mobilize alternative credibility and empathy. However, the film and Mikovits represent only one instance of this phenomenon. Further philosophical, qualitative, and quantitative research along with transdisciplinary perspectives are required to better understand how anti-institutional sentiments can be mobilized to better guard against its negative consequences and efficaciously engage with discontent against public institutions.

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DISTRUSTING CONSENSUS: HOW A UNIFORM CORONA PANDEMIC NARRATIVE FOSTERED SUSPICION AND CONSPIRACY THEORIES

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ABSTRACT

Although the institutional model of science communication operated well during the corona-pandemic, and relevant public institutions (media, science, politics) garnered higher levels of trust following "rally-around-the-flag" dynamics, other people would develop distrusts towards those institutions and the emerging orthodox corona narrative. Their ideas are often framed as conspiracy theories, and today's globalized media eco-system enables their proliferation. This looming "infodemic" became a prime object of concern. In this article I agnostically study those distrusts from a cultural sociological perspective to better understand how and why people (came to) disbelieve official knowledge and their producers. To do so, I draw on my ethnographic fieldwork in the off- and online worlds of people labeled as conspiracy theorists in the Netherlands, which includes the media they consume, share and produce. Based on an inductive analysis of people's own sense-making, I present three dominant reasons: media's panicky narrative of fear and mayhem; governments sole focus on lockdowns and vaccines; and the exclusion of heterodox scientific perspectives in the public sphere. Each of these reasons problematize a perceived orthodoxy in media, politics and science, and this uniformity bred suspicion about possible conspiracies between these public institutions. Too much consensus gets distrusted. While we can discard those ideas as irrational conspiracy theories, I conclude that these findings have important implications for the way we deal with and communicate about complex societal problems. Next to keeping things simple and clear, as crisis/risk/science communication holds, we need to allow for uncertainty, critique and epistemic diversity as well.

Keywords: Corona; Pandemic; Infodemic; Consensus; Distrust; Conspiracy Theories; Science Communication; Uncertainty; Risk; Epistemic Pluralism; Cultural Cognition

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1 INTRODUCTION

Ever since the corona pandemic started in 2020, reliable knowledge about what was going on became a topic of much scientific and public concern (Garrett, 2020). From family doctors dealing with sick people in their communities to security officials working for advisory governmental organizations, and from ordinary citizens confronted with severe lockdown restrictions to journalists reporting on an unfolding global public health crisis: there was widespread need for clear understandings about this novel corona virus, and how it impacts our lives and livelihoods. After all, new pandemics always abound with much uncertainty, and their course depends heavily on how we are able to deal with this lack of stable knowledge (Bjorkdahl & Carlsen, 2019).

In today's globalized and mediatized world, information is abundant. The corona pandemic is no exception. Whether we speak about the massive amount of scientific research produced (Horbach, 2020; Moradian, et al., 2020), the enormous media attention given to the topic (Athique, 2020; Van Dijck & Alinejad, 2020), the various communication strategies governments deployed to inform their citizenry (Hyland-Wood, et al. 2021; Kim & Krebs, 2020), or the proliferation of various forms of alternative and conspiratorial knowledge in the public domain (Enders, et al. 2020; Harambam, 2020b): vast amounts of conflicting and converging information set the scene of a pandemic tragedy.

The dubious quality and limited controllability of these information flows, became problematic for governments and public health organizations alike. The WHO issued in February 2020 warnings of a looming "infodemic" of fraudulent information that would aggravate an already challenging public health crisis (Zarocostas, 2020). Most social media platforms cooperated in a unique effort to "flatten the information curve" by removing information not aligning with WHO guidelines (Niemiec, 2020). Especially in these early days, it was considered of prime importance to effectively deal with the pandemic by controlling the corona information narrative (Garrett, 2020; Romer & Jamieson, 2020; Weible, 2020). And so we saw emerge a discourse in which the contents and framings of the pandemic in media, politics and science was remarkably uniform (Caduff, 2020; Van Dijck & Alinejad, 2020).

While most people clung to these established (epistemic) authorities and their information narrative in "rally-around-the-flag" dynamics (Devine, et al. 2021), *other* people would grow a distrust towards these institutions and their knowledge, and found their way to alternative media channels to find out what was *really* going on. These platforms are generally framed as disinformation channels, and their publics as conspiracy theorists (Enders, et al., 2020; Harambam, 2021b). But these conspiratorial ideas circulated heavily on mainstream social media platforms such as Facebook, YouTube and Twitter, forcing them to curb their spread (Niemiec, 2020). But why did these corona conspiracy theories gain so much traction? What is their appeal and what explains their popularity?

Since academic research on conspiracy theories is blossoming in the last decade (Butter & Knight, 2020; Uscinski, 2018), various academics quickly offered explanations. Following the powerful Infodemic metaphor which conceptualizes people as passive subjects being "infected" by pathogenic information (Simon & Camargo, 2021), scholars often point to our contemporary social media eco-systems in which rumors and allegations easily spread around the globe (Ball & Maxmen, 2020; Cinelli, et al. 2020). But since it is unclear whether and how social media effects alone can explain the surge of conspiracy theories (Lim, 2022; Stein, et al. 2021), other academics highlight the nature of crisis situations, such as pandemics, in which uncertainty and anxiety are rampant, and people look for simplified explanations to understand and deal with these difficult circumstances (Douglas, 2021; Uscinski, et al., 2020; Roozenbeek, et al. 2020). In this line of reasoning, conspiracy theories satisfy various psychological needs and function as a coping mechanism in troubled times (Douglas, et al. 2019).

Such analyses of why conspiracy theories flourished during the pandemic do provide convincing general explanations, but they neglect the specific contents and contexts of the conspiratorial ideas that gained traction (cf. Dentith, 2018; Hagen, 2022), and all-to-easily brush over the reasons and motivations people themselves give (Drazkiewicz, 2022; Harambam, 2020a). In this paper, I therefore study (the emergence of) popular distrusts towards mainstream public institutions and their corona narrative from a cultural sociological perspective in which the meaning-making of people stands central. This means that I take an agnostic stance towards the epistemic and moral qualities of both the official narrative and its conspiratorial counterparts, since my goal is to better understand people's own sense-making of the pandemic in the current socio-political landscape. To do so, I draw on my ongoing ethnographic fieldwork in the off- and online worlds of people labeled as conspiracy theorists in the Netherlands (Harambam, 2020a), which includes the (social) media they consume, share and produce. With this paper, I align with and contribute to the contextual and human-centered studies of popular distrusts towards mainstream institutions and the popularity of heterodox information in heavily mediatized worlds (Boullier, et al., 2021; Crabu, et al., 2022; Drazkiewicz, 2022; Morsello & Giardulo, 2023; Noppari et al., 2020; Rakopoulos, 2022; Rauch, 2020; Valaskivi & Robertson, 2022; Wagner & Boczkowski, 2019). These sociological dynamics extend well beyond the corona crisis and apply to many contemporary controversial societal issues, think of climate change, migration, or the 2022 Russia-Ukraine war.

2 THEORETICAL BACKGROUND

2.1 Building Consensus as Mitigation Strategy

Just like any other major (public health) crisis (Bjorkdahl & Carlsen, 2019), the beginning of the corona pandemic was fraught with fear, panic, uncertainty and little understanding of what was going on. But while much was unknown, scientists from all over the world started working (together) to better understand and gain grip on the pandemic (Kinsella et al., 2020; Moradian, et al., 2020). There was no time to lose, and science became the beacon in the dark. This counted especially for governments all across the world who had to design and implement their emergency response and mitigation strategies. In most countries, states leaned heavily on their scientific advisory organs, public health institutes and the WHO more generally (Bal, et al. 2020).

While the science was far from settled, a remarkable global concurrence of governmental strategies emerged (Joffe, 2021). In contrast to common pandemic protocols (Bjorkdahl & Carlsen, 2019), most governments across the world followed China's regional approach, and implemented severe national lockdown measures, halting virtually all aspects of everyday life, to 'flatten the curve' (Caduff, 2020; Ren, 2020). Political leaders across the world "declared war" on the virus, and legitimized their unprecedented states-of-exception exactly by invoking this war metaphor (Chapman & Miller, 2021; De Waal, 2021). The widespread goal was to minimize the number of infections, hospitalizations and deaths, and to keep health care systems functioning.

To make that happen, controlling the corona information narrative was considered imperative (Garrett, 2020). To have citizens comply with those stringent prevention and mitigation measures, the institutionalized conviction was that a strong consensus needed to be communicated (Romer & Jamieson, 2020; WHO, 2008). Following mainstays in crisis and emergency risk communications (Reynolds & Seeger, 2007), matters needed to be simple and clear. And so we saw coordinated actions from communications departments at local, national and global (non)governmental (public health) organizations who enacted their mass-communication protocols or improvised with novel communication strategies to inform their publics about what was going on, and what needed to be done (Finset, et al., 2020; Nielsen et al., 2020; Tagliacozzo et al, 2021; Weible, 2020).

Most legacy media organizations contributed to this newly emerging consensus narrative by producing vast amounts of news items during those first months of the pandemic along those policy lines (Caduff, 2020; Crabu, et al., 2021). The (news) media relied heavily on "science" and the official information coming from governments and public health authorities, and propagated as such much of the official discourse (Van Dijck & Alinejad, 2020). Similarly faced with uncertainty and fear, journalists reported about the pandemic in line with the war rhetoric of politic leaders: we read stories about "front-line" heroes, we saw images

of destruction and misery, and we got confronted with a continuous flow of charts and visualizations of the numbers of infections and casualties. The initial news media reporting was indeed often hyperbolic, alarmist and decontextualized (Caduff, 2020; Chapman & Miller, 2021; Schippers, 2020).

This remarkable alignment of media, science, and politics during those early months of the pandemic shows that the conventional "institutional model" of pandemic response science communication was operative in full swing (Van Dijck & Alinejad, 2020): scientific expertise was informing public policy and got neatly communicated by legacy news media to the public (Bjorkdahl & Carlsen, 2019). Following this ideal-typical model, each institution (science, politics, media) has its own expertise (facts, policy, news), but build on each other along linear flows of communication, that are guarded by professionals who act as gatekeepers, and work towards "constructing common knowledge, common ground, and common sense" (Van Dijck & Alinejad, 2020: 2). And it was doing its job: most countries saw higher levels of trust in these public institutions following "rally-around-the-flag" dynamics (Devine, et al. 2021; Bromme et al., 2022).

2.2 Simmering Distrust in a Networked World

But this narrative tells only half of the story. Today's information and communication landscape is rather different from those on which traditional science communication models rest. With the arrival of the internet and social media platforms in particular, expertise democratizes, gatekeepers change, and information flows go in many different ways (Van Dijck & Alinejad, 2020). This was rather clear in the corona pandemic when people resorted to social media and alternative media channels to find competing information about the pandemic, where various (non-scientific) actors in society were able to step up as experts, while filtering platform algorithms acted as novel gatekeepers (Enders, et al., 2020; Harambam, 2020b; Stein, et al., 2021). Van Dijck and Alinejad therefore rightfully suggest the emergence of a "networked model of science communication [which] incorporates social media as a centrifugal force" and operates along the dynamics and politics of platform economies (Van Dijck and Alinejad, 2020: 3).

Some scholars argue that these new information dynamics lead to the erosion of trust in all public institutions and their knowledge/practice, and stimulate the thriving of disinformation, propaganda, and outright manipulation (Benkler et al., 2018; Bennett & Livingston, 2018; Dahlgren 2018). Such analyses are in line with the widespread concerns embodied in the "infodemic" metaphor (Simon & Camargo, 2021): the public is now confronted with an overload of information from various (malicious) sources and of various epistemic qualities, making it difficult for people to know who and what to trust, with perilous consequences for themselves, their communities, and democracy as a whole (Cinelli et al., 2020; Zarocostas, 2020). Central to these concerns is the spread of disinformation and the popularity of various conspiracy theories about the nature of the pandemic (Ball

& Maxmen, 2020; Harambam, 2020b). Answers to fighting such "infodemics" are found in removing various forms of "untruths" from the online public sphere by fact-checking and platform content moderation (Niemiec, 2020), which form the bedrock of (inter)national policies on disinformation (Baker, et al., 2020; Deresiewicz & Harambam, 2021).

While the contemporary information landscape obviously *is* a battleground for various forms of political warfare in which disinformation and conspiracy theories are wittingly deployed to sow polarization and destabilize democracies (Benkler et al., 2018; Bennett & Livingston, 2018), it also facilitates novel forms of communication, diverse forms of societal critiques and changing trust relations. I concur here with Van Dijck and Alinejad that "the idea of social media as unique levers of institutional distrust tends to obscure the underlying complexity" (2020: 3). Indeed, it would be too technologically deterministic to contend that today's media ecosystem is the (sole) driver of (pandemic) disinformation and institutional distrust (Tosoni, 2021). As MacDonald & Wiens show in this issue (2023: XX), social media influencers and platforms also facilitate public trust in societal institutions, and many (governmental) institutions deploy social media for their strategic communications aimed at garnering public trust (Eriksson, 2018).

But most importantly for this paper is that people are no passive and healthy bodies to be infected by the disinformation virus, as the infodemic metaphor would have it (Simon & Camargo, 2021). Nor are they mere gullible citizens, all too easily manipulable by propaganda, roque actors and opaque algorithms (Benkler et al., 2018; Bennett & Livingston, 2018; Cinelli et al., 2020; Roozenbeek et al., 2020). Yes, people are bounded and constrained by their psychological dispositions and needs (Douglas et al, 2021), and by powerful media corporations, platform dynamics and the strategic manipulations of various demagogues (Chadwick, 2017; Marwick & Lewis, 2017), but they are *also* active and conscientious beings, who consume, share and produce information along their own cultural worldviews and political convictions (Bory, et al., 2022; Noppari et al., 2020), and who react to the information and behavior of other people and institutions (Rauch, 2020; Wagner & Boczkowski, 2019). While these discussions of an active audience (or not) go decades back (cf. Morley, 1993; Seaman, 1992), in today's dynamic media landscape in can hardly be ignored that people play a central role in interpreting, assembling, and reconfiguring information coming from both elite *and* adversarial news producers (Pyrhönen & Bauvois, 2020; Starbird & Wilson, 2019)

The sociological question therefore becomes, how do people navigate today's complex and technologically saturated media-ecosystem? Where do they get their news from, how do they interpret (expert) media contents, and what is credible and trustworthy information for them? Especially in research on disinformation and conspiracy theories, such qualitative research highlighting first-person perspectives is rare (Drazkiewicz, 2022; Morsello & Giardulo, 2023; Tumber & Waisbord, 2021; Rakopoulos, 2022). Most studies are based on survey and big data research (Cinelli, et al., 2020; ; Romer & Jamieson, 2020, Uscinski, et al. 2020),

quantitatively explore the cognitive factors that make individuals more prone to disinformation (Douglas, 2022; Roozenbeek et al., 2022), or focuses on the socio-technical affordances of social media platforms (Birchall & Knight, 2023; Marwick & Lewis, 2017), which leaves in the dark how people actually interpret the information they encounter and how they make sense of the world they are living in. We therefore need to supplement existing (corona) disinformation studies, with more empirically-near in-depth qualitative studies that can probe and understand people's motivations and meaning-making better, *and* situate those in their historical-sociological contexts (Sobo & Drazkiewicz, 2021).

Moreover, most disinformation studies uncritically assume and reproduce clear-cut distinctions between false and true knowledge, between rightful skepticism and paranoid allegations. Probably out of pragmatic reasons, scholars unproblematically label certain ideas and people as conspiracy theory/ist following societally prevalent categorizations, and build their research on these distinctions. However, in the highly volatile corona crisis, knowing what is true and false, what is disinformation and what is scientific critique, is complex, continuously changing, and subject to various forms of knowledge politics (Harambam, 2020b; Green, 2022; Larson, 2020; Shir-Raz et al., 2022; Thacker, 2021). It makes therefore good sense to take a step back, stay open to various epistemic possibilities, and be more reflexive about the implicit truth claims scholars are themselves making.

In my research, I therefore take an epistemologically and morally agnostic stance towards both the official narrative and the various other truth claims that are made. Doing so, I intend to take my interlocuters seriously, and not let my own *or* hegemonic ideas of what is right or truthful slip into my research design. This does not mean that I ignore the politics of knowledge involved, or wish to legitimize conspiracy theories. One could do great symmetrical analyses of the various (corona) truth wars out there (Harambam, 2020b) following mainstays in controversy studies (Jasanoff, 2019). However, here I choose to remain methodologically agnostic because I contend that this is the best strategy when aiming at understanding (the emergence of) popular distrusts towards mainstream public institutions and the dominant corona narrative.

To answer this research question, I draw on my ongoing ethnographic fieldwork in the off- and online worlds of people labeled as conspiracy theorists in the Netherlands, and on my qualitative media analyses of the mainstream and alternative Dutch news coverage about corona and corona conspiracy theories (Feb – June 2020). With this study, I aim to get at more specific *and* more contextualized understandings of the contemporary popularity of conspiracy theories and of the broader cultures of distrust towards mainstream epistemic authorities that surface across the globe.

3 METHODOLOGY

In this paper I draw on my ongoing ethnographic fieldwork in the off- and online worlds of people labeled as conspiracy theorists in the Netherlands, which includes the media they consume, share and produce. While being aware of the politics of labelling people as conspiracy theorists (Harambam & Aupers, 2017), for the sake of clarity I will continue to refer to these people as such. This research originated from my doctoral ethnographic research (Harambam, 2020), which ended in 2017, but I continued to maintain relations with many people in this cultural milieu and continued to follow their media as well. During the corona pandemic these interactions revived, albeit mostly online, as these people became more active, produced more content, and started to attract many more people who were previously not involved with any form of conspiracy theorizing. These new people were of particular interest to me as they embodied a unique opportunity to witness and study the emergence of distrust and conspiracy theories as it happened. While it is a complex endeavor to precisely delineate the contours of these subcultural worlds, what I call the Dutch conspiracy milieu, I have made of use of both in- and outsiders' perspectives to include and exclude actors and activities (cf. Harambam, 2020a). This means that I used both *emic* and *etic* perspectives on what are seen and labelled as conspiracy theory.

My multi-sited ethnographic research entailed different research methodologies and produced various forms of empirical material (Falzon, 2016). First, as I was connected to the (social) media channels of various conspiracy theorists (28), I draw on their news articles (136) and posts (394) which detail their information, opinions and perspectives about the unfolding pandemic. These include the social media accounts of influential Dutch conspiracy theorists, popular conspiracy theory news websites and media platforms (Harambam, 2022). I was not an active member on these channels, I merely consumed their contents for research purposes. However, I have been interviewed about my research by mainstream media outlets, to which people responded. The mainstream media news articles were collected via my own consumption pattern, and supplemented with articles that my interlocutors shared or commented on (194). Second, as I had various off- and online interactions with people active in the conspiracy milieu during this period, I draw on these informal conversations written down as research notes, as well as the 22 semi-structured (predominantly online) interviews that I did with some established conspiracy theorists (8), and mostly with people formerly not active in the conspiracy world (14). These people were recruited via explicit soliciting on my Twitter/Facebook accounts, through snow-balling methods, and following people's social media posts. Interviews lasted about 1-3 hours and went into detail about their perspectives on the unfolding pandemic, and of the workings of mainstream institutions of science, media and politics. All of the (produced) empirical material is recorded, transcribed, and stored in digital records which were

analyzed with qualitative data analysis software Atlas.ti to guarantee a more structured analysis.

Loosely following the Grounded Theory Method, I inductively analyzed these variegated empirical materials to find recurrent themes and topics (Charmaz, 2006). I started with a descriptive open coding of all text in meaningful fragments (e.g., mass-hysteria; fake-pictures; restrictive measures, lockdown). In a second interpretative round I subsumed and categorized those 63 codes into eight different abstracted topics (e.g., fueling panic with uncontextualized numbers and figures; critiquing techno-medical solutionism, censorship of heterodox scientific perspectives). The third round of analysis merged those eight topics into three main ideal-typical narratives (or reasons why) these interlocutors started to distrust the dominant corona narrative. These three critiques structure the following presentation of my empirical material.

4 RESULTS: SUSPECTING COLLUSION BETWEEN MEDIA, POLITICS, AND SCIENCE.

Based on this inductive analysis, I present three dominant reasons why a certain part of the Dutch population started to distrust the emerging corona narrative. Each of these reasons problematize a perceived orthodoxy that I ideal-typically attribute to the three main public institutions: media, politics, and science. Interlocutors emphasize a problematic uniformity in the way the media reported about the pandemic, in the way politics dealt with the crisis, and in the way science operated. While these orthodoxies have their gravity point in each corresponding institution, they often overlap and relate to the other institutions as well. This should not surprise anyone, as the operations of media, politics and science were closely aligned during the pandemic, but for the purposes of clarity they have been ideal-typically distinguished from each other.

4.1 Media: Creating A Uniform Narrative of Fear

A first prominent role in the growing distrust of the official corona narrative is played by what conspiracy theorists call the Mainstream Media (MSM). For many in the conspiracy world, legacy media corporations are distrusted for siding too much with the powerful. Spurred by an increasing consolidation of media ownership into a handful large corporations, conspiracy theorists argue that the media are no longer the critical watchdogs of those in power, but have become part of the power elite themselves (Harambam, 2020: 70-72; cf. Noppari et al., 2020; Rauch, 2020). More specifically, throughout the pandemic interlocutors emphasized that the news media seemed more like spokespersons of the government instead of critically assessing those in power:

> "I believe that a journalist should be the watchdog of society. Politicians should be nervous before a press conference and not have friendships with parliamentary journalists. What I saw was the opposite. I was greatly disturbed by the many press conferences where Mark and Hugo[1] announced measures each time." (A, Female, 33)

The perceived close alignment of the news media with those in power spurred the assumption that their reporting cannot be trusted, as that would merely serve the interests and ideologies of the powerful.

However, a more specific (and critical) appreciation of the "mainstream media" surfaced which embodied and spurred the growing distrust in this epistemic institution and towards the official corona narrative. This is the allegation that the institutionalized corporate *and* public service media were orchestrating a uniform alarmist narrative of fear and anxiety, allegedly to manipulate citizens into compliance with the mitigation measures. According to the various interlocuters I encountered during those first months of the pandemic, the media did not just report on what was going on, but they presented an inflated and unrealistic doomsday scenario of a killer virus destroying all life.

> "if anything should be forbidden, it is the mass-hysteria creating reporting of the media. It is a form of negative mass hypnosis. Mindcontrol. If only they focused on protection and wise behaviors, instead of this useless fearmongering. And it works. The people are 100% manipulated by the media, and they believe anything now" (Nine for News, March 15, 2020)

> "it was clear from day one, that it was all about creating a panic reaction. Every hour another news item with nothing new, just more misery and shocking images of overflowing hospital wards to keep people in fear" (J, Male 55; interview)

> "Our fear of death and of the unknown is manipulated so that we accept mass house arrest? And the collapse of our economy? And we even demand it? Let's wake up, people. Something else is going on here." (GvH, Twitter, Mar 19, 2020)

These comments come both from more established conspiracy theorists (no1 and 3) and people who just turned suspicious during the corona pandemic. Among the latter, F (Male, 46) who always had a high regard for the public broadcasters, started to distrust what was going on because of how:

> "a culture of fear was created, it was only war rhetoric, about fighting battles, about beating the enemy (virus). With good intentions probably, they had to inform, but they were no longer critical at all. I saw a hysteria developing, everything was taken out of context, I didn't see any relativizing items that put things in perspective again. No comparisons with the flu wave 2018, that the virus is only dangerous for a small group of people. Everything was completely blown-up. So why are there no balanced pictures? Why only those fear-mongering items? How dare you! You scare us! Why can't they reassure us too? I found the

[1] Mark refers to the Dutch Prime-Minister Mark Rutte, and Hugo to Hugo de Jonge, Minister of Public Health

> media completely unsatisfactory, they didn't ask the right questions at all. I became increasingly furious with the media."

Such people spoke of the dominance in the media coverage of alarmist stories of people losing family members to corona and the pain they were going through, of visual images of coffins lined up in the North of Italy, and of overflowing hospital wards in the Netherlands. Others argued that Dutch television hosted the same alarmist experts all the time. Of particular notoriety is top virologist Ab Osterhaus who was one the most frequent guests in Dutch daily talk shows[2], while his position was not uncontested due to prior "media panicking" and (financial) conflicts of interests during the Swine Flu epidemic in 2009[3]. For many of my interlocutors it is a complete mystery "why the Dutch media feature this swindler as a credible expert again. All he does is fuel fear and anxiety, just to sell his vaccines" (Robert Jensen, The Jensen Show, March 27, 2020). The mainstream news media practiced no "objective" reporting, but created a mass panic, or so they argue.

These doomsday images were increasingly met with suspicion as similar photos appeared in articles about different locations and from different times, pointing to the potential staging of such scenes with "crisis actors" (cf. Starbird, 2017). On social media, people shared compilations of such articles with similar images, saying "Folks, we're being scammed, big time. Better start smelling the coffee, fast.[4]" In response, this science journalist of quality newspaper *De Volkskrant* debunks such conspiratorial claims on his Twitter account by showing how and why the media often use (similar) stock images with their articles, some of them even staged "to produce a 'neutral' image", he says. "That's how crazy ideas come into the world. Before you know it, such a photo is going around as 'proof' that corona is a conspiracy"[5]. Other people respond in this dramatically unfolding thread by saying that "this is precisely the problem of stock images used in news media. They give a distorted image. So don't us them. People think they are real." Making matters even more complicated, some of these viral social media posts with similar photos on different articles turn out to be photoshopped themselves[6], highlighting the enormous difficulty of finding out what is actually real in our highly mediatized worlds (Harambam, 2020a: 142-146).

Another often discussed topic is the uncritical and ubiquitous presentation of numbers (of infections, hospitalizations, and deaths) without any context, adding to the fear induced by this media narrative. People share on Twitter whole compilations of these "panic graphs" used in media and add context themselves: the

[2] https://www.villamedia.nl/artikel/steeds-dezelfde-journalisten-aan-tafel-bij-op1-blijkt-uit-onderzoek
[3] https://www.geenstijl.nl/5152485/haal-virusverdiener-ab-osterhaus-van-onze-buis/
[4] https://twitter.com/EwonSprokler/status/1322861631152545792 or https://twitter.com/zorryh1968/status/1336893487002869760
[5] https://twitter.com/mkeulemans/status/1322300958215409664
[6] https://www.knack.be/nieuws/factcheck/factcheck-nee-deze-foto-toont-geen-doodskisten-in-bergamo-tijdens-de-coronacrisis/article-longread-1604259.html?cookie_check=1648645067

number of infections relative to the tests done[7], the number of deaths that occur every day or the distribution of people affected by the corona measures instead[8]. Other people share news articles with a sensationalist bent, such as one titled "Reinfected person dies" without mentioning that "she was deep in her eighties and suffering from cancer, but yeah, she died from corona. Uhu"[9]. Such uncritical and sensationalist reporting convinced people that the media was full on creating "corona porn" or "fear porn"[10]. Every hour and every day, new articles about the dire situation filled the headlines of news outlets, making these people wonder to what end, what good does that actually do? This owner of a newly established Facebook group "Corona virus: don't be afraid. Awakened since March '20" explains:

> "as usual, the media present sensational stories causing panic and mass hysteria, sowing division among the population. We desperately need nuanced reporting. The current corona coverage is very one-sided and only creates a climate of fear, hysteria and obsession"[11]

For many people that I spoke to, it was quite clear what this media-induced fear was meant to achieve: mass-compliance with the historically unique and severely restricting mitigation measures.

> "We have been frightened every day. And because of that fear, we now accept rules that go against common sense and our civil rights. Take the mask obligations, and the curfew: fundamental rights restrictions to influence our behavior in line with what the government wants. I think it's quite something that our fundamental rights are being abused in this way." (I, Female 37)

> "That's not how you treat your people, you should reassure them instead of scaring them. And then came the corona law. Well, that first bill was just real fascism. A kind of police state dictatorship. And most just accepted it, because if people are afraid, then you can control them perfectly" (G, Female, 44)

Some see this fear strategy as part of a greater plan that was meticulously designed:

> "Yes, I think this is not a pandemic, but a planned epidemic. You will probably know about Event 201, last October. They have described in detail how to deal with a pandemic, and now it happens *exactly* as they discussed back then. They also said: we have to flood the media with coverage, we have to brainwash people. Because that's what it comes down to. If you tell the story often enough, it will be seen as normal. That's how it went. The ultimate intention, of course, was to vaccinate everyone. All they're talking about now is vaccinating everyone. It's just very coincidental that everything goes exactly like this." (J, Male, 55)

Others, especially those more experienced conspiracy theorists, saw parallels with previous traumatic events in which mass fears fostered a widespread public acceptance of new rules and restrictions on civil liberties.

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[7] https://twitter.com/guido_vogel/status/1320999806567927808
[8] https://twitter.com/Yorienvdh/status/1321142413516283904
[9] https://twitter.com/sil_ver_sur_fer/status/1315978132986433536
[10] https://twitter.com/georgevanhouts/status/1338774352356126724
[11] https://www.facebook.com/CoronavirusWeesMaarNietBang

> "So from the moment that the corona crisis broke out, I was like, this is basically a second 9/11. I don't know if you drew that comparison but everything came together. There were a number of topics on the agenda that they did not get through, like mandatory vaccinations, the removal of fundamental rights, more surveillance, keeping track of more people, and more centralized governance. And they are all happening now under the guise of fighting corona. So I saw what Naomi Klein described, that Shock Doctrine, there's a shock and now bam, everybody's saying it's okay, they even demand it! And that was the same with 9/11, and the PATRIOT Act. I don't know if it's planned, but like Naomi Klein says, it could be a natural or a planned crisis, but the crisis itself is used to implement certain agendas that were already on the table. (E, Female, 41)

Interestingly, critical investigative journalists, like the much-appraised Naomi Klein, now had to differentiate themselves from conspiracy theorists as they saw their own analyses being "hijacked" (Klein, 2020). This need to differentiate critical analyses of power by institutionalized scholars from conspiracy theories is common in other domains as well (Harambam, 2020a: 196-201). The point is that many of my interlocutors were dismayed by the (perceived) uncritical and sensationalist reporting of most mainstream media outlets.

And so they started to look elsewhere for other information, for different perspectives and for more nuance and context. This was not difficult: the internet provided many alternative and competing takes on what was going on, new independent media organizations emerged (Harambam, 2022), and all kinds of movie clips circulated on social media. From various critical scientific experts arguing similarly that there was a dangerous media panic going on to outright conspiracy theories such as portrayed in the highly popular movie Plandemic (see Kattumana, this volume, XX). F (Male, 46) explains how:

> "in the absence of good information, I started digging myself. Looking for answers I couldn't find in the mainstream. I threw myself madly at all the information the internet has to offer, especially on YouTube I found a lot, from conspiracy theorists like David Icke to scientists like Wolfgang Wodarg, a German virologist, or Brian Rose, the ex-Wall Street banker who now covers an audience of millions with his shows. I was on it day and night. Watching videos all night long, I woke up and immediately went back to watch. I sat for hours listening to all kinds of doctors and virologists. Like college lectures. Normally boring, but I absorbed with verve. They all flawlessly explained that it was one big hoax."

The first few months of the pandemic were heavily covered in the Dutch media. For many of my interlocuters this media coverage was less of a journalist effort to understand what was going on, and more of a fear campaign to manipulate the masses into obedience. How to understand this uniformity of media reporting, which was recognized by media scholars as well (Ruigrok, 2021; Van Dijck & Alinejad, 2020)? Other observers may point to the internal dynamics of journalists being struck by the severity of the pandemic as well, or they may point to the blunt media logic that sensation simply sells more. But based on this widely felt fear

campaign, my interlocuters search and find deeper meanings of conspiracy and deceit behind the uniformity of the media coverage.

4.2 Politics: Only One Way Out of the Pandemic?

A second prominent role in the growing distrust towards the official narrative is directed at the government, or politics generally, for advancing only one way out of the pandemic. Throughout most of the world, governments took drastic and surprisingly uniform actions to mitigate the spread of the virus. Interlocutors emphasized this historically unique concurrence of policies across the world as cause of their suspicion:

> "I find it remarkable how all governments responded exactly in the same way and at the same time. Because let's be honest, they now want to create a recovery fund for Europe and that is one huge quarrel. But when they decided on day one that all shops and schools had to close, that was immediately happening all over Europe. And I find that very intriguing about corona. What kind of information did all those governments have that they all reacted the same? Did they know whether or not it comes from a Chinese or an American laboratory. There must have been some kind of information that brought them to the point where they all flipped at the same time. So I went to investigate that. Yes, not to be fooled, because why did all those governments that never agree with each other became this united?" (N, Male 35)

How did this uniformity of governmental policies actually come about? How did this align with people's experiences of governments having incredible difficulties aligning their policies on other important crises? In most countries the mitigation measures entailed restricting many dimensions of our everyday ways of living, which quickly became object of much protest in the counter-corona movements (and beyond). But while the expansion of governmental powers and the encroachment on many (constitutional) civil rights under the rubric of epidemy prevention is a major concern for many (also beyond the conspiracy milieux), one specific characteristic of the way governments responded to the pandemic appeared a major reason to distrust the benign motives of the government.

This entailed the fact that governments quickly put forward one way out of the crisis, and one way only, although the pandemic was still rife with uncertainty. While Prime-Minister Rutte emphasized this radical uncertainty in his famous speech to the country on March 12, 2020 by saying how they "have to take 100% of the decisions on the basis of only 50% of the knowledge", rather soon official press conferences detailed clear plans out of the crisis with little room for uncertainty or multiple scenarios to follow. The argument was that lockdowns were necessary until vaccinations (or natural herd immunity[12]) will set us free. And that was met with much suspicion by my interlocutors:

[12] This statement needed to be withdrawn and downplayed quickly as public outrage over the fact that the government would purposefully aim at getting a majority of the population infected, and hence would "leave tens of thousands to die".

> "During those first weeks, a new corona narrative emerged as well, there was more and more talk about 'the new normal'. Excuse me, what? Is the "one and a half meter society" the future where we would remain in hostage forever? Our leaders did not reassure us. No one asked for the end. I found that disturbing. But soon the way out was announced: the vaccine! Then I got even more suspicious. I started delving into this matter and saw a history full of scams. And not just conspiracy theorist videos. Documentaries from our public broadcasters and Koefnoen [satirical show] episodes" (F, male, 46)

This quote highlights an interesting paradox of how political leaders emphasized with great certainty how the world will never be the same again but without specifying how and why, actually adding anxiety to an uncertain future, while at the same time positing with great certainty that vaccines would be the end of the pandemic. Yet this way out, proved not to be reassuring for many of my interlocutors, but instead fostered suspicion:

> "A Prime Minister should take care of his people. Like a father to his children. So when a serious public health issue arises, he should be reassuring, give hope and empower them. Tell us to take good care of ourselves, and work on our immune system, so that we don't get sick. But nothing of that. Instead, we got a fear bomb on us. With a really weird tone and use of words, about frontlines and fighting the virus. It was war language. And there was simply nothing in Hugo de Jonge [Minister of Public Health] that reassured us. It was just fear. He just gave me shivers. I immediately got bad vibes from him. And then he also said there is only one solution: the vaccine. It was immediately clear to me that this is not right. Not on any level. This was a total eye opener. Corona comes, and he knows immediately, while hardly anything is known about the virus, that we are only safe with a vaccine. Then I thought: this isn't right, it just isn't right. How can he know that for sure? How can there be only *one* solution? Are there no drugs that might work? Maybe the virus might go away itself? Or maybe we can fight it with our immune system? Any sane person would take different paths to find a solution. First you need to know what you are dealing with. And he didn't even know that yet. And he said: we are not safe until there is a vaccine. Well, for me these were all triggers, triggers that things are just not right. (G, Female, 44)

While their emphasis on reassuring instead of frightening people is an angle to pursue further elsewhere, what these interlocuters, and many others, point at is the extreme certainty and international congruence with which political leaders pointed to vaccines as the only way out of the pandemic, while there was still much unknown, and other strategies were not pursued.

Of particular notoriety became the widely shared video by Dutch pulmonologist David Prins (35), who voiced concerns that resonated with many of my interlocutors, who shared it with me and in their social networks. In this self-recorded video, he says how he:

> "was quite shocked by the message from our government and health minister Hugo de Jonge who said that our society is no longer going back to normal until we have a vaccine. Then I got a gut feeling, that this is not right. And not because I'm against a vaccine or because I do not believe they could not work, but […] is

> there already sufficient scientific proof that we can only go back to normal when we have a vaccine? Is that really the only solution in the future? Why do I not hear much more about what might otherwise be possible? Why I do not hear our government tell us how important lifestyle is, to eat well, exercise and all that is good for your immune system. Do we already know enough about the course of the virus to say that the vaccine is the only solution? Do we know its natural course? Do we know how it is going to mutate itself away? Do we already know what group immunity will do? Do we already know whether it is even possible that we are going to create a working vaccination? If all these questions are still open and they are open now, how can they say that our society will not go back to normal until there is a vaccine. I find that incomprehensible and I am justifiably shocked because I am afraid that there may be other interests behind it and that would not be the first time when it comes to the pharmaceutical industry. Besides the obvious fact that they do a lot of good things, they have shown to do a lot of bad things too, revolving around money and power".

He continues by problematizing the central role of Bill Gates and his foundation in the global public health industry:

> "he's not only financing the WHO, but he also finances many media outlets and campaigns, many different vaccine factories, many universities who are involved in epidemic modelling. He controls the whole chain from advising governments to producing those same policies. And that should be matters to worry about. This man has no experience in medicine, virology nor epidemiology, that man is a tech entrepreneur, but he's everywhere on TV, and everywhere he's arguing for the same policy: the world can only reopen when there's a vaccine and the whole world is vaccinated. These are his words, not mine. And with a brilliant timing, he comes with a Netflix documentary on pandemics in the week of the outbreak, while a few months before he's doing a training exercise with universities in the US simulating a pandemic. Well, these are a lot of puzzle pieces that ring alarm bells with me".

Next to much support, his video sparked a great controversy in the Netherlands for its alleged unfounded allegations and conspiratorial components, leading him to take down and nuance his video in a disclaimer statement the next day. However, what matters here, again, is how he finds suspicious that those in power highlight only *one* way out of the pandemic, and with great certainty, while so much is still unknown or untried.

More precisely, he challenges the (profitable) techno-medical solutionism of such a strategy (cf. Morozov, 2013), one that Bill Gates is heavily invested in, while leaving aside the many different lifestyle and environmental aspects that could hamper the severity of the pandemic. This governmental neglect of stimulating healthy behavior is an argument often put forward by my interlocutors as reasons to distrust the official narrative:

> "Why does the government not stimulate us to do sports, eat healthy, and be mindful? Even stronger put, doing sports got prohibited. What is really going on here? How can it be that virtually all the countries in the world pursue the same policies? Something is not right here" (N, Female, 44)

> "That whole Corona story, it's just full of illogical things, like the measures that everyone had to stay inside. But the weather was beautiful and everyone knows that if you're sick and you're in pain: go out in the sun. The sun kills all viruses in no time. Corona is all about your own immune system, if that functions well, then you won't suffer from viruses. This story is dubious from all sides. (J, Male, 55)

Governmental communications were largely focused on the importance of "sticking to the rules" while waiting for the vaccines, instead of showing people how to improve their own health and immune system. Interlocutors wonder why

> "we did not hear public officials say 'go outside, catch sun, do sports, eat healthy, take extra vitamins, be nice, sleep well, try everything you can to protect yourself against the virus. Why were there no policies directly targeted at prevention through promoting better health?" (P, Male, 24).

These arguments are expressed by many in these circles, but got public notoriety when the Dutch top model Doutzen Kroes shared on her Instagram (7.4M followers) a post with similar concerns:

> "I have been trying to make sense of it all and I can't! Do they want us to be healthy? Why is boosting our immune systems with vitamins and food rich in nutrients not part as a measure against Covid? Do they want us to be united or divided? Is it easier to control a fearful driven society? Do they want the best for us? And with 'they' I'm talking about the media, the pharmaceutical industry, our governments and all the huge companies that have interests very different to ours it seems like and with ties in everything. I have always asked questions I was born into a family that has never just followed.... […] Ask your own questions, follow the money and connect the dots! Think logic, follow your heart and instincts. In the end it's a power we all have, it will unite us and we need to wake up in order for that to happen! Please keep asking questions ALWAYS! POWER TO THE PEOPLE 💫 #wakeup #askquestions"[13]

And while there is much to say about the conspiratorial trope of "just asking questions" (Byford, 2011: 88–93), the point here is that these people argue that the strict focus of our governments on restricting social life until the vaccine would arrive, while (allegedly) ignoring other strategies, such as stimulating responsible and healthy behavior, and boosting our immune system spurred distrust towards what was going on.

4.3 Science: Exclusion of Heterodox Experts

The third main reason why (these) people started to distrust the official corona narrative is related to the way science operated and got mediatized in the crisis. Science and its most relevant representatives at the public health institutes obviously played a crucial role in producing and delineating the knowledge we should take

[13] https://www.instagram.com/p/CC8yN4yhu1P/?utm_source=ig_embed&ig_rid=7ed9a6ec-0f68-4287-ad9f-29aef21b902e

seriously during the pandemic (Bal, et al. 2020). Most governments leaned heavily on the expertise, models and knowledge of their public health institutes, while the news media cited their knowledge and scientists as authoritative in public disputes over truth. But science and the public health institutes also faced intense criticism for its perceived uniformity and exclusion of heterodox scientific actors and ideas, which stimulated popular distrust towards prominent scientists and their knowledge about the pandemic.

A first and very common point interlocutors made relate to the committee of scholars advising governments, in this case the so-called Outbreak Management Team (OMT) for the Dutch government. The OMT has been operative since the corona outbreak early 2020, but quickly came under public scrutiny because of its narrow composition of predominantly virologist and epidemiologists, which for some people led to more fundamental distrust:

> "I missed a holistic view on the tackling of the pandemic. The OMT is only medical, but our society is more than a virus. Why is there so much obscurity around the Outbreak Management Team. Why don't we know who's in it and what they're doing? That's strange isn't it? What about the economy, the cultural sector and our social lives, they also ensure our health and well-being. But we didn't hear about that. How is this possible? I got a gut feeling from this that it stinks." (F, male, 46)

To guarantee a free and safe space for the scientists in the OMT to share their ideas and opinions, its exact composition was kept secret as well as their meetings minutes. While each of their official advices were made public, this secrecy bred suspicion. Similarly, the epidemiological models they use to predict the spread of the virus, and which form the basis of most corona mitigation policies, were not disclosed either, making it difficult for other scientists to check whether the assumptions and output of the models are correct, and do their own calculations. Along the pandemic their advisory role as scientists got blurred with politics as directors of the public health institute made public statements about what actions the government should take. This role diffusion let people to wonder about their independence: what is exactly their objective and whose interests do they serve?

But even beyond the perceived uniformity of the OMT and similar advisory organs abroad, much of mainstream (corona) science got distrusted is because they are said to exclude alternative (scientific) perspectives on the pandemic. My interlocutors argue how various kinds of medical and public health specialists, virologists and epidemiologists proclaiming alternative ideas on the virus have been marginalized, suppressed and stigmatized as science deniers, while they put forward substantive critiques on the way science identifies the nature and threat of the virus[14]. These scientific experts are no fringe scholars, but often occupy prestigious

[14] Think of Dutch immunologists Pierre Capel, vaccinologist Theo Schetters, neurologist Jan Bonte, German professor of virology Hendrik Streeck, Yale professor of Epidemiology Harvey Risch, University of Oxford professor of theoretical epidemiology Sunetra Gupta, Thai-German microbiologist Sucharit Bhakdi, German pulmonologist Wolfgang Wodarg, Canadian professor of

positions at esteemed universities with impressive track-records. Such critical or heterodox scholars have been subject to sincere criticism by others in the scientific community for spreading disinformation or dangerously speaking beyond their expertise (Angeli, et al., 2021; Kwok, et al., 2021), even to the extent of suppression and clear censorship (Shir-Raz, et al. 2022). Take this Twitter activist, Annelies (Female, 35), who became influential during the pandemic (44K followers), and tweeted in the summer of 2020 that…

> "At home and abroad, more and more doctors, scientists and other critics are speaking out against the #corona measures and about the seriousness of #COVID19. In the thread below I want to present all these critical voices (addition is welcome!)" (Twitter, July 28, 2020) [15]

Like many others online, she collected video's and articles of medical experts, epidemiologists, health practitioners, but also politicians, and opinion makers who critically reviewed what was going on, put the corona pandemic in context, questioned what is different now from bad flu seasons, argued that the measures taken may in the end result in far more casualties and other harms, that the costs to mitigate the spread of the virus stands in no relation to how societies normally consider the costs of treating diseases, and so on. The conspiracy theory website *NineForNews* similarly published an article summarizing the arguments of "12 experts who think differently about corona", including links to their research[16]. Other interlocutors spoke often about scientists trying to show the efficacy of various non-patentable medicines which allegedly would cure people from COVID-19 symptom, but obviously got suppressed by Big Pharma trying to cash-in on their vaccines. Think of "roque" scientists Didier Raoult (France) and Vladimir Zelenko (Ukraine-US) who both propagated Hydroxychloroquine (HCQ) in combination with azithromycin (antibiotics) and zinc, but also those scientists who advanced Ivermectine as a working solution. Interlocutors point to those scientists pointing to the inefficacy and many negative side effects of lockdown mitigations measures, such as those signing The Great Barrington Declaration, who have experienced severe suppression and stigmatization (Shir-Raz, et al. 2022). While scientific controversies or disputes are part of normal science, in the current hybrid media landscape (Chadwick, 2017), such discussions become messy as they are politicized, decontextualized and remediated by various counterpublics (Bradshaw, 2022; Shir-Raz, et al. 2022; Toivanen, et al., 2021). How people interpret such scientific discussions is an important empirical question. From the perspective of my interlocutors, however, these experts and their views

public health Joel Kettner, Stanford professor of medicine and data science John Ioannidis, Israeli professor Yoram Lasch, Professor of Clinical Research Design Peter Goetzsche, former Harvard professor of Medicine Martin Kulldorff, Stanford professor of medicine Jay Bhattacharya, and many more.

[15] https://twitter.com/annstrikje/status/1288186793762918400

[16] https://www.ninefornews.nl/deze-12-experts-laten-een-heel-ander-geluid-horen-over-corona/

were seen as not taken seriously, and excluded from scientific debates, while they had meaningful critiques and viable alternatives.

It may be easy to discard these claims as informed by political convictions or partisan propaganda (Bradshaw, 2022; Uscinski, 2020), but when talking to these people about why they believed such experts more than those prominent in mainstream media, they argue how they experienced such alternative or heterodox scientists as more authentic and sincere, in contrast to the "political" language of those experts working with public authorities. According to these people, these outsider experts would have no other motive than sharing their knowledge and perspectives on the crisis, while those working with public health authorities are seen as supporting governmental powers and policies, and thus cannot be seen as objective, truthful or trustworthy. As F (Male, 46) explains:

> "When I hear those people talk, and see the way they look out of their eyes, I can taste and recognize the surprise and curiosity to understand what is going on. Pure people. No interests. I see the same struggle I had, the sense of injustice and frustration, and the desire to let the truth come out. They are not concerned with their ego, position, or money at all."

In addition to (perceiving to) having no other motives but truth-finding and helping society, such heterodox scientists are thus also trusted because of their personal characteristics and emotional labor in widely shared mediatized performances. The affordances of social media enable scholars and citizens to develop affective relations through the use of audiovisual content (movie clips, interviews, etc.) in which they detail not only scientific content, but also their personal and political attachments to the issue at stake (Davies et al., 2019; Papacharissi, 2015). This is of course not just reserved for heterodox scientists. While what happens "inside" science is normally not that visible for the general public, during the pandemic much of what science does got mediatized. Mainstream media channels often portrayed corona scientists working on their research, TV shows invited such scholars to explain the science of the crisis, and prominent scientific experts became the new showbiz celebrities, a clear example of the emotional turn in journalism (Wahl-Jorgensen, 2020).

However, many of my interlocutors argued that there was no space for heterodox scientific experts in the mainstream media. As explained in section 4.1 interlocutors felt that too little attention was paid to the experts who went against the dominant narrative of mayhem, panic and fear, and pointed to the bigger picture: is the cure not worse than the disease? Even stronger put, they argued that these critics of the corona measures, or those who relativized the dangers of the virus, were purposefully excluded from mainstream media reporting, and framed as immoral and dangerous spreaders of disinformation. Annelies concludes the previously mentioned thread by saying that…

> "What all these doctors, scientists and other critics have in common is that they are systematically ignored, censored and/or ridiculed by the MSM and

> governments. #critical sounds #corona measures #COVID19" (Twitter, July 28, 2020)[17]

Again, this felt unfair treatment of those who "dare" to formulate alternatives is seen as a sign of corruption of the scientific establishment, breeding distrust towards the official narrative of science as the open competition of ideas.

But the exclusion of dissenting experts and alternative voices was just as strong on social media platforms, interlocutors argued. While many of these experts resorted to social media to share their ideas as the mainstream media did not feature them, they now got confronted with the content moderation of their posts and videos of these platforms. Spurred by moral alarms of a looming "Infodemic", the largest (US) social media platforms issued a joint statement on March 16, 2020 saying that they will seriously combat "fraud and misinformation about the virus" by removing all items that do not comply with WHO guidelines. And so all those alternative voices from scientists and other (medical) experts got banned and removed from the main social media platforms, causing much concern with the people I encountered:

> "I am shocked to see so much censorship. On so many different social media platforms critical messages have been removed in recent weeks. Videos of doctors or scientists having different ideas about how to tackle this pandemic. Removed because they are not in line with WHO guidelines, but although the WHO does good work, they are not independent." (D, Male, 35)

> "that really set off alarm bells for me. Renowned doctors declared insane and banned from YouTube!" (F, Male, 46)

> "I follow some people who show how Twitter manipulates their posts, how the number of likes or the retweets decreased out of a sudden. So I'm very aware of how that works. Social media are really fantastic to get a lot of information, but what happens now is insane. Like ZeroHedge, who I follow, tweeted an article about the possibility that the coronavirus may have been bioengineered in China. And then they were suddenly suspended. And not for a day or so. No, just permanently suspended. So that's really intense. That is the police state in action" (B, Male, 49)

Given these experiences, it can be questioned whether the extreme policing on (social) media of scientific matters in public debates during the corona crisis actually yielded the desired trust in science and the proposed mitigation measures. Pushing alternative perspectives out of the realm of reasonable debate fostered actually suspicion and bred distrust towards mainstream scientists.

5 CONCLUSION

During the corona crisis, various alternative and conspiratorial explanations of what was going on gained much traction. Such beliefs are generally explained as resulting

[17] https://twitter.com/annstrikje/status/1288189541694746624

from an information overload in a complex hybrid media system, making it difficult for people to know who and what to trust, and then easily fall prey to disinformation (Cinelli et al., 2020; Zarocostas, 2020). Similarly, conspiracy theories are said to offer compelling and simplified explanations that help people deal with the uncertainties and anxieties that the pandemic induces (Douglas, 2021; Uscinski, et al., 2020; Roozenbeek, et al. 2020). While such analyses do provide convincing general explanations, they neglect the reasons and motivations of people themselves, which is why I ethnographically studied (the emergence of) popular distrusts towards mainstream public institutions and their corona narrative from a cultural sociological perspective in which the meaning-making of people stands central.

Based on my findings, I show that these people problematize a perceived orthodoxy in media, politics and science, and that this uniformity of pandemic communications bred suspicion about possible conspiracies between or behind these public institutions. More specifically: mainstream news media's overwhelming (graphic) focus on the severity of the pandemic, governmental strategies to highlight lockdowns and vaccines as the only way out of the crisis, and the exclusion of heterodox scientific perspectives in public sphere were main drivers of distrust towards the official narrative. Both established conspiracy theorists and various new publics experienced the dominant crisis communications as unduly panicky and epistemologically restrictive, leading them to wonder what would be behind this all?

It makes good sense that public authorities focus, next to managing the public health issues at stake, on controlling the information flows so that panic is avoided, reliable knowledge prevails and people comply with the latest insights on how to best deal with this uncertain situation (e.g. Garrett, 2020; Weible, 2020). After all, these public authorities are faced with great complexity about what needs to be done to mitigate the pandemic, while they are confronted with resistance and distrust from various pockets of society. These sentiments are, moreover, easily stirred up by malicious actors in today's volatile (online) information landscape. Keeping a stronghold on the information dynamics seems therefore imperative. However, this mainstay in crisis communication of reducing complexity to foster clarity and trust (e.g., Reynolds & Seeger, 2007), paradoxically led to precisely its opposite as well: too much uniformity and consensus can easily get distrusted as well. It is, of course, possible to accept these distrusts of the corona consensus as the inevitable collateral damage of managing the pandemic successfully by keeping a tight hold on the information flows. Similarly, we could argue that conspiracy theories thrive anyway because people all-too-easily fall prey to their own cognitive biases, anxieties and malign disinformation agents (Douglas, et al., 2019), regardless of the way media, politics and science operate.

But given the specific contents of their critiques, which are also expressed by several critical scholars (e.g. Caduff, 2020; Dodsworth, 2021; Green, 2022; Joffe, 2021, Shir-Raz, et al., 2022) *and* by evaluative reports by established institutions

such as the Dutch Council of Public Health & Society (RVS, 2020) or the Dutch Safety Board (OVV, 2022), it may prove difficult to put aside the claims of my interlocutors as mere irrational conspiracy theories. Yes, there exists excessive distrust and outright paranoia in these conspiratorial circles, and some absolutely stretch their arguments into the absurd, but that does not mean that all of their arguments are ludicrous. In fact, this prevalent "*pars-pro-toto* generalization (Harambam, 2020: 16) might actually foster radicalization: by not attending to the contents of conspiracy theories (Dentith, 2018; Hagen, 2022), nor to the underlying issues and concerns of people (Drazkiewicz, 2022), we risk alienating these people, who may then get convinced by more extreme conspiracy theorists. *And* they may start to experience us, academics studying disinformation and truth wars, as part of that global elite conspiracy.

So if we take these people seriously, what are the implications of my findings? They firstly highlight the complexity of public health crisis communications in a globalized and interconnected world. For some people, the traditional crisis/risk/science communication model of reducing uncertainty and complexity by providing simplified cogent information worked well (Devine, et al. 2021; Van Dijck & Alinejad, 2020). But for others, this strategy was unsatisfactory at best, and spurring conspiratorial distrust at worst. As Senja Post and her colleagues show in their study on citizen's informational needs during the corona pandemic, people looking for "certainty and definite information" were pleased with prevalent communications, but those wishing "to make up their own minds were less content" (Post et al. 2021: 509). Indeed, different people need different forms of information and communication styles depending on their values, identities, and cultural worldviews (Harambam, et al., 2022). Prioritizing *one* communicative paradigm – e.g., based on consensus, clarity and certainty – may therefore be counterproductive (Roedema et al., 2022) and "backfire in the long run" (Post et al. 2021: 509).

Such findings support cultural models of cognition and communication (Douglas & Wildavsky, 1983; Haidt, 2012; Siegrist, Earle & Gutscher, 2010; Slovic; 1993; Kahan, 2010). This diverse group of scholars emphasizes how people interpret information along their cultural worldview and group loyalties: when communications do not align with people's shared values and collective meaning-making, they tend to disregard it more easily. Similarly, people tend to trust information sources and experts with whom they can identify or sympathize more (Fischer, 2019), and they tend to act more in accordance with (their) emergency responses if communications are sensitive to people's perceptions of the world (Heath, Lee & Ni. 2009). This means, again, that cultural proximity is a, and arguably *the*, key factor when people interpret and appreciate knowledge and institutions. Journalists, policy makers and governmental crisis communication experts would therefore to do well to develop multiple communication strategies that align with different cultural models, that prioritize different values, and which feature different experts (Kahan, 2010; Roedema, et al., 2022; Siegrist & Zing, 2013).

This call for cultural sensitivity in crisis/risk/science communication is even more relevant with the many complex and controversial problems our societies face (e.g., climate change, migration, inequality, digitalization). In these issues, various epistemic (what is true) and value-laden (what is good) conflicts collide, often leading to entrenching societal polarization and unresolved problems. But if we want to move forward, we need to find more productive ways to deal with these complex issues or others will offer far less favorable substitutes. While beyond the scope of this article, I would like to end with three interrelated pointers to better deal with such complex societal problems: embracing uncertainty, epistemic pluralism, and dialogue/inclusion.

In today's volatile and politicized information landscape, it may be tempting to hunker down in certainty as others weaponize doubt for geopolitical (Pomerantsev, 2020) or corporate interests (Oreskes & Conway, 2011). The perception that allowing for uncertainty will reduce public trust in facts and science may have intuitive appeal, but new studies actually show the opposite (Van der Bles et al 2020), just as this article has. In an insightful piece, science communication scholar Frank Kupper explains how we can embrace uncertainty in public conversations about complex issues (2020). While staying alert to manipulations of others, acknowledging uncertainty, explaining trade-offs, and highlighting underlying value conflicts will help to establish more trustful relations between science and society (cf. Angeli, et al. 2021).

The same counts for allowing for more epistemic pluralism. During the corona crisis it became obvious that one discipline or paradigm alone will run into its own limits, and that multiple perspectives are needed to better study the complex relations between viruses, bodies and societies (e.g., Bal et al., 2020; Caduff, 2020; Moradian et al, 2020; OVV, 2022). Some scholars push this argument even further by making a case for epistemic pluralism: in order to avoid myopic problem definitions and solutions, we need to explore and compare different perspectives and approaches (Lohse & Bschir, 2020). In this paper, I have shown that these are not merely epistemic concerns, but translate into sociological ones as well, since various heterodox experts got marginalized (Shir-Raz, et al., 2022), and people got suspicious as a consequence (this paper).

To enable more epistemic pluralism and foster knowledge exchanges between different societal actors, we need more dialogical institutional structures. While including more expert stakeholders, including those "with local knowledge of relevant social spheres", in evidence-based policy making is one way (Lohse & Bschir, 2020), and happens increasingly in several EU countries, including the Netherlands, where a "Societal Impact Team" (finally) got established in 2022. Another viable alternative is the "deliberative citizen knowledge platforms" in which citizens work together with experts to find solutions for complex problems, while at the same time foster trust and empathy with different positions and groups (Harambam, 2021a). Building from research and experiments in the field of science and technology studies (e.g., Harris, 2020) and deliberative democracy (e.g., Curato

et al., 2017), these societally representative bodies should enjoy more legitimacy and epistemic diversity to better deal with future societal conflicts over the many "wicked problems" our societies face. I close off with the playful words of professors of political and policy sciences Steven Ney and Marco Verweij who argue in the spirit of Mary Douglas' cultural theory that "messy institutions" producing "clumsy solutions" are best suited to deal with our "wicked problems" (2015). Their explorations and suggestions are a welcome alternative to increasingly technocratic decision-making.

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LIGHT AT THE END OF THE TUNNEL? THE STAGING OF EXPERTISE DURING THE COVID-19 VACCINATION CAMPAIGN

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ABSTRACT

In this paper, we compare the governmental and public framings of expertise in the Dutch Covid-19 vaccination campaign in the period between January 1st and April 30th, 2021. Specifically, we collected all statements regarding vaccination on three interrelated stages: (1) the official press conferences; (2) Twitter, for responses to government policies; and (3) political motions that were put forward by Members of Parliament in the days following the press conferences. We combine an interactional framing approach with a discursive psychological perspective to get insights into how framings between stages modify, contest, or build upon each other. We argue that the press conferences show a persistent technocratic framing, in the sense that a direct line between science and policy is assumed and promoted. Unlike the first period of the COVID-19 crisis in 2020, experts are not often quoted initially, but key political actors *themselves* act as responsible for the message that there is light at the end of the tunnel, if only citizens will get vaccinated. Once the AstraZeneca vaccine comes under fire, however, experts are again held accountable for the policy message. Throughout, governmental policies are disputed on Twitter and in Parliament, albeit in different ways, by making hidden moralities relevant, such as the government's assumed complacency, rigidity, and inability to explain policies with the available evidence.

Keywords: COVID-19 vaccination; expertise; interactional framing; Twitter; press conferences; parliamentary motions.

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1 INTRODUCTION

After two years of the COVID-19 pandemic, governments and scientific institutions around the world are now in possession of vast amounts of data about COVID infection rates, hospitalizations, fatalities or vaccination rates. Researchers and policymakers are increasingly interested to compare these data across countries and time, to determine conditions that may help nations to be better prepared for future outbreaks of disease (Crosby et al., 2020; Bollyky et al., 2022). As it turned out, the current scientific understanding of the epidemiology of infectious disease appears unfit to explain observed infection and fatality rates of COVID-19 (ibid.). The countries believed to be most prepared for a pandemic failed to meet that expectation (World Health WHO, 2021). Nor could a country's resilience be predicted based on a higher Global Health Security Index (Abbey et al., 2020).

Trust in the government has been repeatedly identified as a mediating variable between governmental disease-prevention strategies and compliant behaviour of citizens. This link has been established for Ebola outbreaks (Morse et al., 2016; Blair et al., 2017), the H1N1 influenza pandemic (Gilles et al., 2011; Prati et al., 2011; van der Weerd et al., 2011) and recently for the COVID-19 pandemic (Bargain & Aminjonov, 2020; Han et al., 2021; Shanka & Menebo, 2022). It is therefore argued that governments should invest in their ability to communicate and engage with the public as a trusted actor, in order to be better prepared for future public health crises (Bollyky et al., 2022; KNAW, 2022). In this article, we focus specifically on how the staging of expertise as the basis of governmental decision-making affects the publicly perceived trustworthiness of governmental actors in the Netherlands during the rollout of the COVID-19 vaccination campaign.

A general characteristic of contemporary governance, is its reliance on technical expertise (Fischer, 1990) and the science-for-policy model as a source for authoritativeness (Hajer, 2009). The model is built on the assumption that scientific experts can and have to speak 'truth to power', i.e., the political leadership (Wildavsky, 1979). Characteristically, this is done by creating stable institutions like national health or food safety authorities or environmental assessment agencies to inform policy interventions and thus allow politics to make decisions based on available knowledge and assessments of uncertainty (Hajer, 2009). It is precisely this assumed function of assessing knowledge and uncertainties that makes it attractive for political actors and the media to place science and scientists at the forefront of the decision-making process in times of crisis, literally and figuratively (van Dooren & Noordegraaf, 2020).

In a prior investigation about governmental and public framing of expertise during the first half of 2020 (Prettner et al., 2021), we found that in the Netherlands the governmental staging of expertise followed a technocratic model of governance (cf. Fischer, 1990). In particular, the Dutch prime minister and health minister repeatedly pointed to the uncertainty and technical complexity of the situation to demonstrate that their measures depended on the input of epidemiologists, virologists, and doctors. In this way, political actors presented policy as derived directly and value-free from the underlying science. The very suggestion that 'science had spoken' made the government vulnerable to public challenges on Twitter about the government's lack of competence, consistency, integrity or accountability (Prettner et al., 2021). As these challenges are closely related to dimensions of trust in government (risk) communication (for an overview, see Liu & Mehta, 2021), we argue that adopting a technocratic model of governance in times of crisis can have negative effects on the perceived trustworthiness of government. This is particularly true in the context of an open society in which citizens and citizen groups can quickly rise to a level of proto-professionalisation (De Swaan, 1988) and have easy access to counter-evidence that suggests, at the very least, that science is not as settled as portrayed in government pronouncements.

The Netherlands provides us with a case of a country with a very well institutionalised interface between science and policy. In the domain of public health, the government can call upon the work of the National Institute for Public Health and the Environment (RIVM), and the standing Health Council (*Gezondheidsraad*) which brings together eminent medical experts including medical ethicists. By law, both institutions carry out their work independently from the Ministry of Health, Welfare and Sport (VWS). At the start of the COVID-19 pandemic the RIVM initiated a specific COVID related 'Outbreak Management Team' (OMT) bringing together a group of experts to act as a knowledge hub and to provide (policy) advice at short notice. Even though the experts operated on a personal title to ensure their independence, their exact role in formulating policies and potential conflicts of interest were frequently questioned and discussed (for an overview of key events, see OVV, 2022). Moreover, it is important to note the wrestling with an emerging populist right wing in the Dutch political scene. While the right of centre Liberal Party VVD has been in office since 2010, it is in a constant struggle to fend off the critique of several rival parties to its right. The COVID pandemic provided those parties with ample opportunity to suggest VVD prime minister Mark Rutte was out of touch with the feelings and interests of the Dutch people (cf. Oudenampsen, 2013).

In this article, we zoom in on press conferences as the official staging of politics and expertise in the Netherlands. We investigate the dominant

framing of the COVID-19 vaccination campaign at press conferences and how it is then subsequently challenged or endorsed in parliamentary motions and on the social media forum Twitter. The purpose of this study is to evaluate if and how the technocratic model is reproduced one year after the beginning of the pandemic, and to understand the impact of governmental framing on public trust, based on the hidden moralities that are put forward or are being contested in parliamentary motions and on Twitter. To this end, we analyse statements collected from press conferences, Tweets, and parliamentary motions from two perspectives. First, we use a *statistical topic model*, in which indicative words that frequently occur in the same context are clustered into overarching topics. Second, we contextualize these topics by subjecting them to an *interactional framing analysis*. Our analytical emphasis is directed at how parliamentary motions and Tweets *respond* to the framing of the press conferences. This approach, inspired by a *discursive psychological perspective* (Edwards & Potter, 2005; Wiggins, 2017), allows us to understand what is made relevant from press conference statements and for what purposes, consciously or not, by the recipients themselves.

2 THE HIDDEN MORALITIES OF FRAMING EXPERTISE

On the surface, disputes over COVID-19 policy revolve around questions that would typically fall under the jurisdiction of science, such as "to what extent do face masks prevent the spread of the virus in public spaces?" When scientific knowledge is at stake, however, so are underlying moral concerns (Jasanoff, 2004; Shapin, 2007; Jasanoff & Simmet, 2017). On the one hand, this can be inferred from the fact that simply succeeding in correcting pieces of misinformation does not usually lead individuals to change their opinions about a given controversy (e.g. Nyhan et al., 2014; Nyhan & Reifler, 2015). On the other hand, lay people offer evidence-based arguments and refer to scientific expertise in a very similar way as experts do, suggesting that the real cause for disagreement does not lie in facts alone (te Molder, 2014; Versteeg & te Molder, 2018). Moralities involve (often contested) conceptions of what constitutes 'good' people, such as what it means to be a credible expert, what constitutes 'good' relationships, for example between governments and their citizens, or what constitutes a 'good' life (Swierstra et al., 2009; cf. Hochschild, 2016). As Swierstra et al. (2009) point out, moralities exist in the practical routines of everyday life. They are so ingrained and taken for granted that they are hardly articulated or reflected upon. We only practise ‘ethics’ when we question these moral routines (Swierstra & Rip, 2007). Some of these moralities cut across disputes, such as when a layman's identity is equated in practice with someone who has access only to values and emotions, rather than facts,

effectively denying him access to public debate (te Molder, 2012). Other moralities may be more topic specific, such as not wanting to blindly rely on governments and science, as an example of good parenting in the vaccine debates (Reich, 2016; Prettner et al., 2023).

Therefore, our analysis of parliamentary motions and Tweets focuses on what kind of activity a particular message performs in its interactional context, i.e., making an accusation or offering praise, *and to what moralities it consciously or not orients in doing so* (Edwards & Potter, 2005). Rather than the analyst determining the truth value of an utterance, or what it does in terms of action, such an approach illuminates how interlocutors ensure that something comes across as (un)truthful, and how they *themselves* treat each other's utterances (cf. Demasi, 2020). To exactly understand what is at stake in COVID-19 policies, both for governments and citizens, it is essential to expose the routinely hidden moralities in debates about these policies.

3 METHODS

We rely on a mixed method strategy to capture similarities and differences in (transcribed) statements made publicly in press conferences, Twitter and parliamentary motions. First, we use topic models to take stock of the broad themes that are being discussed and their relative presence during our research period. Second, we provide a qualitative framing analysis of the collected statements and quantitatively determined topics.

3.1 Topic modelling

To assess the broad themes that were being discussed, we relied on a general computer assisted content analysis. More specifically, we employ a Latent Dirichlet Allocation (LDA) model in STATA, using the module *ldagibbs* (Schwarz, 2018). For all three sets of documents, we pre-processed the data by removing capital letters and punctuation. Words shorter than five characters were removed, as they are likely to contain little substantial meaning. We have chosen to keep the number of topics (k) limited and equal across different platforms as we are interested in a broad overview. LDA modelling relies on a bag-of-words approach. Each word in the dataset receives a score on each of those topics – indicating the level to which degree the word is indicative of that topic. Based on those word scores, each unit of analysis (statement, Tweet, or motion) gets assigned a topic score. High scores indicate the unit has strong resemblance with that topic. Per unit, scores add up to one, making it possible to assess the relative presence of each topic. Based on the word scores and an evaluation of the units that score high on each topic, we assign labels/descriptions for each topic. Results are consequently aggregated to a monthly level to demonstrate the

over-time changes of focus on each of the platforms. A topic model provides insights into the broader themes that are discussed and serve as a means to gain first insights into the nature of communication on the different stages. In the next section, we describe how we complement the topic models with a more in-depth discursive analysis.

3.2 Framing

A core tenet of framing theory is the realization that any given issue or situation can be represented in a variety of ways, especially with regard to defining what the particular problem is, how to evaluate causal and moral implications or what actions are necessary to address the problem (Entman, 1993). This concept can be further classified into two, methodologically distinct approaches: Frames as cognitive representations and frames as interactional co-construction (Dewulf et al., 2009). We rely on the latter understanding of framing, in which the framing of events and issues among press conferences, motions and Tweets is a dynamic process and "[f]rames are part of a collective struggle over meaning that takes place through a multiplicity of media and interpersonal communication" (Vliegenthart & van Zoonen, 2011, p. 112). Research suggests that the broader context of political debate will influence which types of framing will propagate in public debate and which will not (Snow & Corrigall-Brown, 2005; Vliegenthart & van Zoonen, 2011). We therefore regard the COVID-19 press conferences as the *official stage* for the governmental framing process; we regard parliamentary motions and Tweets as *reactions* to the official governmental framing.

We use Discursive Psychology (Edwards & Potter, 1992) to further flesh out this interactional framing approach and be able to identify the hidden moralities. Discursive Psychology is built upon the recognition that alternative descriptions of the same event can have vastly different implications for discursively managed ascriptions of psychological states, such as motive, intent, emotion or cognition (Edwards, 1997; te Molder & Potter, 2005). Therefore, alternative formulations become a tool for participants to perform various social actions, such as accusing or complimenting someone. Central to determining which actions are performed, and which moralities are thereby made relevant, is the so-called *proof procedure*, in which the analysis of what a turn at talk is doing is based on how it is responded to in the next speaker's turn (Sacks et al., 1974), in this case how Tweets and parliamentary motions respond to the statements in press conferences.

3.3 Data collection

3.3.1 Press conferences

We collected data in period between January 1st and April 30th 2021. All official press conferences, both the ones that were specially devoted to COVID-19, as well as the regular press conferences following the meeting of the Cabinet meeting on Fridays, were considered. These press conferences (n=13) were accessible in transcribed from on a governmental website. In the next step, we collected all statements that referred to vaccination or any of the colloquial names for specific COVID vaccines available at the time[d]. This yielded a total of 286 statements, made by Prime Minister Mark Rutte (n=66), Minister of Health Hugo de Jonge (n=162) and questions posed by journalists (n=58).

3.3.2 Twitter

To assess the reactions in public debates, we collected all Tweets that were sent on the day of each of the 13 press conferences or the day after, focused on vaccination and referred explicitly to the press conference[e]. While Twitter users are not representative for the Dutch population at large, a considerable amount of Dutch citizens use it (20% according to Hoekstra et al., 2022) and it is considered a key platform for political discussion in the Netherlands. It is frequently used by politicians and journalists as a source of information and means to directly interact with citizens (Kruikemeier, 2014). In particular during COVID-19, it has been a key place for fierce debate on political responses to the pandemic (van Dijck & Alinejad, 2020) and provides the opportunity to investigate immediate responses to press conferences and other relevant events. However, we should be cautious about generalising our findings from Twitter to the wider population.

While this procedure cannot establish any direct link between particular Tweets and a particular statement from press conferences (unless apparent from the content), it does allow us to sample Tweets that were *designed to be recognized as reaction* to the press conferences. We collected these Tweets using the software Coosto, which keeps an archive of all Dutch language Tweets. Retweets and replies were considered as well, amounting to a total of 6,329 statements. For the qualitative analysis, Tweets were prioritized and selected based on two criteria: 1) How well their content

[d] Dutch keyword search: *vaccin* OR *prik* OR Astra* OR Pfizer* OR Moderna* OR Janssen*

[e] We used the same keywords as for the press conferences, but included the search operator "AND persconferentie"

corresponded to the statistical topic models and 2) how broadly their content was shared on the platform during the sampling period.

3.3.3 Parliamentary motions

To analyse reactions from a dedicated political setting, we collected all parliamentary motions submitted in the period from January 1st to April 30th, 2021.They can be submitted during or after parliamentary debates by any Member of Parliament and often provide a 'call to action' to the government and they are tabled for a vote. A total of 32 motions, the vast majority filed by opposition parties (n=20), a combination of opposition and government parties (n=6) or jointly (n=6).

4 ANALYSIS

We present our findings according to the three stages we have examined: press conferences, Twitter and parliamentary motions. For each stage, two kinds of analysis were conducted. First, the topic modelling provides an overview of the kinds of topics that were predominantly discussed over time and help guide the subsequent qualitative analyses. Second, we look at framing in press conferences and the uptake of that framing on Twitter and in parliamentary motions, focusing on the hidden moralities they make relevant. An overview of the results can be found in table 1. All statements, Tweets and motions were translated from Dutch to English. Understandability of the message was prioritized above literal translation.

Table 1. An overview of topics, frames, and hidden moralities

	Topics	**Frames**
Press conferences	Efficiency of the campaign Future perspective Experts' role in controversies	*Vaccination leads to a brighter future (4.2.1)* *Settling controversies with evidence (4.2.2)*
		Hidden moralities
Twitter	Future perspective Efficiency of the campaign Experts' role in controversies	*Learn from your mistakes (4.4.1)* *Your use of evidence is opportunistic (4.4.2)*
Motions	Efficiency of the campaign Priority of target groups Freedom of choice	*Expert advice can be made to fit (4.6.1)* *Resolving uncertainty with freedom of choice (4.6.2)*

4.1 Press conferences: Topics

Table 2 provides an overview of the topics that were being discussed in press conferences. It demonstrates the vaccination statements made in each conference had a focus on the efficiency of the vaccination campaign, the role of experts and expert institutions in resolving controversies and the proclaimed certainty that vaccines will lead to a better future if enough people would get their shot.

If we look at the overtime comparison (Figure 1), we find that in January press conferences mainly focused on the efficiency of the vaccination campaign or more precisely the lack thereof. The February/March press conferences deliver a generally more positive message, emphasizing the clear perspective that the vaccination campaign offers for the foreseeable future. Finally, in April, reports about rare but severe side-effects of certain vaccines pile up, shifting the attention to the role of experts in resolving difficulties in political decision-making.

Table 2. Identified topics in press conferences

	label	indicative words
topic1	efficiency of the vaccination campaign	vaccinations, weeks, stock, Europe, second, percent
topic2	experts' role in resolving controversies	health council, AstraZeneca, risk, advice, Janssen, basis
topic3	proclaimed certainty of the future perspective	people, vaccinated, vaccinate, millions, protection, protected

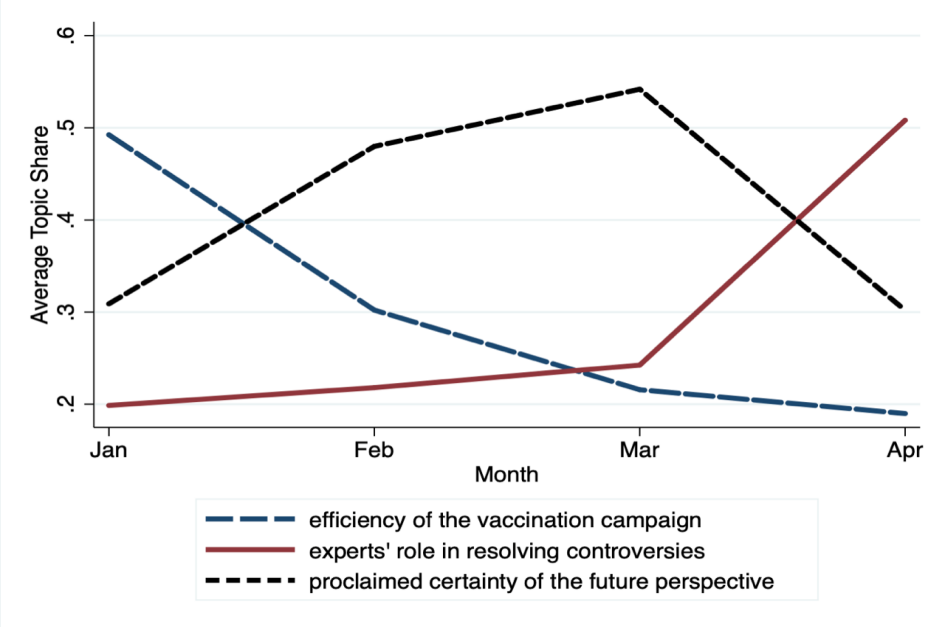

Figure 1. Topics in press conferences

4.2 Press conferences: Frames

4.2.1 Vaccination is the self-evident way to a brighter future

On January 6th, 2021, the Dutch COVID-19 vaccination campaign started as one of the last in Europe. During the following 4 months, the future perspective that vaccination offers was a consistently discussed topic in press conferences. Reoccurring instances of this theme include uses of the metaphor 'light at the end of the tunnel' (Prime Minister on January 12th: *With the start of vaccination there is light at the end of the tunnel, but we are not there today or tomorrow*), hopes of a nice summer (Minister of Health on February 23rd: *But as things are looking right now, a lot of people are vaccinated in the summer, it can really become a nice summer*) and heading back to 'normal life' (Prime Minister on March 8th*: If we live up to the expectation that at the beginning of the summer everyone who wants will be vaccinated at least once, then that is the moment when we can finally make big steps towards normal life*). In the early stages of the campaign, forecasts for the future, such as a return to normalcy within a few months, barely indicated any uncertainty.

The only condition that the Prime Minister and Minister of Health put forward as limiting factor at that time, was the pace with which the vaccines could be administered. This, in turn, was portrayed as completely dependent on the speed of vaccine production and the timeliness of their delivery, thereby externalizing the responsibility of a successful vaccination campaign (Minister of Health on January 12th: *Regarding the pace with which we can vaccinate, we are dependent on the delivery of vaccines;* Minister of Health on January 20th: *I sometimes hear the suggestion: why don't the people at the GGD*[f] *vaccinate 24 hours a day? Yes then you need something to vaccinate with*). This is a noticeable contrast to the sentiment of press conferences just 9 months prior, in which uncertainty was a prominent excuse for governmental (in)action (Prettner et al., 2021). The long-awaited antidote to all uncertainty seemed to have been found with the dawn of the vaccination campaign.

In January 2021, together with the start of the vaccination campaign, COVID infection rates rose to an unprecedented level. As a result, a nationwide curfew came into effect on January 23rd, the most restrictive measure that the Dutch government implemented to date. In addition, reports of delayed vaccine deliveries accumulated and the Dutch vaccination campaign was still lagging behind other European countries. These developments lead to a peak in the 'efficiency of the vaccination campaign' topic in press conferences. First and foremost, the government was accused of being too rigid in their vaccination strategy and hoarding an unnecessarily large stockpile of vaccines (Journalist on January 22nd:

[f] Municipal Health Service

Mister Rutte, you say: we are up to speed with the vaccinations, but if you look at the numbers, that is actually not right. We have about 130.000 vaccines put into arms, and we have a stockpile of more than half a million). The reason put forward for keeping a reserve this big was that people who have had their first shot should be guaranteed to get their second shot three weeks after. Opponents of this strategy argued that a larger number of people receiving a first dose of the vaccine sooner would be more beneficial given the circumstances.

To resolve this controversy, political actors occasionally fell back on institutionalized expertise as a resource for decision making (Minister of Health on January 20th: *So, we stay within the bounds of which also the EMA gave their approval. Of which also the CBG*[g] *approves. Of which also the Council of Health and the OMT advice, because it is a balancing act in the end*). However, such expert references have become an exception in the early months of 2021 compared to the spring 2020 press conferences, where references to experts and expertise abounded (Prettner et al., 2021).

In the February and March peaks of the 'proclaimed certainty of the future perspective' topic, the predominant pattern is the *omission* of references to scientific sources, which presents statements as self-evidently factual. The Minister of Health repeatedly presented messages in unmistakably scientific terms as his own (Minister of Health on February 23rd: *But the big unknown is the extent to which vaccination also prevents transmission. Big unknown is the extent to which the mutations accelerate in response to us pushing on the virus, just through escape-mutations. So that mutations will accelerate. And in turn, to what extent these mutations are susceptible to the vaccines we have*). In this phase, the positive outlook for the near future was regularly juxtaposed with the extent to which vaccines prevent the spread of the virus (as opposed to how well they prevent the development of symptoms) and the percentage of vaccination acceptance among the population (Minister of Health on March 23rd: *Because we would prefer of course to just pick a date in time to say: guys, then the lockdown is over, then our actual life starts again. But you cannot really say this at this moment. Even though we know approximately when we will have the groups vaccinated. Starting from a 80, 80 percent vaccination acceptance, you cannot really say. Because the extent of transmission prevention is really just not known at this moment*). A high vaccination uptake rate was thus presented as sole remedy for the unknown effect that vaccines have on the spread of the virus. The responsibility of realizing the positive outlook for the future is thereby transferred to citizens themselves and is supposed to act as an incentive to overcome vaccine hesitancy.

[g] Medicines Evaluation Board

4.2.2 To settle controversies, we rely on experts and evidence

On March 14th, usage of the AstraZeneca vaccine was suspended for two weeks due to some reports that the vaccine could be linked to rare but severe cases of blood cloths. During the following press conference, this issue was not so much treated as problematic because of the side-effect itself, but because of what the suspension meant for the growing stockpile of vaccines and the pace at which the population could be vaccinated (Minister of Health on March 23rd: *But what do you see now with AstraZeneca? We pushed the pause button, out of precaution, because of the signals especially from Norway and Denmark. And that means that no shots went out but that in the meantime a new stock came in*). This emphasis changed dramatically when concerns arose that Johnson & Johnson's vaccine could cause the same form of rare blood clots and another suspension came in early April for AstraZeneca's vaccine. The focus on vaccines as antidote against uncertainty shifted to a framing of uncertainty as an inherent feature of science-informed policymaking in times of crisis (Minister of Health on April 13th: *On which date we can let go of measures is no certainty and thus also no promise. For that the virus is much too unpredictable and the course of the future too dependent of all sorts of uncertainties. From the speed with which vaccines are delivered, for example, from unexpected side-effects and thus changes in the choice which vaccine is suitable for which target group, from the occurrence of new virus mutations and how well our vaccines protect against them and also how well we succeed in adhering to the measures, keep adhering to them*).

With these uncertainties, the government had increasing difficulty to communicate their decisions as a matter of course and soon fell back on expert advice as the source of their behaviour. For instance, the decision to only use the AstraZeneca vaccine for citizens older than 59 years albeit the EMA judged it to be safe enough for the whole population, was presented as based on a risk-benefit analysis of the Dutch Health Council (Minister of Health on April 13th: *The core of the advice of the Health Council is very clear. Namely: above sixty it is safe, it is effective, it is also necessary above sixty to reduce the risks of Corona as much as possible*). At the same time, the same procedure did not apply to the Johnson & Johnson vaccine, because there was reportedly insufficient data on the basis of which the Health Council could make a different ruling from the EMA (Minister of Health on April 20th*: Because there are insufficient additional data on basis of which the Health Council could come to a target-group advice. At present, nothing is known other than the 8 cases from the U.S., based on 7 million shots. So, the Health Council cannot come to another verdict than what the EMA is presenting now*).

4.3 Twitter: Topics

The online debate on Twitter shows in terms of topics a high similarity to the press conferences – probably not surprisingly so, as we selected Tweets that explicitly referred to the press conferences. We again see the efficiency of the vaccination campaign, the role of experts and expert institutions in resolving controversies and the proclaimed certainty that vaccines will lead to a better future, as central themes (table 3).

Table 3. Identified topics on Twitter

	label	indicative words
topic1	efficiency of the vaccination campaign	#donewithrutte, #hugodejongecantdoanything, problem, deliveries, slower, EU-countries
topic2	proclaimed certainty of the future perspective	the vaccinated, contagious, light, nonsense, vaccination passport, elections2021
topic3	experts' role in resolving controversies	vaccination strategy, corona measures, why, question, AstraZeneca

The vocabulary differs considerably from that in the press conferences. There is a clear negative attitude towards the government and the measures, as becomes apparent in the hashtags #donewithrutte or #hugodejongecantdoanything[h], and words such as "nonsense". Also here, we see considerable over-time variation, although the experts' role in resolving controversies dominates the Twitter debate. The efficiency issue gains prominence later than in the press conferences, and the future prospect discussion is moderately present throughout the research period (Figure 2).

[h] in Dutch: #klaarmetrutte/ #hugodejongekanniks

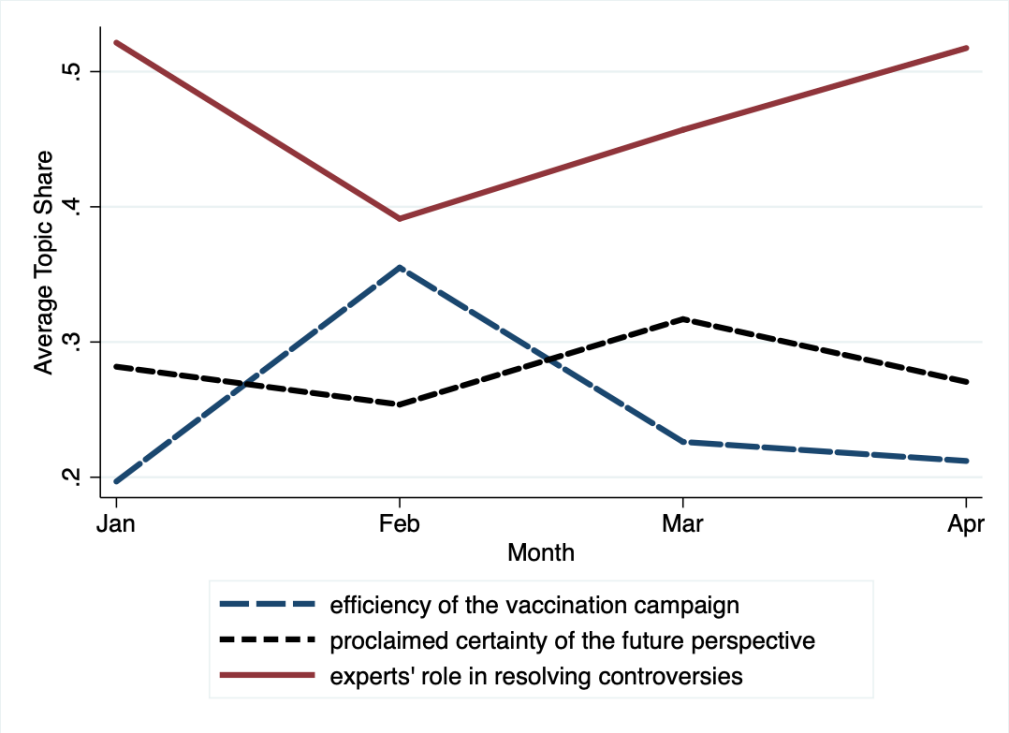

Figure 2. Topics on Twitter

4.4 Twitter: Hidden moralities

4.4.1 Learn from your mistakes instead of externalizing responsibility

The governmental framing of circumstances that are beyond their control, first and foremost the vaccine deliveries, was heavily contested on Twitter. A main resource for doing so, was the comparison of the Dutch vaccination campaign with ones of other European countries (Tweet 1). Since the Netherlands were lagging behind despite other countries receiving vaccines from "the same barrel", referring to the European joint procurement of COVID vaccines (OVV, 2022), there must be something wrong with the provided explanation for the slow progress. It is further pointed out that minister De Jonge has a vested interest in people accepting this decoy reason, implying that the actual reason will reflect poorly on himself or the governing parties.

Tweet 1

February 2nd: *That NL jabs more slowly than other EU countries has nothing to do with the disappointing deliveries. They all receive vaccines from the same barrel. What De Jonge is doing here is linking one problem to another, hoping that you will feel and accept a non-existent connection*

Already early on, the announcement of new or extended COVID measures were presented in the light of continuing failure to bring the vaccination program up to speed (Tweets 2 & 3). An initial reading of these messages suggests an alleged cause-and-effect relationship between an inefficient vaccination campaign and restrictions of public life. As an additional aspect, these Tweets treat the unresourceful use of time and vaccines as trouble in the making, *just as prior mistakes* have led to the *current issues* regarding the extension of the lockdown and the curfew. Thus, when the governmental framing increasingly emphasised the positive outlook for the future, Tweeters remained focussed on current problems and how they casted doubt on the governments' vision.

Tweet 2
January 20th: *I find the curfew of the cabinet contradictory with the #vaccination policy and #vaccination strategy. You have to seize every moment of the day / evening / night to vaccinate on a large scale #OMT #ggd #rivm #vaccination #Rutte #hugodejonge #COVID19 #rgetal #press conference*

Tweet 3
January 12th: *At tonight's #press conference an extension of the #lockdown will be probably announced. Meanwhile, hundreds of thousands of unused #vaccines are in the warehouses, it may be an idea that #hugodejonge is finally speeding up a bit! #curfew #Vaccination #corona*

Critique for the governmental framing of a bright future fell into two categories. First and most straightforward, the presuppositions of that perspective were questioned. For example, it was argued that there was still considerable uncertainty regarding the effects of vaccines on disease transmission, as compared to how well they could prevent infection for the individual (Tweet 4). The "what next?" at the end of the message is designed to emphasise the lack of alternatives to vaccination and simultaneously renders this single-solution focus as insufficient or even negligent. Where the government portrayed themselves hopeful that most people would get vaccinated - perhaps strategically so - Tweeters identified another presupposition (Tweet 5). Yet again, the exclusive focus on vaccination as the way out of the pandemic was called out as problematic.

Tweet 4
January 12th: *"With the vaccine, there is light at the end of the tunnel" says @minpres Nonsense; Pfizer themselves say that they do not know whether vaccinated people are still contagious. And if so, which is likely if infected vaccinated people also get symptoms, what next? #press conference #persco*

Tweet 5
March 9th: *Feedback about the #press conference is seeping in...it seems that the outlined "perspective" is getting less and less appealing, why? I think this is because one premise in the narrative is wrong, namely that everyone will be vaccinated #vaccination*

Second, the continuing emphasis on the importance of vaccination acceptance for the future ahead was met with suspicion. Mostly, it was taken as a strategy to shift the attention towards public duties in the future and away from political accountability in the present (Tweets 6 & 7).

Tweet 6
March 23rd: *Anyway. According to Rutte/De Jonge, everything therefore depends on the delivery of vaccines and the behavior of citizens. Didn't hear anything relevant about their own share and responsibility in this - especially pressure to increase the vaccination rate, and now for real, and guarantees for this (use military personnel!)*

Tweet 7
March 23rd: *It is not our own behavior that determines how quickly we can ease the restrictions, @MinPres Rutte: faster vaccination determines how quickly we can terminate them. The irritations about the lack of a progressive #vaccination policy in our country are now also rising among docile citizens. #Press conference*

Others however, portrayed the governmental reliance on vaccination not as a way to distract from current issues of governance but rather as fuelled by corporate greed (Tweet 8). The "new normal" referred to in this Tweet contrasts with the governmental vision of "going back to normal" and suggests that whatever society is headed for, it is not the re-establishing of known order. Importantly, regular citizens will not be the beneficiaries of this change, but rather corporations of pharmaceutical industries.

Tweet 8
March 23rd: *A third dose of vaccine, then annual 'boosters' and then the corona vaccination will become part of the 'new normal'. Oh yes, the price will go up. And Big Pharma is doing this for the good of the people! #Pfizer #vaccination passport #press conference*

To summarize, there was widespread agreement that it is the government's responsibility to restore normal life and that the focus on vaccination as the only solution is negligent or even a distraction from governmental wrongdoings. Thus, it can be argued that the perspective of a vaccinated population was clearly discussed differently on Twitter compared to the

press conferences on at least three accounts. First, governmental actors presented the topic strictly separate from other issues such as the efficiency of the vaccination campaign or restrictive measures to halt the outbreak, while the tweeting audience often made connections and saw interdependencies between these topics. Second, Tweeters were not simply following the governmental vision, but were rather questioning the desirability thereof, who truly benefits from it and if the unspoken presuppositions held up to scrutiny. Third, the obviousness with which vaccination was portrayed as the way out of the pandemic was contested, as was the scientific justification for that statement. This last point will be advanced further in the next section.

4.4.2 Confronting the government with opportunistic use of evidence

Just as the government omitted, and later used, references to expertise to communicate their decisions as obvious and inevitable, Tweeters referred to experts to challenge that obviousness and inevitability. Whether intentional or not, this topicalized a possible arbitrariness about *when* the government decides to explicitly follow advice of *which* experts. This was done by 1) contrasting a governmental course of action with expert advice (Tweets 9 & 10), 2) pointing to a lack of expert advice for governmental action (Tweets 11 & 12) or 3) portraying different experts/expert institutions as disagreeing on the same issue (Tweet 13). In Tweets 9 and 10, two physicians with regular media appearances are referenced and presented as dissenting voices to the governments' plans regarding the vaccination campaign. Specifically, these plans relate to discontinuing the AstraZeneca vaccine for citizens younger than 60 (Tweet 9) and easing lockdown measures before the vulnerable population has had a chance to get vaccinated (Tweet 10). Since medical experts did not seem to support these plans, Tweeters wondered on what basis these decisions had been made.

Tweet 9
April 13th: *Why is @hugodejonge not listening to Ernst?? He also says: JAB, JAB, JAB, JAB (for anyone who wants to)!!! Smoking 500x higher risk, the pill 40x higher risk... and so on. VOLUNTARY JAB JAB JAB JAB #beau #press conference*

Tweet 10
April 14th: *Hearing on the radio that Gommers is not agreeing with Rutte; first vaccinate 60+ and then ease restrictions. Is it an idea that these gentlemen speak before we get another press conference? Then we'll get out with 1 standpoint for the first time since corona. #relief*

Another way to highlight inconsistent use of expertise was to draw attention to decisions that had been communicated without explicit reference to expert advice (Tweets 11 & 12). The absence of scientific or expert arguments in support of political decisions becomes especially noticeable in an environment otherwise saturated with such references.

Tweet 11
January 20th: *Playing with the booster injection of the #PfizerBioNTech vaccine. Not after 3 weeks the second shot, but only after 6 weeks. Really unwise. Political stunt work while there is no scientific proof yet that this is possible. Very unwise. #press conference #curfew @EMA_News @ECDC_EU*

Tweet 12
February 23rd: *I wish everyone more freedom, but could the press ask lots of questions tonight on what basis the restrictions are being relaxed now? Is this also the OMT advice? And something to do with vaccination pace/overview, planning and the testing society. Because why is this possible given the current circumstances #press conference*

Finally, Tweeters presented the disagreement between two expert institutions as undermining the notion that expertise can establish the self-evidence of governmental action authoritatively. With regards to the question of how far apart the first and second dose of the vaccine should be scheduled, it became clear that two important institutions, the WHO, and the EMA, diverged in their initial assessments (Tweet 13). In this case, the WHO guideline to administer the second dose of vaccine 6 weeks after the first was presented as provisional and dependent on external circumstances.

Tweet 13
February 2nd: *3 or 6 weeks between the 2nd vaccination. First @hugodejonge says WHO advice says yes 6 weeks is possible, EMA says no 3 weeks. 15 min. Later @hugodejonge says we are still awaiting final advice from WHO #press conference*

Utterances like these demonstrate that it is not always a viable option for a government to follow *the* expert advice. They rather must choose *which* expert advice is relevant to one's current decisions. Following this logic, the next question is how to explain the prioritization of one expert above the other. Consequentially, speculations about hidden and often insidious motives were once again abundant on Twitter. For instance, Tweet 14 features suspicion and distrust regarding the on-the-record purpose of vaccination, but no explicit conclusions are drawn. In Tweet 15, geo-political interests are presented to trump public health considerations

regarding the procurement of non-Western COVID-19 vaccines. Finally, governmental misjudgement and personal failure were suspected to hide behind the selective use of expertise to justify policy decisions (Tweet 16).

Tweet 14
March 8th: *#press conference @MinVWS Could it be that vaccination actually provokes new mutations in certain circumstances in some countries? Why did science previously teach us that an epidemic leads to natural immunity, and now they say that vaccination is the only solution?*

Tweet 15
February 2nd: *The chance that the EU institution EMA will approve the Sputnik vaccine is, of course, small. Because Russia. 'Russian Sputnik vaccine appears effective, experts call for EU use' | via @NOS #vaccination #vaccination strategy #press conference*

Tweet 16
April 13th: *Ohhh so it's just bullshit that 60-stop from astra zeneca. De Jonge just wants to use it first for people over 60 because his policy was a mess and it doesn't work out for him. #Press conference*

The Tweets presented in this section depict the government's use of expertise as selective and inconsistent. Importantly, this is not the same as accusing the government of censoring heterodox opinions (e.g. Harambam, this volume). Instead, it casts doubt on the framing of certain decision to be self-evidently backed by experts, through posing follow-up questions that imply opportunistic use of expertise: Why listen to this expert and not the other? Why do you cite experts at this particular point in time but not in other contexts? So, while the governmental framing separated political judgment from public health decisions, the tweeting public questioned whether such a distinction was meaningful or even possible.

4.5 Motions: Topics

Finally, the topics in the motions are somewhat different. Table 4 demonstrates that the efficiency of the vaccination campaign is a reoccurring topic here as well. However, parliamentary motions tend to focus more on two other topics, namely the question of citizens' freedom to choose which vaccine they would like to receive and the prioritized vaccination of specific groups in the population (e.g., people over the age of 60, or healthcare professionals). Figure 3 shows the over-time changes in attention. The prioritized vaccination of specific target groups is initially the

main concern, but freedom of choice takes over and is dominant in March and April.

Table 4. Identified topics in motions

	Label	indicative words
topic1	priority of target groups	risk, first, serious, COVID-19, healthcare professionals, interest
topic2	efficiency of the vaccination campaign	second, corona vaccination, faster, European, stock, countries, Netherlands
topic3	freedom of choice	freedom of choice, acceptance, maximize, available, offer, choose

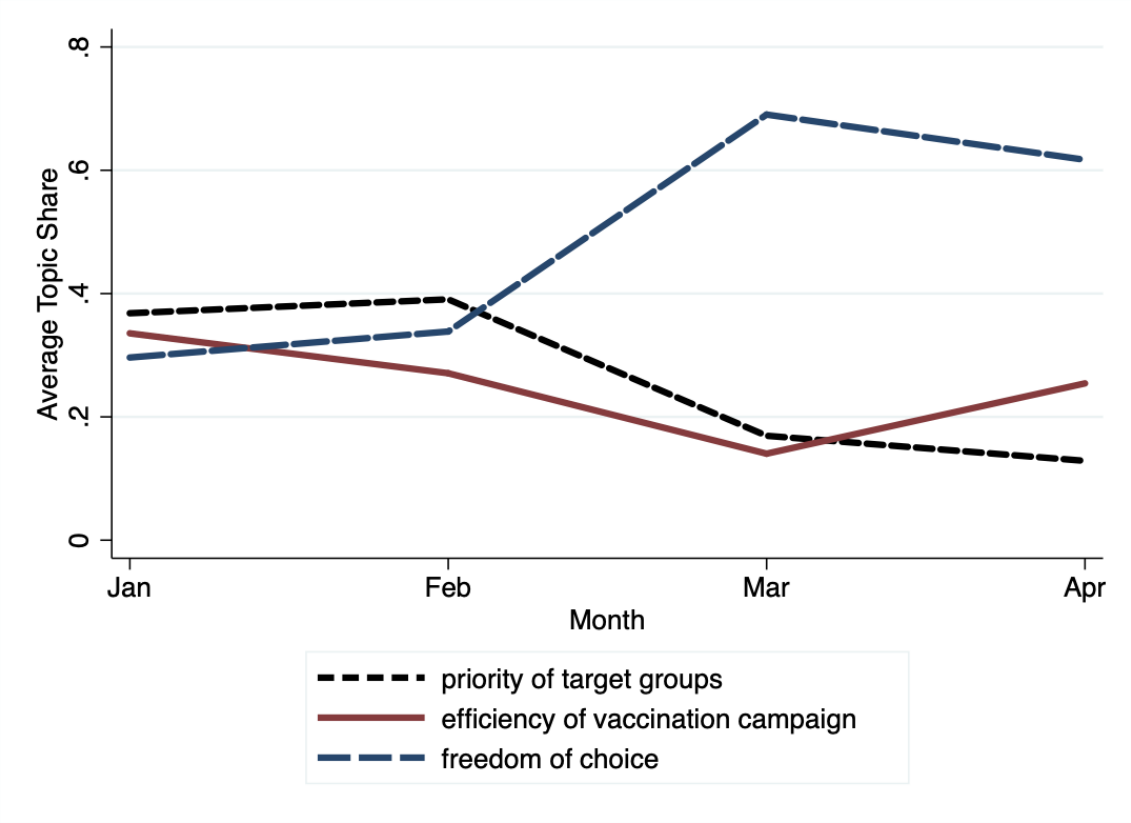

Figure 3. Topics in motions

4.6 Motions: Hidden moralities

4.6.1 Expert recommendations can be made to fit our plans for faster vaccinations

Synchronous to the topics discussed in press conferences, motions were dominated by the question of how to speed up the vaccination campaign. Members of the opposition were quick to point out that reducing the stockpile of vaccines would help increase the pace of vaccination (Wilders, January 13th: *considering that hundreds of thousands of vaccines have not been used; the Cabinet requests to use all available vaccines in the next week*).

Members of Parliament were explicitly rejecting the notion that the government is completely dependent upon vaccine deliveries and pointed out that the Netherlands is lagging behind other European countries with administering vaccines (Jetten, March 13th & Jetten Bergkamp, March 24th: *noting that, based on the ECDC, the Netherlands has administered less stock of corona vaccines than other European countries; noting that there is a realistic expectation that vaccine deliveries will increase rather than decrease; noting that a first corona vaccination can already provide health benefits because it offers a certain degree of protection against severe symptoms and death; considering faster vaccination of hundreds of thousands of people can help to reduce the pressure on healthcare; The Parliament requests to administer the current stock of corona vaccines more quickly, taking into account all the recommendations of the Health Council*).

By emphasising what could be gained by speeding up the vaccination campaign (reducing symptoms, hospitalizations and deaths), these motions are formulated noticeably more urgent compared to motions from January. In the last sentence, it is mentioned that speeding up vaccination should be in line with the Health Council's recommendations. This side-note refers to the initial guideline of waiting no longer than three weeks after the first shot until the second dose is administered. The guideline originated from the vaccine manufacturers and was later supported by the EMA to guarantee maximal effectiveness of the vaccination. What becomes visible in the motions put forward in March, is that Members of Parliament orient to this expert recommendation as flexible, should there be good enough reasons to make it so. The following example illustrates the operation of this reasoning in its most salient form (Bergkamp Wilders, March 24th: *noting that COVID infections and hospitalizations are currently increasing; noting that recent British research shows that a first shot prevents 80% of hospital admissions; considering other countries already have a strategy to delay a second shot; considering that the delay of a second shot may increase the risk of new virus variants; In view of these developments, the government requests to again request an urgent advice from the*

Health Council about the delay of a second shot and to explicitly discuss the effect of reducing hospital admissions more quickly).

The motion first presents various arguments, including references to research about a greatly decreased risk of hospitalization after the first dose and other countries' approaches favouring a delayed second shot. It concludes by requesting "urgent advice" regarding the delay of the second COVID shot from the Health Council and thereby effectively rendering it the only obstacle in the way of a whole variety of favourable outcomes.

4.6.2 Resolving uncertainty with freedom of choice

After several weeks of back and forth regarding the usage of the AstraZeneca vaccine, a final verdict was announced on the 8th of April: because its side-effects (which were rare already) occurred mostly in people younger than 60, it would only be offered to citizens older than 59 in the future. In response, multiple Members of Parliament issued motions that called for freedom of choice regarding the vaccine. Despite the striking similarity of these motions in terms of principle, they covered opposite sides of the argument. On the one hand, it was argued that elderly citizens had lost confidence in the vaccine and should therefore be free to choose another vaccine if they wanted to (Kuzu Stoffer, April 15th: *noting that four in ten people older than 60 do not like the AstraZeneca vaccine; noting that Denmark has now completely discontinued the AstraZeneca vaccine and has suspended the administration of the Janssen vaccine; considering that the acceptance to vaccinate can be increased once citizens can choose for themselves which vaccine they receive; the government requests to give citizens freedom of choice about which vaccine they want to receive whenever that is possible;* Wilders van Haga, April 22nd: *The government requests to give people older than the age of 60 who do not want to be vaccinated with the AstraZeneca vaccine another vaccine*).

On the other hand, Members of Parliament claimed that most people younger than 60 felt that the benefits of AstraZeneca outweighed the risks (Ploumen, April 15th: *considering that for many people under the age of 60, including those in fragile health, the risks of a serious corona infection outweigh the risks of serious side effects, and a first shot protects them; considering that vaccination contributes not only to the protection of individuals, but also to the protection of society as a whole; The government requests to make it possible for vulnerable people under the age of 60 to benefit from vaccination with AstraZeneca vaccines in consultation with their GP if they fall outside the vaccination strategy or are leftover at the end of the day*). Provided that these individuals are capable to make an informed choice, it should be possible for them to opt for the AstraZeneca vaccine (Paternotte, April 15th: *noting that the Health Council has advised not to vaccinate anyone under the age of 60 with the AstraZeneca vaccine,*

but that for most people in this group the benefits of this vaccine do outweigh the disadvantages; considering that there is a chance that such advice could also apply to other vaccines in the future and that people, when well informed, can make their own choice whether they still want to be vaccinated with these vaccines).

Ultimately, both approaches appeared to be designed to cushion the negative impact of the AstraZeneca commotion on vaccine acceptance: The first invited older citizens who now rejected AstraZeneca to be vaccinated with another vaccine. The second allowed younger advocates of vaccination to get early injections of a vaccine that had become abundant because it had recently been allocated to a much smaller target population.

5 DISCUSSION AND CONCLUSION

In the above we analysed how the government used scientific expertise in its effort to govern the COVID crisis in the first half of 2021. We first analysed the government framing of experts and expertise during official press conferences and then examined how their framings were responded to in Parliament (motions) and on social media (Twitter). It is important to reiterate that the responses on Twitter come from a distinct group of involved and opiniated citizens and cannot be considered a 'simple reflection' of the broader range of sentiments present in society. However, the motions in Parliament address largely the same moralities as the reactions on Twitter, indicating that the relevance of our findings on Twitter extend beyond the social media platform (see also KNAW, 2022; OVV, 2022).

At the beginning of the pandemic in early 2020, the government relied on the choices of a supposedly homogeneous group of experts (i.e. virologists) to guide policymaking (Figure 4, a). Nearly a year later, government communication no longer actively exposes the scientific basis of policymaking, as if the scientific evidence coincides seamlessly with the basis of public health policy, and thus with the choices of key political actors. (Figure 4, b). Political actors thereby portrayed themselves as the 'principal' rather than as the 'animator' of the message (Goffman, 1981). This suggested that the science behind the technology could be considered as settled, i.e., as nothing to worry or argue about. In addition, it rejected any suggestion that vaccination and vaccination coverage might *not* be the (perfect) solution (for example, what if vaccinated citizens could still transmit the disease?), even if these suggestions came from scientific circles. This stated self-evident basis of policymaking—so self-evident that public accountability was not necessary—changed radically when the safety of the AstraZeneca vaccine came into question. The government quickly fell back on revealing expert advice as the source of their actions, making flexible (or: selective) use of the various available sources (Figure 4, c). For example, the

decision to use the AstraZeneca vaccine only for citizens over the age of 59, although the EMA found it safe enough for the entire population, was presented as based on a risk-benefit analysis by the Dutch Health Council.

Based on our analysis of responses to the governmental framing, we argue that it was not so much the policies per se that were challenged, but the hidden moralities entwined with these measures, as viewed through the eyes of Tweeters and MPs. As with the onset of the coronavirus crisis in 2020 (Prettner et al., 2021), the government was accused again of being completely *complacent* about their own policies, while shifting the responsibility to citizens to end the crisis. Moreover, while the evidence of the measures themselves was regularly disputed, the underlying technocratic logic was ultimately not: they were the wrong facts, or the wrong experts, but not the idea of 'science for policy' or 'speaking truth to power' (Wildavsky, 1979) per se. In the parliamentary motions in particular, the scientific underpinning of the policy was portrayed as something in which one could be flexible, i.e., which one could 'bend' according to the circumstances. This pragmatic attitude was also reflected in the emphasis that MPs placed on freedom of choice in vaccination after the AstraZeneca commotion: freedom of choice is fine as long as it increases the total vaccination coverage.

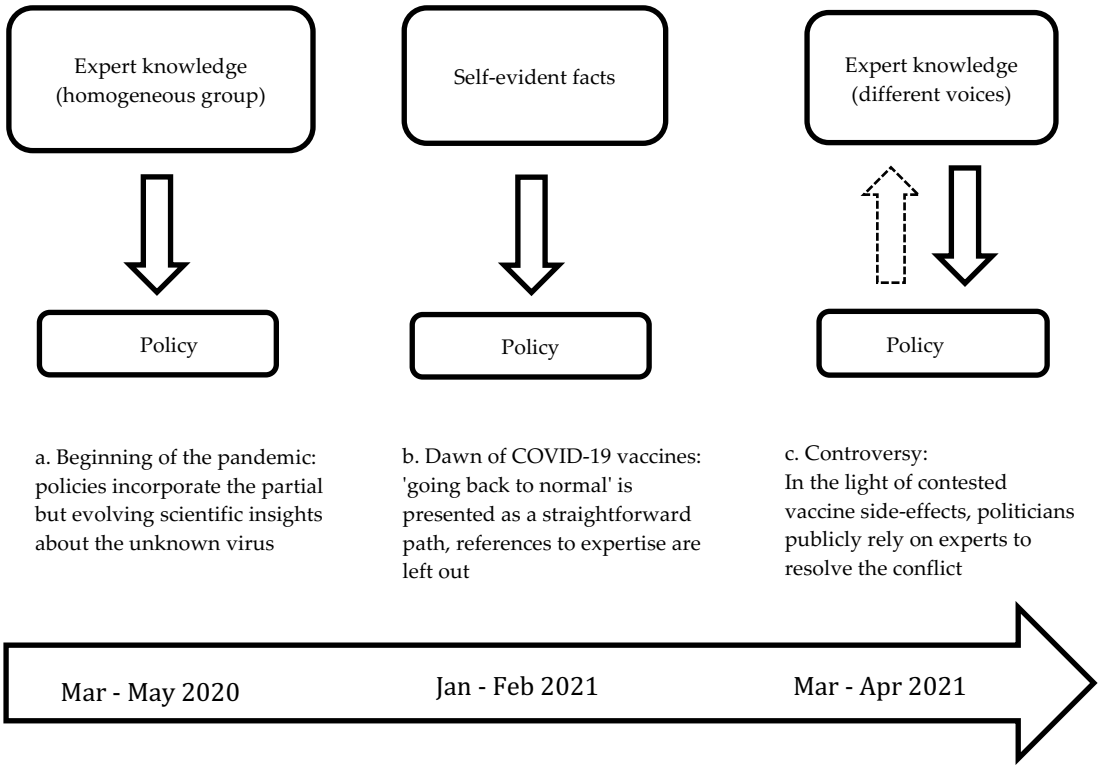

Figure 4. Relationship between scientific expertise and policy making over time, as presented by key political actors.

Thus, we see a continuity of the *dominant technocratic logic*, underlining and assuming the direct line between the available scientific evidence and the direction of policymaking, yet with a notable difference in the way by which the government enlisted the science. Where in the previous period we found that 'Listen to the expert' was the predominant government message (Prettner et al., 2021), in 2021 we see a shift towards 'We've got the technology' (read: vaccine), where citizens are told to take responsibility to get vaccinated, or their bright future may not come true. As a result, the government failed to clarify (and publicly take responsibility for) the *inherent trade-offs between science and politics*, both by openly justifying their policies as merely science-based when AstraZeneca became controversial, *and* by omitting the scientific basis for vaccination at the start of the vaccination campaign. That suggests a logic of interaction in which the government relies on institutionalised science for their input and relates to society only to communicate their decisions.

A key postulate in the literature on authority of governance is that it depends on the quality of the communication (Hajer, 2009). We note that the Dutch government has chosen to communicate according to a framing strategy that was very much fixed, to the detriment of an alternative strategy, based on dialogue. Dialogue, in contrast to debate, explores routinely hidden moralities, i.e., that what people deem important, in relationships, in life, as a person - and brings them to the surface for discussion (cf. Durnová, 2019; van Burgsteden & te Molder, 2022; van Burgsteden et al., 2022a, 2022b). Whereas debate can be useful in that it provides an overview of the different existing positions, the focus on defending one's own position hinders people's attempts to better understand and overcome their differences. In the case of dialogue, the government would have acknowledged people's concerns or critical comments by explaining their chosen course of action in light of a *pro-active, public consideration of routinely hidden moralities*, thereby transforming them into explicit values that can be weighed by broader publics.

In a series of studies, van Burgsteden (2022) found that for the citizens themselves, dialogue was treated as dialogue only when *differences were articulated*, at the expense of moving the conversation forward, and visibly in the service of better understanding. This means dialogue is not so much easy as difficult, and because moralities are brought to the surface and turned into values to be discussed, it can sometimes be harsh and ugly. The studies also showed, however, that dialogic moments were possible even in debates and information sessions, i.e., contexts that were not explicitly organized to engage in dialogue (ibid.). In this sense, dialogue is not so much a practical activity as a listening exercise. The key to listening in the first place is transparency about the underlying morality of

policymaking, that is, *how* decisions were arrived at, balancing one concern, interest, or uncertainty against another, including in terms of the scientific evidence relied on, so that it can be reflected on collectively. This attitude should be visible in all public expressions by governments, from press conferences to deliberations in parliament. Instead of focusing only on discrete and thus visible (stakeholder) participation and citizens' councils, our study encourages governments to enhance the learning capacity of government itself, by opening itself up to discussing usually hidden moralities, so that it can respond quickly to changing coalitions of citizens at unforeseen or difficult to foresee moments. Such moments of dialogue are crucial for citizens, who need a listening ear more than the few moments in the year when the government explicitly invites them to a 'proper' dialogue.

We conclude by returning to the question of governmental trustworthiness in times of crisis. As discussed, the Dutch government made significant changes to their framing of expertise, noticeably between 2020 and 2021 (Figure 4), but the results of these changes on public trust were questionable at best (Schmeets & Exel, 2022). In this article, we have argued that to demonstrate trustworthiness as governmental actors, a shift from a technocratic model to one of dialogue is necessary, reaching beyond the critical group of citizens found on Twitter or in Parliament. In the dialogue model, fundamental dimensions of trust such as integrity, competence, consistency or accountability (for an overview, see Liu & Mehta, 2021) are openly discussed and continuously evaluated. In the absence of dialogue, these hidden moralities are treated as redundant or even taboo to talk about. While Harambam (this volume) suggests that the exclusive focus on vaccination as a solution to the pandemic created distrust, we argue that the lack of transparency on exactly *what considerations* led to this one-solution approach was treated as unreliable. It is only when the hidden morality of public debate is brought to the fore that assessments of and changes to government behaviour in times of crisis can become meaningful to its critics. This can be a first step towards a more trusting relationship between government and citizens.

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