



The Corona Truth Wars: Epistemic Disputes and Societal Conflicts around a Pandemic—An Introduction to the Special Issue

Jaron Harambam¹ · Ehler Voss²

Accepted: 16 August 2023 / Published online: 8 September 2023
© The Author(s) 2023

Abstract Ever since the start of the Corona pandemic, different and often conflicting views have emerged about the virus and how to appropriately deal with it. Such epistemic, societal, and economic criticisms, including those about government imposed measures, have often been dismissed as dangerous forms of conspiratorial disinformation that should be (and have been) excluded from the realm of reasonable political discussion. However, since these critiques of emerging hegemonic knowledge and policies often involve significant and complex questioning of epistemic and political claims, and since corresponding plausibilities change over time, such clear distinctions between correct knowledge and foolish, fraudulent, and/or dangerous, disinformation are not easy to draw. In fact, they can be considered political acts in these epistemic disputes over the pandemic. These conflicts, which we refer to as the “Corona Truth Wars,” are not just about knowledge, but have turned into societal conflicts and even outright identity wars that run through families, circles of friends, organizations, and entire societies. In this special issue, we illuminate these dynamics by bringing together a range of scholars who have been struck by the complexity of these controversies and their far-reaching social consequences. Far from understanding these controversies as simple dichotomies between truth and disinformation, or between disinterested science and manipulative politics, these scholars are interested in the various ways in which these dimensions are intertwined. Building on a long tradition of exploring (scientific) knowledge controversies, the six contributions to this special issue show how epistemic struggles over truth are not only fought in the realm of science, but increasingly manifest and interact in everyday politics, social media platforms, daily talk shows, and family dinners. The scholars

✉ Jaron Harambam
j.harambam@uva.nl

¹ Department of Sociology, University of Amsterdam, Amsterdam, The Netherlands

² DFG Research Training Group 2686 Contradiction Studies, University of Bremen, Bremen, Germany

brought together in this issue, with diverse disciplinary backgrounds and from different geographical regions (Denmark, France, Germany, the Czech Republic, and Israel), present their studies on the various epistemic and social conflicts that have emerged during the Corona pandemic of the last three years.

Keywords Covid19 · Pandemic · Conspiracy theories · Controversy · Social movement · Disinformation

In summer 2023, now that the dust of the COVID-19 pandemic is settling, and most people more or less happily continue with their lives as if nothing happened, one could easily forget the intense epistemic disputes and the related societal polarization that haunted our societies during that unsettling period. While the beginning of the pandemic was characterized by widespread anxiety, uncertainty, and little understanding of what was going on, scholars and scientists across the globe immediately partook in the greatest collaborative knowledge production probably ever seen (Kinsella et al. 2020; Moradian et al. 2020). Confronted with terrifying images from China and Northern Italy, and coupled with disastrous projections of massive numbers of casualties, most Western countries feared the worst. With rampant infection rates and an unclear case fatality rate, societies seemed on the brink of breakdown. Decisive action needed to be taken. It was clear to everyone—citizens, scientists, and politicians—that reliable knowledge about the new coronavirus and how its spread should be mitigated was of prime importance, and there was no time to waste (Garrett 2020). Indeed, as pandemic scholars emphasized before, how societies are able to cope with such events depends heavily on the knowledge they are able to amass (Bjorkdahl & Carlsen 2019).

This dire need for robust knowledge put science on the main stage (Van Dooren & Noordegraaf 2020). The WHO made strenuous efforts to collect and display important data, while it supported national public health institutes with evidence-based policy guidance (Gostin 2020; Moorthy et al. 2020). Meanwhile, governments leaned heavily on their scientific advisory organs and public health institutes to design and implement their emergency response and mitigation strategies (Bal et al. 2020). In most countries, the prevailing adage of ruling politicians was that they were “following the science” to guide their decision-making processes. Based on the advice of these scientific organs, governments deployed a wide range of non-pharmaceutical interventions that centered mostly on radically reducing the movement, interaction, and gathering of people in order to decrease the spread of the virus. In ways never seen before, governments across the world followed China’s regional approach and implemented severe national lockdown measures to “flatten the curve” of infection, hospitalization, and death statistics (Caduff 2020). People were asked and sometimes forced to stay at home, schools and (non-essential) business were closed, movement both within and across countries was severely restricted, and virtually all kinds of social gatherings were prohibited. The widespread goal was to keep health care systems from collapsing, while making sure that economies and societies would not suffer too much either. It was clear that tragic trade-offs were

unavoidable. Populations were therefore both called upon and compelled to join in the collective fight against the virus by adhering to the many non-pharmaceutical interventions that were implemented. Frequent press conferences and an abundance of clear media reporting would keep citizens informed and motivated. Massive financial relief programs for struggling businesses (in those privileged countries that could afford them) prevented economic breakdown and consequent societal unrest. While the science was far from settled, governments and (most) people alike trustingly expected that relying on this epistemic institution was the best strategy out of the pandemic. By providing up-to-date advice on how to deal with the many evolutions of the virus and its spread, and eventually by developing a vaccine, science would set the world free.

But, of course, science is never uniform or unequivocal. The widely used expression of politicians that they were simply “following the science” is extremely dubious (Jarman 2023; Stevens 2020) and can easily be misused as a political strategy to deflect responsibility for policy decisions (Bozeman 2022). Thus it comes as no surprise that, from the onset of the pandemic, different conceptions emerged about the new Coronavirus and how to effectively combat it (Harambam 2020b). These related to questions about the origin of the virus; the way it spreads and infects people; the way we measure and count Corona infections and deaths; the (politics of) possible cures and medications; the efficacy and desirability of widespread lockdown policies and, later, of vaccinations; and ultimately about who benefits and who suffers from the measures and whether this is just and unavoidable. Such epistemic, societal, and economic criticisms have been cast aside predominantly as perilous forms of conspiratorial disinformation that should be (and have been) excluded from the realm of reasonable political discussion. When people expressed these contrasting notions of how to handle the pandemic in the public domain—be it online or protesting on the streets—they were quickly criticized for being anti-science, xenophobic, populist mobs (Voss 2020, 2021).

Some of these objections can probably justifiably be dismissed as implausible and dangerous conspiracy theories or manipulative political propaganda (Ball & Maxmen 2020; Douglas 2021). Think, for example, of the notion that the global roll-out of the 5G telecommunications networks would cause COVID-19 symptoms, the widespread idea that Bill Gates was secretly planning world domination by inserting microchips in people through the vaccines to be developed, or that China willfully released this virus as a bioweapon in geopolitical warfare. Many other such criticisms of the newly emerging epistemic hegemony are more difficult to set aside as disinformation, since they involve serious interrogations of complex epistemic and political claims and are often also propagated by scientific scholars themselves (Birchall & Knight 2023; Harambam 2020b). Examples are numerous: in the search for possible cures, there were various hopes for and explorations into certain existing medications, most notably hydroxychloroquine and ivermectin, that, it was thought, might be effective against COVID-19. These debates were often sparked by well-established and now labeled controversial scientists, such as the French microbiologist Didier Raoult and everyday family doctors like Zev Zelenko (Sayare 2020). High-profile political figures like Donald Trump and business tycoons like Elon Musk fueled the fires of these epistemic debates on social media, where a

worldwide controversy about the effectiveness of these non-patentable medications would erupt (Baker & Maddox 2022). Similar public and scientific arousal appeared regarding the way public health and state authorities measure Corona infections via PCR testing and arguable CT thresholds (Galaitis et al. 2021; Mandavilli 2020) and about the incentive structures that influence the reporting of deaths by Corona while other underlying pathologies may have been the deeper cause (Bishop et al. 2023; Hempton & Trabsky 2020). Since both of these statistics have tremendous political ramifications, they became a topic of much societal debate.

Then there was much public and scientific discussion about the way the Corona-virus is transmitted. The idea that SARS-CoV-2 was passed on by droplets became dominant early on in the pandemic, and most mitigation measures focused on this idea (e.g. handwashing, surface cleansing, physical distancing). Proponents of the “airborne theory” were often dismissed as spreading disinformation, while they backed up their claims with clear scientific and logical empirical evidence (Greenhalgh et al. 2022). It eventually took the World Health Organization two years to acknowledge that this virus was predominantly airborne (Lewis 2022), leading to unnecessary delays in also taking mitigation measures to reduce airborne transmission, such as ventilation. Or take the unprecedented development of the Covid-19 vaccinations, which not only generated widespread relief that the end would soon be here, but also caused much concern about their safety because normal testing procedures had been shortcut; and the efficacy of these vaccinations turned out to be much lower than expected during the pandemic and with new variants emerging (Bardosh et al. 2022). Moreover, the complex entanglement of philanthropic actors, pharmaceutical companies, (supra)national governments, and the WHO in the long search for an effective vaccine was and is an ongoing concern in the assessment of such interventions (McGoey 2015). Indeed, public distrust in all of these pharmaceutical interventions is understandable against the backdrop of decades of cases of conflicts of interests, regulatory capture, and outright fraudulent and criminal behavior by the corporations and institutions behind the COVID-19 vaccinations (Halma & Guetzkow 2023).

But the list of epistemic and political controversies that cannot easily be dismissed as mere disinformation continues. One prominent and highly controversial topic is the efficacy and desirability of the stringent lockdown policies that were implemented across most of the world (Angeli et al. 2021). While several scholars warned against the “devastating ripple effects” of these unprecedented mitigation policies (Schipper 2020), and some public health authorities, like Sweden’s, therefore took a different path to avoid such collateral damage (Tegnell 2021), it was not until three top medical scientists started an initiative against this widespread policy approach that a pervasive and complex controversy erupted. In the fall of 2020, Professor of Theoretical Epidemiology Sunetra Gupta (University of Oxford), Professor of Medicine, Economics, and Health Research Policy Jay Bhattacharya (Stanford University), and Professor of Medicine Martin Kulldorff (Harvard University) formulated the *Great Barrington Declaration*, in which they argued against the stringent lockdown policies and in favor of more focused protection of vulnerable people, in favor of opening up large segments of society for those who were not at great risk (Kulldorff et al. 2020; Lenzer 2020). This declaration was lauded by

many people, but attracted much criticism as well. Rather quickly, another group of top scientists published the *Jon Snow Memorandum* in *The Lancet* as a reaction to the “dangerous fallacy unsupported by scientific evidence” called the GBD (Alwan et al. 2020). These scientists, by contrast, put forward empirical evidence legitimizing the stringent lockdown measures, maintaining that it would prevent an uncontrolled spread and mutation of the virus that would lead to even more casualties and long-term health issues encapsulated by the umbrella term Long Covid. So the lockdown controversy was born, with both sides fighting for their truths in scientific journals and on social media alike (cf. Ioannidis 2022; Yamey & Gorski 2021). Each party claimed to have scientific evidence on its side, accusing the other of manipulation, fraud, and spreading disinformation, while both parties’ claims to truth are enmeshed with normative standpoints and political interests (Angeli et al. 2021). Two years and several lockdown and vaccination campaigns later, these conflicts are far from over, as the Great Barrington Declaration scholars argue that they were severely censored, stigmatized, and marginalized, while the John Snow scholars argue for a “vaccine-plus strategy” to further reduce the spread of the virus, which they say poses unnecessary and dangerous health risks. Several evaluative reports are now coming out, too, trying to measure the efficacy of these invasive and highly controversial non-pharmaceutical mitigation interventions (e.g. Lison et al. 2023).

The most telling “disinformation or not” controversy is, perhaps, the origin story of the SARS-CoV-2 virus. Ever since the start of the pandemic, most scientists (and consequently politicians and journalists) argued that the virus had a natural origin, being first transmitted from animals to people at the livestock market of Wuhan, China. At the same time, several allegations emerged that the virus could have leaked—either on purpose or by accident—from the nearby Wuhan Institute of Virology, one of the three research facilities in the world where “gain of function” research is conducted. These various allegations led a group of top virologists from across the globe to publish a statement in *The Lancet* in February 2020 warning that “this outbreak is being threatened by rumors and misinformation around its origins. We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin” (Calisher et al. 2020). For most of 2020, the leading media corporations, social media platforms, and politicians worldwide followed these scientists, while those proclaiming otherwise were being shunned, banned, and ridiculed. Yet over the course of the pandemic, this narrative gradually but dramatically changed as the theory that the SARS-CoV-2 virus could indeed have leaked from that notorious laboratory in Wuhan gained plausibility. Already early in 2020, news articles from *The Washington Post* put forward information from US intelligence services about inadequate safety at that Wuhan laboratory years before the pandemic started, adding plausibility to the possibility of a lab leak (Kessler 2021). While an official WHO investigation early in 2021 into the origins of the virus concluded that the lab leak theory was “extremely unlikely”, other newly emerging information suggested otherwise. This led several prominent scientists, and even the Director General of the WHO Tedros Ghebreyesus, to call for a new independent investigation into the origins of the virus (Kessler 2021). Major news organizations and social media platforms now had to acknowledge that of the lab leak theory

had been prematurely framed as disinformation and that it should be considered a legitimate possibility (Thacker 2021). In the summer of 2023, much is still unclear. *The Sunday Times* published in June an extensive investigation arguing that “Chinese scientists were running a covert project of dangerous experiments, which caused a leak from the Wuhan Institute of Virology and started the Covid-19 outbreak” (Calvert 2023). Some US intelligence offices, such as the FBI, agree and give more credence to the lab leak theory, while others and most of the scientific community cling to the natural spillover theory (Looi 2023). Given the enormous epistemological and (geo)political complexity of the case, it is unlikely that the world will ever hear conclusive answers to this thorny matter.

Thus, while the WHO almost immediately issued a well-propagated alarm about a looming “infodemic” aggravating an already challenging public health crisis (Zarocostas 2020), in practice it was and is not always easy to make these clear-cut distinctions between accurate knowledge and fraudulent and dangerous misinformation (Harambam 2021). Put even more strongly, making these distinctions can be seen as political acts, since they have the performative power to relegate certain knowledge claims to the realm of pseudoscience, conspiracy theories, and disinformation (Harambam 2020a; Pelkmans & Machold 2011). Indeed, (scientific) knowledge controversies are never purely epistemic, but always embedded in various political constellations and contestations (Jasanoff 2019). Differentiating between the truth and falsity of complex knowledge claims is simply not an easy task. This counts even more for the various epistemic disputes that arose during the Corona pandemic, simply because the knowledge was uncertain, the future unclear, the stakes high, and everyone was out to find the magical end to this dramatic crisis—perhaps especially governments and the politicians in power, who had the challenging task of balancing diverse interests and acting decisively in an uncertain world to reduce the spread of the virus and diminish the psychological, economic, and societal collateral damage of both the pandemic and its mitigation measures (Weible et al. 2020; Weingart et al. 2022).

Adding to the complexity is the increasing mediatization of society (Couldry & Hepp 2018), which greatly impacted these knowledge controversies during the COVID-19 pandemic (Van Dijck & Alinejad 2020). Images of the most dramatic scenes of the pandemic—from overflowing hospital wards and coffins piling outside of mortuaries to dystopian empty streets in major cities—traveled the world effortlessly and affected both citizens and decision makers. Journalists reported in line with the rhetoric of political leaders who declared war against the virus (Chapman and Miller 2020), and so we encountered hyperbolic stories about “frontline” heroes fighting the invisible enemy and got accustomed to a dizzying flow of decontextualized charts and visualizations of the numbers of infections and casualties (Harambam 2023). The news media were sometimes accused of blindly following the PR machines of national governments and ignoring their role as critical watchdogs of power (Caduff 2020; Crabu et al. 2021), while they also had to inform the public with reliable information, creating a challenging situation for journalists (Perreault & Perreault 2021). At the same time, new celebrities emerged as eminent scientists, often those virologists and epidemiologists in the national advisory organs, frequently appearing in late-night talk shows and becoming well-known to the general

public (Hodges et al. 2022). It is no exaggeration to say that the pandemic became one great media spectacle.

In today's hyperconnected world, this spectacle extends to the online realm as well. On social media, people encountered in their feeds a hodgepodge of dramatic personal accounts of first responders, the more distant concerns of opinion makers, conspiratorial accusations of dark plans to put humanity into submission, consolations of statespersons in official press conferences, newly composed songs calling for solidarity, detailed news reports from esteemed journalists, kitchen videos of ordinary people giving recipes and moral support, outrageous insinuations from demagogues, snippets from explainers put online by dissenting scientists, and all the more diverse media contents. Given the dubious truthfulness and limited controllability of these forms of information, which might endanger the effective handling of the pandemic (Romer & Jamieson 2020), most social media platforms were pressured to collaborate in a unique effort to "flatten the information curve" by removing items not aligned with WHO guidelines (Niemic 2020). Yet while massive amounts of content were indeed removed, this did not stall the circulation of information disputing the consolidating "official" Corona narrative, nor did it stop the various political disputes and consequential societal polarization.

By contrast, over the course of the pandemic we have seen an increasing entrenchment of beliefs about the (handling of the) pandemic: epistemic disputes morphed gradually into proper identity wars cutting across organizations, families, and groups of friends. Zubin Damania, hospital doctor and host of *The ZDoggMD Show* on YouTube who gave a consistent "alt-middle" perspective on the pandemic, poignantly described this as a "division between 'Covidiot,' who just deny that this is a thing and are doing everything opposite to what the authorities are saying, and 'Covidians,' who are brainwashed into thinking we have an eternal pandemic and we should hide in a bubble for the rest of our lives" (ZDoggMD 2021). This societal polarization was not only reproduced by the media and governments, which increasingly spoke about society in dichotomous terms, but also became institutionalized, as digital Corona certificates proving one's vaccination intake became mandatory for many public activities and travel. The cultural and societal ramifications of these entrenching disputes are immense (Drażkiewicz 2023), and various new symbols and rituals as markers of these identity wars emerged (Greenhalgh et al. 2022). Think only of the face mask, which for those adhering to the hegemonic narrative are symbols of proper citizenship, showing responsibility and solidarity, while for those opposing the measures, they are signs of gullible and mindless submission to authoritarian restrictions of individual freedom (Lupton et al. 2021). Similarly, hugs and physical contact became contentious activities; for some people, they are rituals of resistance against the Corona measures and practiced widely at demonstrations, while for others, they are foolish acts of irresponsible risk-taking jeopardizing public health. Given the clear visibility of these cultural symbols, it was hard to avoid these identity wars: simply by moving around in the public domain and interacting with others, people were—by implication—forced to take sides.

So we see the contours emerge of what we call the "Corona Truth Wars": the intense epistemic disputes over various knowledge claims about the SARS-CoV-2 pandemic that play out in today's multidimensional media landscape, but

also on the streets and squares of our cities, in our office buildings, our living rooms, and sometimes even in people's bedrooms (Harambam 2020b). Citizens trying to understand what is going on, top scientists and their competitors out for fame and fortune, government officials managing a public health crisis, malicious cybertroopers looking to instigate a riot, journalists fueling the flames of discontent, family members no longer talking to each other, family doctors helping their patients in need, CEOs of pharmaceutical companies turning from villains into heroes, and conspiracy theorists connecting the dots. The Corona Truth Wars know many different actors, and their interests and stakes are heterogeneous and far from clear: what are people's intentions and how do they play out? Whose knowledge is to be trusted and for what reasons? How do competing parties advance their ideas about the truth of the pandemic and challenge others' ideas?

As has been common with other diseases, including SARS (Chiang and Duann 2007), the metaphor of war against a disease was also quickly applied to SARS-CoV-2 and during the pandemic frequently took the form of a "war against a virus" (Benziman 2020; United Nations 2020). This is, of course, highly problematic when applied to a situation that is not a classic war because of its oversimplification of biosocial problems, including its tendency to dichotomize societies and to disproportionately affect socially vulnerable populations (Chapman and Miller 2020). The use of this metaphor in the case of Covid can be understood, depending on one's point of view, as either a necessary or an unnecessary dramatization, as it connects one dramatic situation to another and thus cumulates the horror. It can unite people against a common enemy, make it possible to declare a state of emergency that justifies the suspension of fundamental human rights, and suppress criticism as undermining the common war effort—which can be welcomed as a necessity or demonized as encroaching; therefore the use of the war metaphor can either fuel fears of majority violence against a minority or vice versa (Agamben 2020; Charteris-Black 2021: 31-59; Musolff 2022, 2023).

As inappropriate as we see the use of the war metaphor in relation to a fight against the virus, the more appropriate it seems to us to describe the controversy over the right way to deal with the virus. First, because it echoes the so-called science wars of the 1990s (Latour and Noor 2002), the academic controversy about asserting or challenging the social, cultural, economic, political independence of science. Second, because the Corona disputes have morphed into identity issues and increasingly align with culture wars that haunt most Anglo-American and increasingly many continental European countries, too (Ryan 2022). But also simply because a social situation has arisen in which the answer to the question of the truth about the virus has become for many an existential question of life and death: those who rely on the measures to fight a potential deadly virus see critics of the measures who do not want to comply with the rules as a threat to their lives, and those who criticize the measures often see their existence threatened by these potential deadly measures promoted by the proponents. The result was a social situation that seemed to acknowledge only true or false, friend or foe, good or evil (Drazkiewicz 2023). Disputes were frequently aggressive and caused friendships and partnerships to break up.

In this special issue, we set out to shed more light on these dynamics by bringing together a collection of scholars who were similarly struck by the complexity of these controversies. Far from understanding them as revolving around simple dichotomies between truth and disinformation or between disinterested science and manipulative politics, these scholars are interested in the various ways these concepts are entangled (cf. Grodzicka & Harambam 2021). Following a long tradition of research on (scientific) knowledge controversies (Jasanoff 2019; Marres 2018), the authors of this special issue highlight how epistemic battles for truth are not merely played out in the domain of science, but increasingly also manifest themselves in everyday politics, on social media platforms, in daily talk shows, and during family dinners. Coming from different disciplinary backgrounds and multiple geographical locations (albeit mostly European), they present here their efforts to make sociological sense of the various epistemic and societal conflicts that arose during the Corona pandemic.

We begin with Madeleine Akrich and Franck Cochoy, whose article titled *A Masked Truth?* is an important contribution to understanding the above-cited concept of an infodemic. That viral metaphor plays on the image of spread, infectiousness, and deadliness associated with a pandemic. It carries the idea that everyone is exposed to the virus in the same way, that everyone is equal before the virus. In that sense, talk of infodemics also often gives the impression that people are hopelessly at the mercy of conspiracy theories and other misinformation. In the case of the virus, it quickly became clear that the image of an equal exposure is not generalizable: who is affected by the virus and in what ways varies greatly and depends on many biosocial and often unknown factors. The authors of this article make it clear that this also applies to infodemics: they analyze the discussion on a French online forum about mask wearing that was launched in July 2020 and show that social actors are not shaped without agency by information of whatever quality. The authors conclude that, on the one hand, skepticism about wearing masks is not due to a general rejection of science, but to the wavering of experts in this regard, and on the other hand, that the proliferation of conspiracy theories in the forum has tended to stimulate discussion, and thus finally to increase knowledge. They end with the important conclusion that public discussions about assumed disinformation are not detrimental to truth, as post-truth pundits would have it, but can actually lead to better public knowledge.

Sofie á Rogvi & Klaus Hoeyer look at the controversy over the right way to fight the pandemic in Denmark, talking to numerous people and attending demonstrations. They put the concept of data in the foreground of their investigation and describe how *COVID-19 as a Data-Political Spectacle* became a source of societal division in Denmark. Here, data is ubiquitous not only in predicting and monitoring the pandemic, but also in resisting government action. As in other countries, society in Denmark divided into supporters and opponents of the measures, and even though both sides come to different assessments of the situation, they share the scientific ideal that the right pandemic response should be based on data and facts, even though both sides are aware that data are never unambiguous and are used politically. The authors describe how the differing assessments of the situation led to different types of pandemic-related activism, but emphasize that the divide

between opponents and supporters of the government approach is not as unbridgeable as the contrasting interpretations of the data and the emerging split in society might suggest. What also remains important is their observation that the controversy is not a conflict between left-wing and right-wing politics, but that both camps have encountered actors on the political right as well as on the left, although they suggest a tendency for opponents to have generally moved away from the political center toward the poles of the political spectrum.

In his article *Vaccine Hesitancy and the Concept of Trust*, Ori Freiman uses the example of the Israeli COVID-19 Vaccination Campaign to show that decisions for specific actions in a pandemic are not based on knowledge alone, but are also very dependent on the social aspect of trust. He distinguishes between different domains of trust: the Israeli public's trust in the government and health care institutions, in pharmaceutical companies, in the U.S. Food and Drug Administration (FDA), in the new technology of vaccination, and in the interpersonal trust in medical professionals and experts. The article offers insight into the multifaceted controversies within Israel regarding Covid vaccination, focusing on the "vaccination hesitant" and the practices of suppressing their heterodox views. In doing so, he not only analyzes the role of scientists, politicians, and laypeople in the vaccination campaign, but also offers himself as an advisor when he ends with the recommendation to those in power to rely on a trust-based approach, rather than censorship, as a more effective way to persuade "vaccine hesitant," since overtly massive suppression of dissenting views only increases distrust among dissenters.

In his article *Covid Vaccination Disputes in Czechia*, Radek Chlup examines the dichotomization of positions in the Corona controversy using the debate over Covid vaccinations in the Czech Republic, to which he attributes a subsequent key symbolic role in the debate over the right measures after the initial debates over masks and lockdowns. By following various Facebook groups of the "free vaxxer" scene, he analyzes the arguments of vaccination proponents as a political myth, i.e., collectively transmitted narratives with whose help one's own political experiences and actions are given meaning. In doing so, he demonstrates that positive attitudes toward vaccination serve as a sign of moral and social responsibility and as a mark of rationality. While these two associations are also widespread in other countries, in the Czech Republic, with a specific geopolitical imagination, a local component is added, according to which everything regressive, such as the position of the free vaxxers, is considered "Eastern", while the position of the unambiguous proponents is considered progressive and thus "Western". However, Chlup also points out that this kind of thinking in black-and-white categories does not do justice to the heterogeneity and differentiated character of the discourse. Nevertheless, this political myth leads to a successful exclusion of heterogeneous knowledge culture. But this exclusion has a very ambivalent character. Although some renegade scientists manage to remain part of the scientific community, many from the free vaxxer scene, who initially saw themselves as liberal, have been increasingly driven into the arms of anti-liberal groups by their experience with massive censorship and unobjective insults.

The issue of censorship, which is addressed in all of the articles in this special issue, becomes central in the article *Censorship and Suppression of Covid-19*

Heterodoxy by Yaffa Shir-Raz, Ety Elisha, Brian Martin, Natti Ronel & Josh Guetzkow. The authors are less interested in examining the silencing of heterodox positions in the general population than in looking at highly qualified physicians and scientists who challenge the official position of governmental and intergovernmental health agencies and political institutions. They interviewed numerous such scientists from different countries about their experiences with censorship and how they dealt with it, thus providing a detailed insight into the scientists' concrete everyday experiences with censorship. The central role of media and software companies in censorship measures becomes clear, which according to the interviewees' statements is not limited to deleting public statements on social media or entire social media accounts, but apparently goes as far as deleting private documents in personal accounts. In addition, they trace in detail the practices reported by the interviewees that aim at damaging their reputation as scientists in general and that seek to exclude heterodox positions by excluding the individuals from the scientific community, thus going far beyond classical censorship. Finally, they present the reported counter-strategies that, after an initial shock at the extraordinary vehemence of the reactions to a dissenting position and the desire to fight back, range from using alternative media to attempting to build personal networks with like-minded individuals to building alternative medical and health information systems. Although many censorship practices are familiar from other controversies, the authors see the extreme reaction to dissenting opinions combined with the powerful influence of technology and media companies and the massive attempt to damage the reputations of scientists, regardless of their status and prior achievements, as actually making the Corona crisis an exceptional situation.

Based on anthropological fieldwork in Germany, the last article on *The Controversy over the German Covid Policy as a Mediumistic Trial* elaborates the striking symmetry of the mutual attribution processes of proponents and opponents of the state-imposed protection measures against the background of an asymmetrical distribution of power and thus the different perceptions regarding the evaluation of the last three years. The article takes a historical and comparative view and aims to normalize the controversy surrounding Corona, which is commonly perceived as a media problem, by comparing it with the controversy surrounding mediumism, that is, the testing of (paranormal) abilities of human and non-human mediums. It elaborates the connection between conjuration and conspiracy in both controversies and traces the situation of mutual distrust between an orthodox and a heterodox culture of knowledge, which also occurs in the controversy surrounding Corona, to the ambivalent character of mediality between transparency and opacity. The social side effect of these controversies—the dichotomization of society resulting from this distrust, combined with an othering of the respective opposing side as the maximal alien—obscures the common ground underlying any antagonism and intensifies the rift between the parties. In contrast to mediumism, in the pandemic the question of the history and present of modern esotericism and alternative medical approaches moves from a marginal topic to a central issue with intense political relevance, transforming it into a question of life and death that seems to make the space for ambivalences almost disappear. The article argues that anthropology is best prepared to take

a mediating role between the camps, since the hysterical state of mistrust on all sides during the pandemic could best be countered by making people aware of their common ground, on whose basis alone it is possible to recognize differences beyond the mutual othering of the others as the Other.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Agamben, Giorgio. 2020. L'invenzione di un'epidemia. <https://www.quodlibet.it/giorgio-agamben-l-invenzione-di-un-epidemia>.
- Alwan, Nisreen A., Rochelle Ann Burgess, Simon Ashworth, et al. 2020. Scientific consensus on the COVID-19 pandemic: we need to act now. *The Lancet* 396:e71–e72.
- Angeli, Federica, Silvia Camporesi, and Giorgia Dal Fabbro. 2021. The COVID-19 wicked problem in public health ethics: Conflicting evidence, or incommensurable values? *Humanities and Social Sciences Communications* 8:161.
- Baker, Stephanie Alice, and Alexia Maddox. 2022. From COVID-19 treatment to miracle cure: The role of influencers and public figures in amplifying the hydroxychloroquine and ivermectin conspiracy theories during the pandemic. *M/C Journal* 25(1).
- Bal, Roland, Bert de Graaff, Hester van de Bovenkamp, and Iris Wallenburg. 2020. Practicing corona—towards a research agenda of health policies. *Health Policy* 124(7): 671–673.
- Ball, Philip, and Amy Maxmen. 2020. The epic battle against coronavirus misinformation and conspiracy theories. *Nature* 581(7809): 371–375.
- Bardosh, Kevin, Alex De Figueiredo, Rachel Gur-Arie, Euzebiusz Jamrozik, et al. 2022. The unintended consequences of COVID-19 vaccine policy: Why mandates, passports and restrictions may cause more harm than good. *BMJ Global Health* 7(5): e008684.
- Benziman, Yuval. 2020. “Winning” the “Battle” and “Beating” the COVID-19 “Enemy”: Leaders’ Use of War Frames to Define the Pandemic. *Peace and Conflict: Journal of Peace Psychology* 26(3): 247–256.
- Birchall, Clare, and Peter Knight. 2023. *Conspiracy Theories in the Time of Covid-19*. London and New York: Routledge.
- Bishop, Karen, Saliu Balogun, James Eynstone-Hinkins, Lauren Moran, et al. 2023. Analysis of multiple causes of death: A review of methods and practices. *Epidemiology* 34(3): 333.
- Bjorkdahl, Kristian, and Benedicte Carlsen. 2019. *Pandemics, Publics and Politics. Staging Responses to Public Health Crises*. Singapore: Palgrave Macmillan.
- Bozeman, Barry. 2022. Use of science in public policy: Lessons from the COVID-19 pandemic efforts to ‘Follow the Science.’ *Science and Public Policy* 49(5): 806–817.
- Caduff, Carlo. 2020. What went wrong: Corona and the world after the full stop. *Medical Anthropology Quarterly* 34(4): 467–487.
- Calisher, Charles, Dennis Carroll, Rita Colwell, Ronald B. Corley, Peter Daszak, Christian Drosten, and Mike, Turner. 2020. Statement in support of the scientists, public health professionals, and medical professionals of China combatting COVID-19. *The Lancet* 395(10226): e42–e43.
- Calvert, Jonathan. 2023. What really went on inside the Wuhan lab weeks before Covid erupted. *The Sunday Times*, June 10. <https://www.thetimes.co.uk/article/inside-wuhan-lab-covid-pandemic-china-america-qhjwwvm0>

- Chapman, Connor M., and DeMond Shondell Miller. 2020. From metaphor to militarized response: the social implications of “we are at war with COVID-19”—crisis, disasters, and pandemics yet to come. *International Journal of Sociology and Social Policy*.
- Charteris-Black, Jonathan. 2021. *Metaphors of Coronavirus: Invisible Enemy or Zombie Apocalypse?* Cham: Palgrave Macmillan.
- Chiang, Wen-Yu, and Ren-Feng Duann. 2007. Conceptual metaphors for SARS: “war” between whom? *Discourse & Society* 18(5): 579–602.
- Couldry, Nick, and Andreas Hepp. 2018. *The Mediated Construction of Reality*. Cambridge, UK: Polity Press.
- Crabu, Stefano, Paolo Giardullo, Andrea Sciandra, and Federico Neresini. 2021. Politics overwhelms science in the Covid-19 pandemic: Evidence from the whole coverage of the Italian quality newspapers. *PLoS ONE* 16(5): e0252034.
- Douglas, Karen M. 2021. COVID-19 conspiracy theories. *Group Processes & Intergroup Relations* 24(2): 270–275.
- Drazkiewicz, Elżbieta. 2023. Are you with us or against us?: Studying conflicts over conspiracy theories and overcoming the great conspiratorial divide. *Anthropology in Action* 30(1):12–23.
- Galaitis, Stephanie Elisabeth, Jeffrey C. Cegan, Kaitlin Volk, Matthew Joyner, Benjamin D. Trump, and Igor Linkov. 2021. The challenges of data usage for the United States’ COVID-19 response. *International Journal of Information Management* 59:102352.
- Garrett, Laurie. 2020. COVID-19: the medium is the message. *The Lancet* 395(10228): 942–943.
- Gostin, Lawrence O. 2020. COVID-19 reveals urgent need to strengthen the World Health Organization. *JAMA Health Forum* 1(4):e200559.
- Greenhalgh, Trisha, Mustafa Ozbilgin, and David Tomlinson. 2022. How COVID-19 spreads: Narratives, counter narratives, and social dramas. *BMJ* 378:e069940.
- Grodzicka, Elżbieta Drazkiewicz, and Jaron Harambam. 2021. What should academics do about conspiracy theories? Moving beyond debunking to better deal with conspiratorial movements, misinformation and post-truth. *Journal for Cultural Research* 25(1):1–11.
- Halma, Matthew TJ, and Joshua Guetzkow. 2023. Public health needs the public trust: A pandemic retrospective. *BioMed* 3(2): 256–271.
- Harambam, Jaron. 2020a. *Contemporary conspiracy culture: Truth and knowledge in an era of epistemic instability*. London: Routledge.
- Harambam, Jaron. 2020b. The Corona Truth Wars: Where Have All the STS’ers Gone When We Need Them Most? *Science & Technology Studies* 33(4): 60–67.
- Harambam, Jaron. 2021. Against modernist illusions: why we need more democratic and constructivist alternatives to debunking conspiracy theories. *Journal for Cultural Research* 25(1): 104–122.
- Harambam, Jaron. 2023. Distrusting consensus: How a uniform corona pandemic narrative fostered suspicion and conspiracy theories. *Journal for Digital Social Research* 5(3).
- Hempton Courtney, & Marc Trabsky. 2020. ‘Died from’ or ‘died with’ COVID-19? We need a transparent approach to counting coronavirus deaths. *The Conversation*, 9 September. <http://theconversation.com/died-from-or-died-with-covid-19-we-need-a-transparent-approach-to-counting-coronaviruses-deaths-145438>.
- Hodges, Ron, Eugenio Caperchione, Jan Van Helden, Christoph Reichard, and Daniela Sorrentino. 2022. The role of scientific expertise in COVID-19 policy-making: Evidence from four European countries. *Public Organization Review* 22(2): 249–267.
- Ioannidis, John P. 2022. Citation impact and social media visibility of Great Barrington and John Snow signatories for COVID-19 strategy. *British Medical Journal Open* 12(2): e052891.
- Jarman, Holly, Sarah Rozenblum, Michelle Falkenbach, Olivia Rockwell, and Scott L. Greer. 2022. Role of scientific advice in covid-19 policy. *BMJ* 378: e070572.
- Jasanoff, Sheila. 2019. Controversy studies. *The Blackwell Encyclopedia of Sociology*: 1–5.
- Kessler, Greg. 2021. Timeline: How the Wuhan lab-leak theory suddenly became credible, *The Washington Post*, May 25. <https://www.washingtonpost.com/politics/2021/05/25/timeline-how-wuhan-lab-leak-theory-suddenly-became-credible/>.
- Kinsella, Cormac M., Pauline Dianne Santos, Ignacio Postigo-Hidalgo, Alba Folgueiras-Gonzalez, Tim Casper Passchier, Kevin P. Szillat, Joyce Odeke Akello, Beatriz Alvarez-Rodriguez, and Joan Marti-Carreras. 2020. Preparedness needs research: How fundamental science and international collaboration accelerated the response to COVID-19. *PLoS Pathogens* 16(10): e1008902.
- Kulldorff, Martin, Sunetra Gupta, and Jay Bhattacharya. 2020. Great Barrington Declaration. <https://gbdeclaration.org/>

- Latour, Bruno, and Ashraf Noor. 2002. The science wars: A dialogue. *Common Knowledge* 8(1): 71–79.
- Lenzer, Jeanne. 2020. Covid-19: Group of UK and US experts argues for “focused protection” instead of lockdowns. *BMJ* 371: m3908.
- Lewis, Dyani. 2022. Why the WHO took two years to say COVID is airborne. *Nature* 604(7904): 26–31.
- Lison Adrian, Nicolas Banholzer, Mrinank Sharma, Sören Mindermann, H Juliette T Unwin, Swapnil Mishra, Tanja Stadler, Samir Bhatt, Neil M Ferguson, Jan Brauner and Werner Vach. 2023. Effectiveness assessment of non-pharmaceutical interventions: lessons learned from the COVID-19 pandemic. *The Lancet Public Health* 8(4): e311–e317.
- Looi, Mun-Keat. 2023. Did covid-19 come from a lab leak in China? *BMJ* 382: 1556.
- Lupton, Deborah, Clare Southerton, Marianne Clark, and Ash Watson. 2021. *The face mask in COVID times: A sociomaterial analysis*. Boston: De Gruyter.
- Mandavilli, Apoorva. 2020. Your Coronavirus Test Is Positive. Maybe It Shouldn't Be. *The New York Times*, 17 September. <https://www.nytimes.com/2020/08/29/health/coronavirus-testing.html>.
- Marres, Noortje. 2018. Why we can't have our facts back. *Engaging Science, Technology, and Society* 4: 423–443.
- McGoey, Linsey. 2015. *No such thing as a free gift: The gates foundation and the price of philanthropy*. London: Verso Books.
- Moorthy, Vasee, Ana Maria Henao Restrepo, Marie-Pierre Preziosi, and Soumya Swaminathan. Data sharing for novel coronavirus (COVID-19). *Bulletin of the World Health Organization* 98(3): 150.
- Moradian Negar, Hans D. Ochs, Constantine Sedikies, Michael R. Hamblin, Carlos A. Camargo Jr, J. Alfredo Martinez, Jacob D. Biamonte, Mohammad Abdollahi, Pedro J. Torres, Juan J. Nieto1, Shuji Ogino, John F. Seymour, Ajith Abraham, Valentina Cauda, Sudhir Gupta, Seeram Ramakrishna, Frank W. Sellke1, Armin Sorooshian, A. Wallace Hayes, Maria Martinez-Urbistondo, Manoj Gupta, Leila Azadbakht, Ahmad Esmailzadeh, Roya Kelishadi, Alireza Esteghamati, Zahra Emam-Djomeh, Reza Majdzadeh, Partha Palit, Hamid Badali, Idupulapati Rao, Ali Akbar Saboury, L. Jagan Mohan Rao, Hamid Ahmadi, Ali Montazeri, Gian Paolo Fadini, Daniel Pauly, Sabu Thomas, Ali A. Moosavi-Movahed, Asghar Aghamohammadi, Mehrdad Behmanesh, Vafa Rahimi-Movaghar, Saeid Ghavami, Roxana Mehran, Lucina Q. Uddin, Matthias Von Herrath, Bahram Mobasher and Nima Rezaei 2020. The urgent need for integrated science to fight COVID-19 pandemic and beyond. *Journal of Translational Medicine* 18(1): 1–7.
- Musolff, Andreas. 2022. War against Covid-19: Is the pandemic management as war metaphor helpful or hurtful? In *Pandemic and Crisis Discourse: Communicating Covid-19 and Public Health Strategy*, eds. Andreas Musolff, Ruth Breeze, Kayo Kondo, and Sara Vilar-Lluch, 307–320. London: Bloomsbury.
- Musolff, Andreas. 2023. Trump's framing of COVID-19 as a war, and conspiracy theories. In *Remedies against the pandemic: How politicians communicate their crisis management*, eds. N. Thielemann and D. Weiss, 258–277. Amsterdam: John Benjamins.
- Niemiec, Emilia. 2020. COVID-19 and misinformation: Is censorship of social media a remedy to the spread of medical misinformation? *EMBO Reports* 21(11): e51420.
- Oreskes, Naomi. 2021. *Why Trust Science?* Princeton, NJ: Princeton University Press.
- Pelkmans, Mathijs, and Rhys Machold. 2011. Conspiracy theories and their truth trajectories. *Focaal* 59: 66–80.
- Perreault, Mildred F., and Gregory P. Perreault. 2021. Journalists on COVID-19 journalism: Communication ecology of pandemic reporting. *American Behavioral Scientist* 65(7): 976–991.
- Romer, Daniel, and Kathleen Hall Jamieson. 2020. Conspiracy theories as barriers to controlling the spread of COVID-19 in the US. *Social Science & Medicine* 263: 113356.
- Ryan, J. Michael. 2022. *COVID-19, cultural changes, and institutional adaptations*. London: Routledge.
- Sachs, Jeffrey D., Salim S. Abdool Karim, Lara Aknin, Joseph Allen, Kirsten Brosbøl, Francesca Colombo, Gabriela Cuevas Barron et al. 2022. The Lancet Commission on lessons for the future from the COVID-19 pandemic. *The Lancet* 400(10359): 1224–1280.
- Sayare, S. 2020. He Was a Science Star. Then He Promoted a Questionable Cure for Covid-19. *The New York Times*, 21 May. <https://www.nytimes.com/2020/05/12/magazine/didier-raoult-hydroxychloroquine.html>
- Schippers, Michaéla C. 2020. For the greater good? The devastating ripple effects of the Covid-19 crisis. *Frontiers in Psychology* 11: 2626.
- Stevens, Alex. 2020. Governments cannot just ‘follow the science on COVID-19. *Nature Human Behaviour* 4(6): 560–560.
- Tegnell, Anders. 2021. The Swedish public health response to COVID-19. *APMIS* 129(7): 320–323.

- Thacker, Paul D. 2021. The covid-19 lab leak hypothesis: did the media fall victim to a misinformation campaign? *BMJ* 374: n1656.
- United Nations. 2020. COVID-19: “We are at war with a virus”—UN Secretary-General on March 19, 2020. <https://unric.org/en/covid-19-we-are-at-war-with-a-virus-un-secretary-general-antonio-guterres/>
- Van Dijk, José, and Donya Alinejad. 2020. Social media and trust in scientific expertise: Debating the Covid-19 pandemic in the Netherlands. *Social Media Society* 6(4): 2056305120981057.
- Van Dooren, Wouter, and Mirko Noordegraaf. 2020. Staging science: Authoritativeness and fragility of models and measurement in the COVID-19 crisis. *Public Administration Review* 80(4): 610–615.
- Voss, Ehler. 2020. Capitalism is the Virus. Witnessing Voices from Leipzig Opposing the German Corona Policy. *Curare* 43(1–4): 96–149.
- Voss, Ehler. 2021. Media is the Virus. Witnessing Voices from Berlin, Bavaria and Baden-Württemberg Opposing the German Corona Policy. *Curare* 44(1–4): 118–164.
- Weible, Christopher M., Daniel Nohrstedt, Paul Cairney, David P. Carter, Desera A. Crow, Anna P. Durnová, Tanya Heikkilä, Karin Ingold, Allan McConnell, and Diane Stone. 2020. COVID-19 and the policy sciences: Initial reactions and perspectives. *Policy Sciences* 53(2): 225–241.
- Weingart, Peter, Francois van Schalkwyk, and Lars Guenther. 2022. Democratic and expert legitimacy: Science, politics and the public during the COVID-19 pandemic. *Science and Public Policy* 49(3): 499–517.
- Yamey, Gavin, and David H. Gorski. 2021. Covid-19 and the new merchants of doubt. *BMJ Opinion*. <https://blogs.bmj.com/bmj/2021/09/13/covid-19-and-the-new-merchants-of-doubt/>.
- Zarocostas, John. 2020. How to fight an infodemic. *The Lancet* 395(10225): 676.
- ZDoggMD. 2021. ‘Covidiot’ vs ‘Covidian’—ZDoggMD calls for a middle-of-the-road approach to the pandemic, MedPageToday, October 28, <https://www.medpagetoday.com/popmedicine/popmedicine/95311>

Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.