

Argumentation Library

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The Pandemic of Argumentation



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Argumentation Library

Volume 43

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Steve Oswald · Marcin Lewiński · Sara Greco ·
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The Pandemic of Argumentation

This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis*, supported by COST (European Cooperation in Science and Technology).



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ISSN 1566-7650

ISSN 2215-1907 (electronic)

Argumentation Library

ISBN 978-3-030-91016-7

ISBN 978-3-030-91017-4 (eBook)

<https://doi.org/10.1007/978-3-030-91017-4>

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This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Contents

1	Introduction: The Pandemic of Argumentation	1
	Steve Oswald, Marcin Lewiński, Sara Greco, and Serena Villata	
Part I Arguing About the Pandemic		
2	Arguing About “COVID”: Metalinguistic Arguments on What Counts as a “COVID-19 Death”	17
	Marcin Lewiński and Pedro Abreu	
3	Good and Ought in Argumentation: COVID-19 as a Case Study ...	43
	Andrés Soria-Ruiz, Mora Maldonado, and Isidora Stojanovic	
4	How to Handle Reasonable Scientific Disagreement: The Case of COVID-19	65
	Konstantina Antiochou and Stathis Psillos	
5	Expert Uncertainty: Arguments Bolstering the Ethos of Expertise in Situations of Uncertainty	85
	Jens E. Kjeldsen, Ragnhild Mølster, and Øyvind Ihlen	
6	On Arguments from Ignorance in Policy-Making	105
	Corina Andone and José Alfonso Lomelí Hernández	
7	The Argumentative Potential of Doubt: From Legitimate Concerns to Conspiracy Theories About COVID-19 Vaccines	125
	Dima Mohammed and Maria Grazia Rossi	
8	Pandemic Communication Without Argumentative Strategy in the Digital Age: A Cautionary Tale and a Call to Arms	145
	Fabio Paglieri	

Part II Justifying and Promoting Health Policies

- 9 Rhetoric and Argumentation in the Pandemic Legislation: The Italian Case** 165
Federico Puppo, Silvia Corradi, and Lorenzo Zoppellari
- 10 The Case of Coronavirus Contact-Tracing Apps: Arguments for Trust** 187
Serena Tomasi
- 11 Securitization, Emergency and the Rediscovery of Responsibility in Times of Pandemic: Analyzing Political Discourses from the European South** 203
Salomi Boukala and Dimitris Serafis
- 12 The UK Government’s “Balancing Act” in the Pandemic: Rational Decision-Making from an Argumentative Perspective** 225
Isabela Fairclough
- 13 Justification of Decision-Making in Response to COVID-19 Socio-Scientific Dilemmas** 247
Keren Dalyot, Yael Rozenblum, and Ayelet Baram-Tsabari

Part III Improving and Promoting Argumentative Literacy

- 14 Inoculating Students Against Conspiracy Theories: The Case of Covid-19** 271
Sharon Bailin and Mark Battersby
- 15 Combatting Conspiratorial Thinking with Controlled Argumentation Dialogue Environments** 291
Lindsay Fields and John Licato
- 16 Staying Up to Date with Fact and Reason Checking: An Argumentative Analysis of Outdated News** 311
Elena Musi and Andrea Rocci
- 17 Critical Questions About Scientific Research Publications in the Online Mask Debate** 331
Jean Goodwin and Ekaterina Bogomoletc
- 18 On the Conditional Acceptance of Arguments from Expert Opinion** 355
Jos Hornikx

Chapter 1

Introduction: The Pandemic of Argumentation



Steve Oswald, Marcin Lewiński, Sara Greco, and Serena Villata

Abstract This chapter introduces the volume and contextualises its scope, which covers communicative aspects of the current COVID-19 pandemic as well as the epidemic of misinformation from the perspective of argumentation theory. Argumentation theory is uniquely placed to understand and account for the challenges of public reason as expressed through argumentative discourse. The book thus focuses on the extent to which the forms, norms and functions of public argumentation have changed in the face of the COVID-19 pandemic. This question is investigated along descriptive, normative and prescriptive research lines at the core of the COST Action project CA 17132: European network for Argumentation and Public PoLicY analysis (APPLY). Contributions are divided into three groups, which (i) examine various features and aspects of public and institutional discourse about the COVID-19 pandemic, (ii) scrutinise the way health policies have been discussed, debated, attacked and defended in the public sphere, and (iii) consider a range of measures meant to improve the quality of public discourse, and public deliberation in particular, in such a way that concrete proposals for argumentative literacy are brought to light.

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S. Oswald et al. (eds.), *The Pandemic of Argumentation*, Argumentation Library 43,
https://doi.org/10.1007/978-3-030-91017-4_1

Keywords Argumentation · Arguments from expert opinion · Conspiracy theories · COVID-19 · Health communication · Infodemic · Pandemic · Public argumentation · Public deliberation

The outbreak of the COVID-19 pandemic in 2020 has changed our lives in nearly all imaginable respects. Beyond the most directly felt public health and economic consequences, the pandemic has also had a clear impact on the way we communicate and argue about public issues. In the words of António Guterres, the Secretary General of the UN, next to the COVID epidemic itself, “we are also seeing another epidemic—a dangerous epidemic of misinformation.”¹ Some of these dangerous phenomena include, among others: the viral circulation of fake news and conspiracy theories; a deepening dependence on online—as opposed to offline, face-to-face—communication, which fosters one-sidedness and polarization of views via the dynamics of echo-chambers; proliferation of experts propagating conflicting views affecting public policies; contradictory messages from scientists, public officials and citizens; the potential erosion of public trust in science; and an overall shift in rationality from reasoned deliberation and long-term planning to crisis management dependent on *ad hoc* solutions and emergency measures.

And yet, these are by no means all-new phenomena. Rather, they have exacerbated, on a global scale and at a rapid pace, certain communicative processes that accompanied most other pandemics from the 1918 Spanish flu to the 21st-century Swine and Avian flu, as well as Ebola and Zika outbreaks (Taylor, 2019). Indeed, to attentive analysts of pandemics, the problems of public communication over COVID-19 were easily predictable and expectable. Writing in 2016, Walker quite accurately described what became our common experience in 2020:

When the next major pandemic strikes, it will be accompanied by something never before seen in human history: an explosion of billions of texts, tweets, e-mails, blogs, photos, and videos rocketing across the planet’s computers and mobile devices.

Some of these billions of words and pictures will have useful information, but many will be filled with rumors, innuendo, misinformation, and hyper-sensational claims. Repeated tidal waves of messages and images will quickly overwhelm traditional information sources, including national governments, global news media outlets, and even on-the-ground first responders. As a result, hundreds of millions of people will receive unvetted and incorrect assertions, uncensored images, and unqualified guidance, all of which, if acted on, could endanger their own health, seriously damage their economies, and undermine the stability of their societies. (Walker, 2016, online)

Underlying such understandings is the metaphoric concept of *infodemic*, which relies on the assumption that “[b]eliefs and fears about diseases, just like diseases themselves, spread through social networks” (Taylor, 2019, p. 69). Going along with this metaphor, we can unproblematically state that COVID-19 has proven to be a highly communicable disease. If this indeed is the case, then “‘communication inoculation’ must happen just as quickly as drug inoculation. Both kinds of inoculation can be critical for saving lives. Put another way, words and images can be as powerful in

¹ <https://www.un.org/sg/en/content/sg/statement/2020-04-14/secretary-generals-video-message-covid-19-and-misinformation>, last consulted 15.09.2021.

reducing death rates as drugs and doctors.” (Walker, 2016, online). On one prominent interpretation, such communicative inoculation amounts to “explaining misleading or manipulative argumentation strategies to people” (Lewandowsky et al., 2021, p. 12). More precisely:

The process of inoculation includes a warning that people may be misled, followed by a preemptive refutation of the misleading argument. Inoculation thus follows the biomedical analogy: By exposing people to a weakened dose of the techniques used in misinformation and pre-emptively refuting them, “cognitive antibodies” can be stimulated. (Lewandowsky et al., 2021, p. 12)

In this way, argumentative practices might very well take the centre stage within the broader biomedical analogy. And we can easily see why: Walker’s “unvetted and incorrect assertions” result from bad theoretical (epistemic) arguments, while his “unqualified guidance” amounts to bad practical argumentation. To first identify and then correct such assertions, as well as properly qualify practical guidance, we need critical argumentative practices, and, thus, a kind of argumentative literacy.

But somewhere between alarming predictions over the communicative ills of the pandemic and the idea that these can be treated with argumentative strategies lies, of course, the sheer reality of pandemic communication. What exactly happened to public argumentative practices during the pandemic? The goal of this volume is to investigate this question. More specifically, its aim is to account for various relevant communicative phenomena from the perspective of argumentation theory, which is uniquely placed to understand and account for the challenges of public reason as expressed through argumentative discourse. The key question is: To what extent have the forms, norms, and functions of public argumentation changed in the face of the COVID-19 pandemic? This volume investigates this question along the three main research lines of the *COST Action project CA 17132: European network for Argumentation and Public PoLicY analysis (APPLY)*: descriptive, normative, and prescriptive. Descriptive research based on precise analysis of discursive phenomena is necessary to gauge the actual scope of the shift in argumentative practices. Normative inquiry lets us comprehend modifications of the rational grounds we rely on when justifying our arguments. Finally, prescriptive studies allow us to project possible ameliorative responses to these challenges, in terms of new ideas for boosting individual or collective argumentative literacy, as well as various designs or protocols for argumentation, whether across formal institutions or in the public sphere. This COST Action has been the place where we, the editors of this volume, and the bigger community of argumentation scholars including many of the contributors to this volume have met regularly over the last four years to examine and discuss the intricacies of public argumentation from the descriptive, normative and prescriptive angles. The outburst of COVID-19 intervened abruptly in and sometimes downright threatened these activities—fortunately, we see this volume as an example of a pandemic challenge becoming a research opportunity.

The volume is accordingly driven by the idea that, given the scope and burden of many public and private decisions we face daily in the constant swirl of conflicting news and opinions, we seem to be engulfed in a pandemic of argumentation. To diagnose this pandemic, the contributions gathered hereafter identify critical argumentative literacy as a crucial skill to navigate the overflow of argumentation. The volume

thus collects a broad range of contributions reflecting the diversity of approaches collaborating within argumentation theory, while focusing invariably on argumentative phenomena that are directly related to the changes in public discourse in the wake of the outburst of COVID-19. These 17 chapters were selected via a rigorous peer-review process from among 36 proposals that responded to our call for contributions in late 2020. While each contribution was chosen for its individual academic quality, we believe that, as a collection, their sum constitutes an apt overview of the challenges public argumentation faced over the COVID-19 pandemic.

The volume is divided in three main parts. *Part I: Arguing About the Pandemic* discusses some of the most relevant general aspects of public argumentation over the COVID-19 pandemic. The chapters gathered in this first part offer insights on chief features of the arguments that have been used to describe and discuss the pandemic in public discourse. The unifying challenge underlying these contributions is that of uncertainty: from uncertainty about what COVID-19 actually is, to what is or should be discussed, to whom we should trust in the face of widespread ignorance over the nature and impact of the virus, to what a successful or reasonable public campaign over the virus (as well as lockdowns, vaccinations, etc.) should look like. In a nutshell, the seven chapters forming this first part are all driven by normative concerns and as such are meant to improve our understanding of the way institutions, social groups, and individuals have publicly communicated about the COVID-19 pandemic.

Marcin Lewiński & Pedro Abreu's contribution, *Arguing About "COVID": Metalinguistic Arguments on What Counts as a "COVID-19 Death"* (Chap. 2), develops an in-depth discussion of how institutional discourse has tackled the notion of *COVID-19 death* during the pandemic. Through their analysis of several media reports and official statements issued by institutions such as the WHO or governments, they highlight that not only scientific concerns, but also, and perhaps more surprisingly, institutional concerns have had a direct impact on what came to count as a COVID-19 death for these different institutions. The authors specifically show that epistemic and practical arguments are intertwined in nuanced and complex ways to produce, via various definitional choices of public institutions, *metalinguistic interventions*. Overall, the chapter demonstrates that metalinguistic arguments over the expression *COVID-19 death* are not merely verbal disputes traditionally derided by philosophers and scientists, but instead result from fragmentary and incomplete scientific knowledge of the virus, counterbalanced by a careful assessment of what different definitions entail in terms of public policy values.

The analyses of Andrés Soria-Ruiz, Mora Maldonado and Isidora Stojanovic in *Good and Ought in Argumentation: COVID-19 as a Case Study* (Chap. 3) are similarly driven by long-standing philosophical concerns, namely those over the complex relations between evaluative and deontic propositions. The authors present here an experimental study focused on the way people justify deontic statements ('one ought to do X') through evaluative statements ('because doing X is good') and vice-versa. Through an Inferential Judgment Experiment, they test people's reaction to argumentative patterns that have been used by institutions throughout the pandemic in the justification of sanitary measures, as typically these discourses involve both deontic and evaluative considerations. The study conducted in this chapter reveals an

asymmetry in the way people manage this relationship: arguments from good (with evaluative premises) to ought (with deontic conclusions) are more readily accepted as good inferences than arguments from ought to good. As the authors hypothesise, this can reflect a broader tendency to favour inferences from general to particular statements and from assertive to directive speech acts, rather than the other way round.

In Chap. 4, *How to Handle Reasonable Scientific Disagreement: The Case of COVID-19*, Konstantina Antiochou and Stathis Psillos scrutinise another peculiarity of pandemic argumentation, namely that of (seemingly?) reasonable disagreements between experts. As a case in point, they discuss the debate between two prominent scientists—John Ioannidis, Professor of Epidemiology at Stanford University, and Nassim Taleb, Professor of Risk Engineering at the New York University—about COVID-19 forecasts and the measures that should be taken to prevent SARS-CoV-2 transmission. Taking place in the early weeks of the pandemic (spring 2020), this debate very well captures the moment where the epistemic uncertainty over the disease started to pave the way for misinformation or dissemination of false news that scientific argumentation might find hard to challenge. Given this broader context where public and scientific argument inevitably intermingle, the authors argue that the Ioannidis-Taleb debate is susceptible to two readings. It can be seen as an academia-confined methodological debate between scientists or as a debate about the values that can appropriately influence science-driven policymaking. While both readings seem equally plausible, especially the second one points to how argument analysis creates the transparency needed to ensure the legitimacy of the values involved in decision-making.

The challenges of experts' public argumentation under uncertainty are further investigated by Jens Kjeldsen, Ragnhild Mølster, and Øyvind Ihlen in *Expert Uncertainty: Arguments Bolstering the Ethos of Expertise in Situations of Uncertainty* (Chap. 5). This chapter addresses the all-important question: "How to argue reasonably from recognized epistemic uncertainty to specific policies and actions?" This has been the predicament for many national health experts during the COVID-19 crisis. To tackle it, the authors draw on the rhetorical tradition to examine the argumentative strategies used by health authorities to secure and bolster the ethos of expertise in the—now familiar—cases in which an expert must also acknowledge uncertainty and insufficient knowledge. Interestingly, the authors argue that in the public debate and interview programs about COVID-19 they analysed in Denmark, Norway and Sweden, health experts do acknowledge uncertainty, often explicitly. What is more, the authors make the case that doing so can be one way of bolstering, rather than questioning, the experts' ethos. To this end, the authors first present two ways of introducing and expressing uncertainty and lack of knowledge. Further, they discuss six ways of delimiting and qualifying expressed uncertainty in a way that rebolsters the expert's authority and ethos of expertise.

Corina Andone and José Alfonso Lomelí Hernández's study, *On Arguments from Ignorance in Policymaking* (Chap. 6), brings into focus the very same dilemma of experts' public argumentation but from a different theoretical angle. Instead of examining appeals to ethos, the authors scrutinise *arguments from ignorance* as the scheme

routinely used to argue for a course of action in a situation in which science lacks vital information. In such arguments, limited information (‘there is no evidence indicating that children can get the virus’) is used as a basis for decision-making that might have significant consequences for the population (‘schools should remain open’). The authors’ aim is to shed light on the intricate but unavoidable relationship between arguments from ignorance and policymaking. Next to this descriptive objective, the authors develop evaluative criteria to distinguish between reasonable and unreasonable arguments from ignorance in policymaking. These criteria are based both on the abstract structure of these argument types and their specific contexts of application. These insights are then put to work to assess two real-life instances of arguments from ignorance employed by the European Commission and the European Centre for Disease Prevention and Control during the COVID-19 pandemic. The authors argue that such an assessment is an important step towards understanding how arguments from ignorance can facilitate or reduce acceptance of the measures proposed by policymakers.

In Chap. 7, *The Argumentative Potential of Doubt: from Legitimate Concerns to Conspiracy Theories About COVID-19 Vaccines*, Dima Mohammed and Maria Grazia Rossi analyse the controversy surrounding the COVID-19 vaccine in terms of the nefarious effect that the spread of conspiracy theories can have on the role of doubt in epistemic progress. Through an analysis of the discourse of twelve prominent anti-vaxxers known as the “Disinformation Dozen”, the authors first provide a characterisation of three types of argumentative potential (i.e., possible directions of argument discursively activated beyond a given statement) that doubt about vaccine safety can trigger: ambivalence (‘maybe the vaccine is safe, maybe it is not’), scepticism (‘I don’t think it is safe’) and denialism (‘the official story about the vaccine is not credible’). The authors then observe that public discourse unfortunately many times fails to avoid the traps of denialist doubt by overly focusing on conspiracy theories. This allows them to formulate two alternative strategies meant to improve public communicative practices: one would be to focus instead on the ambivalent argumentative potential of doubt, which does not antagonise those who side with the conspiratorial account. The other would be to incorporate ambivalence within the original account of vaccine safety, so that the latter is not easily discredited by doubt—and denialist doubt in particular.

Pandemic Communication Without Argumentative Strategy in the Digital Age: A Cautionary Tale and a Call to Arms (Chap. 8), which concludes *Part I* and is authored by Fabio Paglieri, develops an inquiry into the way some instances of anti-COVID vaccine public communication have backfired in digital media ecologies. As a case in point, the author shows how basic argumentative blunders have been responsible for public communication failures in Italy and in Europe around the discourse of medical experts. This allows him to reflect on the valuable input argumentation theory can yield to improve public communication in times of crisis, and, in parallel, on how these insights can be practically harnessed to make the most of the nature and functions of contemporary social media. Paglieri thus argues that it is time for “argumentation scholars to get in the trenches with scientists, policy makers, and media experts, and do their share of dirty work to get us out of this mess”. The

chapter concludes with a practical suggestion as to how to start getting us out of the mess: argumentation scholars should think about how to make important arguments become viral in social media, through a discussion of the ‘humour over rumour’ strategy implemented by the government in Taiwan in 2020 to counter conspiracy theories related to the pandemic.

The chapters collected in *Part II: Justifying and Promoting Health Policies: Case Studies* present analyses of concrete cases of public argumentation over COVID-19 in various European countries and Israel. These contributions share a descriptive concern for a close analysis of the argumentative features of public discourses (in the legal, political but also personal spheres) that have emerged over the COVID-19 pandemic. Argumentatively relevant dimensions of public communication related, among others, to rhetorical choices, arguments for trust, justification of specific values, policy framing and decision-making are brought to light to better understand the different ways in which health policies have been legitimised over the course of the past two years. The contributions gathered in this part of the volume draw on the analytical toolkit of argumentation scholarship and, as such, provide an informative snapshot of the kind of analytical work the discipline can contribute to better describe and understand the challenges of public communication in times of crisis.

Chapter 9, *Rhetoric and Argumentation in the Pandemic Legislation: The Italian Case*, by Federico Puppo, Silvia Corradi and Lorenzo Zoppellari, tackles the rhetorical and argumentative features of regulatory practices developed in Italy during the pandemic to legislate over COVID-19 matters. The authors draw on rhetorical and argumentative insights to characterise three key aspects of the Italian pandemic legislation: the use of visual material, the sporadic presence of sanctions and the relevant role of experts. In doing so, they then proceed to explain the normative dimension of images, the role of sanctions in promoting citizen compliance with health policies, and the way experts have been able to gain legislative legitimacy through these communicative practices. As such, the authors’ account of these specific regulatory practices vividly and concretely illustrates the descriptive virtues of argumentative and rhetorical scholarship.

Serena Tomasi, in *The Case of Coronavirus Contact-Tracing Apps: Arguments for Trust* (Chap. 10), also looks at the Italian pandemic context by analysing the communication campaign the Italian government has conducted to promote the use of a COVID-19 contact tracing app among citizens. The originality of Tomasi’s analysis lies in its game-theoretical framing of the decision-making process which presumably underlies the use of the app as a social dilemma, namely a situation in which individual interests are at odds with collective interests. In the case at hand, the fact that the use of the app can be constraining and that it raises data protection issues can act as a powerful deterrent to discourage people from using it. On the other side of the coin, the app is beneficial to the community, as it allows to better manage the spread of the virus. Through a rhetorical and argumentative analysis of the official arguments deployed to encourage the use of this app, the author is able to make the case that the notion of trust, as opposed to that of sanction, should be constitutive of a functioning legal system meant to promote collective interests.

In Chap. 11, *Securitization, Emergency and the Rediscovery of Responsibility in Times of Pandemic: Analyzing Political Discourses from the European South*, Salomi Boukala and Dimitris Serafis analyse the argumentative features of calls for securitisation in four addresses to the nation by Southern EU leaders (Greece, France, Italy and Spain) in an attempt to characterise the discursive construction of the pandemic, and specifically its ideological framing as a threat to security. The authors draw on a combination of Critical Discourse Studies and Argumentation Theory methods to scrutinise the ideological underpinnings of these discourses, notably in their reliance on *endoxa* and *topoi*. Thus, all four sets of data are shown to share a similar argumentative dynamic in their discursive construction of the pandemic threat: the analysis indeed shows that despite their differences in ideological positioning, the four Southern EU leaders considered for this analysis all promote restrictive measures through the use of the *topos* of responsibility and the *locus* from ontological implications, combined with positive self-representation strategies. From a methodological perspective, this contribution illustrates the benefits of combining approaches in discourse analysis and argumentation in order to improve our understanding of the complex *polylogical* dynamics of public policy justifications in global contexts.

In *The UK Government's "Balancing Act" in the Pandemic: Rational Decision-Making from an Argumentative Perspective* (Chap. 12), Isabela Fairclough focuses her analysis on the UK Government's dilemmas of decision-making over the COVID-19 pandemic. Her study examines how the much-debated *balance* between lives (public health) and livelihoods (country's economy), as well as other concerns, was presented in four main newspapers in the UK—*The Guardian*, *The Times*, *The Daily Telegraph*, *The Daily Mail & Mail on Sunday*—between March 2020 and March 2021. Fairclough too combines discourse analysis and argumentation theory to further develop her approach to practical argumentation as a useful tool in systematically analysing and evaluating the argumentative justification of public decisions. Indeed, all the newspapers were continuously assessing the UK government's performance, favouring either strict and prolonged lockdowns (esp. *The Guardian*) or, on the contrary, a speedy exit from lockdown and a resumption of normal life (esp. *The Daily Telegraph* and *The Daily Mail*). An interesting empirical result of the study is that what is being balanced or weighed together in the pro/con argumentation of the opposing parties are not as much the costs and benefits of one's own proposal, but the costs of one proposal against the costs of its alternative (a "cost-cost" analysis). This implicit *minimax* strategy (minimise costs in a worst-case scenario) was applied in different ways by the journalists and commentators to criticise or defend Boris Johnson government's measures that inevitably contrasted medical/epidemiological concerns with economic and political ones to produce (un-)justifiable decisions, depending on the deeper political values underlying practical arguments.

Justification of decision-making dilemmas in response to the outbreak of COVID-19 is also the topic of Keren Dalyot, Yael Rozenblum and Ayelet Baram-Tsabari's study in *Justification of Decision-Making in Response to COVID-19 Socio-scientific Dilemmas* (Chap. 13). The context, however, is that of Israel and the dilemmas—or even trilemmas—are socio-scientific issues as treated by laypeople in response to official government guidelines. The authors conducted an online survey in April

2020 to examine responses to 2 specifically designed social dilemmas ($n = 439$). The questions—‘Suppose you have an adult parent/grandparent living alone. Will you visit them in the coming days?’; ‘Will you celebrate Passover dinner with your elderly family members?’—could be answered: ‘Yes/Yes, but while maintaining distance/No’. In both scenarios, the closed-ended question was followed by an open-ended question: ‘If you had to convince your parents or spouse of your decision, what would you tell them? What arguments would you use?’ The findings suggest that laypeople tend to use justifications that the authors classified as ‘scientific argumentation’ but no direct connection between demographic characteristics, scientific knowledge and decision-making could be demonstrated. The authors found instead a positive connection between peoples’ perception of control over the situation and their compliance with the official guidelines. Overall, the study exposes and further corroborates the importance of critical argumentation skills in the context of complex issues with changing scientific and medical information. In this way, it also introduces the topics central to *Part III* of the volume.

Part III: Improving and Promoting Argumentative Literacy gathers contributions that go beyond descriptive or normative analyses of what often goes wrong in our public argumentation over COVID-19 to offer some concrete prescriptive ideas on how this argumentation can become better. Together, these chapters importantly contribute to the description and explanation of the set of critical argumentative literacy skills that individuals, but also institutions, should be able to count on to optimally filter information and, ideally, make reasoned and sound decisions. Few would nowadays dispute that global events like a pandemic, and indeed those with scientific issues at their core, generate information beyond measure. This was certainly the case with the COVID-19 pandemic: beyond the sanitary situation, the proliferation of misinformation has proven—and is still proving—to be one of the main challenges to overcome. The last 5 chapters of this volume either propose prescriptive measures, the application of which should be conducive to sound decision-making processes, or explain the underpinnings of crucial skills such as expertise assessment and reason checking, without which sound decision-making is next to impossible.

Chapter 14, *Inoculating Students Against Conspiracy Theories: The Case of Covid-19*, draws on argumentation theory and critical thinking education to offer prescriptive guidelines to mitigate adherence to conspiracy theories in the classroom by encouraging students to develop and deploy critical inquiry resources. The authors, Sharon Bailin and Mark Battersby, start by an exhaustive characterisation of the social, epistemic and psychological factors that explain the attraction of conspiracy theories. Then, they formulate a set of guidelines for critical thinking education that are tailored to meet the challenges posed by these three sets of factors. The chapter also makes an important case for the idea that communities of inquiry, constituted around a shared understanding of what qualifies as reasoned inquiry, should be promoted. According to the authors, the virtues of inquiry, such as an openness to evaluating counterevidence in a fair way, intellectual humility, willingness to revise one’s judgement in light of new evidence, etc. should be taught to students before they are exposed to conspiratorial material, as early intervention constitutes one of the best inoculating strategies against the appeal of conspiracy theories.

Lindsay Fields and John Licato, the authors of *Combatting Conspiratorial Thinking with Controlled Argumentation Dialogue Environments* (Chap. 15), similarly aim to provide concrete argumentation-based measures to challenge conspiratorial thinking. The COVID-19 pandemic has been associated with an explosion of widely circulated conspiracy theories claiming, for instance, that COVID-19 vaccines are used to subversively experiment on Black Americans or as a cover for inserting microchips to monitor global citizens via a scheme developed by the Bill and Melinda Gates Foundation. Together with Bailin and Battersby, the authors contend that decreasing conspiratorial belief has far-reaching implications for minimising the health risks of COVID-19 and that argumentation is crucial in this task. Yet, their approach is different. Rather than focusing on individual critical skills, which might always be subject to cognitive biases, Fields and Licato develop Controlled Argumentation Dialogue Environments (CADEs) as a means to mitigate cognitive biases which contribute to belief in COVID-19 conspiracy theories. Drawing on Toulmin's model of argumentation and his concept of a warrant linking available data to the defended claim, they discuss *Warrant Game* (WG) and *Warrant Game for Analogies* (WG-A), CADEs in which two arguers defend competing positions on a divisive issue by iteratively improving warrants for their arguments and attacking those of their opponents. The warrant, when made explicit, makes it easier to determine key features typically associated with argument strength and may reveal hidden assumptions or fundamental reasoning incompatibilities. In this way, it is possible for CADEs to both inoculate susceptible individuals against conspiratorial misinformation and allow them to reduce conspiratorial arguments to their relevant facts when they are exposed. As such, CADEs may operate as an educational tool for breaking conspiratorial belief into core values and building cognitive skills.

Elena Musi and Andrea Rocci's study, *Staying up to Date with Fact and Reason Checking: An Argumentative Analysis of Outdated News* (Chap. 16), further investigates the intersection of argumentation and technology to both identify the problems of public debate about COVID-19 and propose concrete tools to improve this debate. The authors' point of departure is the idea that outdated news about COVID-19 can be seen as a type of misinformation. Further, to better understand this phenomenon, they propose to move beyond the commonly endorsed but, in their view, naïve approach of fact checking to an argumentative one. This approach identifies the argumentative configurations of outdated statements relying on the distinction between upstream and downstream argumentation. The authors' corpus for analysis is a sample of all the news that have been rated as "outdated" and "mispresented" by the fact-checking platform Snopes during the pandemic. By analysing the type of source, the semantic type of news claim and the argumentative role played by the outdated information, Musi and Rocci come up with an argumentative taxonomy of outdated news where the presence of multimodal information as well as the semantic-argumentative role played by outdated statements are systematically correlated with the spread of mis- and disinformation.

The circulation of often outdated information over new media in the service of fallacious argumentation is also a topic Jean Goodwin and Ekaterina Bogomoletc treat in Chap. 17, *Critical Questions About Scientific Research Publications in the*

Online Mask Debate. Their focus is, however, different. They set out to explore the nature and extent of the public's abilities to assess research publications through analysing a corpus of close to 5000 tweets from the early months of the COVID-19 pandemic which mentioned one of six key studies on the then-uncertain topic of the efficacy of face masks. Drawing on the acceptability-relevance-sufficiency criteria developed in informal logic for the assessment of argumentation, the authors found that online arguers relied on a variety of critical questions to test the adequacy of the research publications to serve as premises in reasoning, their relevance to the issues at hand, and their sufficiency in justifying conclusions. In particular, arguers showed more skill in assessing the authoritativeness of the sources of the publications than in assessing the epistemic qualities of the studies being reported. As the authors appositely conclude, these results indicate specific areas for interventions to improve reasoning about research publications. For instance, using plain language summaries of scientific articles adapted to address prevalent misunderstandings would be effective in improving assessment of scientific reasoning by the broader public. Moreover, their study evokes the potential of studying argumentation at the system level in order to document collective preparedness to address sociotechnical issues, i.e., community science literacy.

In the final chapter of this volume, *On the Conditional Acceptance of Arguments from Expert Opinion* (Chap. 18), Jos Hornikx discusses the crucial role of expertise in contexts of uncertainty (about actions, beliefs and thoughts). Hornikx's meta-analysis, which considers two complementary disciplines in the humanities, namely persuasion research and argumentation theory, delivers an empirically grounded report on what makes people (mis)trust experts. In this respect, this is a contribution that is crucial to better understand how expert scientific reasoning is critically assessed. The chapter yields two main findings: the first is that accepting an expert's message in argumentation depends on the degree to which the appeals to expertise satisfactorily answer the critical questions associated to the argumentation schemes related to expert opinion. The second is that prior belief mediates acceptance of arguments from expert opinion: if the message is consonant with the individual's cognitive environment, then the appeal to expertise is likely to be accepted, while it is not in case the message is incompatible with the individual's prior beliefs. These theoretical, yet empirically grounded, claims are crucial to shed light on the difficulties people have experienced in the early stages of the pandemic when they were confronted with numerous—sometimes incompatible—statements which contained appeals to expertise. As such, they represent valuable insights to understand how and why we end up (mis)trusting experts, in particular in times of global crisis where scientific knowledge seems the best option to navigate to safety.

All in all, this volume contributes to our understanding of public argumentation in times of crisis in three prominent ways: (i) through the description of what has argumentatively happened in the public sphere of discourse over these two years, (ii) through the reconsideration of the normative grounds from which argumentation can and should be evaluated as the public exercise of reason, and (iii) through the articulation of argumentatively grounded prescriptions to improve public communicative practices, with an eye on policymaking. One of the main results of the analyses

presented consists in the observation of a general and widespread lack of reasonableness many countries have witnessed in public argumentative discourse over the pandemic. This is not to blame political and institutional actors or the media, but to highlight that argumentative literacy skills, both on the side of decision-makers and on the side of those who are asked to observe policy, need to be developed, improved, and made more accessible. In particular, it emerges that the role and nature of scientific expertise, given its central place in a pandemic, should be carefully understood and faithfully represented in public discourse so as to improve communicative practices. Misinformation, in turn, should not be simply dismissed, but instead engaged with as a possible expression of doubt with respect to scientific or mainstream consensus about relevant issues. Thus, while the diagnosis of public argumentation during COVID offered here is not exactly encouraging, all the contributions collected in this volume offer an altogether rich and far-reaching set of argumentative resources that can be implemented to improve the communication, understanding and assessment of public policy on a global scale.

Acknowledgements This publication is based upon work from COST Action CA-17132, European Network for Argumentation and Public Policy Analysis (<http://publicpolicyargument.eu>), which covered the Open Access fees of the volume and provided a launchpad for the study of public argumentation. The guest editors would like to warmly thank all contributors for the rigour, the quality, and the timeliness of their work, which had to be completed under strict time- and COVID-19-related constraints. We would also like to express our deepest and warmest gratitude to all the reviewers for their expertise, which was instrumental in upholding high scientific standards of publication. Our thanks accordingly go to: Pedro Abreu, Corina Andone, Pietro Baroni, Michael Baumtrog, Floris Bex, Katarzyna Budzynska, Elena Cabrio, Bianca Cepollaro, Barbara De Cock, Francesca Ervas, Isabela Fairclough, Javier González de Prado Salas, Jean Goodwin, Thierry Herman, Martin Hinton, Constanza Ihnen, Sally Jackson, Majid KhosraviNik, Gabrijela Kišiček, Jens Kjeldsen, Marcin Koszowy, Fabrizio Macagno, Viviana Masia, Davide Mazzi, Johanna Miecznikowski, Elena Musi, Fabio Paglieri, Rudi Palmieri, Anne-Nelly Perret-Clermont, Roosmaryn Pilgram, Chrysi Rapanta, Cristián Santibáñez, Dimitris Serafis, Isidora Stojanovic, Alice Toniolo, Assimakis Tseronis, Giovanni Tuzet, Mehmet Ali Üzelgün, Jan Albert van Laar, Maarten van Leeuwen, Lisa Storm Villadsen, Pascal Wagner-Egger, Roberta Martina Zagarella, David Zarefsky, and Frank Zenker. Thanks to the support of all our colleagues, reviewers and contributors, we thus feel confident in saying that good vaccines are not the only good thing that can be produced effectively under time pressure.

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Part I
Arguing About the Pandemic

Chapter 2

Arguing About “COVID”: Metalinguistic Arguments on What Counts as a “COVID-19 Death”



Marcin Lewiński and Pedro Abreu

Abstract In this contribution, we explore the plausibility and consequences of treating arguments over what counts as a COVID-19 death as *metalinguistic* arguments. While unquestionably related to the epidemiological and public health issues, these arguments are also arguments about how a term should be used. As such, they touch upon some of the foundational issues in meta-semantics, discussed in the recent literature on metalinguistic negotiations, conceptual ethics, and conceptual engineering. Against this background, we study official statements (of WHO, governments) and media reports to critically reconstruct the metalinguistic elements of the dispute over what a COVID-19 death is. We analyze in particular how epistemic and practical reasons are intertwined in nuanced and complex ways to produce an interesting type of *metalinguistic interventions*.

Keywords Argumentation theory · Conceptual engineering · COVID-19 death · Declarative speech acts · Definitions · ICD · Metalinguistic negotiation · Practical arguments

2.1 Introduction

On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 epidemic rapidly spreading from China to most other countries in the world a “pandemic.” A month later, on April 16, that same organization published *International Guidelines for Certification and Classification (Coding) of Covid-19 as Cause of Death, Based on ICD: International Statistical Classification of Diseases*. At that time, four months into the deadly first wave of infections, comparability of health and mortality data across all the affected countries became a key concern, as different countries seemed to be reporting and discussing different things. As a body mandated

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to protect international public health via, among other measures, a uniform classification of diseases, the WHO formulated the following “definition for deaths due to COVID-19”:

A death due to COVID-19 is defined for surveillance purposes as a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death.

A death due to COVID-19 may not be attributed to another disease (e.g. cancer) and should be counted independently of preexisting conditions that are suspected of triggering a severe course of COVID-19. (“International Guidelines”, p. 3)

We will return to these guidelines for further analysis in Sect. 2.3, but what is immediately striking about them is that they mix substantive and linguistic concerns to a puzzling effect. On the one hand, WHO is discussing and organizing substantive medical knowledge over “cause[s] of death” in “probable or confirmed COVID-19 case[s]” where, one would assume, the weight of scientific evidence is decisive. On the other hand, the organization presents its main results as a “definition” and “classification”, which are two paradigmatic devices for metalinguistic and conceptual work. And this conceptual work is of paramount importance: “probable” COVID-19 cases are treated on a par with “confirmed” cases, and “independent” attribution of COVID-19 deaths is mandated even if other “preexisting conditions” such as cancer might have contributed to COVID-19 being severe enough to actually cause death. As is clear across the WHO’s document and in the broader debate over the issue, these are neither scientifically determined nor arbitrary conceptual choices. Instead, in the cases we discuss below, reasonable even if characteristically inconclusive arguments are given to justify any such choice.

In this contribution, we explore the plausibility and consequences of treating such arguments as metalinguistic arguments. While unquestionably related to the epidemiological and public health issues, these arguments are also arguments about how a term should be used. As such, they touch upon some of the foundational issues in meta-semantics, discussed in the recent literature on metalinguistic negotiations, conceptual ethics, and conceptual engineering (Burgess & Plunkett, 2013; Burgess et al., 2020; Cappelen, 2018; Plunkett, 2015; Plunkett & Sundell, 2013, 2021). Against this background, we analyze in particular how in the debate over what a COVID-19 death is, epistemic and practical reasons are intertwined in nuanced and complex ways to produce an interesting type of *metalinguistic interventions*.

We proceed as follows. In Sect. 2.2 we provide the theoretical basis for our analysis. We introduce the phenomenon of what we summarily call *metalinguistic interventions*, present their three key features particularly relevant to our case, and offer distinctions instrumental in grasping the rather non-standard type of metalinguistic interventions related to “COVID-19 death.” In Sect. 2.3, we analyze official statements (of WHO, national governments) and media reports to critically reconstruct the metalinguistic elements of the dispute in terms of prevailing forms of argumentation used. In Sect. 2.4, we discuss this analysis by developing two theoretically relevant points. First, the metalinguistic arguments revealed are inextricably linked

to substantive, scientific issues and are partly determined by the imperfect character of our epistemic position on the subject. Second, they work in the service of broader practical arguments whereby scientific results are weighted against broader public policy values. We close by arguing that, in these ways, public metalinguistic arguments, while being a class of their own in need of precise analysis (see also Ludlow, 2014; Pruś, 2021; Schiappa, 2003), are of key importance to broader public debates and should be recognized as such.

2.2 Metalinguistic interventions

Metalinguistic uses of language have long been recognized as part and parcel of our communication. Perhaps most famously, Horn (1985) identified the mechanisms of “metalinguistic negation”, a form of negation that is not a logical operator on truth-conditional propositions, but rather an objection to previous uses of language perceived as erroneous or infelicitous on grounds ranging from prosodic to conceptual. A good example of *conceptual* metalinguistic negation marked one of the twists in the public discourse over the COVID-19 pandemic. On September 26, 2020, Richard Horton, the editor-in-chief of *The Lancet*, one of the medical journals publishing peer-reviewed research instrumental in the scientific understanding of COVID-19, published a commentary (Horton, 2020) entitled:

- (1) COVID-19 is not a pandemic.

This title, taken out of context, has risked becoming a viral sensation for the negationist argument,¹ thus turning Horton’s well-intentioned conceptual “precision”² into a perilous slogan for a standpoint he vehemently opposes. But it takes only about 2 min to realize Horton’s argument was impeccably metalinguistic:

- (1a) COVID-19 is not a pandemic. It is a syndemic. [...] The notion of a syndemic [...] reveals biological and social interactions that are important for prognosis, treatment, and health policy. Limiting the harm caused by SARS-CoV-2 will demand far greater attention to NCDs [non-communicable diseases] and socioeconomic inequality than has hitherto been admitted. (Horton, 2020).³

¹ As evidenced in the discussion on Horton’s Twitter account immediately after the publication of the piece: <https://twitter.com/richardhorton1/status/1309384015464587264?lang=en>.

² For a discussion of various forms of “precising definitions” vis-à-vis Carnap’s scientific “explication”, see Brun (2016).

³ More precisely, this is an instance of a metalinguistic negation via the hypernym–hyponym relation (“Around here we don’t LIKE coffee—we LOVE it”; “The wine is not GOOD, it’s EXCELLENT”), discussed by Horn and others. The hypernym–hyponym relation can be given a scalar implicature interpretation: “One frequent use of metalinguistic negation—indeed, virtually universal (but cf. §5 below)—is as a way of disconnecting the implicated upper bound of weak scalar predicates.” (Horn, 1985, pp. 139ff.).

As is clear in (1a), Horton's argument for conceptual shift from PANDEMIC to SYNDEMIC is justified on two grounds: scientific precision and public health response, with the latter taking the upper hand.⁴ We will return to this interrelation of epistemic and practical arguments in our discussion below.

Such reasoned metalinguistic negations are, in our view, but one species of the argumentative and linguistic mechanisms that underlie public discussions where *metalinguistic intervention* (MI) plays a key role.⁵ Attention to MI, encompassing various forms of reflection, discussion, and action on meanings, has been growing notably in recent analytic philosophy under various labels: *ameliorative analysis* (Haslanger, 2012), *conceptual engineering* (Cappelen, 2018), *conceptual ethics* (Burgess & Plunkett, 2013), *meaning litigation* (Ludlow, 2014), *metalinguistic negotiations* (Plunkett, 2015; Plunkett & Sundell, 2013, 2021), *verbal disputes* (Chalmers, 2011). While rooted in classic debates over the possibility of revisionary and pluralist approaches to meaning (Carnap, Quine, Davidson, Kripke, Putnam, Burge), this reinvigorated attention brings a new sense of relevance and urgency, as well as new methods, to the philosophical study of public uses of language. Lively theoretical disputes over the semantic/pragmatic nature of MIs, their metasemantic underpinnings, speakers' control over meaning, social and political functions of MIs, their potential for amelioration or perversion of meaning, permeate this literature (Burgess et al., 2020; Marques & Wikforss, 2020). Still, the idea that MIs are often worthwhile and even central to public discussions is widely shared (see, however, Marques, 2017 and Stojanovic, 2012 for limitations).

An obvious objection to our approach would be to see the discussion over "pandemic" and "COVID-19 deaths" as basically a scientific dispute over facts. At the stage where the dispute takes place, we only have adequate epistemic access to a small fraction of the facts; we disagree about the rest because we infer different things about that rest based on the little knowledge we do share. For instance, in the case of COVID-19 deaths, the dispute revolves around different methodologies for calculating numbers of fatalities under fragmentary information, whereby full-proof medical evidence as to the causes of death of the thousands of suspected cases is missing. As a result, there is nothing metalinguistic patently involved just yet: after all, one of the defining characteristics of MIs is that disputants possess and mutually agree on all the relevant facts, and yet they disagree in virtue of the incompatible

⁴ "[N]o matter how effective a treatment or protective a vaccine, the pursuit of a purely biomedical solution to COVID-19 will fail. [...] Approaching COVID-19 as a syndemic will invite a larger vision, one encompassing education, employment, housing, food, and environment. Viewing COVID-19 only as a pandemic excludes such a broader but necessary prospectus" (Horton, 2020).

⁵ It is important to stress here that throughout the chapter we use the term "metalinguistic" in a broad sense, as any explicit or implicit form of attempted intervention on the meanings of the expressions used. Some participants in the discussion on the issue—most notably Plunkett & Sundell (2013, 2021) and Ludlow (2014)—use instead "metalinguistic" in the specific sense of expressions that are implicitly used (rather than explicitly mentioned) not to communicate a fact but, assuming common knowledge of the facts, to communicate how these expressions should be used. As a result, for us explicit definitional disputes over, e.g., what counts as a COVID-19 death are thus metalinguistic, while in the narrower sense of Plunkett and Sundell they would rather be "canonical" disputes over which concepts to employ.

conceptual views they advocate on normative grounds (Ludlow, 2014; Plunkett, 2015; Plunkett & Sundell, 2013, 2021; Schiappa, 2003). They thus fix their beliefs, while trying to solve for the meaning. Accordingly, this objection would maintain that until any forthcoming empirical facts might be decisive in adjudicating the dispute, it is essentially a substantive, ground-level dispute.

This objection can be resisted on two grounds. First, it assumes that there is, eventually, the scientific truth of the matter on what a COVID-19 death is, and that the problem lies in the scarce resources and underdeveloped methods to arrive at that truth (e.g., precise and massive tests and autopsies). But this assumption can be legitimately challenged: multiple notions and conceptions of *cause* and, more specifically, *cause of death* have played a role in various scientific and medical contexts (Clarke & Russo, 2016; Lindahl, 1988, 2021; Reiss, 2016; Reiss & Ankeny, 2016). It is all but clear that any single one of these should or could be elected as *the* right or privileged one with which to form a univocal scientific concept of COVID-19 DEATH. Additionally, there is the issue of numerous particular cases of especially indeterminate nature, even within what seems to be a fixed framework.⁶ Lindahl (2021) gives the example of situations of COVID-19 infection in patients with cancer, in which the two diseases “reciprocally interact, increasing the seriousness of the outcome” (2021, p. 72), thus rendering dubious the possibility of a clear choice of either morbidity as *the* underlying cause of death. Indeed, one can claim that “the cancer and the COVID-19 *jointly* initiated the train of morbid events leading directly to death” (Lindahl, 2021, p. 72, italics in the original), and given that only one can be reported on the death certificates, discretionary decisions need to be made by coroners. That’s where the guidelines such as the ones of WHO come to the rescue: complex situations of a rapidly spreading pandemic driven by a hitherto unknown virus are rife with uncertainty, indeterminacy, and certain arbitrariness of results that cannot be conclusively overcome by scientific means alone for the purposes of concerted public health response.

That brings us to the second argument against the objection. Even if the assumption of the scientific truth of the matter proved to be at least approximately adequate (perhaps with better diagnostic methods being developed and widely implemented), for our argument to take off the ground we do not need to resist this objection so far as the SCIENTIFIC CONCEPT⁷ is concerned. Indeed, the objection can help us

⁶ There is a debate among medical practitioners over the accuracy of reporting the cause of death in COVID-19 patients. The problem is well exemplified by the Swedish study of Nilsson et al., (2021): “Death in home healthcare during the first pandemic wave mostly affected individuals already vulnerable due to severe frailty and very advanced age. In this group of subjects, COVID-19 was assessed as contributing to death in two-thirds of the individuals, and less frequently, it was the dominant cause of death (13%). One of every five individuals was assessed as dying from another cause than COVID-19” (Nilsson et al., 2021, p. 3). But even the studies that claim reporting is indeed accurate within the national and international (WHO) reporting guidelines (e.g., Elezkurtaj et al., 2021; Slater et al., 2020), are not immune to the deeper problem of the indeterminacy of the cause of death we discuss here.

⁷ For the purposes of this chapter, we stick to the prevalent (even if mildly sloppy) practice of using ‘concepts’ and ‘meanings’ interchangeably so as to signal our neutrality on the questions concerning the nature of our representational devices. While this is largely inconsequential to our arguments

make clear that there are (at least) two concepts and two sets of issues converging and being conflated in these discussions. It does so by rendering it clear that the scientific concept and a set of related issues constitute just part of the concerns of health authorities when they discuss and issue operational definitions. On the other hand, at the same time, there is also a different concept—the INSTITUTIONAL CONCEPT—and a set of issues that are fully determined by institutional declarations. International and national health authorities, facing the need for urgent and decisive action under uncertainty, propose, discuss and establish uniform and operationally precise “definitions” and “classifications” which make it possible to overcome remaining uncertainties. It is the metalinguistic interventions on this second concept that we focus on here.

Our focus on institutional concepts as the domain of MIs over COVID-19 deaths is inspired by Searle’s social ontology (Searle, 1995, 2010).⁸ Within this theoretical framework, by declaring a given epidemiological situation a “pandemic”, the WHO creates a new institutional reality in which various institutions and agents are endowed with new rights and obligations. For instance, we have the right to resort to the *force majeure* clause to cancel or alter our obligations and, simultaneously, we have the obligation to follow strict health-related regulations and limitations (e.g., travel bans). These conditions make up the declarative status of these acts. *Declarations* are precisely the speech acts that create new social realities by the very fact of being felicitously performed: a declaration of war by a legitimate head of state just starts the war, an official announcement of firing an employee by the employer just is firing him, etc. (Searle, 1975, 1995, 2010). All the same, there is a special sub-type of declarations that still create institutional facts but are grounded in some natural or social facts, namely, *representative declarations* (Searle, 1975, pp. 360–361): a judge declaring someone guilty just makes this person guilty, and yet also makes a factual statement to the effect that the accused actually did commit such-and-such criminal acts. Similarly, the WHO declares a “pandemic” because, to the best of WHO’s knowledge, there actually is a pandemic.⁹ There are, then, belief-relevant sincerity conditions related to such acts that do not exist in pure declarations, e.g., in

here, we are well aware of the ongoing dispute over this practice (see Eklund, 2021; Machery, 2009; Sawyer, 2018, 2020).

⁸ While Cappelen (2018, pp. 44–46) briefly discusses Searle’s social ontology as an approach which potentially affords revision and amelioration of concepts that are constitutive of social facts, he doesn’t explore this connection any further. Like us, Schiappa (2003) also draws attention to Searle’s realm of institutional facts and advocates that one appropriate form of definition is “X counts as Y in context C”, but, similarly to Cappelen, treats this connection rather perfunctorily. Otherwise, Schiappa offers a framework much more resolutely constructionist than we find necessary and justifiable.

⁹ See: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-1-march-2020>: “WHO has been assessing this outbreak around the clock and we are deeply concerned both by the alarming levels of spread and severity, and by the alarming levels of inaction. We have therefore made the assessment that COVID-19 can be characterized as a pandemic. Pandemic is not a word to use lightly or carelessly. It is a word that, if misused, can cause unreasonable fear, or unjustified acceptance that the fight is over, leading to unnecessary suffering and death.”.

the act of declaring a war or opening an academic conference. As a result, one can be right or wrong in such declarations, and one can lie in them too.¹⁰ Interestingly, in the case of correct declarations, the objective natural or social facts are coextensive with the declared institutional facts. However, in the case of incorrect or even manipulative declarations we have two parallel facts running their own course. For instance, for all the legal intents and purposes, we might act, and even be obliged to act, under the conditions of pandemic as an *institutional* fact, while the pandemic as an *epidemiological* fact is actually not happening (and vice versa, as witnessed by the situations where authorities declare an end to lockdown restrictions without obvious changes in epidemiological facts). There exist erroneous verdicts.

Note that this is precisely Horton’s argument: the WHO declared the wrong kind of health emergency. Instead of ‘pandemic’, we should officially talk about ‘syndemic’, a concept that not only better captures the evolving epidemiological facts, but also points to more adequate ways of addressing the short- and long-term effects of COVID-19. SYNDEMIC is thus epistemically more precise and prescriptively more fruitful, thus meeting two classic criteria for conceptual work (Brun, 2016; Carnap, 1950; Dutilh Novaes, 2020; Plunkett, 2015).

Further, and most importantly to our discussion: in the case of pandemic, the WHO used their recognized prerogative to apply the standing declaration to an individual case at hand. *Standing declarations* are constitutive rules determining what would be an acceptable applied declaration (Searle, 2010, p. 13). In our case, it is within WHO’s powers to declare a pandemic antecedently defined as “the worldwide spread of a new disease”—and they did just that on March 11, 2020.¹¹ However, one can also discuss and institute a standing declaration in the first place, thus fixing the general rule *X counts as Y in C*. This type of declaration takes the form of an institutional definition, or a part of it: e.g., *Dying with recognizable COVID-19 symptoms (dry cough, fever) but without any further evidence counts as dying of COVID-19 in the context of Belgian elderly care homes residents*. Institutional definitions, while linguistic, thus require an extra-linguistic institution, against Searle’s arguments to the contrary (1975, p. 360; 2010, Chaps. 4–5). Any such definition, when duly approved and recognized, becomes a standing declaration which, whenever implemented, creates an institutional fact, a recognized status that comes with certain rights and obligations, as described above.

While Searle’s original intention was to theorize how institutional reality is constructed and maintained, we re-use his distinctions in order to precisely delineate the domain where metalinguistic arguments over “pandemic” and “Covid-19

¹⁰ In Searle’s well-known terminology, for all declarations “the direction of fit is both words-to-world and world-to-words because [...] the performance of a declaration brings about a fit by its very successful performance” (1975, pp. 359–360). However, representative declarations have an additional words-to-world dimension characteristic of assertions. In this way, Searle is refining Austin’s (1962) original class of truth-relevant “verdictives” as distinguished from pure “exercitives”.

¹¹ https://www.who.int/csr/disease/swineflu/frequently_asked_questions/pandemic/en/ and <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020>.

death”—and multiple other similar cases—can and do happen. Given the relevance of epidemiological and medical facts, arguers are bound to discuss and pronounce *representative* declarations. Further, since the focus of these arguments is not merely on how to apply a given concept under specific circumstances but rather how to “define” or “classify” that concept in the first place, the MIs concern *standing* declarations. Such standing representative declarations are the object of our study here.

In the literature, the complex interrelations between metalinguistic and substantive issues are well recognized (Chalmers, 2011; Plunkett, 2015). In principle, there might exist criteria for distinguishing between the two; in typical cases, we enter the realm of MIs when speakers continue to disagree while, factually speaking, all is said, done, and mutually agreed on (including facts over the other speakers’ meanings).¹² However, most curious in the philosophical debates are various hybrid and messy cases. Indeed, the standing representative declarations we analyze in this chapter are clear and interesting instantiations of such mixed phenomena. Here, the declarative, definitional element accounts for the metalinguistic or conceptual aspect, while the representative element accounts for the substantive aspect. The dispute is thus indexed and accountable to some external reality—just as much as a judge’s decision to declare someone guilty is—but, once a declaration is issued, it does become an institutional fact itself.

Beyond this fundamental aspect of conceptual work over institutional facts, we point to three key elements of the philosophical dispute over MIs, particularly relevant to an analysis such as ours.

First, as elaborated in their unique ways by Haslanger (2012), Plunkett & Sundell (2013, 2021; Plunkett, 2015), and others (e.g., Ludlow, 2014; Schiappa, 2003) MIs—or at least those most persistently argued about—are driven by *normative*, rather than descriptive, concerns. Plunkett & Sundell (2013, 2021) distinguish between *descriptive* metalinguistic disputes over how a term *is* used (e.g., “For us in Europe ‘football’ means a different game than for you guys in the USA”) and *normative* metalinguistic disputes over how a term *should be* used (e.g., “Waterboarding is torture”; “Horses are athletes”). In contrast to the descriptive cases, the issue cannot be conclusively settled by appeal to current usage or some linguistic authority (e.g., by restriction to the current regulations within the legal domain)—which makes them disputes of particular philosophical interest. Plunkett & Sundell call them, somewhat misleadingly, metalinguistic ‘negotiations’ (see below). Normativity itself is, however, another forbiddingly complex notion.¹³ For the sake of illustrative simplicity, we can divide normative grounds of MIs into three large classes, recognized since antiquity: the true, the good, and the beautiful. The former two are especially relevant to our discussion

¹² See Soria-Ruiz (2021) and Stojanovic (2012) for further discussion on the distinction between metalinguistic and evaluative disputes, which *prima facie* share some of these features.

¹³ Given that meaning itself can be considered a normative notion, thus encompassing descriptive disputes, one needs to further distinguish between normativity *internal* and *external* to the use of language. It is the latter type that is relevant here. Finally, merely *procedural*, minimal normativity in the sense of any rule-governed behavior vs. value-based *substantive* normativity should be distinguished. Again, it is the latter type that is relevant here. See Plunkett & Sundell (2013, 2021) and Plunkett (2015).

here. In the first place, one engages in MIs for the sake of epistemic enhancement. In doing so, one can appeal to Carnapian values of specifically scientific exactness, simplicity,¹⁴ and fruitfulness in the pursuit of methodic inquiry (Brun, 2016; Carnap, 1950; Dutilh Novaes, 2020) or to a broader metaphysical value of “carving nature at its joints” (Campbell et al., 2011; Scharp, 2020). Such appeals can support and explain prototypical examples of conceptual refinement such as those concerning FISH and ATOM (Carnap, 1950; Dutilh Novaes, 2020; Rast, 2020). In the second place, MIs work in the service of ethical concerns, that can be quite general and abstract or more applied, focused on concrete cases (Burgess et al., 2020). Ideals of fairness, equality, or dignity are thus often invoked in attempts to intervene metalinguistically on a concept such as FREEDOM or on a concept such as MARRIAGE or TORTURE. Importantly, in either case, a broadly pragmatic approach can be defended, tying the grounds and forms of MIs to the goals at hand, e.g., those of scientific inquiry or of public policy. Plunkett & Sundell (2021) stress the primacy of such overarching practical goals when they insist that “arguing about whether waterboarding is torture is a way of arguing about *whether we should waterboard*, or about *how we should treat people that do it*, or some other normative issue” (p. 162, emphasis in the original).¹⁵

As we shall see, these concerns are indeed crucial in the public debate over COVID at large, and COVID deaths in particular.

Second, MIs can be performed via disputes over terms and concepts explicitly *mentioned* as arguable, or via disputes over terms and concepts implicitly *used* as arguable (Burgess & Plunkett, 2013; Plunkett & Sundell, 2013, 2021; Rast, 2020). While the latter seem finer and more elusive thanks to their intricate pragmatic mechanisms, the former are more directly amenable to the analysis of the arguments driving the dispute. In this case, however, we would rather not call them metalinguistic ‘negotiation’ but ‘argumentation’, given the centrality of “rational conflict” to the concept (Plunkett, 2015): rational conflict, or a disagreement instigated by rational concerns, when managed on rational grounds via linguistic exchange, just *is* argumentation on the most standard meaning of the term (see Dutilh Novaes, 2021; van Eemeren & Grootendorst, 2004). Accordingly, one of the tenets of argumentation theory is that it is public argumentation, and not private reason, that promotes rationality, precisely due its explicitness. For Johnson (2000), argumentation is not only rational, but *manifestly* rational, so that arguers can mutually see, test, and acknowledge the rationale behind inferential steps taken.¹⁶ By contrast, ‘negotiation’ denotes

¹⁴ Note that simplicity and similar notions such as elegance or parsimony are often considered “aesthetic values” in scientific theories, thus pertaining to the class of the beautiful. See, e.g., Ivanova (2017).

¹⁵ Responding to Cappelen’s challenge that the dispute over whether waterboarding is torture is an object-level and not a metalinguistic dispute, that is, it is “about torture, not ‘torture’” (Cappelen, 2018, p. 175), Plunkett & Sundell claim that “in many cases, the debate that really matters is not about the word ‘torture’ or about torture. It’s about *waterboarding*, and whether we should be doing it.” (2021, p. 162, emphasis in the original).

¹⁶ “It is not just that the participants [in argumentation] embrace rationality, which they might do secretly but not publicly. No, the participants in the practice exhibit what it is to be rational.

a linguistic activity of arriving at a reciprocally agreeable private compromise, that *can* be rational, but can also be purely transactional (Godden & Casey, 2020).

In this way we second Ludlow's idea that the driving force behind MIs is to come up "with progressively more serviceable modulations via a normatively constrained process of argumentation" (Ludlow, 2014, p. 111). These processes can be based on analogical arguments or arguments from authority (Ludlow, 2014) or on various other forms of definitional and semantic arguments (for a recent overview, see Prus, 2021). However, as we show below, in line with point one discussed above, practical reasoning seems to be a central type of argumentation grounding MIs.

Finally, one of the key concerns in conceptual ethics or engineering is this: can we really control the change of our concepts? Ludlow (2014) and linguists working within lexical pragmatics (Allott & Textor, 2012; Hall, 2017; Wilson, 2003) argue that in communicative contexts, speakers can tweak meanings via pragmatic or semantic modulations. For Ludlow, this idea comes with radical contextualism whereby interlocutors, as it were, create their "micro-languages" from scratch in any given conversational context, and thus are free to adjust their meaning at will. Diametrically opposed to this position, and rooted in a particularly unrelenting understanding of semantic externalism, we find Cappelen's lack of control argument: given that meanings (intensions and extensions) supervene on long-term patterns of usage within a broad linguistic community, local and individual attempts at meaning change can only have a minute and unpredictable impact, if any at all. Cappelen admits, however, that attempts at MIs continue, driven by normative concerns: even if a lasting, widespread semantic change is arguably beyond speakers' control, we still engage in MIs if only because "in general, we don't make normative judgments [...] only when we have worked out a strategy for how to change the world" (Cappelen, 2018, p. 75). Our normative reasons, discussed above in points 1 and 2, thus prevail over practical limitations: we pursue, however unwittingly, the "right" meanings of our words even if we cannot fully understand, let alone control, processes of meaning change.

In between these two extremes, various options for effective intervention on our concepts and meanings are conceivable and have been explored in the literature, from forms of metalinguistic activism (Sterken, 2020), to engagement in "collective long-range" meaning change efforts (Koch, 2021), or even the engineering away, from our very concepts of CONCEPT and MEANING, of whatever features stand in the way of agents' control over their representative devices (Riggs, 2019). While we are not in a position to further explore here, let alone resolve, this debate, we note a special context where control over meanings is well possible, and even expected. This is exactly the area of social ontology, discussed above. It is within the deontic powers of certain certified bodies—international organizations, constitutional assemblies, parliaments,

To give reasons; to weigh objections; to revise over them or to reject them—all of this describes a vintage performance of rationality. The arguer acknowledges that there are objections and problems with the position [...]. The critic acknowledges that there is rationality in the arguer's position." (Johnson, 2000, pp. 162–163). Pragma-dialectical "meta-theoretical principles" of *externalization* of commitments, and of *socialization*, *functionalization* and *dialectification* of argumentation similarly reinforce the link between explicitness and rationality of argumentation (van Eemeren & Grootendorst, 1984, 2004).

municipal and faculty councils, but also courts of various instances, notably supreme courts—to declare on certain conceptual choices via their legal authority to do so, thus pronouncing binding semantic resolutions. Vivid examples of this—anything from what is a PERSON to SUSTAINABLE FASHION to SANDWICH—are discussed by Ludlow (2014) and within argumentation theory (Greco & De Cock, 2021; Schiappa, 1993, 2003). In such instances, Searle’s formula for constitutive rules operative in declarative speech acts—*X counts as Y in context C*—replicates itself thus creating social reality, with its network of intentional states and background capacities (Searle, 1995, 2010).

In this way, we thus carved out our approach to MIs: we specifically focus on MIs (1) grounded in various forms of *normative argumentation*, (2) *explicitly* debatable in the *public sphere* and (3) aimed at *meaning change in the domain of institutional facts*. These three characteristics jointly converge on an approach to MIs particularly fruitful in our inquiry over what counts as a COVID-19 death.

2.3 Arguing Over What a COVID-19 Death Is

In this section, we argue that public understanding of the COVID-19 pandemic, and a successful response to it, depend in part on an answer to a seemingly simple question: What do or should we mean by a “COVID-19 death”? This concern is reflected in the metalinguistic arguments of health authorities and public media that we analyze here.

2.3.1 *The Early Confusion*

Consider the discussion over case mortality rates of COVID-19 that, in the early stages of the pandemic in Europe (February–March 2020), varied from 1% (Germany) to 10% (Italy, Spain, Belgium). Explanations abounded on how to account for this difference.¹⁷ Obviously, “facts on the ground” were brought up: demographics such as average population age, health, and density; overall quality of healthcare with a focus on available ICU beds and ventilators; government response, including the timing and severity of the lockdown measures; availability of the personal protective equipment (masks, gloves); even air quality. Further, testing methodology was recognized as playing a key role: tests could be limited to patients with severe symptoms and their direct contacts, resulting in higher mortality rates reported, or included a broader, asymptomatic population, producing lower rates. Quite recognizably, such

¹⁷ See, e.g., <https://www.bbc.com/future/article/20200401-coronavirus-why-death-and-mortality-rates-differ>, <https://www.theguardian.com/world/2020/apr/24/is-comparing-covid-19-death-rates-across-europe-helpful->.

background facts and methods are two standard grounds for substantive disputes over this and similar cases.

However, from the onset of the pandemic, a third line of explanation has been present, one that focuses on the “differences caused by clinical definitions of what counts as a Covid-19 death” (“BBC report”).¹⁸ Such differences can be seen as particularly artificial when urgent and concerted action demand adequate worldwide comparison and coordination in the counting of cases. As we have already mentioned above, the question of “what counts as a Covid-19 death” does not admit of an obvious, single answer. Given the virus has been particularly lethal among older patients with other underlying illnesses (so called “comorbidities”), how were doctors advised to discern whether a patient died “as a result” of COVID-19, or rather a bacterial pneumonia, terminal cancer, or heart attack? While during the early stages of the pandemic most countries instituted a simple principle—any death of a patient tested positive “counts as” a death “caused by” COVID-19—actual clinical practice across and within different European countries varied, spurring a dispute among health professionals, policymakers, and the general population.¹⁹

Here, we defend the position that this problem—as well as any of the attempted or possible solutions—is a metalinguistic one.²⁰ Some institutions we analyze below explicitly mention this as being a matter of *definitions* and *classifications* (WHO, ONS in the UK). However, even more importantly, a confirmation that the relevant lack of coordination in accounting for COVID-19 deaths is, at least in part, semantic in nature stems from the fact that it can straightforwardly give rise to verbal and metalinguistic disputes. It is quite natural, in this context, for someone to abstain from answering an object-level question like “Is this a COVID-19 death?”, or “Did x die of COVID-19?”, and to reply, instead, at the meta-level, with something like “It depends on what you mean by ‘COVID-19 death’.”²¹

Indeed, in the spring of 2020, nascent metalinguistic arguments began to emerge. The predominant line defended the broad definition as an adequate indicator of

¹⁸ <https://www.bbc.com/future/article/20200401-coronavirus-why-death-and-mortality-rates-differ>.

¹⁹ For a representative example of arguments in this early dispute, see the Ioannidis-Taleb debate analyzed in Antiochou & Psillos (2022, this volume).

²⁰ Note that in claiming that the issue is of a metalinguistic nature, we don’t take ourselves to be committed to its not being also substantive. Despite its pragmatic usefulness, we are generally suspicious of the possibility of a principled, clear, and robust distinction between verbal (meta-level) and substantive (object-level) issues, disputes, and arguments. This is not the place to elaborate on this topic. We present further details of this view in a forthcoming article.

²¹ Soria-Ruiz (2021) formulates three helpful tests for ascertaining the metalinguistic character of a given dispute. These tests further support our arguments, as the differences in counting something as a COVID-19 death indeed share the relevant properties with other paradigmatic metalinguistic disputes, namely: (1) consider-embeddings of the disputed expression are felicitous, e.g., “WHO considers this to be a case of COVID-19 death (while gov.uk doesn’t)”; (2) non-ironical/humorous metalinguistic comparatives appear perfectly possible in the relevant contexts, e.g., “This is more a COVID-19 *related* death than simply a COVID-19 death”; (3) finally, in numerous such cases, the most salient question under discussion is precisely the metalinguistic one: “What should count as a COVID-19 death?”.

the dangers of the pandemic. Others called for a more precise, narrower approach needed for better clinical practice and public response: COVID deaths need to be *actual* COVID deaths, not just deaths of people who happened to have a positive result, but in fact died from other illnesses, or simply old age.²² In an apt rejoinder, the liberal side responded that, given the early scarcity of tests, counting only the positively tested cases amounted to a gross underestimation of the actual scope of the pandemic.²³ Compared to other pressing epidemiological concerns, these might sound as futile verbal disputes. Still, these semantic arguments illustrate the first efforts to understand and fix what ‘COVID-19 death’ means and to properly gauge the impact of the pandemic across the world’s population. An argument from analogy was also put forth (see “BBC Report”): In the case of the 2009 swine flu pandemic, depending on the way health professionals “assigned causation”, the death rate varied from dangerous 5.1% (early reports) to mere 0.02% (current corrected rate, based on a careful revision of medical data, including definitions and assignments registered in death certificates). Should the disputes over COVID-19 reveal a similar effect, then arguments over meaning would be very much worth having. Yet, as the pandemic raged in the spring of 2020, no consensual and conclusive reasons managed to decisively tilt these meaning disputes toward one solution or another. At this stage, international and national institutions stepped in.

2.3.2 *Solution 1: WHO’s Broad Concept*

In April 2020, the WHO intervened, producing “International guidelines for certification and classification of COVID-19 as cause of death based on ICD: International Statistical Classification of Diseases.”²⁴ Referring to “probable or confirmed COVID-19 cases” WHO’s “definition for deaths due to COVID-19” stipulated that:

- (2) A death due to COVID-19 is defined for surveillance purposes as a death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery from COVID-19 between illness and death.

A death due to COVID-19 may not be attributed to another disease (e.g. cancer) and should be counted independently of preexisting conditions that are suspected of triggering a severe course of COVID-19. (p. 3)

²² In the words of a Belgian virologist Marc Van Ranst: “It now seems that people are only dying of COVID-19 in our nursing homes, while there are deaths there even in normal times, given the very high average age of their residents.” As quoted in <https://www.politico.eu/article/why-is-belgiums-death-toll-so-high/>.

²³ For various reasons, see here: <http://www.healthdata.org/special-analysis/estimation-excess-mortality-due-covid-19-and-scalars-reported-covid-19-deaths>.

²⁴ https://www.who.int/classifications/icd/Guidelines_Cause_of_Death_COVID-19.pdf?ua=1.

The definition is lax in its epistemic demands and broad in its reach. Quite surprisingly, it counts merely “probable” cases on a par with “confirmed” ones and determines that deaths due to COVID-19 “should be counted independently of preexisting conditions”, even those “preexisting conditions that are suspected of triggering a severe course of COVID-19” (for further discussion, see Amoretti & Lalumera, 2021 and Lindahl, 2021).

In view of our foregoing discussion, important questions arise: Can the WHO determine what a ‘COVID-19 death’ means? And, in this particular case: Did the WHO at least produce a sound argument for what a ‘COVID-19 death’ means or should mean?

Resorting to the distinctions introduced earlier, the WHO argues over an *institutional* concept of COVID-19 DEATH, precisely because of the obstacles to the deployment of a *scientific* concept, both principled (the nature of cause of death) and practical (insufficient capacity to test and perform autopsies). Not only is the very possibility of electing a single, natural, scientific concept of COVID-19 DEATH doubtful for the reasons discussed above, such a concept would not, in any case, be immediately adequate in the context of turmoil, fragmentary information, and pressure for quick measures and pronouncements. Under these circumstances, the WHO is able, indeed obligated, to intervene and fix the institutional (and operational) meaning for ‘COVID-19 death’. It undoubtedly has the effective power to implement worldwide changes in how the term is applied in official documents and statements. Accordingly, the document starts with the broad standing declaration of what should count as COVID-19 death (2), and then moves on to specific instructions on how to apply this declaration in concrete cases (2a). It thus first offers an argument *to* definition and, once this is settled, an argument *from* definition (see Prus, 2021; Rigotti & Greco, 2019). Importantly, the conceptual argument to definition is grounded in normative concerns “of importance for public health” that are relevant “for surveillance purposes” and “the most useful cause of death statistics possible.” The concern for producing data “comparable to data from other countries” further reinforces this argument.

In this way, as also noted by Amoretti & Lalumera (2021) and Lindahl (2021), values other than medical or scientific accuracy govern this intervention. The WHO is explicit about the heterogeneity of considerations shaping their definitions and instructions:

- (2a) With reference to Sect. 4.2.3 of volume 2 of ICD-10, the purpose of mortality classification (coding) is to produce the most useful cause of death statistics possible. Thus, whether a sequence is listed as ‘rejected’ or ‘accepted’ may reflect interests of importance for public health rather than what is acceptable from a purely medical point of view. Therefore, always apply these instructions, whether they can be considered medically correct or not. Individual countries should not correct what is assumed to be an error, since changes at the national level will lead to data that are less comparable to data from other countries, and thus less useful for analysis. (pp. 8–9)

Key scientific values such as precision and self-correction are thus overridden by a straightforward practical argument: in the current situation marked by scientific uncertainty and lack of consistency, and given our institutional mandate of protecting public health in an internationally coordinated manner, the best definition-qua-rule we can institute is: *any death resulting from a clinically compatible illness, in a probable or confirmed COVID-19 case, counts as COVID-19 death (unless there is a clear alternative cause of death that cannot be related to COVID disease) in the context of the current pandemic.*

2.3.3 *Solution 2: Belgium’s Broad Concept*

A much-debated version of the WHO’s definition of what counts as a COVID-19 death was introduced in Belgium. The controversy revolved around how Belgium decided to fix the meaning of ‘COVID-19 deaths’ by including in it ‘probable deaths’ and counting such cases in the official statistics of COVID-19 deaths.²⁵

- (3) “As in other European countries, there wasn’t enough test capacity in the beginning to extensively test patients in nursing homes,” said Joris Moonen, a spokesperson for the agency that oversees nursing homes in the Dutch-speaking region Flanders. “We choose to register every death who had potentially died from COVID-19 to detect in which nursing homes the virus had hit. We were aware this would lead to an overestimation but found the signaling more important.”²⁶

Placing the value of public health “signaling” over the possible epistemic “overestimation” mirrors WHO’s arguments. Critics called it simply “stupid”, on both epistemic and practical grounds. First, as reported, “of Belgium’s registered deaths, 44% died in hospital (and were tested). The majority 54% died in a nursing home—and only in 7.8% of those cases was COVID-19 confirmed as the cause.”²⁷ That leaves almost 50% of official numbers in the medical dark. Second, such approach possibly had adverse practical consequences: “Neighboring countries may be less likely to reopen their borders for Belgian companies or tourists once European governments start to loosen their confinement measures.”²⁸ Indeed, in the early weeks of the pandemic (March–April 2020), Belgium had the highest per capita death rates in Europe and even in the world. This indicates another set of pressing practical arguments relevant in debating the institutional concept of COVID-19 DEATH, namely, public image factors (e.g., not appearing a failed state) and commercial interests (of national businesses or tourists).²⁹

²⁵ See <https://www.politico.eu/article/why-is-belgiums-death-toll-so-high/>; <https://www.politico.eu/article/in-defense-of-belgium-coronavirus-covid19-pandemic-response/>; <https://www.nytimes.com/2020/08/08/world/europe/coronavirus-nursing-homes-elderly.html>; <https://www.theguardian.com/world/2020/apr/24/is-comparing-covid-19-death-rates-across-europe-helpful->

²⁶ <https://www.politico.eu/article/why-is-belgiums-death-toll-so-high/>.

²⁷ <https://www.politico.eu/article/why-is-belgiums-death-toll-so-high/>.

²⁸ <https://www.politico.eu/article/why-is-belgiums-death-toll-so-high/>.

²⁹ We thank an anonymous reviewer for pressing this point.

However, defenders of the government's policy produced counter-counter-arguments³⁰:

- (3a) "It's important that people are aware of the deceases outside the hospitals," Van Gucht [who chairs the government's scientific committee for coronavirus] said. "A broad way of counting enables us to monitor and quickly intervene where needed. Numbers are very important to create a sense of urgency—for example for the nursing homes. Belgium shouldn't be ashamed about that."³¹

Again, the argument of efficient public health response takes precedence here over slow-paced medical accuracy. Importantly, while Belgian officials explicitly discuss "a way of counting", it is worth noting that in this context the *statistical* sense of "counting" is derivative of the *definitional* sense of "counting" as in the formula X "counts as" Y in context C. This, as we have argued, accounts for the metalinguistic aspect of the dispute over institutional facts.

2.3.4 *Solution 3: UK's Narrow Concept: ONS Versus GOV.UK*

Belgium's chief scientist's argument that "it's important that people are aware of the deceases outside the hospitals" is not a standalone reason, but rather a direct objection to the decisions taken in other European countries, notably the United Kingdom, the recently estranged ex-member of the European Union. In the UK, the government instituted a principle that only deaths (1) with a confirmed positive COVID-19 test and (2) those occurring in hospitals count as COVID-19 deaths to be reported in official statistics. This practice directly contradicted WHO's instructions and practices of countries such as Belgium. Unsurprisingly, this triggered a public debate, outside and inside of the UK. A useful summary of this early debate can be found in the official blog of ONS, the Office for National Statistics³²:

- (4) ONS figures by actual date of death (death occurrence) tend to be higher than the GOV.UK figures for the same day. This is because:
- We include all deaths where COVID-19 was mentioned on the death certificate, even if only suspected: the GOV.UK figures are only those deaths where the patient had a positive test result
 - We include deaths that happened anywhere in England and Wales, for example some might be in care homes: the GOV.UK figures are only those that happened in hospital.

³⁰ See also the official defense of Maggie De Block, Belgium's minister of public health: <https://www.politico.eu/article/in-defense-of-belgium-coronavirus-covid19-pandemic-response/>.

³¹ <https://www.politico.eu/article/why-is-belgiums-death-toll-so-high/>.

³² For further analysis of the COVID-19 debate in the UK, see Fairclough (2022, this volume).

So who is right about the number of deaths?

The issue is not really about right or wrong, but about each source of data having its own strengths and weaknesses.

The figures published on GOV.UK are valuable because they are available very quickly, and give an indication of what is happening day by day. Their definition is also clear, so the limitations of the data can be understood. But they won't necessarily include all deaths involving COVID-19, such as those not in a hospital.

Numbers produced by ONS are much slower to prepare, because they have to be certified by a doctor, registered and processed. But once ready, they are the most accurate and complete information.

Using the complete death certificate allows us to analyse a lot of information, such as what other health conditions contributed to the death.³³

This post nicely captures the institutional dilemmas to be resolved. UK Government has a “definition” of COVID-19 death that is clear, fast, and frugal. But ONS deems it too far removed from “the most accurate and complete information”, something ONS is after in their approach. The government was responsive to such arguments, and in August 2020 changed its definition by removing the condition of *hospital* death, thus defining COVID-19 deaths as:

- (4a) deaths in people with COVID-19 that occur within 28 days of a first positive laboratory-confirmed test.³⁴

Hence the condition of a “positive laboratory-confirmed test” remains necessary. In their justification of this decision, the government argued the following:

- (4b) ONS reports deaths where a doctor suspects COVID-19 as a cause – these data include a clinical assessment as recommended by WHO but are subject to variation in clinical judgement as to the cause of death.

In other words, the institutional extension of ‘COVID-19 deaths’ should be a subset of the scientific extension: discretionary powers of individual doctors, which inevitably include subjective suspicion and varied judgment, should not yield to “laboratory-confirmed” truth of the matter.³⁵ Both the WHO and the ONS are thus mistaken in their approach—and so is the Belgian government. Whichever way the argument goes, however, the British case demonstrates the possible transience of conceptual interventions, an issue central to Ludlow’s (2014) framework. Certain conceptual solutions might be adequate in a certain context, while certain specific conditions hold, and inadequate when something changes. This consideration brings us to the last option for conceptualizing COVID-19 deaths in the context of, by mid-2021, a prolonged, unrelenting pandemic.

³³ <https://blog.ons.gov.uk/2020/03/31/counting-deaths-involving-the-coronavirus-covid-19/>

³⁴ <https://publichealthmatters.blog.gov.uk/2020/08/12/behind-the-headlines-counting-covid-19-deaths/>.

³⁵ As reported by GOV.UK: “Our review considered epidemiological evidence to see how likely it was that COVID-19 was a contributory factor to a death at different points in time after a positive test. [...] Counting all deaths in people who have laboratory-confirmed infection [...] is technically robust because it does not require a judgement to be made about cause of death.” <https://publichealthmatters.blog.gov.uk/2020/08/12/behind-the-headlines-counting-covid-19-deaths/>.

2.3.5 Solution 4: Excess Deaths

In February 2021, half a year on since its August 2020 update, GOV.UK, while maintaining its official reporting policies and distinguishing itself from the ONS, considered yet another approach:

- (5) But there is a third measure, which arguably provides the most comprehensive overview of the impact of the pandemic: excess deaths.

These are the number of deaths over and above what would be expected, based on trends in previous years. Because they capture deaths from all causes – not just COVID-19 – they give us an idea of both the direct and indirect impact of the pandemic.³⁶

So defined, the concept of EXCESS DEATHS has been gaining prominence in the discussions as the pandemic progressed and its impacts have become ever more apparent. Apart from *direct* COVID-19 deaths (notwithstanding all the methodological challenges on how to account for them, especially in the case of comorbidities such as cancer, hypertension, or diabetes), there is a large category of *indirect* deaths that includes: (a) people who died of other conditions that appeared or aggravated during the pandemic but were not properly treated because of lack of access to health-care, whether actual (discontinued treatments, cancelled operations, no hospital beds available) or perceived (fear of going to hospitals and contracting the virus) and (b) people who suffered depression and other mental health issues, possibly leading to suicides. (All the same, due to reduced mobility and limited transmission of other viruses, there was also a marked *decrease* in mortality due to, e.g., traffic accidents or seasonal influenza.)

Among the institutions that proposed to refocus attention on the concept of EXCESS DEATHS are the Institute for Health Metrics and Evaluation (IHME), an independent population health research center at the University of Washington and the Center for Global Development, a think tank in Washington, D.C., that prepared a report on excess deaths in India, one of the countries hardest hit by the pandemic and also widely suspected of inefficient reporting of COVID-related data.³⁷ These institutions brought up two key concerns: (1) comparison of excess deaths to the estimated total (direct) COVID deaths and, in turn, those to the data on COVID deaths as officially reported by various governments; (2) the import of the concept of excess deaths itself.

As for (1), the IHME reports the following:

- (6) Deaths that are directly due to COVID-19 are likely underreported in many locations, particularly in settings where COVID-19 testing is in short supply. Most excess mortality is likely misclassified COVID-19 deaths. An analysis by the Netherlands statistical agency suggested that all excess deaths in the Netherlands were directly due to COVID-19. In fact, their analysis actually suggested that direct COVID-19 deaths

³⁶ <https://publichealthmatters.blog.gov.uk/2021/02/08/counting-deaths-during-the-pandemic/>.

³⁷ <https://www.cgdev.org/sites/default/files/three-new-estimates-indias-all-cause-excess-mortality-during-covid-19-pandemic.pdf>.

may be higher than estimated excess deaths because deaths due to some other causes have declined during the pandemic.³⁸

Moreover, drawing from different data sources, IHME evaluated the “ratios of total COVID-19 deaths to reported COVID-19 deaths”: in their global tally, Belgium is among the countries with the lowest distortion of officially “reported” deaths to actual “total” deaths.³⁹ This indicates the Belgian broad concept might, in the end, have the sought-after empirical adequacy.⁴⁰

Regarding (2): These complex comparisons and estimates make clear that EXCESS DEATHS are not being proposed as a more precise, simpler, or more fruitful version of the concept of COVID-19 DEATHS. Instead, they are being proposed as a concept that can, as it were, cut the knot and supersede the concept of COVID-19 DEATHS altogether. The argument for this conceptual replacement, rather than for continuous refinement of the notion of COVID-19 DEATHS, runs as follows: What counts in the bigger scheme of things—global public health, global economy, etc.—is the overall impact of the pandemic on the world’s population. And the concept of excess deaths allows to gauge this impact in a more robust, adequate, and methodologically neat way. Excess deaths thus mark a conceptual shift similar, indeed directly related to, the shift from PANDEMIC to SYNDEMIC, discussed above in Sect. 2.2 (examples 1 and 1a).

2.4 Discussion

Our analysis lets us develop two points. First, metalinguistic arguments over “COVID-19 deaths” are inextricably linked to substantive, scientific issues and, as we hypothesize, are partly determined by the imperfect character of our epistemic position on the subject. Second, they work in the service of broader practical arguments whereby scientific results are weighted against broader public policy values (e.g., a broader definition might justify more decisive containment measures).

³⁸ <http://www.healthdata.org/special-analysis/estimation-excess-mortality-due-covid-19-and-scallars-reported-covid-19-deaths>.

³⁹ <http://www.healthdata.org/special-analysis/estimation-excess-mortality-due-covid-19-and-scallars-reported-covid-19-deaths>.

⁴⁰ At the same time, the CGD reports that in India “the death toll from the pandemic is likely to be an order of magnitude greater than the official count of 400,000”, namely, one of around 4mln. See <https://www.cgdev.org/sites/default/files/three-new-estimates-indias-all-cause-excess-mortality-during-covid-19-pandemic.pdf>.

2.4.1 *Between Scientific and Institutional Concepts*

What is at stake in the broader debate we analyzed is a natural expectation of a simple correct answer to the question “Which (and how many) deaths are due to COVID-19?” Nonetheless, as we have shown, there has been no single, privileged, natural concept of COVID-19 DEATH and no simple answer to this question. Principled concerns, most centrally related to the notion of “cause of death” in complex medical situations, make a clear classification of cases problematic, even assuming ideal access to the relevant information. Worse still, we are far from ideal access to the relevant information, as practical concerns of limited capacity for widespread testing and thorough autopsies have shaped the pandemic since its onset. Despite such concerns, in light of urgent need for public health intervention, some concrete response is needed. As we argued, uncertainties marring the *scientific concept* of COVID-19 DEATH recommend *metalinguistic intervention* on the *institutional concept*, designed to provide a fitting response to the circumstances. Such institutional interventions have two important features, already adumbrated by Searle.⁴¹ First, reasoned control over meanings is well possible: being authoritative *declarations*, official interventions on the meaning of ‘COVID-19 death’ belong to the recognized deontic powers of the institutions mandated, among other things, to pronounce on the meaning of disputed terms. Second, such interventions are not entirely divorced from the attempts to get at the truth of the matter. They are, after all, *representative* declarations, expected to track, as much as possible, the features of the natural concept in question.

Taken together, these two features have some notable consequences. Metalinguistic interventions, as we understand them, are never closed or definitive. While they are meant to resolve some initial indeterminacy, they can typically not avoid all relevant sources of vagueness and indeterminacy. Indeed, if enough problematic cases accumulate after a first intervention, further action may be justified—as evidenced in the British case, where the definition of the COVID-19 deaths has been altered as new data became available. Such dynamicity of conceptual work allows to further understand the fertile tensions and interactions between “the facts on the ground” (revealed, e.g., via more accurate tests and autopsies) and the metalinguistic work performed by the institutions.

2.4.2 *Metalinguistic Interventions as Practical Arguments*

All the interventions we analyzed, starting from the WHO’s definition reflecting primarily “interests of importance for public health”, also reveal the heterogeneity

⁴¹ “[I]n certain institutional situations we not only ascertain the facts but we need an authority to lay down a decision as to what the facts are after the fact-finding procedure has been gone through. [...] Some institutions require representative claims to be issued with the force of declarations in order that the argument over the truth of the claim can come to an end somewhere and the next institutional steps which wait on the settling of the factual issue can proceed” (Searle, 1975, p. 360).

of factors shaping MIs. As we have amply illustrated, the aim of following, however approximately, the truth of the matter is only one of the interesting themes and determinants of MIs. Other considerations alien to the question of descriptive accuracy clearly contribute to the forging of institutional concepts. These are primarily practical concerns of public health policies: in case of any epistemic doubt, apply classification most conducive to battling the disease from the public health perspective (e.g., precautionary principle, the lesser risk, etc.).

As such practical normative grounds take precedence, it is worth reconstructing many of the reasons behind the metalinguistic declarations as instances of practical argumentation (Lewiński, 2017, 2018, 2021). Practical argumentation starts from an action-question: What shall we do under current (unwelcome) circumstances to reach the desired goals? These goals embody our main values. In our case, these are chiefly related to international public health—i.e., the prevention of deaths and disease, and control of the pandemic—and explicitly formulated in terms of availability of fast, frugal, and easily comparable data instrumental in efficient coordination among countries. Yet, over and above such health concerns, confidence of citizens in the institutions of the state, preservation of a good international image of a country, outlooks of economic recovery, etc., are also carefully balanced in addressing the practical question of which measures should be taken to best attain these heterogeneous goals. In the case of metalinguistic arguments, the measures to be taken, that is, the conclusion of a practical argument, is precisely the definitional declaration issued in the form: (*all things considered*, given our goals and values, under current circumstances and best knowledge we have,) we should count X as Y (see esp. Sec. 2.2).

As we have discussed earlier, many forms of metalinguistic arguments have been identified in the literature: arguments from analogy and from authority (Ludlow, 2014); dissociative arguments which split the current concept into two new concepts via a subscript gambit, e.g., COVID-19 DEATH_{SCIENTIFIC} and COVID-19 DEATH_{INSTITUTIONAL} (Chalmers, 2011; Pruś, 2021; Schiappa, 2003); as well as the whole wealth of definitional and semantic arguments, such as arguments from verbal classification (Pruś, 2021). On our analysis it seems, however, that the class of metalinguistic arguments is just coextensive with the class of arguments at large, in the sense of recognized forms of informal arguments. Concepts can be carved out and defended by analogy, authority, dissociation, example, causal relations, etc. In the context of our analysis, practical arguments to a specific definition have been particularly prominent.

All these forms of argumentation are surely worth investigating in terms of the role they play in metalinguistic interventions. Indeed, attention to argumentation lets us better see such interventions, which might otherwise remain inconspicuous even as they shape our collective lives. It also lets us better evaluate them: public arguments in support of such metalinguistic interventions should be explicitly made and open to scrutiny as publicly accountable forms of normative argumentation. With our analysis, we hope to have contributed to such scrutiny, however modestly.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 3

Good and Ought in Argumentation: COVID-19 as a Case Study



Andrés Soria-Ruiz, Mora Maldonado, and Isidora Stojanovic

Abstract The present chapter concerns arguments whose conclusions take the form of a prescription such as *you ought to do such-and-such*, which have driven much public discussion and policy since the beginning of the COVID-19 pandemic. We aim to tackle a hitherto under-explored characteristic of many such normative arguments, namely, the relationship between evaluative and deontic propositions, depending on whether they occur as premises or conclusions in such arguments. In order to investigate how willing people are to argue from what is good to what one ought to do, and the other way round, we conducted an Inferential Judgment Experiment. Participants were presented with arguments involving deontic and evaluative propositions, and had to judge whether they could infer conclusion from premise. The stimuli that we used are tightly related to the argumentation surrounding the pandemic, regarding the measures of preventing the spread of COVID-19. The results of the study show that there is a robust inferential connection between evaluatives and deontics, but at the same time, a significant asymmetry as well. We explore several theoretical approaches to the relationship between the deontic and the evaluative realm, and test their predictions against the results of our study.

Keywords Evaluative adjectives · Deontic modals · Pragmatics · Value judgment · Normative judgment

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S. Oswald et al. (eds.), *The Pandemic of Argumentation*, Argumentation Library 43,
https://doi.org/10.1007/978-3-030-91017-4_3

3.1 Introduction: Evaluative and Deontic Propositions

The topic of this chapter are arguments with normative conclusions, as illustrated by instances of argumentation that have become prevalent during the COVID-19 pandemic. In particular, we aim to explore the inferential connection between evaluative and deontic concepts,¹ more specifically, between ‘good’ and ‘ought’.

Note, to start, that contrary to Hume’s famous *dictum*, it does not seem difficult to derive an *ought* from an *is*:

- (1) a. Wearing a face mask in public is good.
- b. Ergo, you ought to wear a face mask in public.

This argument looks perfectly sound; and yet, there is no ‘ought’ in the premise. One would immediately respond, however, that ‘is good’ is an evaluative expression, and hence that this is not a counterexample to the claim that one cannot derive an ‘ought’ from an ‘is’, since evaluative and deontic expressions belong to the same domain of broadly normative expressions. But this is our point of departure: while evaluative and deontic expressions are often subsumed under the same broad class, there are important, often overlooked, differences between them.² Nevertheless, whether evaluatives and deontics also differ in their argumentative properties and roles, and if so, how, are questions that, to our knowledge, have never been properly explored.

3.1.1 *Similarities and Differences Between Deontic and Evaluative Language and Concepts*

There are three possible approaches to adopt regarding the relation between the deontic and the evaluative realm:

- A1: The differences between evaluatives and deontics that exist in other domains have no impact on argumentation. Evaluatives and deontics are, from an argumentative point of view, pretty much interchangeable.
- A2: While evaluatives and deontics exhibit different argumentative patterns, there are interesting logical connections between the two.
- A3: There is no special or interesting logical relationship between evaluatives and deontics.

¹ In this chapter, we subsume under the umbrella term ‘normative’ all expressions/arguments with consequences for the behavior and attitudes of people; chiefly, this includes *evaluative* and *deontic* expressions. *Evaluative* terms are, roughly, those that make reference to value, that is, to what is good or bad. *Deontic* terms are those that make reference to obligations, permissions and prohibitions. Most notably, the latter include deontic modals, such as *ought*, *must* or *may* (see Carr, 2017).

² See e.g. Tappolet (2013), Sven Ove Hansson (2001); see also Hurka (2014, Chap. 2) for a useful survey of the distinction between ‘good’ and ‘ought’ in mid-XXth century British ethical philosophers.

A1 and A3 are two extreme positions; we present them here as mere conceptual possibilities. A1 makes two predictions: first, appropriately similar evaluative and deontic judgments should be overall interchangeable in argumentation. For example, every judgment about what is good should be substitutable for a judgment about what ought to be the case or what one ought to do, and vice versa, without affecting the overall validity of an argument. Secondly, it should be possible to derive ‘ought’ from ‘good’ and ‘good’ from ‘ought’. Insofar as Moore (1903) aimed to reduce *right* to *good* (by treating the former as denoting instrumental value), he may be seen as a defender of A1; similarly, Hare’s (1952) prescriptivism may be seen as an attempt to account for evaluative and deontic expressions (chiefly *good*, *right* and *ought*) as particular species of prescriptive language.³ In stark contrast, A3 rejects the existence of any inferential or logical connection whatsoever between evaluatives and deontics. To our knowledge, A3 has never been defended or even endorsed, but we are including it as part of the conceptual space.

It is more common to find endorsement of (some version of) A2 in the literature. A2 is a weaker thesis than A1, since it is not committed to the first prediction above: if evaluatives and deontics exhibit different argumentative patterns, we should not expect these expressions to be interchangeable *salva validitate*. Moreover, A2 does not imply that one can derive *ought* from *good* or the other way around. However, A2 is compatible with the existence of some inferential connections between deontic and evaluative expressions (in either direction), contrary to A3.

Indeed, it is intuitive to think that something akin to A2—or perhaps A1—lurks beneath the usual reaction against the purported counterexample to the *is-ought* gap above. ‘Good’ and ‘ought’ belong to the same broad class of normative expressions, so the impression that in (1) one has jumped from the descriptive to the normative realm is an illusion—the premise was *already* normative. In the remainder of this section, we consider the motivation for A2 by considering similarities and differences between evaluative and deontic expressions and concepts.

Consider first the similarities between the two families of concepts. Broadly speaking, there are reasons to think that deontics and evaluatives belong to the same conceptual realm. This is supported by the observation that both classes of expressions seem to admit the same contextual qualifications and parameters. Specifically, they show a clear dependence on different “flavors” of evaluation, they are circumstance-dependent in broadly the same ways, and they are action-guiding. Let us review these characteristics in turn.

First, we speak of categorical and hypothetical value; similarly, we can think of categorical and hypothetical obligations or duties.⁴ Categorical values and obligations concern invariable and universal ends such as attaining well-being; instrumental

³ It bears mentioning, however, that Hare observed important semantic differences between ‘good’ and ‘ought’. For instance, it seems possible to say ‘You did that quite well, but not yet quite as you ought’ without contradiction (1952, p.152). Regardless, his chief purpose was to argue that the same considerations that make ‘good’ a value word make ‘ought’ a value word as well.

⁴ We clearly speak of aesthetic value; and while we might not speak of aesthetic duties, the very notion of the canon of beauty reflects the idea that people may want to comply with rules and norms when it comes to aesthetic matters.

values and obligations are those that subserve means to particular, variable ends. Linguistically, judgments of categorical value/obligation are most often expressed with unqualified uses of the relevant evaluative/deontic expressions; while judgments of hypothetical value/obligation introduce qualifications such as ‘in order to φ ’. To see that introducing this qualification can affect the truth conditions of a value or deontic judgment, note the contrast between (2) and (3):

- (2) a. ✓ You ought to visit your family.
- b. ✓ Visiting your family is good.
- (3) a. ✗ You ought to visit your family in order to prevent the spread of COVID-19.
- b. ✗ Visiting your family is good in order to prevent the spread of COVID-19.

The sentences in (3) are intuitively true, but when they are modified by “in order to...”, as in (3), they can become false. For we may agree that families involve (more or less) categorical values and obligations, but these can be overridden by a hypothetical goal, such as that of preventing the spread of COVID-19.

Secondly, values and obligations are circumstance-dependent: wearing a mask might be a bad idea for people with certain respiratory conditions; and whether you ought to stay at home, for instance, depends on whether you are safe there.

Finally, values and obligations are action-guiding: ascribing value to something invites the thought that one is motivated to orient one’s actions towards it; the same goes for judging that one ought to do something.⁵ Relatedly, influential accounts of normativity in metaethics, such as *buck-passing* (Rowland, 2019; Scanlon, 1998) or *expressivist* accounts (Ayer, 1946; Gibbard, 1990, 2003; Stevenson, 1937) have been applied to account for both evaluative and deontic expressions. Often, authors in these metaethical traditions speak indistinctly of deontic and evaluative normativity. These considerations invite the conclusion that, at an important level of description, the deontic and the evaluative belong to the same realm. It is thus suggestive to expect that, when deontic and evaluative concepts appear in argumentation, one can in some instances move from one class of concepts to the other, and vice versa.

However, there are important differences between both classes of concepts as well. Some of these differences were highlighted by classical ethicists. Hurka (2014) discusses Sidgwick, Moore and Ross as authors all of whom thought that there existed interesting inferential connections between *good* and *ought*, even though there exist important points of contrast between the domain of the evaluative and the deontic. For example, in *The Methods of Ethics* (1874/2019) Sidgwick calls ‘right’ an *imperative*

⁵ There are exceptions to this, in both domains. For example, ‘it would be good if I were taller’, or ‘it ought to be Christmas everyday’ are things one might say even though it is not clear how they could have an impact on action. (We owe these examples to an anonymous reviewer.) Evaluative and deontic concepts are very varied and have many different uses; we are happy to recognize that not all of these concepts in all of their uses are action-guiding in the way we characterize that property here, but for our purposes we will assume that, in many cases, both classes of concepts have important practical consequences, and that this feature can be used to mark a contrast with other types of concepts. In previous work, we have proposed some linguistic criteria that help decide whether a use of a term, be it evaluative or not, has action-guiding implications: see Soria-Ruiz and Stojanovic (2019) for discussion.

concept, while ‘good’ is merely *attractive*. Another important difference between ‘ought’ and ‘good’, highlighted by Sidgwick, Ross or Prichard is the well-known *ought implies can* principle, stemming from Kant: if someone ought to do something, then they can do it. But from the fact that an action or state of affairs is good, it does not follow that it can be brought about. Some other authors, like Russell (1910/2009), took ‘good’ to be the widest normative term, while ‘ought’ applies only to voluntary acts. Relatedly, ‘good’, at least on its surface, denotes a simple property of objects.⁶ ‘Ought’, on the other hand, denotes a relation between an agent and whatever they are obliged to do: obligations are imposed upon specific individuals. Moreover, simple evaluatives such as ‘good’ and ‘bad’ take a wide range of arguments: individuals, objects, actions or states of affairs can be ‘good’.⁷

- (4) a. Jacinda Ardern is a good politician.
- b. These masks are bad.
- c. Washing your hands is good.
- d. It’s good that the WHO issued new policies promoting physical exercise.

By contrast, ‘ought’ can be applied only to actions and states of affairs.

Finally, another point of contrast between evaluative and deontic expressions concerns their gradability: in general, evaluative terms are gradable, while deontic terms are not (Stojanovic, 2017; Tappolet, 2013). In other words, values come in degrees, while obligations are ‘on/off’; either they are in place or not at all. The gradability of evaluative expressions is attested by the admission of adjectival modifiers, such as ‘very’, ‘slightly’ or the comparative form. Evaluatives admit them clearly, while deontics sound odd with them (marked with #).

- (5) a. Wearing a mask in public is {very / slightly} good.
- b. Wearing a mask in public is better than washing your hands.
- (6) a. # Wearing a mask in public is {very / slightly} forbidden
- b. # Wearing a mask indoors is more forbidden than wearing a mask outdoors.

This implies that to call something ‘good’ is not simply to ascribe to it a discrete property that objects either have or lack (such as, e.g., being dead or being married); it involves ascribing a scalar property to a certain degree, and thus implies a tacit

⁶ This may involve something of a simplification. If we analyze semantically the property denoted by ‘good’, we see that it is a *relational* property, and that it is so in more than one way. First, as with any gradable predicate, the semantics of ‘good’ is sensitive to scales and thresholds (see Stojanovic, 2017, p. 127). Secondly, ‘good’, at least in some uses, involves a hidden argument that denotes a beneficiary: for instance, sleeping ten hours a day may be good for a baby or a toddler, but not for an adult (see Stojanovic, 2016, Soria-Ruiz & Faroldi, 2020). Also, whatever the semantic denotation of ‘good’, its uses can pragmatically imply a variety of things, including obligations. As an anonymous reviewer suggests, saying “Tidying up your room is good” to your child may be interpreted as a request that they (ought to) tidy up their room.

⁷ When it comes to other evaluative adjectives, we see some variability. Thus predicates such as ‘tasty’ only take individuals as arguments, while other evaluative predicates, such as ‘important’, are more like ‘good’: e.g. The *Tractatus* is (an) important (book), washing your hands is important, and it’s also important that a policy promotes physical exercise.

reference to a contextually determined threshold or standard (see Cresswell, 1976; Kennedy, 2007; Kennedy & McNally, 2005 for classic references). By contrast, to ascribe an obligation or a prohibition is to attribute a property that something either has or lacks; there are no degrees of prohibition [obligation, permission], something is either forbidden [obligatory, permitted] or not.⁸

These observations allow for the possibility that there are interesting logical, inferential or conceptual connections between deontic and evaluative concepts, even if they are ultimately different concepts.

3.1.2 *The Inferential Connection Between ‘Good’ and ‘Ought’*

For the purpose of the present chapter, we will limit our attention to the relationship between ‘good’ and ‘ought’, and, more specifically, between propositions of the schema ‘ φ -ing is good’ and ‘you ought to φ ’ (where φ stands for an action-type or a policy). The three approaches above (A1-A3) can be put into correspondence with the following hypotheses about the argumentative relation between ‘good’ and ‘ought’:

- H1: ‘ φ -ing is good’ and ‘you ought to φ ’ are logically equivalent and interchangeable in argumentation.
- H2: ‘ φ -ing is good’ and ‘you ought to φ ’ are logically asymmetric; either ‘ φ -ing is good’ implies ‘you ought to φ ’ (but not the other way round) or ‘you ought to φ ’ implies ‘ φ -ing is good’ (but not the other way round).
- H3: ‘ φ -ing is good’ and ‘you ought to φ ’ are logically independent.

Again, H1 and H3 have to our knowledge not been explicitly defended, but we are including them for reference. Before we move on, we should point out that H2 is more specific than A2; H2 concerns the relation of logical implication between ‘good’ and ‘ought’, whereas A2 simply acknowledged the existence of logical connections between the evaluative and the deontic domain. These might be different from the relation of logical implication described in H2, and they could involve other evaluative and deontic concepts (‘bad’ and ‘forbidden’, for example).

We should also mention that, even though, to our knowledge, the inferential connection between ‘good’ and ‘ought’ has not been explored, the philosophical and linguistic literature contains well-known definitions of *ought* in terms of scalar goodness, that is, in terms of *betterness*. For example, Lewis (1973, Chap. 5) holds

⁸ The matters are somewhat more complicated. Although many of the paradigmatic deontic expressions are not gradable, Lassiter (2017, Chap. 8) offers evidence for the gradability of some deontic expressions, such as the modal ‘ought’ or the verb ‘to matter’. For example, ‘ought’ admits comparatives (‘British Royals ought to be beaten with sticks now, even more than they ought to have been in 1776’). Moreover, there are gradable deontic adjectives, such as ‘important’ (Portner & Rubinstein, 2016). Conversely, some evaluative expressions, such as so-called extreme adjectives (‘excellent’), fail the standard tests for gradability (see Morzycki, 2012).

that ‘ought φ ’ is true iff φ is *better* than $\sim\varphi$. Along similar lines, Sloman (1970)’s definition is that ‘ought φ ’ is true iff φ is the *best* alternative (where the alternatives to φ are contextually determined; see also Wedgwood, 2017). More recently, Lassiter (2017, Chap. 8) takes issue with such definitions. His argument against Lewis and Sloman’s view is, roughly, that it makes bad predictions for *supererogatory* acts. Supererogatory acts are acts that, while good, lie beyond the call of duty. For instance, suppose that your friend is ill and needs your help to clean her apartment. Given this, it’s true that you ought to help your friend. It would be even better, however, if you helped your friend and also baked her a cake. However, baking a cake is not something that you ought to do—what you ought to do is help her. Baking is optional. Lassiter argues convincingly that both Sloman and Lewis’s definitions of ‘ought’ wrongly predict that, if helping your friend *and* baking the cake is better than helping and not baking, then helping and baking is also what you ought to do.

To prevent this, Lassiter settles for a weakened (that is, unidirectional) version of Sloman’s definition, which he calls Sloman’s Principle:

Sloman’s Principle: if ought φ , then φ is the best among its alternatives.

Thanks to its unidirectionality, this principle allows for the possibility of *best* alternatives that are not part of one’s duties, thus allowing for supererogation. Interestingly however, Lassiter does not discuss any connections between *ought* and *good*, only between *ought* and *better*.

The hypotheses above make predictions about the way in which sentences containing ‘good’ and ‘ought’ are expected to behave in argumentation. H1 predicts that speakers will have no problem going from premises of the form ‘ φ -ing is good’ to ‘you ought to φ ’ as well as in the reverse direction. Consequently, they are expected to accept any argument that takes them from ‘good’ to ‘ought’ or from ‘ought’ to ‘good’. H2 predicts that speakers will only accept one of those directions: either they will accept as valid arguments that take them from ‘ φ -ing is good’ to ‘you ought to φ ’ and reject arguments that take them from ‘you ought to φ ’ to ‘ φ -ing is good’, or the other way around. Finally, H3 predicts that speakers are expected to reject both directions throughout.

3.1.3 Assessing the Hypotheses Empirically

In order to test these hypotheses, and thereby the plausibility of the different approaches to the place of evaluatives and deontics within a broader theory of normativity, we have run an Inferential Judgment Experiment, where we instructed participants to decide whether an argument involving deontic and evaluative expressions made sense or not.

As experimental items, we have focused on examples concerning the current COVID-19 pandemic. This choice was motivated by the observation that the global sanitary crisis to which the world has been exposed has given rise to a tremendous amount of argumentation, at the public, private and scientific level. The need for

new measures, such as imposing lockdowns, curfews, and introducing various other means of prevention, be they strict requirements or mere recommendations, has been accompanied by a need of justifying such new policies, and those, in turn, typically take the form of an argument that largely uses evaluative and deontic language. While such arguments can often be complex, at least from a linguistic point of view, we have opted for a simplified version. Our experimental study deployed as stimuli arguments such as the following:

- (7) a. You ought to wear a mask in public to prevent the spread of COVID-19. Therefore, wearing a mask in public is good to prevent the spread of COVID-19.
- b. Wearing a mask in public is good to prevent the spread of COVID-19. Therefore, you ought to wear a mask in public to prevent the spread of COVID-19.

Note that, when participants are asked to assess such arguments, they will typically have a personal opinion regarding their premises and conclusions. Who hasn't wondered whether it is really such a good idea to wear a mask on the street, or while jogging outdoors? Who hasn't asked themselves whether they ought to wear gloves when shopping? Who hasn't reflected upon the policies and guidelines that were designed and implemented in the face of global, unprecedented uncertainty about *what one ought to do*? The COVID-19 pandemic, and the measures against it, are topics that have spurred the most practical concerns, deliberations and decisions over the last two years.

However, and precisely because of this, the participants in our study may easily let their first-order opinions about the actions and policies under consideration override their judgment about the logical or argumentative connection between 'ought' and 'good'. For instance, participants may be inclined to assent to (6a) or (6b) simply because they assent to the idea that wearing masks in public is good and/or something that they ought to do. This is why, in addition to instances of argumentation involving specific policies and actions, we have included in our study stimuli over which the participants cannot be opinionated, because they lack sufficient information in order to form an opinion of their own (for a similar approach, see Schumann et al., 2021):

- (8) a. Following the safety procedure is good to prevent the spread of COVID-19. Therefore, you ought to follow the safety procedure to prevent the spread of COVID-19.
- b. You ought to follow the safety procedure to prevent the spread of COVID-19. Therefore, following the safety procedure is good to prevent the spread of COVID-19.

Even if examples such as (7a) and (7b) are still purportedly about the COVID-19 pandemic, they resemble more the kind of stimuli preferably used in experiments of the sort, which aim to avoid eliciting any personal involvement from the participants. As we shall shortly see, having stimuli of both types in our study permits us to see how this personal interference impacts speakers' judgments about the arguments involving 'good' and 'ought'.

*You ought to avoid people to prevent the spread of COVID-19.
Therefore, avoiding people is good to prevent the spread of COVID-19.*

Does it make sense?

yes no

Fig. 3.1 Illustration of a critical trial in the ought > good directionality condition

3.2 An Experimental Study of ‘Good’ and ‘Ought’ in Argumentation

In order to assess the logical relation between the deontic ‘ought’ and the evaluative ‘good’, we used an Inferential Judgment Task method, in which participants have to decide whether one can justifiably draw a certain conclusion from a given premise (see Hansen & Chemla, 2017 for a similar methodology). In this case, participants were asked to decide whether a series of arguments involving COVID-19 measures ‘make sense’ or not, and in some cases, to provide a short justification.⁹ An example of a trial is given in Fig. 3.1.

Participant’s responses are taken to reflect inference patterns. We assume that if a participant considers that a certain argument ‘makes sense’, it is because they can infer the conclusion from the premise. We further assume that if two arguments are not supported to the same extent, then they must underlie different inferential processes, that is, they cannot be logically equivalent. We then test (a) whether participants support arguments involving ‘good’ and ‘ought’ (e.g., 6), and (b) whether they support (6a) and (6b) to the same extent.¹⁰

⁹ Participants had to provide justification for a subset of five critical items, randomly chosen. These justifications were treated as debrief information, and analyzed only in an exploratory manner.

¹⁰ It is important to note that, in the context of our experiment, the acceptance of a certain argument is not indicative of its source: participants might accept both (6a) and (6b) but for different reasons. As a result, our experiment is unable to disprove H2.

3.2.1 Participants

43 English-speaking participants were recruited online using Prolific and were paid 0.8£ for their participation, which lasted approximately 5 min. Participants who had not answered correctly more than 2/3 of each type of control trial (see below) were excluded from the analysis. This led to the exclusion of 10 participants.

3.2.2 Design and Materials

Arguments were of the form [*p. Therefore, q*]. For simplicity, we represent these arguments as $p > q$, where *p* is the premise and *q* the conclusion. In critical trials, arguments involved the propositions ‘ φ -ing is good’ and ‘you ought to φ ’. We manipulated which of these propositions was the premise (*p*) and which one was the conclusion (*q*) (henceforth, the Directionality factor). There were two possible Directionalities: *good* > *ought* or *ought* > *good* (henceforth G > O and O > G).

Arguments also varied in their content (φ). There were 12 different contents, including both specific actions and non-specific actions (see Table 3.1). Specific actions were action-types that participants could be antecedently opinionated about (e.g., washing your hands), whereas non-specific actions were policies or guidelines whose content was unknown to participants (e.g., following the safety protocol), and thus could not be opinionated about. We thus obtained 24 directionality/content combinations. Each participant was presented with a subset of 12 critical trials such that there were always 6 trials per Directionality controlled for specificity of the action, but without repeated content. All propositions included the phrase ‘to

Table 3.1 Possible contents in critical items

Action	Content (φ)
Specific	Wearing a mask in public
Specific	Disinfecting your groceries
Specific	Drinking bleach
Specific	Washing your hands
Specific	Going to house parties
Specific	Avoiding people
Non-specific	What Mr. Jackson proposed
Non-specific	The new traffic measures
Non-specific	The policies first adopted by Celsinsky
Non-specific	Following the committee’s advice
Non-specific	Adopting the university guidelines
Non-specific	The safety protocol

prevent the spread of COVID-19' in order to ensure that the statements were read instrumentally (i.e. as specific pandemic-related measures) and not categorically.

To ensure that the participants were sensitive to classical inference patterns, we additionally included control trials. Controls featured either valid entailments such as (8a) (upward inferences) or invalid entailments such as (8b) (downward inferences). Participants were presented with six controls of each type, randomly selected from a list of 24 statements. Control performance served as our exclusion criterion.

- (9) a. Cases are on the rise in every European country. Therefore, cases are on the rise in France.
- b. Cases are on the rise in France. Therefore, cases are on the rise in every European country.

3.2.3 Control Truth-Value Judgment Task

Responses in an inferential task like the one presented here might be influenced by participants' first-order opinions about the truth of the premises and/or conclusions. For example, participants might be more likely to accept an argument whose premise they believe to be true than one with a false premise, regardless of the structure of the argument. This may be further boosted by the specific nature of the content used in our experiment, which regards a topic of public debate, namely, the COVID-19 pandemic and the measures undertaken against it. In other words, if the contents of our stimuli were purely abstract actions (e.g., 'being kind' or 'arriving late'), participants might find it easier to abstract away from their first order judgments about the premises and/or conclusion and assess the relevant inferences on their own merits.

In order to evaluate whether the truth of the premises had an impact on the inference patterns, we included a control truth-value judgment task (TVJT) at the end of the experiment. Participants were told they were going to see a series of statements and they had to decide whether the statements were true, false or whether they could not tell (i.e., 'I am not sure' option). The statements that participants were presented with were the same premises of the twelve critical arguments that they had seen during the inferential task. Participants' responses during this TVJT would then be used to estimate the influence of perceived truth-value on inference acceptability.

3.2.4 Procedure

Participants were directed to a web-based Inferential Judgment experiment, implemented using JavaScript. Participants were told they were going to see statements about the pandemic, and they had to decide whether these statements made sense or not. Control and critical items were then presented in a random order. In the second

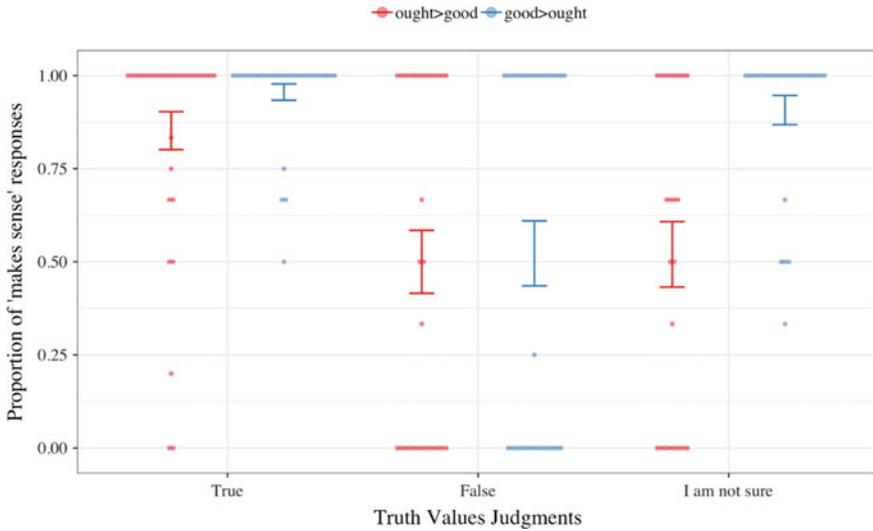


Fig. 3.3 Proportion of ‘makes sense’ responses in the inferential task as a function of the directionality condition and the truth value judgment assigned during the TVJT. Error bars represent standard error on by-participant means; dots represent individual participant means

Data and scripts for the analyses can be found in the OSF repository (see Footnote 11).

The results of the model are reported in Table 3.2. The intercept value shows the grand mean of ‘makes sense’ responses across participants and conditions (i.e., for both Directionalities, and for all three Truth Values). The fact that this intercept is positive and significant reveals that the log-odds of ‘makes sense’ responses is significantly higher than what one would expect by chance. That is, participants tend to accept the critical arguments, that is, arguments involving ‘good’ and ‘ought’ such as (6a, b) above, regardless of their Directionality or Truth Value Judgment.

The Directionality value shows the difference between responses for O > G arguments and the grand mean. The effect of Directionality is negative and significant, revealing that the proportion of ‘makes sense’ responses was significantly lower in the O > G directionality than in the G > O one. The model also reveals a significant

Table 3.2 Model output

	Value (β)	SE	z-score	p-value
(Intercept)	1.68	0.34	4.95	<0.001***
Directionality	-0.71	0.29	-2.5	0.01**
Truth value (assigned)	1.69	0.25	6.73	<0.001***
Directionality:Truth value	-0.42	0.25	-1.67	0.09•

• $p \leq 0.01$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

effect of Truth Value Judgments, suggesting that the truth value that participants assign to the premise of an argument has an impact on whether they accept the argument.

Finally, our model also assesses the interaction between Directionality and Truth Value Judgment (i.e., whether participants' sensitivity to Directionality depends on the truth value assigned to their premises), but this was only marginally significant.

A second post-hoc analysis was then run to determine whether the effect of Directionality interacted with participants' *certainty* with respect to the truth of the premises; that is, with the difference between assigning a proper truth value ('true' or 'false' judgments) and being uncertain ('I am not sure' judgments). This second model specifically tested an interaction between Directionality and Certainty in participants' inferences. In this case, the results reveal a significant Directionality:Certainty interaction ($p < 0.01$), indicating that the effect of Directionality is stronger for those arguments about whose premises the participants were uncertain.

3.4 Discussion

Our results show that, overall, participants were sensitive to the $G > O/O > G$ asymmetry in the following direction: arguments showcasing the $G > O$ direction of inference were accepted to a higher degree than arguments exemplifying the $O > G$ pattern. However, these results must be taken with a grain of salt. First, it is not the case that participants rejected the $O > G$ pattern of inference. The results are above 50% acceptance in both directions. This means that, overall, inferences in both directions were accepted by most participants. Secondly, the main effect of Directionality was largely driven by arguments about whose premises the participants were unsure. As shown in Fig. 3.3, the starkest contrast in the acceptability of $G > O/O > G$ inferences is for arguments such that when asked about their truth value in the control TVJT, the participants replied 'I am not sure'.¹² By contrast, the items that were classified as true were such that participants generally accepted both directions of inference (in both cases, results are at ceiling), while for items that the participants classified as false, both directions were around 50%.

This might suggest, we think, that participants have their inferential capacities overridden, or at least biased, by their first-order judgment about the premise (recall that the control TVJT asked participants about the truth of the premise—not the conclusion—of the items they had previously seen). In other words, if someone thinks that washing one's hands is good to prevent COVID-19, they're likely to accept inferences of the form: 'Washing your hands is good to prevent the spread of COVID-19. Therefore, you ought to wash your hands to prevent the spread of COVID-19'. And similarly, if someone agrees that one ought to wash one's hands to

¹² Premises that participants classified as true/false, on the one hand, and 'I am not sure', on the other, did not necessarily coincide with the items that we classified as specific (e.g., washing your hands) vs. non-specific (e.g., following the safety procedure).

prevent the spread of COVID-19, then they are likely to assent to an inference of the form: ‘You ought to wash your hands to prevent the spread of COVID-19. Therefore, washing your hands is good to prevent the spread of COVID-19’.

On the other hand, for premises about whose truth participants were unsure, participants were significantly more sensitive to the difference between the $G > O$ and $O > G$ directions. It is suggestive to think that, in these cases, participants paid less attention to the content of the premises/conclusion than to the form of the argument. In those cases, participants agreed more often with the $G > O$ than with the $O > G$ direction.

We conclude that, while both directions were found to be acceptable, our study provides very strong evidence that the inference from ‘good’ to ‘ought’ is stronger than the inference from ‘ought’ to ‘good’. At a very minimum, we take these results to speak against hypothesis H3, namely, the hypothesis that ‘ φ -ing is good’ and ‘you ought to φ ’ are logically independent. The fact that participants accepted both directions of entailment suggests that such schemas are *not* independent.

That leaves us with H1 and H2. H1 is the hypothesis that ‘ φ -ing is good’ and ‘you ought to φ ’ are logically equivalent, and thus interchangeable; H2, that ‘ φ -ing is good’ and ‘you ought to φ ’ are logically asymmetric, that is, either ‘ φ -ing is good’ entails ‘you ought to φ ’ but not the other way around, or ‘you ought to φ ’ entails ‘ φ -ing is good’ but not the other way around. Our results, however, are in tension with both hypotheses.

On the one hand, the fact that there exists a significant asymmetry in the degree to which participants accept $G > O$ and $O > G$ inferences suggests that ‘ φ -ing is good’ and ‘you ought to φ ’ are not logically equivalent. If they were, we would not expect to see a main effect of Directionality. This speaks against H1.

On the other hand, while our results reveal an asymmetry between $G > O$ and $O > G$ inferences, they are not compatible with the view that $O > G$ arguments are invalid. Both $G > O$ and $O > G$ inferences were found to be overall acceptable (significantly above 50%). This contrasts with our control results, where participants generally *rejected* invalid entailments (e.g., ‘Cases are on the rise in France. Therefore, cases are on the rise in every European country’). This indicates that the participants do not interpret $O > G$ inferences in the same way in which they interpret an invalid entailment. Rather, our results seem to suggest that $G > O$ and $O > G$ trigger *different* types of inferences.

Thus, we think that there is room for more nuanced versions of H2, as well as other potential explanations. In the remainder of the chapter, we shall discuss two hypotheses that, we think, can account for our data. The two hypotheses that we explore are mutually compatible. What is more, they do not exclude that there could be other explanations as well, some of which may appeal to contents that are pragmatically implicated, rather than semantically entailed. For reasons of space, we shall set such pragmatic explanations aside.

3.4.1 *A Difference in the Context-Sensitivity of ‘Good’ and ‘Ought’*

In the introduction, we discussed the possibility that *good* and *ought* are context-sensitive expressions. There, we insisted on the similarities between their context-sensitivity: both expressions admit of similar “flavors” of evaluation, and are *circumstance*-dependent. However, it could be that some of these parameters are determined differently for ‘good’ and ‘ought’. In particular, ‘good’ and ‘ought’ could be circumstance-sensitive in different ways. Suppose that ‘ought’ denotes what is beneficial in the current circumstances, while ‘good’ denotes a stable, long-lasting benefit. This implies that what is good *in general* is something that ought to be the case *in the current circumstances*, but not necessarily the other way round: what ought to be the case *in current circumstances* need not be good *in general*. Recall the two basic directions of inference:

- (7) a. You ought to wear a mask in public to prevent the spread of COVID-19. Therefore, wearing a mask in public is good to prevent the spread of COVID-19.
- b. Wearing a mask in public is good to prevent the spread of COVID-19. Therefore, you ought to wear a mask in public to prevent the spread of COVID-19.

Intuitively, when one thinks of (7a), it is possible to accept the premise because we are in very special circumstances: one ought to wear a mask because—suppose—we are in a particularly acute phase of the pandemic, and we are in a state of a global sanitary crisis. But one may reject the conclusion because, other things being equal, being ‘good’ seems to require a more general assessment; that is, something is good if it is beneficial *in the long run*, or *in general circumstances*.¹³ The fact that wearing a mask is beneficial in the actual, special circumstances does not guarantee that it is beneficial in general, or that it has benefits beyond what is required by the current circumstances. By contrast, if something is good, then it has benefits that apply to circumstances in general, and thus (most likely) apply to the current circumstances as well.

The simplest way to capture this circumstance-sensitivity would be to say the following:

‘ φ -ing is good’ is true iff φ -ing is beneficial in general

‘One ought to φ ’ is true iff φ -ing is beneficial in the current circumstances

Clearly, the inference from something being beneficial in general to something being beneficial in the actual circumstances is stronger than the inference from

¹³ The idea that ‘good’ tends to refer to what is good in general, rather than simply what is good right here and right now, may involve some oversimplification. As previously stressed, ‘good’ is a highly context-sensitive expression, and in certain contexts, it can of course be meant and interpreted as referring to the current circumstances. For instance, if we are attending a concert outdoors, you might say “It is good that it’s not raining”, meaning, roughly, that it is good for the purpose of attending the concert that it is not raining. Such circumstance-specific readings are, of course, possible, and do not undermine our more general point.

something being beneficial in the actual circumstances to it being beneficial in general.

Note however, that even though this is a way of modelling an asymmetry between ‘good’ and ‘ought’, it does not yet account for our results. Recall that we observed that both directions, $G > O$ and $O > G$, are largely acceptable. Is this hypothesis compatible with the overall acceptability of these inferences? We think that it is. But showing this requires saying something about inferences involving generics.

If, as suggested by this hypothesis, the contrast between *good* and *ought* reduces to the contrast between going from a generally-quantified statement to a particular instance and vice versa, our hypothesis would be bolstered if such inference patterns showed a similar asymmetry. Consider the following inference:

- (10) a. Dogs have 4 legs. Therefore, this dog has 4 legs
 b. This dog has 4 legs. Therefore, dogs have 4 legs.

Obviously, (9a) holds promise for being a sensible inference, but less so the other way around. However, there is a sense in which an inference like (9b) might be taken to be acceptable. After all, we learn about general properties of things via observation of particular instances. Depending on the property or feature involved, the observation of a single instance might be sufficient to make a generalization.

This contrast opens up the possibility that the inference from a generalization to a particular instance is almost as strong as an entailment (because generalizations admit exceptions, of course), but in the other direction, it becomes a weaker form of inductive inference.¹⁴

We think that this might account for the observed asymmetry between $O > G$ and $G > O$ inferences, repeated here:

- (7) a. You ought to wear a mask in public to prevent the spread of COVID-19. Therefore, wearing a mask in public is good to prevent the spread of COVID-19.
 b. Wearing a mask in public is good to prevent the spread of COVID-19. Therefore, you ought to wear a mask in public to prevent the spread of COVID-19.

In (7b), according to our hypothesis, we would have a quasi-entailment from a generalization (wearing a mask is beneficial in general to prevent the spread) to a particular instance (wearing a mask is beneficial in these circumstances to prevent the spread). By contrast, in (7a) we would find the opposite, an inference from a particular instance (beneficial in these circumstances) to a generalization (beneficial in general).

Pursuing this hypothesis further would require testing the inferential patterns involving *good* and *ought* against the relevant *generic > particular* and *particular*

¹⁴ Note that (9b) feels substantially more acceptable than (9c): This dog is violent. Therefore, dogs are violent. Presumably, it is part of our world knowledge that, sometimes, observing a single instance of a property licenses a generalization, and sometimes it does not. The type of inference in (9b) may even be seen as an inference to the best explanation: the best explanation of a dog having four legs is likely that this is a normal genetic trait of this species; while the best explanation of a dog being violent likely involves specifically its psychological and physical state - such as whether it is afraid, hungry, or infected by rabies.

> *generic* control cases. For the moment, we must leave this possibility for future work.¹⁵

3.4.2 *The Prescriptive Character of Deontic ‘Ought’*

A different hypothesis to account for the observed asymmetry is the idea that evaluatives and deontics differ in their illocutionary force: while evaluatives are declarative statements, deontics are a kind of prescriptive statement. Prescriptive statements are those that issue commands, directions or recommendations, among other things. This includes, most notably, imperatives and hortatives:

- (11) a. Wear a mask in public! (imperative)
 b. Let’s wash our hands afterwards. (hortative)

Contrary to declaratives, prescriptive statements cannot be embedded in certain environments, such as e.g., the antecedent of conditionals (* marks ungrammaticality):

- (12) a. * If wear a mask in public! then, *p*
 b. * If let’s wash our hands afterwards, then, *p*.

However, they are perfectly fine in the consequent of a conditional:

- (13) a. If *p*, then wear a mask in public!
 b. If *p*, then let’s wash our hands afterwards.

Relatedly, prescriptive statements appear preferably as the conclusion, rather than as premises, of arguments.¹⁶ Consider the contrast between these two arguments (# indicates that the construction is infelicitous):

¹⁵ An additional reason why we take this to be a promising hypothesis, and why we plan to pursue it in future work, is that generalizations from a particular instance are especially strong and frequent when one is generalizing from one’s own experience. This is very clear, for instance, in the generic force of statements formed with the pronoun ‘one’. As Moltmann (2006, p. 258) points out: ‘Suppose the speaker is standing at the entrance, looking at the picture. In that case, an utterance of [‘One can see the picture from the entrance’] is appropriate as an immediate expression of the speaker’s own experience, while at the same time making a generalization’. Further evidence on generalizations made on the basis of first-person experience has been amply documented in psychology; see e.g. Snyder et al. (1978). What is more, agents are particularly keen on generalizing their positive opinions or experiences; see Gershoff et al. (2008). This could explain why the O > G inference is so widely accepted in the cases in which the participants judge the premise to be true. That is to say, if a person believes that they ought to do something in the current circumstances, they will be inclined to believe that everyone ought to do it in similar circumstances; at least, that is what research in psychology appears to show.

¹⁶ This could be related to the idea that often in argumentation, premises tend to contain background not-at-issue information, while conclusions are genuinely asserted and at-issue. We thank an anonymous reviewer for a suggestion along these lines.

- (14) a. # Wear a mask in public! Therefore, *p*.
 b. # Let's wash our hands afterwards. Therefore, *p*.

It sounds odd to follow up a command or recommendation with a declarative consequence. The most natural direction is the opposite, that is, to conclude an argument with a prescription (see Lewiński, 2021 for a recent study on the consequences of practical arguments):

- (15) a. *p*. Therefore, wear a mask in public!
 b. *p*. Therefore, let's wash our hands afterwards.

Deontic modals, and in particular, 'ought', are subject to similar—though not identical—distributional constraints. First, 'ought' is typically not found in the antecedent of a conditional (even if it is not outright ungrammatical in that position)¹⁷:

- (16) a. If one ought to wear a mask in public, then *p*.
 b. If we ought to wash our hands afterwards, then *p*.

By contrast, it is perfectly common as a consequent:

- (17) a. If *p*, then one ought to wear a mask in public.
 b. If *p*, then we ought to wash our hands afterwards.

Secondly, 'ought'-statements are most commonly found as conclusions rather than as premises of arguments. Inference patterns in (18) sound significantly less natural than those in (9), which we have indicated by '??'.

- (18) a. ?? You ought to wear a mask in public. Therefore, *p*.
 b. ?? We ought to wash our hands afterwards. Therefore, *p*.
 (19) a. *p*. Therefore, you ought to wear a mask in public.
 b. *p*. Therefore, we ought to wash our hands afterwards.

When we do find 'ought' as a premise, the conclusion is most naturally interpreted as an inference to the best explanation. For example, take *p* in (18a) to be 'Masks must be efficient in filtering out potential contaminants'. We then likely understand (18a) as conveying that the efficiency of masks in filtering the contaminants explains why the prescription of wearing masks in public has been issued in the first place.

We think that these observations go some way towards explaining the observed asymmetry between $O > G$ and $G > O$ inferences. If 'ought' appears most naturally as

¹⁷ A search in the Corpus of Contemporary American English (COCA, <https://www.english-corpora.org/coca/>) for the combination 'if + ought' with one word in between revealed 300 occurrences, but very few were antecedents of conditionals. Most of them were with 'if' following the verb 'wonder', as in 'I wonder if I ought to...'. In those cases, 'if' is not a conditional operator, but an interrogative marker (equivalent to 'whether'). And even those instances that look like conditionals have quite a different flavor from those that appear in argumentation and that interest us here. Here is one such example:

- i. If anyone ought to know what the princess was doing every afternoon, she should.

a conclusion, rather than as a premise, then this might be driving some participants' rejection of $O > G$ inferences.

Nevertheless, this hypothesis stands at odds with the overall acceptability of both patterns. To account for that, we would still need to assume that, at some general level of description, deontics and evaluatives make similar argumentative moves, thereby allowing speakers to make inferences in both directions. However, if we combine the hypothesis with the observation that deontics and evaluatives have roughly the same "flavors", are context-sensitive in similar ways, and both belong in a broader class of normative expressions, then we can have our cake and eat it, too. That is, we predict overall acceptance of both inference patterns, but together with the observation that 'ought' occurs more naturally as a conclusion than as a premise, we also predict that $G > O$ inferences will be seen as more acceptable than $O > G$ inferences.

Finally, this hypothesis is, to some extent, compatible with the idea explored in Sect. 3.4.1 that 'good' and 'ought' are circumstance-sensitive in different ways. Similarly to deontics, imperatives may be seen as circumstance-specific in that they issue commands and requests to be performed "here and now", so to speak. If 'good', by contrast, denotes things to be done not only here and now but in general, then it is easy to see how one can go from 'good' to an imperative, but not the other way around.

3.5 Conclusion and Prospects for Future Research

Argumentation in public policy abounds with normative expressions. When a new policy, or a change in the existing ones, is proposed, what we typically see are arguments whose conclusions take the form of a deontic statement, or a prescription, namely, what one *ought to do*. In this chapter, we have explored arguments with normative force with a special focus on the interaction between two kinds of normative expressions: evaluatives versus deontics, that is, what is *good* versus what one *ought to do*. While philosophers in metaethics have been interested in the relationship between the evaluative and the deontic realm, and relatedly, between values, on the one hand, and norms and obligations, on the other, this interest has not reached deep into the philosophy of argumentation. In deontic logic, there have been explorations of the relationship between 'ought- φ ' and ' φ -ing is the best option', yet hardly anything has been said on how 'ought- φ ' relates to ' φ -ing is good'. Here, we have undertaken first steps in trying to understand this relationship.

Our research brings together theoretical and empirical investigation. The experimental study that we have presented aimed at understanding how people move between what is *good* and what *ought to be* the case, when it comes to argumentation. The study has shown, in a nutshell, that both directions are deemed to be acceptable. Nevertheless, it has also revealed an interesting asymmetry: arguing from what is good to do to what one ought to do is deemed *more* acceptable than the other way round. Interestingly, this asymmetry shows up most clearly in those cases

in which participants have no personal opinion regarding the truth of the premises or conclusions.

We have presented two sets of considerations that may be able to explain the observed results. The first relies on the idea that ‘good’ and ‘ought’ are sensitive to context in slightly different ways. The latter typically makes reference to the current circumstances, the former purports to apply more generally. This explains why the inference from ‘good’ to ‘ought’ is overall more robust, while the converse, although less robust, is still deemed acceptable. The second relies on the idea that evaluative and deontic statements differ in their illocutionary force; the former are assertions, the latter, prescriptions. Since prescriptions are more likely to occur as conclusions, rather than premises, of an argument, we are again able to explain the observed asymmetry. The two sets of observations are mutually compatible, and do not preclude that there may be other elements relevant to understanding the relationship between the two types of propositions and statements. In particular, there may well be some pragmatic effects that have gone unnoticed. To pursue all these explanations further, we would want to compare the inferences involving ‘good’ and ‘ought’ with other types of inferences, and to do so both on a theoretical and an empirical level. We hope to undertake this task in the future.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 4

How to Handle Reasonable Scientific Disagreement: The Case of COVID-19



Konstantina Antiochou and Stathis Psillos

Abstract The COVID-19 pandemic has been accompanied by an overabundance of information about the new coronavirus and the disease it causes, which is often false or misleading. Science communication can play a key role in the fight against mis- and disinformation. However, the attempt to separate facts from fiction and control the flow of information is hindered by the uncertainties surrounding the scientific understanding of SARS-CoV-2. In this chapter we discuss the recent debate between John Ioannidis and Nassim Taleb about the COVID-19 forecasts and the measures that should be taken to prevent SARS-CoV-2 transmission. Our aim is to explain what distinguishes a ‘reasonable disagreement’ that may arise within science from misinformation or dissemination of false news. The Ioannidis-Taleb debate is susceptible to two readings: it can be seen as a methodological debate between scientists or as a debate about the values that can appropriately influence science policy making. This suggests a difficulty to say which is the basis of the disagreement. We show, however, that these two readings are equally supported under uncertainty and in particular that the second reading relates to the issue of how much transparency is needed to ensure the legitimacy of the values involved in decision-making.

Keywords Science communication · COVID-19 · Scientific disagreement · Uncertainty

4.1 Introduction: The Infodemic of COVID-19

The COVID-19 pandemic has been accompanied by an unprecedented ‘infodemic’, as the World Health Organization Director-General Tedros Adhanom Ghebreyesus

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characterized it in February 2020, i.e., an overabundance of information about the new coronavirus and the disease it causes, which is often false or misleading. The information is updated and provided on an ongoing basis to the public, who now watches the process of knowledge production in almost real time. The presence of scientific discourse in the public sphere is perhaps stronger than ever. At the same time, however, we face the unprecedented growth of mis- and disinformation, which involves conspiracy theories about the origin and transmission of the novel coronavirus, efforts to trivialize the risks related to it, promotion of unproven treatments, as well as false claims about actions or policies that public authorities are taking to address the problem, that can prove almost ‘as dangerous as the virus’.

The dissemination of this information is not always intended to distort the truth or to deceive. And this is why misinformation is clearly distinguished from disinformation in the context at least of the European Union’s (EU) disinformation policy and in an attempt to clarify the problem: the former is supposed to be unintentional, while the latter is defined as intentional. Under these circumstances, fact-checking and access to reliable (sources of) health information have been central to protecting the public’s health and safety. The EU’s actions to tackle COVID-19 disinformation aim, in particular, at promoting accurate and reliable science-based information on COVID-19, as well as at raising citizens’ awareness of the risks of misinformation (Document—Communication from the European Commission, 2020; Lee, 2020). However, the attempt to separate facts from fiction and control the flow of information, no matter how useful or successful it might be, is hindered by the uncertainties surrounding the scientific understanding of SARS-CoV-2. This ushers in the main question that this chapter focuses on: how to communicate about science in such a way that the adverse effects of mis/disinformation (in for example the covid-19 crisis) is mitigated. The answer offered, from a philosophical perspective, is that we should distinguish between really reasonable scientific disagreements, and disagreements triggered by mis- or dis-information.

We highlight our answer by discussing the recent debate between John P. Ioannidis and Nassim N. Taleb about the COVID-19 forecasts and the measures we should take to prevent and/or control SARS-CoV-2 transmission. This debate is interesting, among other things, because it invites two readings: it can be seen as a debate between scientists about a scientific issue or as a debate between scientists about what to advise to policy makers on the basis of scientific research findings. While attempting to reconstruct the arguments provided by the two scientists, we show that both readings are fine or at least equally supported under uncertainty and in particular that the second reading is related to the issue of how much transparency is needed to ensure the legitimacy of the values involved in decision-making.

4.2 Managing the COVID-19 Infodemic

The coronavirus crisis falls into the category of the so-called open or ‘wicked’ problems (Rittel & Webber, 1973), which means that it goes beyond the traditional classification systems and taxonomies of medical science. We cannot understand it from the perspective alone of public health and medical science. It is rather a symptom of deeper systemic problems, a complex phenomenon, which is characterized by indeterminateness, systemic complexity and, finally, absence of ‘right’ or definite solutions, as it is argued (ibid.). Or as Méndez (2020) put it, it is ‘...a symptom of more profound global problems’, which nevertheless ‘...cannot be tackled now, since resources are scarce and directed towards the resolution of the symptom, as are political action, and media and public attention’, the point being that the values involved in the implications of the actions that need to be taken (or not taken) to combat the spread of the disease exceed the very disease and its biomedical basis and impact (e.g., they involve apparent restrictions in basic human rights).

Policy decisions are therefore taken with the aim to manage—rather than to solve—the problem(s) related to COVID-19 pandemic and its effects. In the absence of right or ultimate solutions, policy-makers are trying to anticipate and prevent some of these problems from occurring or to minimize their impacts if they cannot be prevented. However, the scientific basis for decision-making is indeterminate and unstable. Data are capable of multiple changes and interpretations, which means that both facts and uncertainties are (and remain) uncertain. There are many unidentified risks or the so-called known unknowns: things that we still ignore about the origin and nature of (the different variants of) SARS-CoV-2 or the potential treatments and long-term health effects of COVID-19.

In light of this, how should the public be properly informed about COVID-19? There are two issues related to science communication to be dealt with:

1. What language should be used for the communication of scientific information?
2. What should be communicated?

The first issue is related to the argumentative practices and patterns used in science communication, and, in a certain sense, to the problem of thick concepts and metaphors used in this context (Elliott, 2017).

The language of COVID-19 communication involves definitions and classifications based on current epidemiological data and subject to constant changes and updates (cf. Lewiński & Abreu 2022, this volume). But it is not merely descriptive. Any reference to ‘public health emergency’ or ‘pandemic’ is legitimized on the basis of evaluative judgments, to give but one example. The WHO’s declaration that the global spread of coronavirus disease is a *pandemic* was meant to send a powerful signal to countries that urgent action was essential to combat the spread of the disease. It was intended to raise awareness. But it could also instill panic and fear in people. And that was why the appropriateness of this declaration as well as of the time at which it was made have been the subject of considerable criticism.

Besides, scientists can use informal argumentative practices and means of persuasion when communicating with public. They sometimes rely on metaphors (cf.

Oswald & Rihs, 2014), for example, to make sense of scientific explanations or abstract scientific concepts. But despite their utility, all these (informal) practices and means of communication can also constrain scientific reasoning, as we shall see below.

The second issue has to do with the risk of error involved in decision making under conditions of uncertainty, what is now known as ‘inductive risk’ in the philosophy of science literature. Depending on the range of these decisions, we can distinguish different versions of this problem. The assumption is always that there is a gap between data and hypotheses, which allows non-epistemic values to enter scientific reasoning. But while, in a traditional version of this argument (Rudner, 1953), the risk is limited to the final decision that a scientist must make on whether or not to accept a hypothesis (the decision, that is, that the evidence is sufficiently strong to warrant the acceptance of the hypothesis), according to a more recent version (Douglas, 2009), inductive risk is present from the beginning and throughout all scientific process: in the choice of methodology, in the decision of the models used in science, in evidence characterization, as well as in the analysis or interpretation of data. So even a purely methodological decision, such as the choice of a level of statistical significance, involves values according to this argument—an appropriate balance between the two kinds of error (false positives/false negatives) and therefore a decision on which errors we should mostly avoid.

In cases of public health emergency, such as the coronavirus pandemic, where research is conducted under time pressure and the need to move expeditiously is of vital importance, we also need to find the appropriate balance between the need to act and the desire for more reliable findings, which would nevertheless be time-consuming. Hence, the question that arises is which of the research results could responsibly be communicated to the general public, when these results are controversial; they are revised or updated almost daily; they are often inaccurate or conflicting and they furthermore lead to non-accountable (and/or irresponsible) decisions, in the sense that the responsibility of these decisions can be transferred from the political level to healthcare workers and vice versa.

A concern expressed here is that the presence of scientific discourse in the public sphere may create confusion and distrust (in both science and government) or undermine the consistency of the message, if people see research data and recommendations being constantly revised or scientists failing to reach an agreement on them. But it is also argued that precisely because the scientific basis for decision-making is indeterminate and scientific controversies may reflect ideological or political differences, all information should be made publicly available in terms of full transparency (Elliott, 2017) and with the aim to involve in decision making process those affected by or interested in these decisions.

Be that as it may, the root of the problem is the public should understand that there is no such thing as absolute certainty in science, but only degrees of certainty; and hence that uncertainty rules in science. Besides, the public should understand that precisely because of this uncertainty, scientists often disagree with each other. But therein lies an important challenge. Can we tell the difference between a reasonable disagreement that may arise in the context of a properly functioning science, on

the one hand, and misinformation or dissemination of false news, on the other? In other words, what is the difference between disagreeing about P, based for instance on different evaluations of the relevance of the evidence and/or the levels and importance of uncertainty, and disagreeing about P on the basis of mishandled or inaccurate information, and/or ideological stances?

Now, it's clear that a full transparency policy requires that research data and results be made available in open access even when they are inconclusive or conflicting. But unless we can distinguish between a legitimate disagreement among scientists and controversies arising from science denial or disinformation, transparency could cause more confusion. So, what is a 'reasonable' scientific disagreement and how should we communicate uncertainty?

4.3 The Debate Over COVID-19 Forecasting: Ioannidis Versus Taleb

The recent debate between Ioannidis and Taleb on COVID-19 forecasts (Ioannidis et al., 2020; Taleb, 2020) was quite revealing of the interplay of science and values in assessing and regulating different (types of) risks under conditions of uncertainty. It started with the question of whether forecasting for COVID-19 failed. But it actually focused on the need to take (or refrain from taking any) strict but costly measures to prevent and control the spread of the disease. which is a rather political issue. It involves trade-off decisions which go beyond the best available science or even scientists' authority, and consequently it shouldn't be left to them. It could (and/or should) probably be best handled with informed public contributions—or at least consent.

4.3.1 Background

On March 17, 2020, John Ioannidis, Professor of Epidemiology at Stanford University and one of the most cited scientists in medical history, published an opinion essay in *STAT* arguing that the current coronavirus disease, COVID-19, may be 'a one-in-a-century evidence fiasco'.

The argument behind this—seemingly hyperbolic—statement is quite simple and has two premises:

- A. There is no reliable evidence on how many people have been infected with SARS-CoV-2 (or who continue to become infected) and how the epidemic is evolving:

- The actual COVID-19 testing capacity is limited in most countries, which makes it likely that some deaths and probably the vast majority of infections due to SARS-CoV-2 are being missed.
- Patients who have been tested for SARS-CoV-2 are disproportionately those with severe symptoms and bad outcomes.
- COVID-19 Case Fatality Ratio (CFR) seems to vary from 0,05%—which is ‘lower than seasonal influenza’—to 1% (when it comes to elderly population).
- Especially for patients with multiple comorbidities (or infections), a positive test for coronavirus does not necessarily mean that the cause a patient’s death is always this virus (cf. Lewiński & Abreu 2022, this volume).

So, Ioannidis argues, there is much we do not know about COVID-19: There is no evidence so far that SARS-CoV-2 causes more severe illness than previous versions of the virus or increased risk of death. And yet, he adds:

B. We are adopting measures of dubious effectiveness and safety:

- We do not know whether or how effective the measures implemented to prevent and reduce the transmission of SARS-CoV-2 are. Some of these measures may have undesirable consequences and even exacerbate the problem.
- The already overburdened public health systems are being pushed to their limits. If they collapse, the majority of the extra deaths will be due to other common diseases and conditions, which normally are effectively addressed.
- Given the uncertainties surrounding our assessments of the development and duration of the pandemic, the coronavirus health crisis may be followed by an unprecedented socioeconomic and/or even mental health crisis, if social distancing measures and lockdowns last for too long.

The dilemma arising from the uncertainties we have to deal with in the face of COVID-19, is therefore the following: should we adopt aggressive (but potentially harmful) measures to manage the COVID-19 crisis or should we refrain from taking any (tough) measure, at the risk of highly increasing the number of deaths. Ioannidis estimates that the total number of deaths could reach 40 million globally—which sounds huge. We can only hope that life will continue, as he says. But should we probably take this risk, if it is just ‘the most pessimistic scenario’ or if ‘the vast majority of this hecatomb would be people with limited time expectancies’? Do we really need ‘more or sufficient data’—if we can ever obtain them—to guide decision making? And finally, how long should we wait for these data and at what cost?

A reasonable objection to Ioannidis’ demand for more data could be that a decision to postpone decision-making until more data are collected, is still a decision. Indeed, as Taleb was quick to point out, this is the so-called delay-fallacy: “If we wait, we will know more about X, hence no decision about X should be made now”. But, instead of focusing on the questions and arguments that Ioannidis posed, many took him to be the black sheep of scientific community. ‘A week ago, Ioannidis’ legacy in medical science seemed unassailable’, as Freedman (2020) says. ‘Today, not so much’. For

many of his colleagues, Ioannidis' views could support conspiracy theories in the middle of the crisis. 'The prevailing take now is that Ioannidis has fallen prey to the very sorts of biases and distortions that he became revered for exposing in others', adds Freedman. Ioannidis was accused of cherry-picking data to prove his point. And his failure would be 'affirmed' just two months later, when a science reporter for BuzzFeed News, Stephanie Lee, would reveal that Ioannidis had failed to disclose financial ties: his study was funded in part by David Neelman, founder of JetBlue Airways, who would certainly benefit from research indicating that the threat of COVID-19 had been exaggerated. Ioannidis rejected the suspicion of a financial conflict of interest, but this part of the story is beyond the scope of this chapter. The question at issue here whether heretical scientific voices should be silenced or kept out of the public sphere.

4.3.2 *The Debate*

Three months later, in June 2020, John Ioannidis is invited by the International Institute of Forecasters to discuss on how to handle COVID-19 pandemic and its potentially devastating consequences with Nassim Taleb, Professor of Risk Engineering at the New York University (NYU) Tandon School of Engineering and widely known for his black swan theory. The discussion is conducted online, in the form of a debate organized by Pierre Pinson and Spyros Makridakis between the two scientists. The starting question is whether forecasting for COVID-19 failed and the participants are invited, in a first phase, to simultaneously prepare two blog posts expressing their views to be posted at exactly the same time. A kind of deuterology follows. Ioannidis and Taleb are given the opportunity to access and think of each other's arguments, as they are stated on the two blog posts, and they are both then invited to write an opinion page to better detail their views and explain why they think the opposite side's view may not be an adequate response to the COVID-19 outbreak.

The aim of the debate is twofold, according to Pinson and Makridakis's (2020): (a) to 'alert and inform relevant stakeholders, who can then better appraise their recommendations about what needs to be done' and (b) to 'give some valuable insight on how to deal with similar situations in the future'. Both these tasks depend on the quality and value of the forecasts produced for the organizers of the debate, who tacitly attribute the opposing views of the two thinkers to different forecast evaluations. But one of the most important lessons we should draw from this debate is probably that the assumption underlying the relevant initiative, regarding the basis of the disagreement and the relevance of forecast assessments, is rather vulnerable.

The question at issue for Ioannidis and Taleb is not whether forecasting for COVID-19 failed. There is no doubt (or controversy) over forecasting failure or the uncertainty inherent in clinical and epidemiological research. But because of this uncertainty:

- Ioannidis argues that we may be overestimating the mortality risk of COVID-19, which means that more (reliable) data are needed to proceed to so strong prevention and protection measures, while:
- Taleb believes that the magnitude of the risk we run, if the pandemic's worst-case scenario comes true, makes it imperative to take targeted actions to suppress the virus transmission as a matter of urgency.

So, here is the structure of the debate. Let's call P the contested issue, viz, how to handle the risk involved in the assessment of high mortality rate. Ioannidis looks for more and better quality data to narrow down the risk before restrictive measures are taken whereas Taleb takes the risk to be high enough to warrant an immediate curbing action plan. A scientific disagreement lies here in the interpretation of fat-tailed distributions,¹ i.e., distributions with high probability of extreme outcomes, and the importance—or implications—of focusing on the extreme values of a distribution for the validity of forecasting, on the one hand, and the management of the (foreseeable) risks, on the other.

Taleb argues that a global disease outbreak is an extreme but highly consequential event, i.e., an event that falls on the tail ends of a statistical distribution (it is not very likely to happen) and, nevertheless, represents a source of existential risk. In such a case 'much of what takes place in the bulk of the distribution is just noise', says Taleb. All relevant information lies in the tails themselves, and therefore risk management decisions should be based on them. 'Sound risk management is concerned with extremes, tails and their full properties, and not with averages, the bulk of a distribution or naïve estimates', as Taleb puts it, while '...more evidence is not necessarily needed. Extra (usually imprecise) observations, especially when coming from the bulk of the distribution, will not guarantee extra knowledge.'

Ioannidis argues that there is nothing special with the tails and that the focus should be *on the entire predictive distribution*. He claims that 'when calibration/communication on extremes is adopted, one should also consider similar calibration for the potential harms of adopted measures.' However, he insists that we should accurately quantify the entire distribution of forecasts, instead of making single point predictions. He sees "selection bias" in choosing tail events as done by Taleb's (2020), when for Taleb the standard technique used there is the exact opposite of selection bias: "in Extreme Value Theory,² one purposely focuses on extremes, to derive properties that nevertheless influence the rest of the distribution as well, especially from a risk management point of view", as he himself notes.

It is obvious that if we focus on the extremes, as Taleb suggests, we will probably overestimate the risk. We will assume that this risk is higher than it actually is or what, at least, the mean of the distribution suggests. We will probably underestimate

¹ A fat-tailed distribution is a probability distribution that exhibits a large skewness or kurtosis, relative to that of either a normal distribution. It suggests that a rather rare event (characterized by extreme values) may nevertheless occur with a relatively high frequency.

² Extreme Value Theory is a statistical analysis dealing with extreme values, i.e., extreme deviations from the median of probability distributions. It is used to model the behavior of the tails (minima or maxima) of a distribution.

the risk, on the other hand, if we focus on the entire distribution of forecasts, as Ioannidis suggests, although it is not clear here if the study of the entire distribution is actually the calculation of its mean, which is the target of Taleb's criticism. In any case risk assessment varies depending on where the emphasis is put. However, the opposite might also be true. It might be that the assessment and relative weighting of (foreseen) risks determines where the emphasis should be put, in which case we are talking about a (non-epistemic) decision, i.e., a decision that cannot but (and/or should) involve human values.

4.3.3 *Argumentation Schemes and Fallacies*

It is not clear here which of the two applies—if, i.e., the decision on where the emphasis should be put depends on prior risk assessments or vice versa—and the argumentative practices to which the two scientists resort could create even greater confusion. In Taleb's paper, for instance, there is a whole section entitled "fortune-cookie evidentiary methods" to stress the failure of evidentiary methods to work under both risk management and fat tails. But it should be obvious that the reference to 'fortune-cookies' can neither raise awareness nor improve public understanding of science. It is clearly aimed to strengthen Taleb's argument that we should adopt strong measures for COVID-19 prevention and control. And yet, it could also reinforce the already existing tendency towards public mistrust of science, if taken at face value, which arguably goes far beyond Taleb's intentions.

Ioannidis (2020) accuses—rightly—Taleb and social media of having misrepresented his positions. As he puts it:

Taleb caricatures the position of a hotly debated mid-March op-ed by one of us, alluring it "made statements to the effect that one should wait for "more evidence" before acting with respect to the pandemic", a strawman distortion.³ Anyone who reads the op-ed unbiasedly realizes that it says exactly the opposite. (p. 7)

And a few lines below:

Another strawman distortion propagated in social media is that supposedly the op-ed had predicted that only 10,000 deaths in the USA. The key message of the op-ed was that we lack reliable data, i.e., we don't know. The strawman interpretation as "we don't know, but actually we do know that 10,000 deaths will happen" is maliciously self-contradicting. (ibid., p. 8)

But he changes, in turn, the subject of discussion, when he ironically notes the progress made in science since "the times of the Antonine plague or even 1890" (ibid., page 6). The question, for Taleb, is not whether the science we have is capable of identifying the pathogen or elucidating its true prevalence, but the time we should spend on it. He does not deny, that is, the value of science or the progress it has made.

³ For an in-depth analysis of the straw man as a fallacy of argumentative debates see Aikin and Casey (2011) and Lewiński and Oswald (2013).

He is concerned with the consequences of delayed response, when Ioannidis argues for evidence-based responses.

In both cases, we see a kind of *ignoratio elenchi*, i.e., a distortion of—or departure from—the issue in question, which creates a great deal of confusion regarding not only the subject but also the depth and extent of the disagreement. And yet both scientists appeal to science. Ioannidis insists on the need to use science (or intensive testing) and more reliable data, while Taleb resorts to definitions and re-definitions of the nature and role of science and evidence in his attempt to refute Ioannidis' view, as illustrated in the following:

Apparently, the prevailing idea is that producing a single numerical estimate is how science is done [...]. Well, no. That is not how 'science is done', at least in this domain, and that is not how informed decision-making should develop. (...) Science is about understanding properties, not forecasting single outcome. (Taleb, 2020, p. 1)

He indirectly but clearly connects Ioannidis' view to conspiracy theories:

And if people take action boarding up windows, and evacuating, a claim that someone might afterwards make that 'look it was not so devastating', such claim should be considered closer to a lunatic conspiracy fringe than scientific discourse. (ibid., p. 2)

He is supposed to defend, that is, science against Ioannidis, although he seems to contradict himself, when at the end he distinguishes real life from experiments. And he closes his paper with the emphatic wording of one more definition:

By definition, evidence follows – and does not precede! – rare impactful events. (ibid.)

which is based on an appeal to ancestral wisdom and Seneca's authority:

Ancestral wisdom has numerous versions such as 'Cineri nunc medicina datur' (one does not give remedies to the dead), or the famous saying by Seneca 'Serum est cavendi tempus in mediis malis' (you don't wait for peril to run its course to start defending yourself). (ibid.)

4.3.3.1 The Role of Analogies

A great part of the discussion focuses on the evaluation of the analogical arguments offered in support of the one or the other view, although it is Taleb who mainly makes use of this strategy. We have already seen his reference to 'fortune cookies' with regards to the methods of evidence-based practice, but while discussing evidentiary methods, Taleb uses five more analogies, in order to persuade us that uncertainty makes it even more urgent to take tough measures. So, he argues that:

1. If you are uncertain about the skills of the pilot, you get off the plane

where the uncertainty characterizing COVID is compared to the uncertainty we could have about the skills of a pilot.

A second analogy is expressed in the form of a question:

2. If there is an asteroid headed for earth, should we wait for it to arrive to see what the impact will be?

We are asked what we should do if an asteroid were to hit earth. But what follows, is not the obvious, for Taleb reply, that we should take action, but the objection that, for Taleb, one could raise, if one ignores ‘the power of science to generalize (and classify), and the power of actions to possibly change the outcome of events’ (Taleb, 2020, p. 2).

We did not see this particular asteroid yet

Of course, this is not an anticipated objection. It is probably what we *should* have replied, for reasons of coherence, if we were to follow Ioannidis’ argumentation. But the absurdity of such an objection shows how deep the ‘logical fallacy’⁴ runs, according to Taleb.

This schema is repeated one more time, when the situation we are in is compared to a hurricane.

3. Similarly, if we had a hurricane headed for Florida, a statement that “We have not seen this hurricane yet, perhaps it will not be like the other hurricanes!” misses the essential role of risk management: to take preventive actions, not to complain *ex post*.’

And there then follow two more analogies:

4. Waiting for the accident before putting the seat belt on
5. or [waiting for] evidence of fire before buying insurance

where calling for more evidence in the face of pandemic is compared to waiting for an accident to happen (4) or evidence for fire (5), and the need for immediate action to prevent the spread of the disease is compared accordingly to the need for—the relevant—precautionary action.⁵

Do these analogies succeed in the aim they are used for? Do they strengthen Taleb’s argument? The use of analogical reasoning is, undoubtedly, quite common in science.⁶ It is supposed to have not only heuristic, but justificatory role as well. It has indeed been argued that analogy is a commonly used strategy for complex problem solving under uncertainty—or that uncertainty is a triggering mechanism for analogy as (Chan et al., 2012) put it—which means that analogical reasoning is rather legitimate—if not unavoidable—in the case of pandemic.

To focus our attention, let us take a look at Hesse’s (1966) influential account of analogical reasoning in science. As is well-known, Hesse spoke of reasoning in terms of the analogies between a source X and a target system Y, and in particular some strong *positive analogies* between X and Y, for otherwise there is no reason to

⁴ There is a probabilistic confusion, according to Taleb, leading to the so-called delay-fallacy: “If we wait we will know more about X, hence no decision about X should be made now”. But the logical fallacy runs deeper when we miss “the very nature of the power of science to generalize (and classify), and the power of actions to possibly change the outcome of events”.

⁵ The disagreement between Ioannidis and Taleb reflects a different understanding of the so-called precautionary principle in a certain sense. The role of this principle as a decision rule in science is discussed in Psillos (2015).

⁶ For a systematic approach to the study of argument by analogy in scientific discourse, see Ribeiro (ed.) 2014.

think that X may be useful for its purpose; some negative analogies and some *neutral analogies*, i.e., some properties about which we do not yet know whether they are positive analogies, and which may turn out either positive analogies or negative analogies. In light of the positive and the neutral analogies, the source system X can play a significant *heuristic* role; i.e., it can help the discovery of other properties of Y which may be either positive analogies between X and Y or negative analogies. For, by trying to explore the neutral analogies between the source X and the target Y, (i.e., by trying to find out whether Y possesses more of the properties of X) we end up with a better knowledge of what Y *is* and what *is not*. The ‘transference’ of properties from X to Y, and hence the justificatory role of analogy, is a function of the strength of the positive and negative analogies.

However, all five cases Taleb uses are such that the negative analogies are too strong and the positive analogies too weak. The cases of hurricanes, car-crashes and fires are too predictable to serve as a model for COVID-19. The only positive analogy is that some risk is involved in all; the strong negative analogy is precisely that in the sources of the analogy the risk is very well-known and so is the cost of not taking preventive action. But in the case of COVID-19, both the risk and the cost of the measures proposed are heavily underdetermined. Hence, the supposed analogies are no more than rhetorical devices.

Ioannidis is quick to point out the analogy between the need for precautionary and safety measures for Covid-19 and the need of wearing seat belt in a car is unfortunate, to say the least, because ‘seat belts cost next to nothing to produce in cars and have unquestionable benefits.’ (Ioannidis, 2020, p. 8) They prevent ~50% of serious injuries and deaths at almost zero cost. And therefore, they are not equivalent to a prolonged draconian lockdown, in terms of benefit—harm profile, but to some rather simple interventions, like face mask use and hand hygiene. For similar reasons, the analogy of fire insurance is considered inappropriate too. For ‘fire insurance makes sense only at reasonable price’, says Ioannidis. ‘Draconian prolonged lockdown may be equivalent to paying fire insurance at a price higher than the value of the house.’ (Ibid., p. 9).

But it is obvious that the two scientists do not focus on the same problem. Ioannidis is more concerned about the financial consequences of a prolonged lockdown, while Taleb focuses on the health risks of the pandemic. It is precisely for this reason, that they cannot agree upon what is analogous to what and from what aspect. And the same holds for the case of the Dutch flood risk management policy they discuss.

Taleb (2020, p. 4) says that Extreme Value Theory (EVT) applies to Dutch policy of building and calibrating their dams and dykes on the extreme sea levels expected on the basis EVT. They do not build them on the average height of sea level, but on the extremes, ‘and not only on the historical ones but also on those one can expect by modelling the tail using EVT, mainly via semi-parametric approaches⁷’, Taleb

⁷ A semiparametric approach combines characteristics of parametric and non-parametric approaches. Roughly, this means that there is some information that can be perfectly reached or represented within its parameters. But it also allows some information to be unconstrained or at least beyond the range of ordinary statistical methods.

notes (*ibid.*). So, policy making focuses on tail properties, for Taleb, in this case, and not on the body of probability distribution. Ioannidis (2020, p. 9) disagrees. He believes that this analogy is inappropriate too, mainly because, despite its cost, and contrary to lockdown measures, anti-flooding engineering has a favorable decision-analysis profile after considering multiple types of impact. He challenges again EVT, and along with that, the severity of flood control methods in Netherlands (or the comparison of these methods with a prolonged lockdown, which would be equivalent, for him, to only an emergency evacuation). He argues that ‘the observed flooding maximum to-date does not preclude even higher future values.’ However, it is not clear here if Ioannidis’s criticism is aimed at the assumptions of EVT or the assumption that the Dutch flood defense system is based on EVT.

The likelihood is that the two scientists assess both the prevailing circumstances and the (levels and kinds of) risks we can accept or tolerate under the threat of a pandemic differently. And so, the question remains as to whether this is a genuine scientific disagreement and if (or how) it should be communicated to the public.

4.4 Reasonable Scientific Disagreement

The preceding discussion suggests that scientists are often influenced by non-epistemic considerations. Both Ioannidis and Taleb need to make trade-off decisions that reflect ethical, economic and political interests and values, and affect not only the recommendations they make at the level of science policy but also what they take to be true or valid, as we saw. And yet this is a reasonable scientific disagreement that can arise in the decision-making process under conditions of uncertainty, we argue here, where by ‘scientific’, we mean that this is.

[Scientific]: a disagreement arising in the context of science or scientific enterprise, as a practice, which largely involves evidence-based reasoning and complies with certain norms or standards and rules (of inference).

while by ‘reasonable’, we mean that this is.

[Reasonable]: a disagreement about P such that each side holds mutually inconsistent (or simply different) views about P without flouting any criteria of rationality (e.g., taking all relevant evidence into account, being responsive to reasons and argument, open to criticism etc.)

What is required for there being *reasonable disagreement* about P? Either there is no fact of the matter about P, e.g., P is about an issue of taste or aesthetics. Or there is a fact of the matter about P, hence the disagreement is potentially factual, but there are value-related issues such that the criterion of relevance, or the level of acceptable risk etc. These issues are such that there are no context-independent ways to address them or there is no value-free framework in which they can be set. But as will be shown in the sequel, contrary to the first case and in spite of the values involved,

such a disagreement does not affect or challenge the validity of science as such and it can, furthermore, be settled, and minimized (or resolved) in light of new evidence.

We argue that the disagreement between Ioannidis and Taleb is a reasonable scientific disagreement, since:

- Confidence in both science and scientists prevails or is at least positively related to the conduct of the debate and the willingness of the two parties to participate in it. Even when the adequacy of epidemiological data or the scope of the models used for their analysis are questioned, the reliability of scientific methodology is not affected. Nor is there any question of extra-scientific solutions.
- The papers are subjected to peer review. Throughout the submission and peer review evaluation process both the validity and strength of authors' reasoning, the methodology of research, as well as the evidence provided in favor of a fact are independently assessed and approved.
- The use of certain standards and procedures or inference methods is required. Both the protagonists of the debate and the anonymous reviewers commit themselves to some normative principles or conventions, which are supposed to fill a large part of the gap between evidence and scientific hypotheses. They govern the collection, recording and interpretation of data thus constraining the relevant risks. Or they specify what amount of risk can reasonably be tolerated. They determine, for instance, the maximum acceptable magnitude of error (significance level), which is usually set to 0.05. They guide and/or restrict scientists in their decisions about experimental or research design (Wilholt, 2009, p. 98, 2013, pp. 242–243) and coordinate them; they help them cooperate with each other.
- The context of the discussion is clearly defined. There is a clearly formulated and defined problem, while conventions determine also, *to a large extent*, whether or when a problem solving or management process (and solution) is appropriate or effective.
- The uncertainty is not (anymore) radical. It can be modelled or described through probabilistic reasoning (cf. Méndez, 2020). The risk of error is reduced with further data collection and probability redistribution. And so, dialogue remains open and continuous.

While, for example, one year ago we were still confronting radical uncertainty and high systemic risks (Méndez, 2020), in the period from the emergence of COVID-19 pandemic to date, research has already led to more (reliable) data and a much better understanding of the nature of the disease and the possibility of COVID-19 transmission risk and prevention. We now know more about the symptoms of coronavirus or the adverse effects occurring during (or even after) its healing treatment. The systematic review and meta-analysis of the results of individual studies conducted on droplets size and transmission or the distance they can travel has led to safer conclusions regarding the distance that must be kept between individuals to reduce transmission of SARS-CoV-2 and the effectiveness of masks or the specifications they should meet so as to be effective (Goodwin & Bogomoletc 2022, this volume). We have obtained more information about SARS-CoV-2 mutations and variants, the

development of antibodies or the effects of environmental conditions on the dispersion of the virus, while similar progress has been accomplished at the methodological level. The models used to track and forecast the spread of COVID-19 are updated regularly to respond to new data and data is in turn enriched or revised through the use of more precise models.

So even if we admit that certainty is unattainable, the magnitude of our ignorance decreases. The distinction between what we know we do not know, the so-called ‘known unknowns’, and what we do not know we do not know or ‘unknown unknowns’ becomes more and more clear, while the scope, as well as the extent of the disagreement, may change over time, too.

But it is a *reasonable* disagreement too, since: far from being infallible or certain—and despite the increasing accumulation of data and information—scientific beliefs are subject to constant revision. Our estimates of existing and foreseen risks or the solutions proposed to reduce them may thus vary considerably in time, and the same holds true for policy decisions. As we learn more about the virus and update or improve our models, we obtain a better—albeit not full—understanding of how different policy decisions can impact the trajectory of COVID-19.

What needs to be stressed is that the urgency of the situation warrants immediate action. The risk of COVID-19 transmission requires acting in a situation of undesirable uncertainty, where policy decision-making largely reflects value trade-offs. Scientists need to judge and balance risks and expected benefits or costs, if they are to engage in devising policy responses. And here *non-epistemic* values become (a lot more) visible; i.e., more or less conscious economic, ethical, cultural or political interests and values, which may normally differ from scientist to scientist and result in conflicts. The variety of the values involved causes a substantial heterogeneity in risk assessments. Depending on the values, i.e., that they hold, scientists attach different values to the associated risks. And policy responses vary accordingly.

This suggests that the translation of scientific evidence into policy-making and implementation is not a linear path. But as research continues and constantly new data come to light, the extent of the disagreement changes too, as said above. Scientists revise their explanations and models in light of new evidence, and they are forced in some sense to do so. For they submit them to the judgment of their colleagues (cf. Psillos, 2015).

4.5 Mis/disinformation—Propagation and the Need for Transparency

There is no doubt that the consensus view might be wrong; or that, unless it is legitimately inappropriate, a scientific dissent challenging the prevailing view can play a key role to the advancement of science (cf. de Melo-Martin & Intemann, 2018). But if we now turn to the strategies and tactics often used by those spreading fake news and other forms of misinformation, with the intention to deceive the public, we

see that these tactics are quite different. When, for example, it is argued that there is no coronavirus or that mRNA vaccines are going to alter the recipient's DNA, the relevant information is not based on evidence. Those promoting such information are either non-scientists or discredited scientists who use their own standards. And yet the language they use sounds 'scientific'. Or they stress the uncertainties surrounding science and the differences or disagreements arising synchronically and diachronically.

It should therefore be made clear that the key hallmark of science is not the absence of human values or much more the stability of its results, but the fact, instead, that scientists should substantiate the claims they make; submit them to peer review and in any case revise them with the emergence of new data and as the research continues. Scientific recommendations or suggestions should be recognized as being transient.

But equally important it is to realize that scientists often disagree. Even when they have access to the same data and comply with established rules, scientists may hold different beliefs regarding data characterization and interpretation or on what counts as relevant evidence. They may disagree, that is, on the levels of statistical significance they use and hence on the tolerable kinds and levels of risk (cf. Douglas, 2009) or on the acceptable ways of forming beliefs and inference. In such a case we are talking about a deep or substantial disagreement. But this is a normal mode of communication within science and an arguably indispensable condition of its progress. It is well known that science progresses through disagreements and as the one theory succeeds the other, while De Cruz and De Smedt (2013) have convincingly argued that epistemic peer disagreement can be practically valuable too, that is in the practice of science and with regards to the generation of new evidence and (re)evaluation of existing evidence and assumptions.

That being so, there is a need to appropriately assess the legitimacy of the values involved in decision-making and by extension of the decisions made themselves. For it is of course one thing to build theories, which is, in fact, a never-ending process, and quite another to make science-based policy. So, the public should be kept informed of the risks and potential interests involved in decision-making. It is a matter of justice and a way to restore, at the same time, public trust in science, given the increasing suspicion of the findings of science and of political decision making related to cutting edge science and technology. And, independently of their depth or causes, scientific disagreements are arguably essential to this end, when they are appropriately communicated. Since scientists are not always aware of the values guiding their reasoning, so as to make them explicit to stakeholders, open debates among experts holding opposing views can shed light on these influences.

So, to return to the question we posed above regarding which of the research results should be communicated to the public, when evidence is inconclusive or scientists disagree, there is neither way nor any legitimate reason to hide the uncertainty of science or the values involved in decision-making. It is actually *unrealistic* to think that scientists can provide policy advice without being influenced by their financial, social, political and personal interests and values, as Elliott and Resnik (2014) have convincingly argued, and *imprudent*, we would also add, to insist (or pretend) otherwise, when most of these decisions are often proved wrong and revised.

4.6 Conclusion

In this chapter we dealt with a key question that has arisen as a result of the recent health crisis: how to communicate science under uncertainty. We used the recent Ioannidis-Taleb debate concerning the pandemic to achieve two things. First, to show how the quality and strength of argumentation is often clouded by the metaphorical use of language and the use of the rhetorical devices as well as logical fallacies. Second, to show how the substance of their argumentation involves reliance on various non-epistemic values and considerations. However, we argued that though both of the above should be flagged, none of them renders a scientific dispute part of misinformation or disinformation. In science there is room for reasonable disagreement.

It is a key target of science communication to make the public appreciate these features of science, thereby enhancing the public's trust in science, while at the same time acknowledging that scientific information is uncertain and revisable. Effective (and responsible) communication of reasonable disagreement as such could improve public understanding of the nature—the strengths and limits—of science.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology). The authors would also like to thank the editors of this book as well as the two anonymous reviewers for their insightful comments and suggestions. Konstantina Antiochou's work on this project has received funding from the Hellenic Foundation for Research and Innovation (HFRI) and the General Secretariat for Research and Innovation (GSRI), under grant agreement No 1968.

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Chapter 5

Expert Uncertainty: Arguments Bolstering the Ethos of Expertise in Situations of Uncertainty



Jens E. Kjeldsen, Ragnhild Mølster, and Øyvind Ihlen

Abstract Arguably, one of the defining traits of an expert is certainty of knowledge. So, what happens when experts in a critical situation in public simultaneously must recognize uncertainty about knowledge and the situation *and* argue for specific policies and actions? This has been the challenge for many national health experts during the COVID-19 crisis. We examine such argumentative strategies by asking: what are the argumentative strategies used when attempting to secure and bolster the ethos of expertise when an expert must also acknowledge uncertainty and insufficient knowledge? The chapter examines such argumentative strategies by health authorities participating in debate and interview programs. Contrary to previous research our findings indicate that the health experts *do* acknowledge uncertainty, often explicitly, and also do it as a way of bolstering their ethos. Firstly, our analyses point to two ways of introducing and expressing uncertainty and lack of knowledge. Secondly, our analyses point to six ways of delimiting and qualifying the expressed uncertainty in a way that rebolsters the expert's authority and ethos of expertise.

Keywords Argumentation · Credibility · COVID-19 · Crisis · Ethos · Expertise · Rhetoric · Scandinavia · Trust · Trustworthiness · Uncertainty

5.1 Introduction

Communication of uncertainty has been the focus of much research, particularly concerning risk (Renn, 2008) and science in general (Fischhoff & Davis, 2014;

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S. Oswald et al. (eds.), *The Pandemic of Argumentation*, Argumentation Library 43,
https://doi.org/10.1007/978-3-030-91017-4_5

Retzbach & Maier, 2014), as well as more specific issues like climate science (Budesu et al., 2009; Patt & Weber, 2014) and pandemics (Driedger et al., 2018; Han et al., 2018). Tied to the latter, questions appear such as “how will the disease develop, what will its effects be? Will the virus mutate? (Bjørkdahl & Carlsen, 2019, p. 4).

A number of studies have also discussed uncertainty and COVID-19, and spelled out, for instance, how to address uncertainties concerning health systems by focusing on adequate numbers and types of supplies and professionals (Koffman et al., 2020). Another recommendation from this literature has been to apply a so-called “uncertainty-normalizing communication strategy” to reduce aversive ambiguity effects (Han et al., 2021). Indeed, uncertainty is an integral part of the scientific process, and the expert has an obligation to admit to her “limitations and doubts” (Walton, 1992, p. 20).

Most researchers appear to agree that communication of uncertainty does not necessarily have negative effects on people’s trust (Brashers, 2001; Gustafson & Rice, 2020; Liu et al., 2016; van der Bles et al., 2020). To acknowledge uncertainty can actually bolster credibility. It has even been claimed that “[g]ood strategies for a radically uncertain world avoid the pretence of knowledge—the models and bogus quantification which require users to make up things they do not know and could not know” (Kay & King, 2020, p. 423). Still, some research suggests that experts rarely communicate uncertainty explicitly or in a clear manner during health crises (Han et al., 2021).

The word *crisis* involves so many meanings and definitions that it has been described as being “transformed to fit the uncertainties of whatever might be favored at a given moment” (Koselleck & Richter, 2006, p. 399). Crisis can be considered a perceptual concept and as such a social construction. When an organization is experiencing a crisis, this is tied to violations of stakeholders’ expectations (Coombs, 2018). In the case of an adverse event like COVID-19, the public health authorities experience a crisis if the public health system cannot provide adequate treatment for those in need and stakeholders question the handling of the pandemic to the extent that it has an impact on the perceived legitimacy of the organization.

As indicated, uncertainty is inherent in crises like the COVID-19 pandemic, but even though this is well-recognized, research has not adequately theorized how authorities should best manage “uncertainty to help publics cope and respond appropriately” (Liu et al., 2016, p. 479). More specifically, to the best of our knowledge, no research examines how health authorities—or other experts—rhetorically seek to preserve an expert position and issue advice on policies or actions, while simultaneously acknowledging doubt or uncertainty. This has been a challenge faced by many experts during the COVID-19 crisis. Thus, we ask: *How do experts secure and bolster their ethos of expertise in cases where they must also acknowledge uncertainty and insufficient knowledge?*

We examine argumentative ethos-strategies used by Scandinavian public health experts during the COVID-19 pandemic, by exploring how they introduce uncertainty and lack of knowledge, while simultaneously bolstering their ethos of expertise. Theoretically, we draw on the converging fields of argumentation studies (e.g. Walton

et al., 2008) and studies in expertise and experience (e.g. Goodwin, 2011; Walton, 1989b), as well as studies of rhetoric and ethos (e.g. Hartelius, 2011; McCroskey & Young, 1981).

5.2 Uncertainty, Argumentation, and Ethos of Expertise

We conceptualize uncertainty as involving both *ignorance* (“limited understanding of lack of knowledge or lack of consensus over that knowledge”) and *risk* (“uncertainties that frame the range of outcomes that have the potential to cause significant harm”) (Walker, 2013, p. 107). Walker (2013, p. 104) proposes three kinds of frameworks for scientific uncertainty and ethos: (1) in form of “a moral certainty that frames scientific ethos as a negotiator between public and scientific community”, (2) “in the form of ignorance about risk that frames scientific ethos as an unknowing and unconcerned technocrat”, and (3) as “a calculated probability that frames scientific ethos as an aloof expert.” The two last positions, naturally, are undesirable for an expert acting in public. The first is desirable as public ethos, because it invites a democratic move towards public deliberation. It does so by letting the scientific uncertainty created by ignorance *and* risk move into the public realm of moral certainty of an acknowledged need to act on the basis of the scientific uncertainty.

Our study departs from the assumption that in a situation such as the COVID-19 pandemic, citizens and societies are forced to rely on experts and act on uncertainty. In argumentation theory instances of these two moves (rely on experts and act on uncertainty) have sometimes been seen as forms of fallacies: Relying on experts is an *argumentum ad verecundiam* (Walton, 1997) and acting on uncertainty is an *argumentum ad ignoratiam* (Walton et al., 2008, p. 98). In a similar way, arguments from expert opinion have been called “weak arguments” (Mizrahi, 2013, 2018). In practice, of course, humans constantly use these forms of argumentation in both everyday life, politics, and in research. In situations of uncertainty, we normally have no other choice. “When decisions do matter, rational people delegate them to those who have, or are willing to invest in acquiring, relevant information and the capacity to interpret that information” (Kay & King, 2020, p. 47). We let pilots fly the airplanes.

Walton et al. (2008) call the *argumentum ad ignoratiam* “the lack-of-knowledge argument” (p. 98). In the theory of argument schemes (Garssen, 2001; Walton et al., 2008) this often takes a rather narrow form where the “absence of positive proof for the truth of the proposition is considered a reason to believe in its falsity” (Walton et al., 2008, p. 98). In the same way, the “lack of conclusive evidence” can be taken to “believe that the proposition is true” (Walton et al., 2008, p. 100). In the context of the rhetoric of uncertainty by health experts dealing with a pandemic, however, both the fallacy-perspective and the narrow argument scheme approach taken alone are insufficient. Firstly, because *verecundiam* and *ignoratiam* are unavoidable ways of reasoning; secondly because the issue in a pandemic is not primarily about one truth,

but about choices between many different possible actions with uncertain consequences (Kock, 2009). Thus, our approach focuses on how the experts rhetorically acknowledge the uncertainty while attempting to maintain their status as experts.

While it has been claimed that experts rarely communicate uncertainty explicitly or in a clear manner during health crises (Han et al., 2021), others have suggested that credibility and trust can be achieved by being open and vulnerable as a communicator (e.g., Liu & Mehta, 2020). Research in climate rhetoric, for instance, has pointed to four rhetorical acts when winning the trust of an audience: make yourself vulnerable, empower your audience, take responsibility for being wrong, and start small by inviting audiences to only take small steps (Goodwin, 2011; Goodwin & Dahlstrom, 2014).

Research in expertise also points out different strategies of establishing an expert ethos. Hartelius (2011), for instance, uses six so-called congruities to describe the constitution of expertise. The first congruity is *expert networks*. Expertise is constituted by “associating oneself strategically with other experts as well as with other areas of expertise” (p. 18). The second is *expert techne*. This signifies establishing expertise by explicating “epistemologies and methodologies” belonging to one’s field of expertise (p. 19). To rhetorically establish their expertise, experts “state what they know, how they know it, and how they practice or implement what they know” (p. 20). Thirdly, *expert pedagogy* means that experts not only share epistemology and methodology, but also share “*how* they know what they know” (p. 23). An open sharing of process and the uncertainties of method and knowledge may reinforce the sense of expertise. The fourth congruity, *deference/participation*, signifies the choice of experts to either invite the audience to acquiesce or to get involved. Since expertise and professional knowledge is by nature specialized, complex and difficult for the nonprofessional to understand, deference is the most common strategy. However, in some instances experts will encourage an audience to participate. Such participation, of course, will require *expert pedagogy* and explanation of *expert techne*. The fifth congruity is *expertise as fitting response*. As we know from Bitzer, a rhetorical situation has a defect or obstacle, something waiting to be done, and this ‘imperfection’ can be addressed by rhetorical communication (Bitzer, 1968). In the constitution of expertise, experts “identify or construct a rhetorical situation in which their expertise is the most fitting response” (Hartelius, 2011, p. 23). Finally, expertise is constituted by creating *relevance to everyday life*. Experts, Hartelius explains, must orient themselves and their subject matter to everyday life (p. 27): “The more relevant an expert seems to the public, the more powerful she will be” (p. 29).

While these *congruities* can and should be used, depending on the rhetorical problem the expert is faced with, previous research points to the importance of expert networks as a resource in this regard (Kjeldsen et al., 2021). This is certainly the case when the expert is part of the public health authorities. Such experts have *cognitive authority*, but also different kinds of *administrative authority* (Walton, 1989a, p. 174). The cognitive authority consists of a certain knowledge and expertise within a field, the administrative authority denotes some right to “exercise command over others or make rulings binding on others through an invested or recognized

position of office or power” (Walton, 1989a, p. 174). In general, a health expert may express some certainty about the virus (i.e., how it works, which is to demonstrate medical expertise), but demonstrate uncertainty about which actions are required to curb the virus (also a medical expertise). A health expert may also demonstrate some certainty about the virus and the actions required to curb it but acknowledge uncertainty about the public consequences of the measures, and thus uncertainty about which measures should be taken (which is a form of political expertise). This indicates a possible sliding boundary between the national health experts’ and the national politicians’ sphere of authority.

5.3 Empirical Material and Method

Our study focuses on national health experts in the three Scandinavian countries of Denmark, Norway and Sweden. During the COVID-19 pandemic, Sweden famously chose a different strategy than most other nations, including Denmark and Norway, largely shunning lockdown as a measure. As of May 14, 2021, the death toll related to COVID-19 was 14,267 in Sweden (population 10.2 million), compared to 2,499 in Denmark (population of 5.8 million) and 774 in Norway (population of 5.5 million) (European Centre for Disease Prevention & Control, 2021). Despite these differences, surveys have shown remarkably high figures for trust in authorities in all three countries, particularly during the early phases (Ihlen et al., in press).

The public health authorities are named the Danish Health Authority (DHA), the Danish Statens Serum Institut (SSI), the Danish Medicines Agency (DMA), the Norwegian Directorate of Health (NDH), the Norwegian Institute of Public Health (NIPH), and the Public Health Agency of Sweden (PHAS). We started by identifying a number of representatives from these institutions.¹ These experts provide advice to the government and in some cases decide measures and policies. This puts them in a different rhetorical position than experts unattached to national health policies who may offer their views and express both certainty and uncertainty, but do not bear any responsibility for the measures and policies that are chosen in the final instance. The experts in our sample, however, enact both administrative and cognitive authority.

To get at empirical material, we singled out a number of national debate and interview television programs and analysed how expert representatives from these institutions appeared in the period February 26, 2020 to May 1st 2021 (the appendix contains an overview of the dates for the exact programs). More specifically, in Denmark we looked at *Debatten* and *Deadline* from the DR2 channel of the national public broadcaster DR. *Debatten* is the most watched debate program in Denmark,

¹ **Sweden:** Anders Tegnell (State epidemiologist, PHAS). **Norway:** Espen Nakstad (assistant director of NDH) Camilla Stoltenberg (Director General of NIPH), Preben Aavitsland (Chief physician, NIPH), Bjørn Guldvog (Director General, NDH), Line Vold (Department Director, NIPH). **Denmark:** Søren Brostrøm (Director General, DHA), Kåre Mølbak (Director, Division of Infectious Diseases Preparedness, SSI), Tyra Grove Krause (SSI), Thomas Senderowitz (DMA).

aired once a week. *Deadline* is a news and debate program on the same channel aired every weekday.

In Norway, the programs *Debatten* and *Dagsnytt 18* from the national public broadcaster NRK were researched. *Debatten* on NRK1 is the most watched debate program in Norway, aired every Tuesday and Thursday. *Dagsnytt 18* is a news and debate program aired every weekday on the radio channel NRK P2 and on the television channel NRK2.

For the Swedish material we chose the debate programs *Agenda* and *Sverige möts* (“Sweden meets”), both on the channel SVT1. *Agenda* is aired every Sunday and is Sweden’s most watched debate and news program, while *Sverige möts* is aired once a month.

We began the analysis by looking through the announcements for these programs on the websites of the broadcasting companies in order to find all the programs which had appearances by official health experts. We supplemented this with searches in Scandinavian media databases such as *Atekst/Retriever* and *Infomedia*. We searched for all programs in which the names of the health experts in question were mentioned. We then looked through these programs and located the programs where the experts were guests and where salient examples relating to uncertainty were found. The most relevant and salient examples were transcribed either by a research assistant or the authors. We then carried out rhetorical criticism of the excerpts to uncover how the experts rhetorically introduced and addressed uncertainty and how they worked through and established their own expert ethos. We used the insights from this analysis to establish a range of strategies for expressing uncertainty, while maintaining expert authority. We singled out six types of rhetorical strategies: expressing fellow scientific uncertainty, claiming that certainty is impossible, claiming to know all there is to know, conditioning the uncertainty, resorting to exclusive expert information, and demonstrating actively seeking knowledge and adapting to the situation.

Even though we have examined material from the three Scandinavian countries, our main objective was not a comparative analysis, but to widen our scope for categories of experts’ rhetorical responses to uncertainty in public debates about the pandemic. Still, our material revealed some national differences. A main difference was not in how experts acted rhetorically, but in participation. While national health experts in Norway frequently appear in the debate programs, the health experts of Denmark and Sweden almost never participate in debate programs. In Denmark, notably, none of the national health experts participated in the debate program (*Debatten*). A former director of DHA, Else Smith, participated a few times, however since she no longer worked in DHA and thus had no formal responsibility, she was not included in our study. Danish national health experts were interviewed in the program *Deadline* (DR), but never participated in debates. The same was the case for the main Swedish expert (the state epidemiologist of PHAS), who only—in our material at least—participated in interviews. This is not to say that the national health experts in Denmark and Sweden did not appear in public. They did (Johansson & Vigsø, 2021), and they are as much household names as the Norwegian experts. However, they rarely appear in the most watched national *debate* programs.

5.4 Rhetorically Introducing and Delimiting Uncertainty

Our analyses have uncovered that the health experts engage in several forms of rhetorical work when expressing uncertainty, while maintaining their expert authority. We distinguish between *introducing uncertainty* and *qualifying uncertainty*. As mentioned, research argues that openness, honesty, and vulnerability fosters credibility and trustworthiness (Brashers, 2001; Gustafson & Rice, 2020; Liu et al., 2016; van der Bles et al., 2020). Our analysis reveals that openness, honesty, and vulnerability seldom stand alone: admission of uncertainty or ignorance is typically followed by rhetorical work that limits or qualifies the uncertainty or ignorance. In the following, we first describe the two main ways of admitting uncertainty and ignorance, then we describe six ways of limiting and qualifying such admitted uncertainty and ignorance. As above, we use the term “ignorance” simply as “lack of knowledge”.

5.4.1 Rhetorically Introducing Uncertainty

The first way of introducing and expressing uncertainty and ignorance by the health experts is communicating in a way that makes the uncertainty less salient and detaches the expert from the uncertainty. We refer to such techniques as *hedging* (Hyland, 1998), and the strategy as *suggesting uncertainty*. Such suggesting rhetorical work is primarily done through passive linguistic constructions and the use of qualifying modal verbs, adjectives, and adverbs such as “possibly” and “maybe”. Another way of hedging is the use of general pronouns such as “one”. This is used in sentences such as “one does not know at this point”. The use of the word “one” (in Scandinavia: “man”) is more prevalent in the Scandinavian than in the English languages, and function as a substitute for the “we” or “you”, expressing in general a vague sense that something is “unknown”, while staying clear of saying directly “I do not know” or “we” do not know. Sometimes, the term “we” is used in the same vague way. A health representative may say “we do not know”, but in context the “we” does not directly point to the experts themselves, but rather to a much more general “we”, really meaning “it is not known”. Thus, by using actor-less and passive linguistic constructions, as well as conditioning adverbs and conditional conjunctions, the experts link the uncertainty to external conditions, and not directly to themselves. Thereby making the experts less visible and less responsible for the lack of certainty and knowledge. Examples of this are from a Norwegian debate (*Debatten*, March 24, 2020) with the Director General of NIPH who said: “It remains to be seen if it will be possible to suppress the virus” and “There is doubt about the effects of these measures”.

In contrast to this strategy of introducing uncertainty inconspicuously, the health experts, especially in Norway, often introduced the uncertainty through *open admission of uncertainty*, where they openly and explicitly expressed uncertainty and lack

of knowledge. Contrary to previous studies that indicate that experts rarely communicate their uncertainty in public health crises (Han et al., 2021), we find that it is common for the Scandinavian health experts to communicate uncertainty explicitly.

In a Danish interview, for instance, the Director General of DMA is asked by the journalist how he can be certain that the apparatus that controls the effects and consequences of the vaccines is good enough. The Director General says:

- (20) I cannot be 100 percent certain; I can tell you that. One can never be certain when it comes to the field of medicine and human beings. Nothing is 100 percent certain. (Director General, DMA *Deadline*, November 28, 2020)

Similarly, when the Director General of NDH in a debate is confronted with a national change in strategy, he openly admits lack of knowledge about how the pandemic will develop and how one should combat it:

- (21) Well, we just have to admit that we are learning during this pandemic. Continuously, new knowledge appears, which forces us to change the way we think. (Director General, NDH, *Debatten*, March 24, 2020)

This kind of open admission of uncertainty and ignorance is frequent, especially in the initial phase of the pandemic, with experts saying: “We also do not know much about immunity against this virus” (Department Director, NIPH, *Debatten*, February 27, 2020, Norway); “We know nothing for certain” (Director General, NIPH, *Debatten*, April 7, 2020, Norway); “We know very little about where they actually get the virus” (assistant director, NDH, *Dagsnytt 18*, April 20, 2021, Norway); “We do not know this for certain” (Director General, NIPH, *Debatten*, March 2, 2021, Norway); “As a matter of fact, we know very little about what the total effects of these measures will be” (State epidemiologist, PHAS, *Agenda*, March 7, 2021, Sweden).

On the one hand, our material reveals frequent admissions of uncertainty and ignorance. On the other hand, such admission is almost always followed by rhetorical delimitation and qualification. This is evident in the quotes from the Director General of DMA and the Director General of NDH. In the first case, the expert qualifies by saying that “Nothing is 100% certain”, implying that we cannot expect him to know what cannot be known. In the second case, the expert qualifies by saying that he and his colleagues are actively learning and gathering knowledge, implying his expert authority this way.

5.4.2 *Rhetorical Strategies for Qualifying Uncertainty*

We agree that openness about uncertainty and lack of knowledge may bolster the expert ethos, because it demonstrates vulnerability, and thus contributes to an ethos of honesty (e.g. Goodwin & Dahlstrom, 2014). However, as suggested, we find that these admissions are usually followed by rhetoric that limits and qualifies the uncertainty and ignorance. Our material provided hardly any examples of unconditional and unlimited openness about the lack of knowledge. In the following part, we explain

how the experts rhetorically limit and qualify uncertainty and ignorance, through six types of rhetorical strategies.

5.4.2.1 Expressing Fellow Scientific Uncertainty

The first rhetorical strategy limiting uncertainty and strengthening ethos is *expressing fellow scientific uncertainty*. This is done by saying that other experts and countries are also uncertain, which is a rhetorical explication of the “consistency premise” in the argument scheme of expert opinion. This premise states that the claim of the expert: “is consistent with what other experts assess” (Walton et al., 2008, p. 20). This strategy supports the experts’ claims and bolsters their competence and ethos of expertise by arguing that the national experts know as much as experts in other countries and places. It is an ethos building strategy that works by connecting the expert to a wider expert community or network (Hartelius, 2011).

When the journalist asks the Director General if the official stance of NIPH is that the Norwegian borders can reopen without an increase in infectious cases she responds:

- (22) No, not the travel restrictions and closing of the borders. We have questioned these measures. And there is reason to do so. And we are not alone about that. The European Centre for Disease Prevention and Control does the same, as have many other countries. (Director General, NIPH, *Debatten*, March 24, 2020)

She acknowledges a lack of certainty and admits that they are questioning the measures. By saying that a multinational scientific organisation, The European Centre for Disease Prevention and Control, acts in the same way, she connects to their actions and associates herself with their ethos. The move bolsters her ethos of expertise, by implying that when a respected organization is equally uncertain, her uncertainty should not affect her ethos. The reasoning can be rendered like this:

- There is uncertainty/we do not know
 Other experts are equally uncertain
 Since we know as much as other experts, we remain trustworthy and credible

5.4.2.2 Claiming Certainty Impossible

The second rhetorical strategy that bolsters the expert’s ethos, does not actually limit uncertainty. On the contrary, this strategy claims that it is not possible to obtain certainty in the field in question. If it is not possible to know something for sure, then one cannot blame the expert, nor anyone else, for not knowing. One example of this is the above-mentioned case where the Director General of the DMA states that “One can never be certain when it comes to the field of medicine and human beings. Nothing is 100 percent certain” (*Deadline*, November 28, 2020). In this statement lies an assumption that uncertainty is immanent in medicine and human beings. Of course, in medicine and epidemics, there are things one can know for sure. However,

in our material such claims are never questioned, and by presenting them, the Director General disarms any potential criticism of his uncertainty or ignorance. The strategy can be expressed like this:

There is uncertainty/we do not know
 However, it is not possible to know for certain
 Since we cannot be expected to know what cannot be known for certain, we remain credible and authoritative experts

5.4.2.3 Claiming to Know What is Possible to Know

Admitting uncertainty about issues where certainty is impossible, may seem meaningless or imply that expertise is irrelevant. However, such interpretations can be avoided by claiming that although certainty is unattainable, the experts have all *possible* knowledge or the *best* possible knowledge. This is the third strategy: *Claiming to know what is possible to know* in the situation and concerning the issue at hand. An example of this is when the Director General of NIPH says:

(23) We did not recommend closing schools and nurseries, but as others have already pointed out: This measure is associated with much uncertainty, and the scientific basis is weak. We believe that we made a strong expert assessment, to the best of our professional judgement, based on the available knowledge. (Director General, NIPH, *Debatten*, May 7, 2020)

With this kind of rhetorical work, the public is invited to trust the expert more than the evidence, as the evidence is insufficient.

Another example is from *Debatten* (Norway, March 24, 2020) when the journalist claims that the Norwegian Government, NIPH and NDH communicate different messages and advice, thereby creating uncertainty and doubt about the authorities' measures. In response, the Director General of the NIPH says that she still finds it better to be open about the uncertainties and that the three entities should not stop discussing the measures between themselves and being open about the problematic sides. The Director General of the NDH supports her by saying: "I do not really have a comment to that, but I would like to say that I think that it is good that the [NIPH] *is grounded on the best of knowledge.*" (our italics)

The reasoning of this strategy can be expressed like this:
 There is uncertainty/we do not know
 However, we know what is possible to know in the situation and concerning the issue at hand
 Thus, we remain credible and authoritative experts

5.4.2.4 Conditioning the Uncertainty

The fourth kind of rhetorical strategy is *conditioning the uncertainty*, where the uncertainty is reduced by specifying the conditions for what is known and what is unknown, and what can be expected to happen under certain conditions.

One way this is done is to move from general uncertainty to specific instances of certainty. When asked “Are you sure that one can contain the mutated version of the virus?” the department head from SSI responds:

- (24) We have seen 12 incidents of this variety and we have seen one outside Region Nordjylland. It is true that we cannot rule out that there may be chains of infection, which have begun other places, among other things the one we call Cluster 1, which came with a bus from Nordjylland to Bornholm [...], however the likelihood of chains of infection are very small, because we continuously take samples around the country, which we analyse, and we have not found this mink-type, in the last few weeks. (Department head, SSI, *Deadline*, November 5, 2020)

Much rhetorical work is done in this excerpt, however, most relevant here is the move from the general to the specific. Because it is impossible to provide a general answer with certainty (yes/no we can/not contain the virus), the SSI-representative instead shares detailed information about factual knowledge and maintains that because samples are being taken it appears that the mutated type is not spreading.

Another way to condition an uncertainty is to be specific about what an otherwise uncertain development depends on. In a Norwegian debate the journalist asks the Director General of NIPH: “How many deaths may be prevented if the Norwegian Government changes their strategy for vaccine distribution” (*Debatten*, March 2, 2021)? The Director General answers: “We don’t know that for sure. We are uncertain about how much we will prevent, because it depends on the disease outbreak situation” (*Debatten*, March 2, 2021). While admitting uncertainty, the Director General still provides knowledge in mentioning the conditioning circumstances.

A third way of qualifying the uncertainty through conditioning, is by shifting the attention from the field of uncertainty to a different field or aspect, where the experts *do* have knowledge, where they are certain. This is not necessarily a move from a general to a specific level, but rather a move between two more or less parallel levels. In a debate about a rise in infections due to young people’s partying in parks, the Assistant Director of NDH says:

- (25) The big challenge with this pandemic is that we do know about those who are infected at home, because someone in their family brings the infection home. But we know very little about where they catch the infection. (Assistant director, NDH, *Dagsnytt 18*, April 20, 2021)

The journalist follows up with: “But you do know how the virus behaves outdoors versus indoors?” The director continues:

- (26) Exactly. So, the reason why we still recommend these things is that we do know about droplet infection and airborne infection, and how it works and what it takes. There has been a lot of research [*in this field*], so that is our point of departure when we assess the infection risks. (Assistant director, NDH, *Dagsnytt 18*, April 20, 2021)

In this case it is the journalist who helps the expert by shifting the focus from what he does not know, to what he does know, allowing him to justify the experts’ recommendations, and support them with certainty and science. The reasoning in these conditioning strategies may be displayed as follows:

There is uncertainty about/we do not know that
 However, we do know this
 Thus, we still have expert knowledge, and remain credible and authoritative
 experts

5.4.2.5 Resorting to Exclusive Expert Information

The fifth rhetorical strategy works to bolster the ethos of expertise after acknowledging uncertainty is *resorting to exclusive expert information*. Here the expert refers to research, evidence, information, and studies that the television viewers and the citizens in general cannot be expected to have access to. This strategy works by reassuring that the experts indeed have knowledge and access to relevant and important information. The strategy is often accompanied by the use of common nouns or general or abstract use of words such as “evidence”, “studies”, “information”, “knowledge” and the like. This is then put forward in a way that presupposes that the experts form their knowledge and base their decisions on such information and evidence. Presupposing its existence and use, deprives the public of access to this information and evidence and relieves the expert from producing documentation, providing further support, or from elaborate argumentation. In a debate on the effect of the strike-down strategy, the Director General of NIPH says: “We are very uncertain about this, and so are those who support it. Some are really enthusiastic, but how should I put it, the *existing evidence* is very new” (italics added) (*Debatten*, March 24, 2020). Here, she indicates that she and her Institute base their decisions on “existing evidence”, however, she says nothing about what this evidence is. Her comment is also an example of *expressing fellow scientific uncertainty*, because she explicitly says that other experts are also unsure.

As with the other five strategies, resorting to exclusive expert information can be used to support both sides of an issue, for instance the use of surgical masks. In a debate interview on Swedish television, the State epidemiologist defends his advice to not enact more or stricter measures by saying: “in the legislation for Swedish healthcare it actually says that it is based on scientific supported research” (State epidemiologist, *Agenda*, January 17, 2021), thereby insisting, postulating, that the advice and measures are based on science, thus bolstering his own ethos. After this, he is confronted with his advice for not recommending the use of masks in public. When asked for scientific support for possible negative effects of mask use, he says:

- (27) ... there is rather bad research in this area. Jefferson – one of the real big ones in this area who has done a lot of comparative work – pointed out in the beginning that it is almost embarrassingly bad with studies about the use of surgical masks in society. (State epidemiologist, *Agenda*, January 17, 2021)

Resorting to exclusive expert information is similar to the argumentation scheme *argument from expert opinion* (Walton, 1997; Walton et al., 2008), but the appeal is broader, aiming more generally, and often vaguely, at suggesting that information exists and I, the expert, know about it, so you may trust me. In this sense it is a *rhetoric of deference*, as described by Hartelius (2011), because it does not invite participation

in thinking, or action, but expects the audience to acquiesce to the expertise of the health authority representative. The reasoning in the appeal may be expressed in this way:

There is uncertainty about/we do not know
 However, we have access to exclusive expert information
 Thus, you may trust us, and we remain credible and authoritative experts

5.4.2.6 Demonstrating Active Knowledge Seeking and Situational Adaption

The sixth rhetorical strategy for dealing with uncertainty, is *demonstrating active knowledge seeking*, where the experts express that they are in the process of acquiring knowledge and more certainty. In the Danish program *Deadline* (May 4, 2020), for instance, Head of department at SSI says “Well, one discovers something new all the time [...] constantly these types of information appear, which surprises you”. In a Norwegian interview (*Debatten*, April 7, 2020), the Director General of NIPH says: “More empirical material will come”, “We will pay attention to this”, and assures that they will “pay attention to the development of knowledge.”

Similarly, the already mentioned example with the Director General of NDH (see 4.1.) also demonstrates how an expert qualifies ignorance by demonstrating active knowledge seeking. When asked by the moderator why the health authorities are changing the strategy from “slow down” to “strike down”, the Director General first admitted ignorance and being in a learning process (see 4.1), and then qualified this uncertainty by saying:

- (28) There was an analysis from Imperial College in Great Britain, which probably changed much of the ways of thinking in the Western world, and which many places lead to a strategy which is much more clearly about striking down. It is true that we did communicate slowing down, but we also said stopping it, some time ago. And it is true that we at a certain point saw bigger problems with shutting down schools than keeping them open. However, that changed gradually as the picture in Norway changed and we obtained documentation that we had roaming virus among the population. (Director General, NDH, *Debatten*, March 24, 2020)

The Director General demonstrates that he and his colleagues are following the situation closely and have access to scientific knowledge. He admits that strategies have changed, but that is due to two types of new knowledge: (1) Changes in how society is influenced (“the picture in Norway changed”), and (2) New scientific knowledge about the virus (Imperial College and “obtained documentation”). Thus, the admission of initial uncertainty and ignorance is followed by a demonstration of active knowledge seeking and situational adaption, in which the reasoning may be expressed like this:

If situations change or new knowledge becomes available, it is sensible to change strategy
 The situation has changed, and new information is available

Therefore, it makes sense to change strategy

This is also an ethos-bolstering strategy, because it shows that the experts are rationally following sensible strategies and are informed about both the situation on the ground and the relevant scientific results.

This strategy is also used by the Swedish State epidemiologist who frequently expressed that he and his institution is following the situation closely and adapts: “Of course, we are following the situation closely”, “We are working closely with the different regions and follow the development there”, “We need to continue what we have been good at all along: finding the places where there are risks, and lock them down”, “As I have said, we are paying attention all the time; we have considered restrictions as late as the other day” (State epidemiologist, *Agenda*, March 7, 2021). Such demonstration of continuous and active adapting to the situation appears especially important for the Swedish expert, because the Swedish strategy has been accused of being too passive (Bjørkdahl et al., 2021; Johansson & Vigsø, 2021). Through this type of rhetorical work, the epidemiologist can still appear as an expert on the offensive.

In short, the ethos-bolstering strategy of demonstrating active knowledge seeking and situational adaption can be expressed like this:

There is uncertainty/we do not know

However, we are actively seeking information and adapting to the situation

Thus, we remain credible and authoritative experts

5.5 Uncertainty as an Argument for Action – and for Ethos Building

Section four above has demonstrated how specific ways of introducing and dealing with uncertainty relates to ethos. In some cases, however, uncertainty itself is used as an argument for specific measures and actions. This position is evident in much of our material, where health representatives state that because our knowledge is uncertain, we need to follow a *principle of caution*. This *precautionary principle* holds that since we cannot know for sure, we should not take the risk. We also know this as the common place (*locus communes*) (cf. Curtius, 1953) “better to be safe, than sorry”. The precautionary principle, then, is an argument scheme, a rhetorical topos. This topos, however, may be used to argue for contrasting positions. Mostly it is used to argue for stronger measures: Since we cannot know for sure, we should lock down and urge people to use face masks. In a Swedish debate interview a reporter confronts the Swedish State epidemiologist with this argument (cf. 4.2.5). She asks the epidemiologist, who has refrained from recommending use of masks in public, that even though he believes that masks only have a marginal effect, wouldn’t it be a good precautionary measure to advice the use anyway? The epidemiologist responds:

- (29) Yes, however, the precautionary principle is not just one-sided. One also must consider whether the introduction of these measures will have negative effects. It is equally important in a precautionary principle, that one does not introduce things that may cause harm in different ways. (State epidemiologist, PHAS, *Agenda*, January 17, 2021)

Here the argument is the opposite: Since we cannot know for sure if the use of masks will cause harm, we should not advise such use in public. Thus, experts may agree that it is better to be on the safe side but disagree about which side is the safe side.

We find a similar example when the Director General of NIPH says in a debate (*Debatten*, March 24, 2020) that we do not know which strategy will be the best, she warrants the health authorities' course of action, which is to gain time, to wait and see how it turns out, and she continues: "But I think nobody wants to stake everything on one strategy now". By arguing that *nobody* would put peoples' health and lives at stake by following just one strategy, she implies that the health authorities are acting in a morally good way, because *anyone* would do the same based on the current state of knowledge.

In the mentioned instances, the topos of the *precautionary principle* demonstrates a certain *ethos*, because it says something about the character of the person using it. We might say that there is a rhetorical move from competence (phronesis) towards character (arete) and good will (eunoia) (McCroskey & Young, 1981). This rhetorical move (advancing arguments based on the argument scheme for the "precautionary principle") is also connected to experts building their expertise based on either "deference" or "participation" (Hartelius, 2011). Experts constituting "uncertainty" as calculated probability "keep the public at a distance from any decision-making process" (Walker, 2013, p. 111), putting themselves in the position of Walker's "aloof expert" requiring *deference* (Hartelius, 2011). When applying the precautionary principle, however, the experts put themselves in the position of an expert inviting participation (Hartelius, 2011). We argue that this is an invitation to participate in *moral* considerations rather than in the knowledge seeking process, thus providing a site for public participation, while retaining their position as credible experts (Walker, 2013, p. 104; cf. part 2 above). By using the precautionary principle, the experts move from scientific *uncertainty* to moral certainty (Walker, 2013, p. 104; cf. part 2 above). Even if the experts do not have absolute scientific certainty, they know how to act for the public good, they *can* make good moral evaluations.

The public, on the other hand, cannot be expected to, even should not, participate in scholarly discussions about scientific uncertainty, since the most important information is exclusive to experts (4.2.5), who are actively seeking knowledge (4.2.6), who know the conditions for the scientific knowledge (4.2.4), and understand what can and cannot be known (4.2.1–4.2.3). However, the public can be expected to participate in debates on moral uncertainty, since morality belongs to all, and everyone can be expected to have insight in these matters. Thus, moving from scientific uncertainty to moral certainty bolsters the *ethos* of the expert, because it positions the expert as a person of good character (arete) that attributes the public the same moral qualities (eunoia).

5.6 Conclusion

As mentioned, the national experts in this study are characterized by having both *cognitive* and *administrative authority*. They are not only knowledgeable (cognitive); they also have responsibility by either providing political authorities advice for measures and policies, or by implementing these (administrative). The experts' administrative authority affects their attributed trust in general, as well as the attributed credibility in the specific rhetorical exchanges they engage in, such as the debates and interviews we study.

We have shown two ways that the experts introduce uncertainty and ignorance (1. *suggesting*, and 2. *open admission*), and six ways the experts delimit and qualify such uncertainty through rhetorical strategies of bolstering their ethos. It is such bolstering of ethos that invites the public to accept the advice and measures of the national experts in relation to the pandemic. The experts work rhetorically in two spheres of uncertainty: one is the general uncertainty of the pandemic situation the other is the admitted uncertainty (i.e. lack of certainty in knowledge) of the experts. In this situation the ethos of expertise itself becomes an argument. Even though there is uncertainty and lack of knowledge, we *should* listen to the experts, because their uncertainty is limited, conditioned and contingent: They are actively seeking knowledge and adapting to the situation (4.2.6), they have access to exclusive expert information (4.2.5), they are aware of the conditions for what is known and what is unknown, and what can be expected to happen (4.2.4), they know what is possible to know in the situation (4.2.3), and they work in a field and a situation where full certainty cannot always be reached (4.2.2), which is a circumstance they share with other experts around the world (4.2.1). Thus, they must know best amidst all this general uncertainty.

Furthermore, under these circumstances, the expression of uncertainty and ignorance may itself support an ethos of expertise, because awareness of uncertainty and ignorance may be taken as a sign of competence (*phronesis*). While ignorance in general can be tied to an epistemological position of *not knowing what you do not know*, the rhetorical situation of the COVID-19 pandemic, seen from the health expert's perspective, also includes awareness of what you do not know, which we may call *known ignorance*. This is relevant because expressing with certainty what we know to be uncertain is a way to both express certainty and bolster ethos. It is also relevant because the health experts we have studied here must provide advice and propose measures in spite of both the general uncertainty of the situation and their acknowledged lack of knowledge. To do so well, a conscious awareness of uncertainty and ignorance is essential. Finally, when the experts rhetorically move from scientific uncertainty to moral certainty, they demonstrate character (*arete*) and good will (*eunoia*), because this move invites the public to participate in deliberations about measures and policies. At the same time the experts preserve their ethos of scientific expertise, because even though they inform the public about the scientific and situational circumstances, the experts are still in a privileged epistemological position to determine the possible ways of action in a situation of uncertainty.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology). The chapter/article is developed and written within the project *Pandemic Rhetoric*, funded by the Norwegian Research Council.

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Chapter 6

On Arguments from Ignorance in Policy-Making



Corina Andone and José Alfonso Lomelí Hernández

Abstract “Schools should remain open during the COVID-19 pandemic, because there is no evidence indicating that children can get the virus.” Many European policy-makers have employed such arguments from ignorance to argue for a course of action in a situation in which science lacked vital information. What is particularly challenging about such arguments is that, despite the ignorance involved, they are used to justify policies meant to deal with practical problems. Limited information (‘there is no evidence indicating that children can get the virus’) is used as a basis for decision-making that might have significant consequences for the population (‘schools should remain open’). This chapter explains the intricate but unavoidable relationship between arguments from ignorance and policy-making. Moreover, evaluation criteria are developed to distinguish between reasonable and unreasonable arguments from ignorance in policy-making by taking into consideration the structure of these argument types and their contexts of application. Finally, the chapter assesses two real-life instances of arguments from ignorance employed by the European Commission and the European Center for Disease Prevention and Control during the COVID-19 pandemic. Such an assessment sets important steps in understanding how arguments from ignorance can facilitate or reduce acceptance of the measures proposed by policy-makers.

Keywords Arguments from ignorance · Policy-making · Risk · Uncertainty

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6.1 Introduction

Policy-makers are oftentimes confronted with situations of high risk and uncertainty in which key evidence for decision-making is lacking. Such situations pose particularly difficult challenges, because the absence of vital information makes it very difficult to handle appropriately the problems at issue. A few prominent examples of such situations include the emergence of bovine spongiform encephalopathy (BSE) in the United Kingdom (mad cow disease), the Ebola outbreak in several countries, and the most recent case of the COVID-19 (coronavirus) pandemic. In such cases, the only certainties for policy-makers are the high risks and the possible devastating consequences for society at large in the short and long term.

Notwithstanding the lack of a strong scientific basis, the threats posed by unexpected situations constrain policy-makers to take decisions against the backdrop of uncertainty. Decision-makers need to adopt certain measures by relying on ‘no scientific evidence’ (Cummings, 2010: 125) or otherwise the consequences for inaction may be catastrophic (Cummings, 2010: 57). Even if no evidence is available, policy-makers have to decide that certain behaviors should be adopted (such as maintaining distance from one another), that certain measures need to be imposed (such as a curfew after 21.00 h.), or that some things are allowed (such as young children going to school). A paradoxical situation emerges between scientific evidence and policy-making. Although science cannot provide conclusive evidence about the risks involved, policy-makers still appeal to it for finding certainty (cf. van Asselt & Vos, 2006; Weingart, 1999).

In turn, scientists involved in research during uncertain situations attempt to provide a strong basis for political decision-making. Despite the obvious situational limitations, they have to assess risks and form judgments in the same contexts of paramount vagueness, while being pressured by policy-makers’ requests for information to implement urgent policies to address the risks posed by the novel situations.

The synergy between policy-makers and scientists, although desirable, may come at the expense of being wrong. When policy-makers justify their decisions, they employ what are known as ‘arguments from ignorance’ (Cummings, 2010; Hinton, 2018; Robinson, 1971; Walton, 1996). What is particularly paradoxical about such arguments is that, despite the ignorance involved, they are used to justify specific policies meant to deal with practical problems. For example, during the emergence of the COVID-19 pandemic in 2020, no evidence had been found that the coronavirus transmits to children up to the age of 12. Based on that, policy-makers in some countries, such as the Netherlands and Denmark, concluded at the start of the pandemic that it was safe for children to play together outside and even go back to school. In this example, an argument from ignorance on the scientists’ side provided the basis for a political decision, authorizing something with significant consequences for the population.

While expert advice has become an undeniable fact of modern-day policymaking (cf. Andone & Hernández, 2019), the precise interaction between science and policy-making in situations of risk and uncertainty is insufficiently studied, let alone fully explained. The use of arguments from ignorance for policy-making is very much different from situations where scientific information based on ‘no evidence’ is used for technical decision-making, such as in clinical medicine (Parkhurst, 2017). In such situations, as we will explain in Sect. 6.2, the absence of evidence is taken as a fact in the area of concern, while policy-making is about values and preferences, choices between different options, and regulation between conflicts and cooperation. It is therefore important to clarify and explain the policy-science interface in cases where no evidence is available. This paper aims to contribute to current debates on the connection between arguments from ignorance and policy-making by answering three questions:

- (i) What is the connection between arguments from ignorance and policy-making?
- (ii) How can we distinguish between reasonable and unreasonable uses of arguments from ignorance in policy-making?
- (iii) How can we evaluate real-life examples containing arguments from ignorance in policy-making?

In Sect. 6.2, we will explain an unavoidable tension between science and policy-making that needs to be addressed to make progress in decision-making. Such tension involves an obligation for policy-makers to employ arguments from ignorance for precautionary reasons. In Sect. 6.3, we will discuss the forms, roles, and effects of arguments from ignorance when they are employed by policy-makers in situations of uncertainty. We will present four criteria that can be applied to distinguish reasonable from unreasonable arguments from ignorance, pointing out that unreasonable uses of these arguments can lead to impaired measures or even dangerous ones. Finally, in Sect. 6.4 we will evaluate two real-life examples of arguments from ignorance employed by the European Commission and the European Center for Disease Prevention and Control. Such an assessment sets important steps in understanding how arguments from ignorance can facilitate or reduce acceptance of the measures proposed by policy-makers.

6.2 Arguments from Ignorance in Policy-Making: A Forced Marriage

The use of scientific knowledge by policy-makers has become a fact in today’s society, even in cases in which the quality of science is very much contested (Parkhurst, 2017). Scientific evidence matters for policy-making to such an extent that it is considered

unreasonable not to base important social policies on it.¹ The use of scientific insights makes policy-making arguably more objective by offering insights on causal questions, and for making plausible predictions about the future (Montuschi, 2017: 57). A good illustration of this idea is present in UNICEF's advocacy toolkit stating that 'evidence for advocacy *provides credibility and authority* to the organization, allowing us *to convince* decision makers to support an issue' (UNICEF, 2010: 11) (our italics). The same idea is rendered by the European Food Safety Agency (EFSA) in its 'Guidance on communication of uncertainty' (2018) in which it is explained how the agency acts as "a scientific source of advice [...] to *improve* consumer *confidence*" (EFSA, 2019: 11) (our italics).

There has been a large interest among scholars in the use of evidence for public policy-making. However, most work on the subject has failed to engage with the use of claims based on arguments from ignorance which are so commonly employed in novel situations of high uncertainty (cf. Cummings, 2015, 2020, EFSA, 2019). These claims are part and parcel of policy-making when no knowledge is yet available for decision-making, both in cases of uncertainty regarding technological risks (e.g. 5G) and natural risks (e.g., BSE, COVID-19) (cf. EFSA, 2019: 14).

As science raises questions, gives answers, and informs policy-making, searching for confirming evidence is not the entire story. One also needs to look for the lack of evidence to enable decision-making (cf. Montuschi, 2017). After all, science does not provide advice to policy-makers only on the basis of corroborating evidence, but also on the basis of lack of evidence.² In other words, one should err on the side of caution: although strong scientific evidence on causal relations might be lacking, policy-makers should adopt measures to prevent the occurrence of certain risks, and they have to do it in anticipation of further risks. Only in this way science can provide appropriate grounds for deliberating about what a situation might be or whether taking a course of action is worthwhile at all. As Boyd (2013: 1) explains, "strictly speaking, the role of science should be to provide information to those having to make decisions, including the public, and to *ensure that the uncertainties around that information are made clear*" (our italics).

Boyd (2013: 2) also points out that "the world does not stop at the point where scientific certainty ends, and *those implementing policy usually have no choice but to continue making decisions and implementing actions when there is scientific uncertainty*" (our italics). That is, regardless of the lack of evidence and uncertainty, policy-makers still have to make decisions. The more so as political concerns are not purely

¹ The European Court of Justice (ECJ) has gone so far as consistently obliging Member States to base their views on international scientific research, in particular in the case of technical reports and the like (see Case 178/84, *Commission v. Germany (Reinheitsgebot)* (1987) ECR 1227). The Amsterdam Treaty, in the aftermath of the BSE crisis, has imposed an obligation on the European Commission to take account of "any new development based on scientific facts" ((Art. 95(3)); cf. also Vos, 2000: 236). Obviously, science alone cannot provide all solutions (cf. case C-331/88, *Fedesa*, at 4062. Case C-84/94, *United Kingdom v. Council* (1998) ECR I-5755).

² This idea coincides with the precautionary principle explicitly introduced in the Maastricht Treaty regarding environmental policies, which has later been extended to other policy fields (cf. Vos, 2000: 241, Weimer, 2019). In Case C-180/96, [1998] ECR I-2265, para. 99, ECJ held that "[w]here there is uncertainty as to the existence or extent of risks to human health, the institutions may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent."

based on science, but also on legal, economic, ethical, and other practical considerations, all of which play a role in the decision-making process. Multiple competing social values and trade-offs are involved in policy-making (Parkhurst, 2017: 5), which go beyond what science offers as evidence for decision-making, particularly in the case of highly contested issues, where multiple concerns are at stake simultaneously. Therefore, science itself cannot provide answers to political questions, which are inherently normative. Policy-makers carry the responsibility of deciding whether an action is needed, while protecting the public goods (such as public health) throughout the decision process (cf. the case of Covid-19 discussed by Paces & Weimer, 2020).

Through their use in policy-making, ‘no-evidence’ claims are employed outside the scientific field in which they were granted. In technical areas of discovery, such as medicine, biology, or technological studies, ‘no-evidence’ claims point at facts. If there is no evidence that a certain effect occurs, the absence of evidence is taken as a fact in the area of concern. But using scientific insights for policy-making oftentimes raises concerns and challenges for objectivity, if only because policy-making is about values and preferences, choices between different options, and regulation between conflicts and cooperation. While scientific information remains uncertain in some issues, policy-makers can exploit this uncertainty to the extent of presenting the absence of a certain effect as proof for the truth or falsity of a certain decision. On that basis, politicians might draw different conclusions according to their own preferences. Since policy-making involves competition between different political interests, this fact is fundamental for understanding that the ultimate goal for some political actors is personal success (cf. Parkhurst, 2017: 66).

Parkhurst (2017: 19) points at this type of situations as confusing certainty of an effect (the certainty that something is not the case or will not lead to something) with desirability of an outcome. Take for instance, the previous example in which policy-makers decided that children may go to school during the COVID-19 pandemic, because there was no evidence that they could get the virus. There was much pressure from various stakeholders to allow children to go back to school rather than staying with their parents who were obliged to work from home. Little if any criticism was raised to governments about what ‘no-evidence’ actually meant. Some critics pointed out that no-evidence could arise simply because little research on the subject has been carried out, or because the research that had been carried out in such a way that internal and external validity were compromised. In other words, scientific claims based on arguments from ignorance can be strategically manipulated to justify a desired conclusion.

However, scientific insights, including those revealing ‘no-evidence’ are used to help policy-makers decide what to do in situations of risk and uncertainty. Such insights are considered in areas of practical concern (Montuschi, 2017) resulting ultimately in political decisions. Although those decisions are inherently based on values and preferences, since politics is guided by such characteristics, they cannot be avoided in pressing circumstances. At best, those decisions will be justified by taking into consideration both scientific insights and the values invoked by different stakeholders. In any case, politicians must justify their decisions ultimately on arguments.

6.3 Form and Contexts of Arguments from Ignorance

6.3.1 Form of Arguments from Ignorance

In argumentation theory, an argument is a constellation of propositions advanced to convince a reasonable critic about the acceptability of a standpoint (cf. Van Eemeren, 2018: 3). The acceptability of certain propositions is presented as a sufficient reason for accepting a disputed standpoint, and for this reason, no argumentative discussion can be successful without having acceptable propositions. The emphasis on acceptability is the reason why inconclusive and disputable propositions are avoided as much as possible in a discussion.

However, discussants often rely on limited, partial, or even complete lack of information when engaging in a discussion. In the specific case of arguments from ignorance, a descriptive standpoint (according to which P or $No-P$ are a fact³) is said to be acceptable by pointing at a certain epistemic gap. More specifically, someone is expected to believe something on the basis of having insufficient or no evidence for the opposite proposition.⁴ For example, “There is no malaria in the country, because no residents with the disease were found.” In this example, the absence of evidence confirming the presence of malaria is advanced as a reason for believing that malaria is not present in a certain country. Put in a nutshell, the structure of arguments from ignorance⁵ is the following (Fig. 6.1).

	Version 1	Version 2
Descriptive standpoint	P	$No-P$
Argument	There is no evidence for $No-P$	There is no evidence for P

Fig. 6.1 Form of arguments from ignorance

³ We refer to a descriptive standpoint following van Eemeren et al. (2007: 37) as expressing a proposition describing a fact.

⁴ There is a distinction regarding ‘no evidence’ claims in argumentative situations. On the one hand, ‘no evidence’ claims can be used to attack an opponent’s argumentation (‘you have no evidence for what you say’ = ‘what you say is false’). This use results from the dialectical nature of argumentation in which discussants confront their views by doubting or attacking each other’s argumentation. On the other hand, ‘no evidence’ claims can be used to support one’s own standpoint. This use refers to the inferential relation between arguments and a standpoint, and is known in the literature as ‘*argumentum ad ignorantiam*.’ We discuss the second kind of ‘no evidence’ claims throughout the paper. We thank Dima Mohammed and Henrike Jansen for pointing out to us the distinction.

⁵ Cummings (2002) distinguishes between arguments from ignorance in which there is a ‘no-evidence’ premise (just like in our own conceptualization of such arguments), and arguments from ignorance based on a ‘no reason’ premise (‘there is no reason to believe that children are more

Arguments from ignorance give support to standpoints indirectly (Walton, 1992). One example is the presumption of innocence in legal systems. In these cases, the innocence of an accused is granted until proven the opposite. The absence of incriminatory evidence gives support indirectly to the contrary proposition: the accused is innocent. Apart from legal contexts, arguments from ignorance also take place in the scientific domain. For example, an animal species is considered extinct after no specimen has been found in its ecosystem. In this case, the unsuccessful attempt of finding a specimen over a period of time is taken as an indirect proof that the species has become extinct. As can be seen from these two examples, the overall quality of arguments from ignorance largely depends on the relevant inquiry that must be conducted for the case at hand. Both in the case of the accused person and the case of the extinct species, the justification for the standpoint is as robust as exhaustive the inquiry is. It goes without saying that the inquiry in each case demands different procedures and reliability standards, but in all cases the point is the same: if a reliable and extensive inquiry has been carried out to confirm proposition *P* and the attempt was unsuccessful, the failure of confirmation is advanced as justification for *No-P* or vice versa.

6.3.2 *Fallacious Versus Reasonable Arguments from Ignorance*

As with any other type of argument, arguments from ignorance can be fallacious or reasonable depending on whether they are conducive to support the tenability of a standpoint in view of reasonableness standards or not. Intuitively, it is easy to say why arguments from ignorance can be fallacious: they bring no direct justification for believing something. Lack of proof or evidence for a proposition is too weak to conclude that the proposition is true or false (Copi & Cohen, 2009: 142). As scholars have pointed out (Robinson, 1971), ignorance is not the best source of knowledge; not to mention that absence of evidence does not count as evidence for an absence (Bodlović, 2019: 589). For example, one cannot reasonably believe that some product is healthy by pointing out that it has not been proven unhealthy. This example is fallacious, because it might be that the product is neither unhealthy nor healthy, and simply trivial for human well-being. Another possibility is that the procedures carried out to evaluate if the product is unhealthy are not appropriate for the matter under discussion. For example, ‘unhealthy’ could have been taken as ‘containing no toxic ingredients’. In that case, the product might be free from toxic ingredients while still containing big amounts of sugar or fat. In this situation, the

susceptible to the disease, therefore children are not more susceptible to the disease’) and ‘no scientific’ justification premise (‘there is no scientific justification for not eating beef, therefore it can be eaten by everyone’). However, we characterize arguments from ignorance as being generally based on a ‘no evidence’ premise, based on the fact that also the other two types of premises amount ultimately to ‘no evidence.’

product would be unhealthy without necessarily containing any toxic ingredients. In short, the absence of specific evidence in favor of a certain proposition does not necessarily imply that the opposite proposition holds true.⁶

To identify the fallacious version of arguments from ignorance, at least two aspects must be considered: its *logical assumptions* and its *pragmatic purposes*. Arguments from ignorance are based on two *logical assumptions*. The first one is that every proposition has a contradictory version of itself. For example, the proposition “it is raining” is in contradiction with “it is not raining”. The second assumption is that two contradictory propositions cannot be true at the same time. In logic, this is known as the non-contradiction principle (NCP) on which classical logic is based. Although developments in logic have challenged the NCP (Priest, 2002), it is widely accepted in deliberative contexts and scientific discussions that two contradictory propositions cannot simultaneously be true. In fact, the inferential process of arguments from ignorance is based on the NCP because by having two propositions to choose from and having no evidence to support one of them, the other proposition gains indirect support.

Nonetheless, the first logical assumption opens a possibility for a fallacious version of the argument. Every proposition has a contradictory version of itself, but contradiction is not the only relationship among propositions, there are also contrary propositions (Van Eemeren et al., 2007: 22).⁷ For example, “it is raining” is contrary to “it is sunny.” The difference between contrary and contradictory proposition is crucial for arguments from ignorance because contradictory propositions must have different truth values from each other (either true or false), while contrary propositions can be both false at the same time. “It is raining” and “it is sunny” are both false on a cloudy day. Since contrary propositions are just as relevant as contradictory propositions in a discussion, it is not enough to provide indirect support to (p) by discarding a contradictory proposition (\sim p) if there are contrary propositions (q) for an issue under discussion. To illustrate this point, we turn to a concrete example.

During the coronavirus pandemic in 2020, a recurrent issue among politicians was whether lockdowns were an effective measure to deal with the crisis because there were many doubts about the best available option for containing the spread of the virus. Two standpoints on this issue were (i) “Lockdowns are an effective measure to contain the pandemic,” and (\sim i) “No lockdown is an effective measure to contain the pandemic.” In this case, the absence of evidence for the effectiveness of lockdowns would have not been enough to provide indirect justification for standpoint (\sim i) because there are different variables that give rise to contrary standpoints, namely

⁶ This idea can be traced back to the traditional distinction between “mediate opposition” and “immediate opposition” of terms. Rigotti and Greco (2019: 115) explain that ‘mediate oppositions, unlike immediate ones, present intermediate values between the extremes (it is possible not to be rich without necessarily being poor). On the contrary, in immediate oppositions, the negation of the former predicate coincides with the affirmation of the latter’ (see for a concrete example and its representation, Fig. 6.4 in Rigotti and Greco (2019: 116)). We would like to thank one of the anonymous reviewers for pointing out this idea.

⁷ See also Rigotti and Greco (2019: 26–27) for a more elaborate discussion of the conceptual domain of contraries and contradictories.

(i_a) “Lockdowns are effective when imposed in due time,” (i_b) “Lockdowns are effective when the population follows the safety guidelines,” etc. To provide indirect justification for (\sim i), it would be necessary to dismiss all the relevant variables that might prove lockdowns effective, because otherwise, any attempt of justifying the standpoint indirectly would be partial, and therefore, fallacious. Put simply, it is not possible to provide indirect justification to a proposition by rejecting an opposite one if there are other relevant propositions to be considered. The indirect support that arguments from ignorance provide is appropriate only when the issue under discussion can be reducible to a yes/no question. If the issue at hand is better portrayed as an open question with possibly multiple answers, arguments from ignorance are not an appropriate way to justify a standpoint.

Let us discuss the *pragmatic purposes* of arguments from ignorance, which is the second feature that can make them fallacious. Arguments are commonly used for epistemic and pragmatic purposes (see respectively Dutilh Novaes, 2021; Walton, 2006: 299). The purpose of an argument is epistemic when the motive for having a discussion is achieving truth or another epistemic value like certainty, clarity, etc. An argument is used for pragmatic purposes when the outcome of the discussion is meant to influence or regulate a decision, behavior, or situation. According to this distinction, an epistemic discussion takes place when discussants are confronted with knowing something, and a discussion is pragmatic when they are confronted with making a decision.

The distinction between epistemic and pragmatic discussions is relevant for arguments from ignorance, because depending on the type of discussion where arguments are advanced, different reasonableness standards apply to them. Epistemic discussions paradigmatically take place in the scientific domain, while pragmatic discussions are archetypical in political deliberation. To illustrate how reasonableness standards vary from one case to another, some examples from the scientific and the political domains are presented.

Arguments from ignorance are common in science. A clear example comes from discharged patients from cancer. Cancer is diagnosed in a relatively easy way, by direct confirmation of cancerous cells (Kasivisvanathan et al., 2018; Ramaswamy et al., 2001). However, to consider the disease under control, a more elaborate procedure is required. After undertaking a cancer treatment, patients are submitted to different analyses depending on the type of cancer they had. The analyses might include X-rays, blood tests, biopsy, etc. If the result of the analyses does not show evidence of cancerous activity or cancerous cells, the patient is said to be under remission. If the situation remains the same for a specific time-lapse, the disease is assumed to be under control and patients can be discharged (Gerlach et al., 2003; Greenberg et al., 1996).

The cancer example shows that arguments from ignorance are more or less regulated in science. There are clear circumstances in which they apply, and their procedures are methodologically designed to give indirect support for a certain standpoint. Experts are trained to identify the situations in which arguments from ignorance are pertinent, and they are able to recognize the absence of evidence depending on the issue at hand. In the case of cancer, practitioners have to know which test to carry out

depending on the variety of cancer, what kind of cancerous activity must be absent in the results, and how long the time-lapse should be to assess the development of the disease. Although certainty is never achieved (the notion of remission points out that cancer might have gone unnoticed), the procedures are standardized to a greater extent and their rationale is legitimized within the field (Walton, 1996). As a result, the legitimate uses of arguments from ignorance are specified in each field of expertise.⁸ When there is doubt about the soundness of an argument due to novel situations or atypical cases, the controversies are resolved internally by appealing to the reasonableness standards of each scientific discipline. In sum, the legitimate uses of arguments from ignorance in science are determined by the methodological procedures and the scientific values of each field.

Unlike in the case of science, arguments from ignorance in policy-making are anything but standardized. One reason for this is that decision-makers not only deal with states of affairs but mainly with preferences among different choices, negotiations, emergencies, etc. Since arguments from ignorance are indispensable in policy-making, it is necessary to mention some features to distinguish their legitimate uses in deliberation.

The distinction between epistemic and pragmatic discussions becomes crucial at this point. In science, arguments from ignorance rely ultimately on probabilities and certainty is never achieved. Consequently, science—although invaluable as a source of information—cannot provide grounds to favor a certain standpoint over another in a novel situation, because the replication of events that gives strength to probabilities is absent. Policy-makers, nonetheless, are confronted with situations that demand decision-making, and therefore, they must act *as if something were the case*. Political affairs need to bridge uncertainty with concrete actions that will have tangible consequences, either appropriate for dealing with the problem at hand or not.

The crux of the matter in deliberations is what allows policy-makers to advance arguments from ignorance in the first place. One possible answer is the uncertainty of novel situations. However, this point cannot be taken for granted and it does not enable drawing conclusion indiscriminately. The first feature that arguments from ignorance must have in policy-making is an *overriding reason* to act given the uncertainty at hand. This is important because uncertainty itself is not a sufficient reason to act, in fact, it can be taken as a reason not to act. An overriding reason should explain why it is necessary to undertake a course of action in the midst of uncertainty. Thus, it must be shown that uncertainty poses a threat or opens up a valuable opportunity for society at large. For example, during the coronavirus crisis an overriding reason to act was the fact that even by doing nothing, governments were putting at risk the health of the population. In this case, there was uncertainty about its lethality, the means of containment, and the vulnerability of certain groups, but it was clear that doing nothing counted as having a stance on the issue and accepting the risks that came with it. This was an overriding reason to act during the coronavirus crisis.

⁸ For an underscoring of Walton's idea, see Zarefsky (2014: Chap. 13).

Due the nature of politics, not everyone might agree on what counts as a crisis. For this reason, policy-makers must justify whatever overriding reason they advance for taking action, which means that they have to provide justification for it. Without the presence of an overriding reason and its justification, the use of an argument from ignorance in policy-making would be fallacious because the urgency to act would not be addressed. In this line of thought, the better the justification of policy-makers for acting in a situation of emergency, the better support they gain for their position. The point of such a justification is to explain to all the relevant stakeholders what is at stake in a novel situation. This point is crucial for arguments from ignorance because the clearer the possible risks are to stakeholders, the more sense it would make to rely on these arguments, especially in cases where key information is unavailable.

Overriding reasons are important for achieving agreement on possible threats posed by novel situations, but there are cases when nobody doubts there is a crisis and the issue is how to deal with it. Even in these situations, politicians cannot draw conclusions indiscriminately about the crisis no matter how much uncertainty there might be. For example, during the coronavirus crisis, it was irresponsible for politicians to say that hydroxychloroquine was an appropriate treatment for the coronavirus (The Guardian, 7/04/2020) because such an assertion is outside their competence. The uncertainty brought by the coronavirus impacted different issues: health risks, medical treatments, economic disturbances, containment measures, etc. But the uncertainty of the coronavirus did not make everyone equally knowledgeable on those matters, in the best case it made some people even more ignorant than others. Therefore, when it comes to proposing containment measures for situations of crisis, politicians can only advance standpoints on issues relevant to their competence, that is, the administration of public resources, its logistics, and safeguarding the population. This point leads to the second feature that makes arguments from ignorance fallacious in policy-making.

Although policy-makers have to consider a wide range of matters when dealing with situations of crisis, their main standpoint must be prescriptive. A prescriptive standpoint (van Eemeren, 2018: 4) promotes or prevents a certain measure through normative expressions like “X should (not) be done,” etc. These prescriptive standpoints concern the necessary measures to contain a crisis and the appeal to ignorance must count as a reason for justifying such measures. If the argument from ignorance is used to defend a different kind of standpoint, the argument becomes fallacious, because policy-makers should not tell people what to believe in situations of uncertainty, but to decide what to do about them. In other words, the assessment of the situation is left to the people, the management of the situation is in the hands of the policy-makers. This idea is inspired by the distinction made in risk studies between risk assessment (such as the risks associated with certain products) carried out by scientists and risk management (deciding what to do about those risks) carried out by policy-makers (cf. Vos, 2000: 229, Weimer, 2019).

1	Measure <i>X</i> should be carried out	<i>Standpoint</i>
1.1a	It is necessary to take action given a risk situation <i>S</i>	<i>Overriding reason</i>
1.1a.1	Not acting <i>might result</i> in negative consequences <i>C</i>	
1.1b	<i>P</i> : Situation/object <i>p</i> has property <i>q</i>	<i>Argument from ignorance</i>
1.1b.1	There is no evidence for <i>No-P</i>	
1.1c	Measure <i>X can lead</i> to solving <i>S</i> given <i>P</i>	<i>Causal reason</i>

Fig. 6.2 Argumentation in policy-making containing an appeal to ignorance

The following figure presents the structure⁹ of pragmatic argumentation in a deliberative context in which an argument from ignorance is advanced as part of the justification. The pragmatic argument (van Eemeren, 2016) is composed of a prescriptive standpoint, an overriding reason, an argument from ignorance, and a causal reason. The course of action prescribed in the standpoint (1), is supported by coordinative argumentation: the overriding reason (1.1a and 1.1a.1) to maintain that a possible threat makes it necessary to take action to manage the risk, the argument from ignorance (1.1b and 1.1b.1) to assume that a state of affairs is true in view of the absence of evidence to confirm the contradictory proposition, and the causal reason (1.1c) to establish a connection between the measure at hand and the situation of risk in view of the state of affairs granted in the argument from ignorance (Fig. 6.2).

To sum up, arguments from ignorance are used to provide indirect support to standpoints in situations in which inconclusive or no evidence is available. Their rationale depends on the assumption that the lack of evidence for believing something provides enough grounds to believe the opposite thing. Given the intrinsic features of arguments from ignorance and the situations in which they can be used, there are some aspects that make such arguments fallacious:

- a When the argument is advanced to answer an issue that allows more than two possible answers;
- b If the argument is advanced in an epistemic context, when it does not fulfill the reasonableness standards applicable to its field of expertise;
- c If the argument is advanced in a deliberative context, when it is not accompanied by an overriding reason that explains why it is necessary to undertake an action in a situation of uncertainty, and what the available information at the time is;
- d If the argument is advanced in a deliberative context, when it supports a standpoint that is not prescriptive.

⁹ For the sake of simplicity and clarity, we use the pragma-dialectical notational system to indicate the argumentation structure.

6.4 Real-Life Examples of Arguments from Ignorance in Policy-Making

This section discusses the overall quality of two arguments from ignorance used by policy-making institutions: the European Commission and the European Center for Disease Prevention and Control. The arguments were selected from official documents issued in the context of the COVID-19 pandemic. The purpose of these documents was to keep the public informed while providing guidelines for the management of the crisis. For presentational purposes, all the arguments are reconstructed analytically, which means that only the relevant information for resolving a difference of opinion on the merits is considered (van Eemeren, 2018: 96).

6.4.1 Case 1

The first argument from ignorance appears in the food safety guidelines issued by the European Commission (EC) through the Directorate-General for Health and Food Safety. The document addresses several questions related to the risks involved in food management and production during the pandemic. One of the issues addressed in the document was the risk of getting infected from food. In this regard, the position of the EC was that “there is no evidence that food poses a risk to public health in relation to COVID-19” (European Commission, 2020: 3). This example illustrates how an argument from ignorance with an epistemic basis is used for decision-making purposes, because the risk of getting infected from food is addressed by the absence of confirming evidence. The fully-fledged argument would be ‘Food does not pose a specific risk to public health in relation to COVID-19, because there is no evidence to confirm any specific risk.’

On the basis of the argument from ignorance, the EC advised to take cautionary measures when shopping or handling food “Staff [should wear] gloves and frequently replaces them, or otherwise frequently [wash] his/her hands [...] customers in shops should not handle food other than what they intend to purchase” (European Commission, 2020: 6). The logic of these measures is that any surface might lead to indirect contamination by touching it, food included. However, advancing this line of argumentation is somehow paradoxical because the EC affirms throughout the document that no evidence had been found that food was a source or vehicle of infection, but still the EC advised to follow those measures for handling food. This misalignment in the argumentation is problematic not only because of the confusion it might produce, but also because it raises the question whether the appeal to ignorance is a legitimate one or not. In this regard, the reasonableness of the example can be tested by applying the fallaciousness criteria discussed in the previous section. For this purpose, first the reconstruction of the EC argumentation is provided in Fig. 6.3.

1	Measure 1. Staff who manipulates food should wear gloves and replace them frequently, otherwise washing their hands frequently. Measure 2. Consumers should only handle food they intend to purchase.	<i>Standpoints</i>
1.1a	(It is necessary to take cautionary measures given the COVID-19 pandemic.)	<i>Overriding reason</i>
1.1a.1	(Not acting <i>might result</i> in spreading the disease, increasing the number of hospitalizations, deaths, etc.)	
1.1b	Food does not pose a specific risk in relation to COVID-19.	<i>Argument from ignorance</i>
1.1b.1	No evidence was found to confirm that food poses any specific risk.	
1.1c	(Measures 1 and 2 <i>can lead</i> to control the pandemic given that food does not pose any specific risk in relation to COVID-19.)	<i>Causal reason</i>

Fig. 6.3 EC argumentation to justify measures related to food management

The *first criterion* to decide if an argument from ignorance is fallacious is whether the argument answers a closed question or not. In this example, the argument counts as an answer to a closed question because food either poses a specific risk in relation to COVID-19 or not, and no other option is available for that matter, so this criterion is satisfied appropriately. Since the argument was taken from an epistemic context, the EC had to show that the argument satisfied the reasonableness standards of its field of expertise, which is the *second criterion*. For this matter, the EC referred to the European Food Safety Authority (2020) to guarantee that the argument from ignorance satisfied the pertinent reasonableness standards, and therefore, the criterion is satisfied by appealing to the authority of the EFSA. The *third criterion* concerns the overriding reason which makes it necessary to rely on an argument from ignorance. In this case, the overriding reason was the pandemic itself, and the justification to act remained implicit because it was part of the background information. Since the threats of the pandemic were already clear by the time of the publication of the document, it was not necessary to explain them further. Nonetheless, the urgency of the situation was acknowledged in expressions like “the large scale of the pandemic” to refer to threats posed by the virus. Lastly, the *fourth criterion* is whether the main standpoint in the argumentation is prescriptive or not. This criterion is also satisfied, because the measures prescribed actions to safeguard public health by means of the modal “should.” Overall, it can be said that the ignorance appeal is appropriate, since the EC argumentation complies with the four criteria for using an argument from ignorance in policy-making.

Furthermore, the reconstruction of the argumentation can explain why the argumentation is somehow paradoxical. The misalignment between the recommendations and the argument from ignorance is evident in premise 1.1c in which the causal

relation is presented. If food poses no specific risk of infection, why should there be cautionary measures? This point is clarified by acknowledging that the recommendations are not additional measures related to food, but specifications of the general guidelines that were already applicable at that time. The awkwardness of suggesting cautionary measures after affirming that food involves no risk in relation to COVID-19 could have been avoided with a better presentation. For example, by saying that “No specific measures for food are necessary apart from the general guidelines concerning hand-hygiene and limiting human contact to the strictly necessary, because no evidence has been found that food poses a specific risk to public health” and then explaining what hand-hygiene and human contact involve in relation to shopping food. Therefore, this shortcoming in the EC argumentation is related to how the information was presented rather than to its reasonableness.

6.4.2 Case 2

The second example appears in a technical report issued by the European Center for Disease Prevention and Control (ECDC) on 6 August 2020. ECDC is an EU agency aimed at strengthening Europe’s defense against infectious diseases. It supports the Member States in preparing for cross-border health threats, and carries out activities such as surveillance, scientific advice, etc. The purpose of the report was to guide policy-makers on the issue of closing/opening schools during the pandemic. Since it was not clear how the virus affected children and the role they played in spreading the disease, the closure of schools was highly controversial in some countries. For this reason, it was important at the time to have a report elaborated by specialists to address this issue.

Contrarily to the previous example, the closure of schools was highly disputed in the European Union, some countries decided to close them while others kept schools open. Accordingly, there were many arguments for and against each of the positions. In view of the disagreement, the report of the ECDC had to address different issues: the risk of transmission between different groups (adults-adults, children-children, children-adult), the impact of school closures on children’s wellbeing, the impact of schools in community transmission, etc. As a result, the general argumentation of the ECDC is rather complex because it is highly technical in nature and it deals with several issues at the same time. The overall structure of the argumentation can be summarized as in Fig. 6.4.

Instead of promoting a concrete line of action, the main standpoint prevents treating schools differently from other settings. This subtlety in the standpoint impacts the entire structure of the argumentation, because it becomes an instance of the negative variant of pragmatic argumentation (van Eemeren, 2016:17). Consequently, all the other elements in the argumentation are adjusted to provide an appropriate justification to the standpoint. In the overriding component, it is stated that there is no reason to take action, because there is no causal connection to take the measure. In the same line of thought, the argument from ignorance is advanced to support the

1	Schools should not be treated differently from occupational or leisure settings.	<i>Standpoint</i>
1.1	It is not necessary to take special measures for schools in the COVID-19 pandemic.	<i>Overriding reason</i>
1.1.1a	Closing schools leads to negative effects on children's wellbeing.	<i>Causal reason</i>
1.1.1b	Closing schools does not have a significant impact on transmissions.	
1.1.1b.1	Schools are not driving COVID-19 transmission in communities.	<i>Argument from ignorance</i>
1.1.1b.1.1	There is no significant evidence that schools are driving COVID-19 transmissions in communities.	

Fig. 6.4 ECDC argumentation concerning the handling of schools

causal element in the general argumentation. This example illustrates that these four elements play a role when arguments from ignorance are advanced in deliberative contexts, regardless of the action being proscriptive instead of prescriptive.

The reasonableness of this example can also be assessed with the criteria previously presented. The *first criterion* is satisfied because the argument answers the closed question whether schools are driving COVID-19 transmissions within communities. The answer is that schools are not driving the transmission (premise 1.1.1b.1 in the reconstruction), because no significant evidence was found to confirm the opposite. The *second criterion* about fields of expertise is important in this example because the argument is epistemic in nature. The ECDC report was written by experts with the purpose of condensing all the scientific information for the issue at hand. Although it is not possible to show in this paper that the report complies with the reasonableness standards of its scientific community, it is reasonable to believe that the argumentation satisfies those standards because of the twenty-seven experts (internal and external to the ECDC) who contributed to the report with different specializations: epidemiology, virology, risk assessment, etc. The third and fourth criteria for arguments from ignorance apply in deliberative contexts. Although the ECDC report is epistemic oriented, the argumentation did not take place in a vacuum, but in the middle of a political turmoil. This is why the report also considered issues like absenteeism and parental concerns. Therefore, criteria three and four are also relevant in this case. The *third criterion* is about considering an overriding reason to act. As discussed earlier, the argumentation in this example maintains that there is no reason to act because its rationale is to prevent imposing measures on schools. In this way, the overriding element is accounted for by emphasizing that there is no reason whatsoever. Lastly, the *fourth criterion* concerns the main standpoint being prescriptive or proscriptive as in this case. Although the standpoint of the ECDC is

adequate in this regard, it is worth mentioning that its standpoint is rather cautious given the issue that had to be addressed, namely whether schools should not be closed or not. However, this point can be explained by acknowledging that the ECDC cannot establish policies by itself because its role is only to present information to policy-makers from a scientific perspective. In sum, the ECDC's argumentation is reasonable, because it is sensitive to the context where it is advanced and complies with the general structure of arguments from ignorance.

Arguments from ignorance are relatively common in policy-making, especially when uncertainty is somehow involved. The discussed examples show that arguments from ignorance can be used to promote and prevent measures in policy-making. Depending on the measure at hand, the structure of arguments from ignorance diverges to a certain extent to compensate for the nuances of each case. Nonetheless, the criteria to distinguish reasonable from fallacious argumentation remain consistent because the rationale of the argument and its conditions of applicability remain the same. The rationale of arguments from ignorance is to take a position on a two-sides issue in view of finding no evidence to support the opposite position. Their applicability conditions vary between epistemic and deliberative contexts. The former holds when the matter boils down to believing something, and the latter holds when the matter concerns decision-making. The theoretical model presented here, although neither definite nor complete, works both for analytical and evaluative purposes. It provides analytical cues by indicating which elements to look for when examining an argument from ignorance. Moreover, it is useful for evaluative purposes, because it indicates why certain elements contribute to the reasonableness of the argumentation or not.

6.5 Conclusion

In this paper, we have explained the paradoxical yet unavoidable relationship between arguments from ignorance and policy-making. We demonstrated the importance of distinguishing the reasonable variants of this form of arguing from its unreasonable counterparts, and developed four assessment criteria for dissociating the two variants in the context of policy-making. We also showed how the four criteria can be applied on two real-life cases in which arguments from ignorance are employed.

One of the main implications of this study is that a proper understanding of the use of arguments from ignorance in decision-making is vital for the potential effects entailed by the use of this argument form. The quality of policy-making can be significantly improved if account is taken of the fact that this argument type should be used in taking precautionary measures in which the lack of evidence is acknowledged in public policy. What is important is not to avoid such arguments altogether, which would actually weaken the overall reasoning in policy-making, but rather to base final decision-making on the reasonable forms of this argument type. This is particularly important in the case of decision-making in times of crisis in which urgent action is required on the part of policy-makers that is based on a

proper assessment of the risks. In assessing, managing and communicating risks, arguments from ignorance play an important part by making it clear that the absence of scientific evidence is taken into due account.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 7

The Argumentative Potential of Doubt: From Legitimate Concerns to Conspiracy Theories About COVID-19 Vaccines



Dima Mohammed and Maria Grazia Rossi

Abstract Doubt is a double-edge sword. On the one hand, uncertainty is essential for epistemic progress, and yet, doubt can also make us vulnerable to deception, confused to the point of no longer knowing what is true. What distinguishes a doubt that is epistemologically beneficial from one which is deceptive, or even manufactured in the context of a conspiracy theory? In this chapter, we explore doubt, its role, and the way it is being handled in the context of the public controversy about the COVID-19 vaccine. We approach conspiracy theories as argumentative discourses and reconstruct the generic structure of a conspiracy theory macro argument. Through the structure, we look into the discourse of the twelve prominent anti-vaxxers known as the “Disinformation Dozen”, focusing on the argumentative potential that doubt can have in the public controversy about the COVID-19 vaccine. We suggest to distinguish ambivalence from scepticism and denialism as three argumentative potentials that a motivated doubt can have. We argue that ambivalent doubt ought to be acknowledged, addressed and incorporated into the public health narrative, in order to avoid that an unnecessarily broad interpretation of conspiracy theory dominates the public debate and leaves an uncertain public a prey to it.

Keywords Argumentative potential · COVID-19 vaccine · Conspiracy theories · Public controversies

If a man, holding a belief which he was taught in childhood or persuaded of afterwards, keeps down and pushes away any doubts which arise about it in his mind, purposely avoids the reading of books and the company of men that call into question or discuss it, and regards as impious those questions which cannot easily be asked without disturbing it—the life of that man is one long sin against mankind. (Clifford 1877, p. 5).

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7.1 Introduction

In a recent study of the spread of anti-vaccine information on Facebook, researchers from George Washington University leave us with a distressing warning: the data we have today predicts that by the end of the decade, anti-vax viewpoints will become predominant (Johnson et al., 2020). The prediction is based on an analysis of the map of contention surrounding vaccines on the popular social platform. The map reveals highly dynamic interconnected clusters of anti-vaxxers, highly entangled with undecided clusters, while pro-vaccines clusters are rather peripheral. Beyond the alarming prediction, the study mirrors an equally alarming reality characterised by an explosive growth in anti-vaccination views and movements. While in principle, anti-vaccination views may be part of a healthy public debate about vaccines and public health, the growing spread of anti-vax emerges in the context of the proliferation of conspiracy theories sustained by a propagation of misinformation. As philosopher Lynch (2016) best captures it, the use of social media to spread misinformation is a “*giant shell game*”: a golden deception opportunity for propagandists. As he argues, the danger of the increasing spread of misinformation is not just that it might lead people to believe in falsehood. While that is surely disturbing, what is equally perilous is that even if you are saved from false beliefs, misinformation can at least “get you confused enough so that you don’t know what is true” (ibid). It is this power of ‘manufacturing doubt’ (Oreskes & Conway, 2010), which disinformation exercises even on the critical mind, that is most dangerous.

Indeed, doubt is a double-edge sword. On the one hand, uncertainty is an essential component in epistemic progress, and yet, doubt can also make us vulnerable to deception, confused to the point of no longer knowing what is true. Consider the difference between a scientist who designs a new experiment in order to verify an alternative hypothesis he suspects might be at play, and a politician who argues that energy policies do not need to change as long as there is still doubt that fossil fuel consumption is responsible for climate change. Or compare a patient’s doubt about the efficacy of vaccines in stopping transmission expressed in a medical consultation, or an epidemiologist’s suspicion about a potential link between a vaccine and blood clots expressed in a scientific meeting, to the doubt about the efficacy of vaccines expressed by a medical expert in a media interview. While in some cases it is rather clear that what is at stake is an expression of doubt that is benign or even epistemologically beneficiary, in other cases, the doubt seems to be rather tricky or even a typical example of a doubt manufactured in the context of a conspiracy theory.¹

In this chapter, we explore doubt, its role, and the way it is being handled in the context of the public controversy about the COVID-19 vaccine. We examine anti-vaccine conspiracy theories from an argumentative perspective and analyse the argumentative potential that doubt can have in this public health controversy. Our

¹ As a precautionary note, we would like to make it clear that the discussion of the public controversy about the COVID-19 vaccine is not intended to establish the validity of medical facts. Despite the importance of such endeavour, our focus in this chapter is rather on the functioning of doubts typical of the COVID-19 vaccine controversy in the context of conspiracy theory.

analysis shows the importance of distinguishing between the different argumentative potentials a certain doubt can have. That, we argue, is necessary for an adequate response to the growing spread of conspiracy theories.

7.2 Conspiracy Theories and the Argumentative Potential of Doubt

Broadly understood, a conspiracy theory (hereafter CT) is an alleged explanation of significant social and political events as the outcome of secret plots by two or more powerful actors (Aaronovitch, 2010; Byford, 2011; Coady, 2006; Dentith & Orr, 2018; Keeley, 2019). Following Oswald (2016, pp. 3–4), we examine conspiracy theories as argumentative objects: as communicative events that are embedded in controversy and disagreement, which intend to persuade a public of the conspiracy explanation by offering arguments in the premise-conclusion articulation. As argumentative objects, CTs have a common “argumentative profile”: they make use of “source-related fallacies (...), hasty generalisations, arguments from analogy, inductive and abductive arguments, ad ignorantiam, and shifts in the burden of proof” (Oswald, 2016, p. 14). Furthermore, post hoc ergo propter hoc arguments are also very common, with anecdotal evidence and false correlations presented as scientific facts (Stolle et al., 2020). Argumentatively, CTs are “*refutational* narratives” (Byford, 2011) constructed in opposition to an official account of events rather than in justification of the conspiratorial account proposed (Oswald, 2016; Oswald & Herman, 2016; Wood & Douglas, 2013). Typically, CT’s refutation is not much more than “the rhetoric of just asking questions” (Byford, 2011, pp. 88–93). Proponents of CTs pose questions to cast doubt on the official story (hereafter OS), focusing overly on data which the OS cannot account for and interpret the absence of answers as a cover up, a conspiracy to hide the truth (ibid; see also Stolle et al., 2020). Following Oswald’s characterisation of the argumentative profile of CTs, in this chapter, we reconstruct the generic structure of a conspiracy theory macro argument. The reconstruction is based on a qualitative meta-analysis of conspiracy theories. In it, we propose a generic structure of the reasoning that links the different premises and argument types identified in the literature on CTs (e.g. Byford, 2011; Hofstadter, 1964; Jolley & Douglas, 2014; Lewandowsky et al., 2013; Nisbet, 2009; Oswald, 2016; Stolle et al., 2020; Zagarella & Annoni, 2019).

At the macro level, the explanation of social and political events as the outcome of secret plots by two or more powerful actors (Aaronovitch, 2010; Byford, 2011; Coady, 2006; Dentith & Orr, 2018; Keeley, 2019) may be considered the ultimate conclusion of any given CT. As such, CTs can be characterised as discourses advancing the claim that a certain official story *x* is the sinister work of powerful individuals and groups ‘conspiring’ against the general public. Challenging the official account (Oswald, 2016; Oswald & Herman, 2016; Wood & Douglas, 2013) is the main argument advanced in support of such a claim. Obviously, the justificatory

power of this argument is problematic in a way that reflects a central problem of CTs. At best, the justificatory power at work is an argumentum ad ignorantiam: even if indeed the OS at stake were not credible, it would be just a too “big leap from the undeniable to the unbelievable” (Hofstadter, 1964, p. 35) to conclude that this is evidence for a conspiracy. The “big leap”, which we take to be a central element of CTs, turns the CT argument inherently fallacious. In supporting the argument that the OS is not credible, proponents of CTs present evidence (real and fake) that goes against the OS and attack the credibility of the sources—the supposed political and social elites which includes authorities and experts representing the OS. Mistrust of official sources has indeed been a crucial element in the success of any conspiracy theory (Jolley & Douglas, 2014; Lewandowsky et al., 2013; Nisbet, 2009; Oswald, 2016).

Unlike the main standpoint, (1) *An official story x is the sinister work of powerful individuals and groups ‘conspiring’ against the general public*, which is often left implicit, the main premise (1.1) *The official story is not credible* is often expressed explicitly. Nevertheless, the great bulk of CT explicit discourse supports premises 1.1.1 and 1.1.2. In arguing that *The ‘official sources’ of OS x cannot be trusted* (1.1.1), CT rely on ‘source-related arguments’ (Oswald, 2016), typical examples allege that the proponents of OS x have vested interests (among other types of ad hominem arguments). In supporting that *There is evidence against what the official story says* (1.1.2), CT advocates present examples (real and fake) that contradict the OS. Interestingly, the more examples we have to support 1.1.2, the more 1.1.1 is supported too. In other words, 1.1.2 supports 1.1.1 too.

While we reconstruct the argument underlying CTs, it is crucial to keep in mind that in any given CT, there is no single homogeneous unified argument made explicitly by a single CT proponent. Instead, conspiracy theories are made up of various argument lines, articulated more or less explicitly by different individuals and groups. The individuals and groups may be in conflict one with the other and may vary in the degree of doubt they cast on the official story, from moderate scepticism all the way to denialism (Capstick & Pidgeon, 2014; Dunlap, 2013; Grimes, 2021; Haltinner & Sarathchandra, 2021; Pierre, 2020). Nevertheless, the diverse contributions converge into a discourse that defends a conspiracy explanation of a certain significant event. The reconstruction we propose is meant as a generic structure that represents exactly that: the CT argument as a discourse—an argument that is made up by the various contributions of different arguers advanced at different occasions. As we propose such a structure, we make no claims about the intentions of groups and individuals that contribute to the CT discourse. Not every arguer who expresses a certain CT premise is necessarily intending to convey the conclusion of the CT argument. Nevertheless, even without that intention on behalf of the arguer, the premise would still contribute to the CT discourse by invoking the conclusions associated with it. It is important to distinguish the intention of the arguer from the contribution the argument can make. Of course, both are important, and obviously the two can overlap, but the argumentative potential an argument has is not restricted to the justificatory force intended by the arguer. Distinguishing between the two is important in order to

account for the way public arguments work without over-attributing commitments to arguers.

Generally speaking, the argumentative potential refers to the possible argumentative inferences a certain discursive choice can activate beyond what is explicitly stated. Think of the affirmation “my body, my rule”. A common argumentative potential associated with the statement is opposing the control and criminalization of sexuality and reproduction. The affirmation has been associated with the defense of the position in such a way that the two have formed a premise-conclusion pair, an inference, that is publicly recognisable. Whenever the affirmation is made, the position is invoked, even if it is not explicitly articulated. One way of capturing the argumentative potential is to identify premise-conclusion pairs that have become publicly recognizable, and in the absence of evidence to the opposite, affirming (x) may be interpreted as also claiming (y), on the basis that x has become publicly associated with the justification of y (Mohammed, 2019a).² The starting point here is an understanding that public arguments do not start from void, nor do they happen in isolation: every time an argument is made, it builds on already existing (lines of) arguments in which some premise-conclusion pairs become recognisable. While arguers may not be held committed to the argumentative potential of their premises beyond doubt, the commitment is rather presumptive (*ibid.*), in the discourse, premises have the potential of invoking the conclusions which are typically associated with them. The point here is not making claims about the intention of the arguer, but rather about the interpretation of the argument. This is crucial in public arguments, where what matters is not just what meaning a speaker intends to convey, but also what meaning is conveyed, on the basis of the already recognised premise-conclusion pairs and independent of the intention of the arguer.³

That discursive choices acquire argumentative potentials beyond what is explicitly said is in line with the idea that there is an argumentative aspect inherent in every form of language (Anscombe & Ducrot, 1983) as well as with the understanding that intertextuality and interdiscursivity are two fundamental aspects of discourse (Reisigl & Wodak, 2016; Wodak, 2009).⁴ Indeed, in today’s networked public sphere

² The most basic argumentative potential might be found in enthymemes where the conclusion is unexpressed. But the argumentative potential is not necessarily always as obvious nor necessarily intended as the implicit conclusion of a typical enthymeme is. See Mohammed (2019b) for more on this.

³ The activation of an unexpressed inference might be achieved by a certain choice of proposition, as well as by the word choice and formulations used in the propositions. A skilled arguer would carefully make her discursive choices in order to convey intended messages as well as to avoid conveying unintended ones, i.e. to activate desired argumentative potentials as well as to curb undesired ones (Mohammed, 2019a, 2019b). Paying attention to the argumentative potential of discursive choices is crucial for the analysis and evaluation of arguments, especially arguments about socio-political issues made publicly. It is beneficial in order to capture the strategic shape of arguments (Mohammed, 2019a), as well as to explain how public misunderstandings arise and polarisation in public controversies deepens (Mohammed, 2019b).

⁴ Furthermore, Reisigl and Wodak (2016) consider that that discourse is characterised by (a) macro-topic-relatedness, (b) pluri-perspectivity related to various voices in a specific social field, and (c) argumentativity.

(Benkler, 2006; Kaiser et al., 2018; Pfister, 2014), the argumentative potential is hardly ever confined to a single text or even a discourse: at any point in time, there are countless interrelated controversies being fed with new premises and conclusions as well as by the new inferences that connect them. Arguments emerge to manage the disagreement (Jackson & Jacobs, 1980; Jacobs & Jackson, 1989) as part of a complex network where distinct lines in relation to different issues crisscross and overlap (Aakhus, 2002; Lewiński & Mohammed, 2015; Mohammed, 2019b). In such a complex network, where the boundaries are fluid and dynamic, the argumentative potential proliferates making it a tricky task to curb undesired potentials and activate only desired ones.⁵

In the next sections, we will examine the argumentative potential of doubt in the public arguments about COVID-19 vaccine. In particular, we examine how doubt functions in the context of conspiracy theories. We examine CT discourse through the generic argumentative structure sketched above. The structure allows us to see how the different parts of CT discourse hang together, to highlight what is common between the different CTs and to explain how they are interrelated, which is crucial for examining the argumentative potential of doubt. For example, the structure allows us to show how it is that “evidence for one conspiracy theory becomes evidence for all of them” (Byford, 2011); it shows how easily it is for a premise that discredits an ‘official source’ in a new CT to become just another piece of evidence for mistrusting the Official Story in general. Finally, as the analysis we conduct in the next sections will show, the reconstruction of the generic CT argument allows us to shed light on the manufacturing of doubt typical of CT discourse.

7.3 COVID-19 Vaccine: The Conspiracy Theory

Conspiracy theories about the COVID-19 pandemic emerged as soon as the pandemic itself became a global reality (Ellis, 2020). In these theories, which have been typically accompanied by disinformation campaigns, one may identify a few common themes (Grimes, 2021, pp. 3–4). The most general of these themes is the claim that COVID-19 is an outright hoax, or alternatively that it has been deliberately engineered, in both cases in order to suppress freedoms on a global scale.⁶ Other main conspiratorial themes advance that COVID-19 is a pretext for a mass vaccination programme in which philanthropist Bill Gates is going to microchip people to spy on them and eventually control them, or that the pandemic has been caused by 5G electromagnetic radiations (*ibid.*). These and other themes have been circulated

⁵ See Mohammed (2019b) for an example of the complexity of managing the argumentative potential in a public controversy.

⁶ Interestingly, “While such narratives seem mutually opposed, they are frequently held in tandem by a cohort of believers despite mutual exclusivity—a not infrequent situation with conspiratorial thinking” (Grimes, 2021, p. 3).

widely by people from all walks of life including by “leaders and people in positions of trust and authority” (Douglas, 2021, p. 272). The role celebrities and public figures play in creating and feeding CTs cannot be exaggerated, especially considering social media. In late March 2021, a study by the Center for Countering Digital Hate (CCDH) and Anti-Vax Watch revealed that up to two thirds of anti-vaccine content circulating on major social media networking sites can be traced back to 12 individuals and their organizations. The twelve anti-vaxxers have since then been dubbed the “Disinformation Dozen” (CCDH, 2021).⁷

Vaccine conspiracy theories are by no means a new phenomenon. Since the first claims were made in the 1990s about a link between the MMR vaccine and autism, the anti-vax movement has never disappeared. It was only to be expected that as soon as talk of COVID-19 vaccine began, a new conspiracy theory emerged. Looking at the history of the modern anti-vax movement, Stolle et al. (2020) identify common argumentative patterns of anti-vaccination proponents. Medical mistrust and other forms of anti-system arguments (e.g., medicine as a profit-making enterprise); fear of adverse consequences, caused in the case of the MMR by the association with autism spectrum disorder, as well as of other neurological disorders, and finally fear of harmful ingredients contained by vaccines (ibid.). Many of the premises remained very similar when the COVID-19 vaccine CT emerged. In particular fears of side effects, and the chronic mistrust in medical authorities (Rief, 2021; Verger & Dubé, 2020). Just like other CTs, the COVID-19 vaccine conspiracy is characterised by central tenets which are reasonably consistent, and yet which manifest themselves in a diversity of narratives, worldviews and ideologies, and express varying degrees of doubt about the official story. From the libertarian gun rights advocates in the US, to leftist big pharma sceptics in France and anti-lockdown activists both on the far left and the far right in Germany, anti-vaccine conspiracy theories allege that we have been lied to about the pandemic: about its origin, magnitude but most importantly, about the vaccine story we are being told. The different anti-vaccine conspiracy theory narratives converge, without necessarily agreeing on the nature of the conspiracy, nor on the extent to which the conspiracy is the work of a sinister powerful elite that works against the general public. Furthermore, the COVID-19 vaccine CT is intertwined with other COVID-19 CTs (e.g., lockdown, masks ... etc.) as well as other CTs in general (e.g., QAnon). As the analysis in the next section will show, this openness is an important power house for conspiracy theories.

In order to discredit the official story about the COVID-19 vaccine, conspiracy theories manufacture doubt in relation to five main areas. First, doubt is raised about the safety of the vaccine as a cornerstone of the vaccine OS: Is the vaccine really safe or does it cause serious dangerous side-effects? Doubt about vaccine safety is raised by focusing on the occurrence of side effects as well as by alleging that the clinical trials to produce the COVID-19 vaccine have been rushed in a way that compromises its safety. Second, doubt is raised about the effectiveness of the

⁷ The “Disinformation Dozen” is made up of Ty and Charlene Bollinger, Robert F. Kennedy Jr., Joseph Mercola, Sherri Tenpenny, Rizza Islam, Rashid Buttari, Erin Elizabeth, Sayer Ji, Kelly Brogan, Christiane Northrup, Ben Tapper, and Kevin Jenkins.

vaccine: Is the vaccine really as effective in combatting the pandemic as it is claimed to be? Third, vaccine CT questions the threat of COVID-19 as alleged by the official story: Is COVID-19 as dangerous as it is being presented by medical authorities and experts? Fourthly, doubt is also raised in relation to the composition of the vaccine: is the vaccine ethically produced or does it contain harmful substances? This doubt links the vaccine CT to the QAnon CT which alleges that vaccines are bioweapons developed by elite paedophile networks. Finally, doubt is raised about trust in the official medical experts and authorities, the proponents of the official story: can we really trust the profit-making big pharma enterprises? Can we trust the medical authorities, for example in view of their history of unethical treatments of minorities and people of colour? Or yet more generally, can we trust that the ‘system’ is really trying to save us? Here too, the overlap with other CTs such as QAnon is obvious.

In what follows, we look into each of these lines of doubt. We spell out their argumentative role in the CT and give examples of their instantiations in its discourse, particularly in the discourse of the Disinformation Dozen.

(a) Is the vaccine really safe as claimed?

In the COVID-19 vaccine CT, doubt about vaccine safety is manufactured to discredit the OS by supporting the CT premise 1.1.2 (in Fig. 7.1), namely that there is evidence against what the COVID-19 OS says. Anecdotal accounts of people dying after they get vaccinated are the most common examples. Here is one, presented by Robert F. Kennedy, Jr., the head of the Children’s Health Defense and probably the most visible and vocal member of the Disinformation Dozen. It is a piece of news that appears under the Big pharma news section on Kennedy’s organisation’s page. The news reads as follows:

- (1) 58-Year-Old Woman Dies Hours After Getting First Dose of Pfizer Vaccine. Doctors said Drene Keyes, whose death is under investigation, died of flash

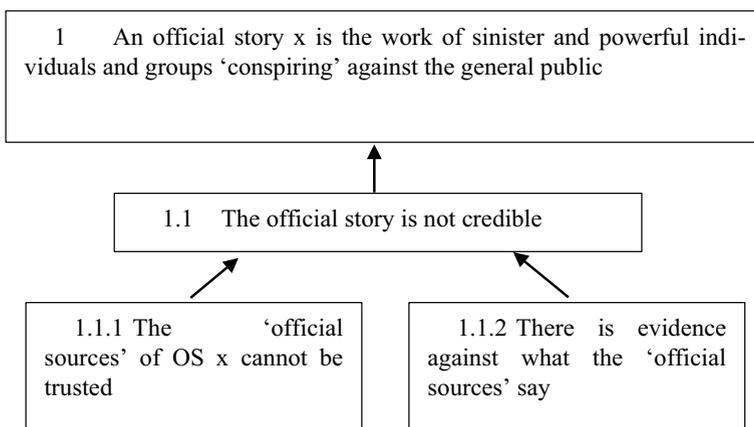


Fig. 7.1 Generic structure of a conspiracy theory argument

pulmonary edema likely caused by anaphylaxis, a life-threatening allergic reaction, which some people have experienced after receiving the COVID vaccine (Children’s Health Defense, 2021)

Leaving aside the factual accuracy of the news, it is interesting that the case, which is presented as evidence that the vaccine can kill you, can also cast doubt on what the OS says. The news has a clear potential of feeding mistrust in the official medical institution as well.

(b) Is the vaccine really as effective as claimed?

Anti-vaccine CTs employ the doubt about vaccine effectiveness as another line of evidence against what the COVID-19 OS says (CT premise 1.1.2 in Fig. 7.1). This is a line of argument that has been pursued by Joseph Mercola, the American alternative medicine proponent and co-author of the book *The Truth About COVID-19* (Mercola & Cummins, 2021). In the book, the authors do not understate their claims:

(2) Effectiveness of the vaccines has been wildly exaggerated and major safety questions have gone unanswered (Chelsea Green Publishing, 2021).

Here too, the formulation of the affirmation activates not just the argumentative potential to undermine the accuracy of the OS, but also that of undermining the trust in the official sources.

(c))Is the COVID-19 disease really the threat it is presented to be?

The seriousness of the COVID-19 disease is at the core of the OS about the pandemic. Therefore, raising doubt about it has the obvious argumentative potential of undermining the OS (CT premise 1.1.2 in Fig. 7.1). Interestingly, many national medical groups have also been expressing this doubt. For example, in a video shared at the World Doctors Alliance, Dutch general practitioner Elke De Klerk says:

(3) We do not have a pandemic. COVID-19 is a normal flu virus (Newswise, 2020).

This is one of the doubts most propagated by public figures, starting with the Brazilian president Jair Bolsonaro who spoke of COVID-19 as a “little flu” but not ending with Donald Trump who has in September 2020 retweeted a message claiming “the true number of COVID-19 deaths in the United States was a small fraction of the official numbers”.

(d) Is the vaccine ethically produced;

In the context of CT, alleging information that casts doubt on the production of the vaccine fulfils the argumentative potential of lending direct support to the premise that *The proponents of the COVID-19 OS cannot be trusted* (CT premise 1.1.1 in Fig. 7.1). Consider the following example. Reporting on an interview with obstetrics and gynaecology physician Christiane Northrup, another one of the Disinformation Dozen, the NOQ Report website (Scheuer, 2020) tells us that:

- (4) Dr. Northrup discussed the questionable composition of the vaccines being readied, and noted that they likely include fetal materials coming from babies aborted in China, as well as other materials that allow the tracking of individuals and their movements. Oddly, it seems that China sent the disease to the United States, and now it is making a profit from supplying materials from aborted babies for the coming vaccines.

Interestingly enough, NOQ Report is a news and opinion website that states as its mission the fighting of “fake news by the mainstream media” (Scheuer, 2020). It is simply in line with the website’s “mission” to manufacture doubt in order to foster the conspiratorial potential associated with discrediting the sources associated with the OS.

- (e) Are the official medical experts and authorities worthy of public trust?

Casting doubt on the trustworthiness of official sources, experts and medical authorities is one of the most powerful doubts manufactured by CTs. Undermining the trust in the official sources does not just play directly into discrediting the OS. It also lends support to the ultimate CT claim that the OS is the work of a group conspiring against the general public. It is therefore not surprising that this doubt is often expressed in combination with other doubts, such as in examples (i), (ii) and (iii) above. In the context of the COVID-19 vaccine, two paths to undermine trust have been popular: big pharma purportedly using immunization as a mere profit-making enterprise, and medical authorities accused of continuing a history of unethical treatments of minorities and people of colour. Of the Disinformation Dozen, social media influencer Rizza Islam has an Instagram account dedicated to fuelling mistrust in the medical authorities. In his “Not Another Tuskegee Experiment”, the African American activist invokes the legacy of the abusive Tuskegee Study⁸ to feed an already existing trust problem. The argumentative potential is rather clear, and yet, it surely does not harm the CT to repeat it. In a Facebook live-stream, Kevin Jenkins (CEO of the Urban Global Health Alliance and another member of the Disinformation Dozen) spoke to the Balck community about the COVID-19 vaccine:

- (5) They are spending a trillion dollars to convince you that it’s OK to kill yourselves (McGill Office for Science & Society, 2021).

Undermining an already shaky trust in medical authorities is a fast track towards supporting the ultimate claim of the COVID-19 vaccine CT. Moreover, it is an unignorable contribution in support of other CTs that would flourish every time trust is undermined in another official story.

Having seen how the different manufactured doubts typical of the COVID-19 vaccine controversy are employed in the context of conspiracy theory, in the next

⁸ The Tuskegee Study of Untreated Syphilis in the Negro Male was conducted between 1932 and 1972 by the United States Public Health Service and the Centers for Disease Control and Prevention. The purpose of the study was to observe the natural history of untreated syphilis. To achieve it, black men with syphilis were left untreated to essentially see what would happen (Brawley, 1998; Centers for Disease Control and Prevention, 2021).

section, we will look more into how doubt about the vaccine functions beyond the CT discourse. We will analyse doubt about vaccine safety in general and discuss different argumentative potentials of this doubt. The discussion will explain how the same doubt can be considered a legitimate expression of ambivalence but may also be used as part of a more articulated sceptic position, or even as evidence for a conspiracy theory that casts doubt on an official story altogether.

7.4 Handling the Argumentative Potential: Doubt About the Safety of COVID-19 Vaccine

In general, doubt about vaccine safety is one of the main doubts expressed when considering the COVID-19 vaccine. Concerns about safety arose as early as talk about the vaccine began, especially given the speed in which COVID-19 vaccines were developed and approved compared to previous vaccines. As news was reporting the progress in developing the new vaccines, the public was being reminded that “The vaccine development process has typically taken a decade or longer” (Thompson, 2020). The impression was created that in order to respond to the urgency of developing a vaccine, the clinical trials phase was cut short which might eventually compromise the certainty about vaccine side-effects. The doubt about safety, in particular, concerns about serious side-effects, grew as the trials got repeatedly halted because of suspicions about side-effects. Eventually the trials resumed, and vaccines were approved. Nevertheless, doubt about safety re-emerged and grew yet stronger as a result of the repeated news about the occurrence of blood clots post vaccination, as well as the recurrent halt in administering the vaccine by the medical authorities (Wise, 2021).

Doubt about safety of vaccines is in principle legitimate. In general, this doubt is an integral part of the development of any vaccine: it is the doubt that underlies the clinical trials, and which guides the precautionary halt in both trials and the roll-out once there is suspicion that a certain vaccine is causing an unforeseen side-effect. In its lightest manifestation, the doubt is a form of incertitude about the possibility of side-effects that can compromise the safety of the new vaccine: clinical trials are designed for scientists to rule this doubt out and present a convincing case in support of the vaccine’s safety. Yet, the doubt about side-effects can be stronger, for example, as it happened with the *Oxford-AstraZeneca* vaccine, it can be motivated by a repeated occurrence of blood clots post vaccination, or by a recurrent halt in administering the vaccine by the medical authorities (Wise, 2021). Although these may be legitimate reasons to cast doubt on the safety of a vaccine, such motivated doubt needs to be handled carefully (Wadman, 2020). Unless the *argumentative potential* of doubt is controlled, it is a slippery slope where doubt can slither quickly from natural ambivalence to legitimate scepticism all the way to conspiracy theory denialism. As the analysis below will show, what distinguishes between these three

are the different argumentative potentials that can be associated with the reason motivating the doubt.

Let us take the example of the doubt about the safety of the Oxford-AstraZeneca vaccine motivated by the fact that several people have died from unusual blood clots after getting the vaccine (EMA, 2021, April 7). The reason motivating the doubt, namely that *several people have died from unusual blood clots after getting the Oxford-AstraZeneca vaccine*, has at least three argumentative potentials:

1. Ambivalence

Considering that *several people have died from unusual blood clots after getting the Oxford-AstraZeneca vaccine* may give rise to the minimum degree of doubt about the safety of the vaccine: ambivalence on whether or not the vaccine is safe, without necessarily leaning to any of the positions. From an argumentative perspective, expressing ambivalent doubt amounts to assuming the dialectical role of the antagonist in a non-mixed dispute (Van Eemeren & Grootendorst, 1992, pp. 16–22) concerning the standpoint challenged by the reason motivating the doubt. The position may be reconstructed as: *several people have died from unusual blood clots after getting the Oxford-AstraZeneca vaccine therefore I am not sure if the vaccine is safe or not*. In this case, what underlies the ambivalence is uncertainty about the causal link between the vaccine and the reported blood clots. In other words, even though the doubt is motivated by the possibility of such a link, the link itself is subject of doubt.⁹ Ambivalent doubt is the type of doubt that gave rise to the precautionary measures taken by medical authorities in countries that halted vaccine roll-out until the causal link is investigated and doubt about the safety is ruled out.

On its bearer, ambivalent motivated doubt incurs no obligation apart from the willingness to give up the doubt if the reasons motivating the doubt get adequately addressed. On the proponents of the position challenged, the obligation is obviously higher: medical authorities, as well as the pharma, are expected to adequately respond to the ambivalent doubt by addressing its motivating reasons. Ambivalence is the minimum argumentative potential that a motivated doubt can have. It can be that it is all there is at stake in an argumentative situation, but more often than not, motivated doubt can activate higher argumentative potentials.

2. Scepticism

In addition to *ambivalence* about whether or not the *Oxford-AstraZeneca vaccine is safe*, the fact that *several people have died from unusual blood clots after getting the vaccine* can give rise to *vaccine safety scepticism*. Assuming that there is a causal link between the vaccine and the unusual blood clots, the motivated doubt acquires the potential to function as an argument against the position that the vaccine is safe. The position of sceptic doubt may be reconstructed as: *several people have died from*

⁹ A relevant factor here might also be related to the definition of drug safety in general. Even if it is accepted that there is a causal link between the harm observed and the drug, how much risk is tolerated before a certain drug is no longer considered safe? Ambivalence can be the result of uncertainty about that, and misunderstanding can result from a mismatch about the definition of drug safety between communicators.

unusual blood clots after getting the vaccine therefore *I do not think that the vaccine is safe*. In argumentative terms, this amounts to assuming the dialectical role of the protagonist in a mixed dispute about the safety of the vaccine. A sceptic position about the safety of the Oxford-AstraZeneca vaccine incurs on its bearer an obligation that mirrors the obligation of the opponents of the vaccine safety thesis. Medical authorities and pharma ought to justify why the vaccine may still be considered safe despite the unusual blood clots, and vaccine safety sceptics ought to defend that in view of the unusual blood clots the vaccine may not be considered safe.

Scepticism is a medium range argumentative potential when it comes to doubt about vaccine safety. Scepticism goes further than ambivalence in that it assumes a position concerning vaccine safety while ambivalence does not, but just like in ambivalence, the argumentative potential of a sceptic doubt remains within the dispute over vaccine safety. While that is surely possible, doubt about vaccine safety may also have argumentative potential that extends beyond that dispute.

3. Denialism

An important far-reaching argumentative potential of the vaccine safety doubt is the one associated with anti-vax CT movements. As we have seen in the previous section, doubt about vaccine safety makes an important line in the vaccine conspiracy theory argument. Conspiracy theorists take advantage of every new case of serious vaccine side-effects, presenting it as yet another evidence against the *official story* which alleges that the vaccine is safe. Interpreted within the conspiracy theory argument, the doubt motivated by the occurrence of unusual blood clots can acquire the following CT denialist potential:

Several people have died from unusual blood clots after getting the Oxford-AstraZeneca,
This is (yet another) evidence that the vaccine is not safe,
Therefore, the official story about the vaccine is not credible

The doubt motivated by possible serious side-effects has been used in its denialist potential over and over by vaccine conspiracy theories, i.e. as an argument to discredit the *official story* about vaccines altogether. What we have here is an inference, a premise-conclusion pair, which has become publicly recognisable: new evidence that the vaccine is not safe is a sign that the official story about the vaccine is not credible. The conclusion, namely that *the official story about the vaccine is not credible*, is hanging out there as a standing standpoint (Mohammed, 2019a) waiting for the premise to be expressed so that it may take effect. The denialist argumentative potential functions by virtue of this public inference, that is by virtue of the premise-conclusion pair being recognised and invocable. Whenever there is a new reason motivating the doubt about the vaccine safety, there is an argumentative potential for the doubt to take the denialist direction. Furthermore, another publicly recognizable inference at work here is the one that leads to the main CT claim: *The OS about the vaccine is not credible therefore The COVID-19 vaccine official story is the work of sinister and powerful individuals and groups 'conspiring' against the general public*. In both cases, the potential is there; whether it materialises or not depends on the way arguers interpret each other's arguments.

Obviously, the denialist potential is problematic. To start with, it is based on a flawed inference. At best, it is a hasty generalisation to discredit the official vaccine story altogether even if it were true that the vaccine is not safe (which in itself is the conclusion of another hasty generalisation). But that is not all. In the discourse of conspiracy theorists, flawed reasoning is typically combined with the spread of misinformation. False accounts of vaccine-related deaths as well as exaggerations of side-effects reports are circulated to sustain the false generalisation, which leads to growing levels of vaccine hesitancy, one of the main public health challenges in the context of the current COVID-19 pandemic (Pullan & Dey, 2021; Weintraub et al., 2021; World Health Organization, 2020).

Furthermore, what may be even more problematic than the flawed reasoning underlying the denialist argumentative potential is the way that potential can distort positions and unnecessarily polarise the public discussion. It is indeed a tricky task to know which argumentative potential is most adequate when an arguer expresses a motivated doubt. It is not always easy to know whether a speaker who reports that *Several people have died from unusual blood clots after getting the Oxford-AstraZeneca* is expressing ambivalence on whether the vaccine is safe or not, or if she is being rather sceptic that the vaccine is safe, or if she is even presenting the news as evidence that we cannot trust official authorities and their vaccine claims. Misunderstandings can happen if an arguer and their interlocutor interpret the doubt in terms of different argumentative potentials. Ideally, a competent arguer should be capable of curbing an argumentative potential that is undesired to her. The simplest way to do that is using a disclaimer: for example, an arguer who is aware that their ambivalence might be misunderstood as scepticism might choose to explicitly affirm that they are “not saying that the vaccine is not safe”.¹⁰ Nevertheless, in public controversies, arguers may not be always aware of a certain argumentative potential that can be ascribed to them, which eventually complicates the task of controlling how they are being interpreted (see examples in Mohammed, 2019a, 2019b). Furthermore, the task is even more difficult in a polarised context, characterised by conspiracy theories. The louder the conspiracy theories, the more present their public inferences are, and the more likely it is that the denialist argumentative potential is wrongly attributed to expressions of motivated doubt that are meant in non-denialist potentials. Indeed, in the public discussion about the COVID-19 vaccine, doubt has too often been misinterpreted as an expression of the denialist stance leaving people feeling misinterpreted and alienated (Douglas et al., 2019; Stolle et al., 2020).

In spite of the difficulty of identifying the argumentative potential at stake, medical experts and authorities, proponents of the vaccine safety thesis in general, are under the obligation of responding to doubt about their thesis. Ambivalent and sceptic doubt can disappear if evidence is provided. In response to the doubts motivated by post-vaccine blood clots, an effective answer has been provided by comparing the risk of blood clots post-vaccination with that associated with other medication

¹⁰ Obviously, such a disclaimer might be interpreted as a case of a rhetorical apophysis. The arguers might watch out for that for it can backfire.

considered safe. For example, experts explained that the risk of clots with the Oxford-AstraZeneca vaccine is roughly 1:250,000, while the risk of clots for the contraceptive pill is 1:2000 (Mahase, 2021). The comparison would probably not remove a denialist doubt, but it is quite likely that it is effective in overcoming cases of ambivalent and even sceptic doubt. While non-denialist doubts can be overcome, doubts ignored are prone to getting hijacked by conspiracy theories who transform the neglect into yet another reason to discredit the official story and its proponents. The official sources do not respond because they do not have an adequate answer, or because they do not even care, goes the typical conspiracy theory.

7.5 Discussion

How to respond to conspiracy theories is undoubtedly a pressing urgent question. For as Douglas (2021, p. 271) puts it, “conspiracy theories are consequential, and in many studies have been linked to climate denial, vaccine refusal, political apathy, apathy in the workplace, prejudice, crime, and violence”. Various strategies for addressing the consequences of CT have been suggested in the literature. One strategy has been confrontation. For example, Romer and Jamieson (2020, p. 113355) argue that “Because belief in COVID-related conspiracy theories predicts resistance to both preventive behaviours and future vaccination for the virus, it will be critical to confront both conspiracy theories and vaccination misinformation to prevent further spread of the virus in the US.” Romer and Jamieson recommend “continued messaging by public health authorities on mainstream media and in particular on politically conservative outlets that have supported COVID-related conspiracy theories” (ibid.). In the same vein, Douglas (2021, p. 272) suggests that “‘inoculating’ people with factual information can stem the influence of conspiracy theories”. However, confronting the conspiracy is a risky choice. The allure of conspiracist explanation lies to a great extent in their simplification, rather oversimplification, of complex realities. It might be overly optimistic to believe that the rather more complex truth would simply win the public’s mind once they are presented with it. Just consider how little success it has yielded to fact-check the misinformation presented as part of the different CTs in the last decades. Furthermore, explicitly engaging with conspiracy theories risks giving them more presence.

There is a danger that the more we engage with CTs, the more publicly present conspiracist inferences become, and the harder it gets to avoid interpreting uncertainty in a denialist argumentative potential. But while engaging with conspiracy theories is surely not the answer, ignoring them is not either. It might be understandably tempting to think that the right thing to do is to ignore, or even delegitimize the doubts that fuel conspiracy theories. Indeed, that has been the predominant attitude when it comes to vaccine-related CTs. The history of the never-ending MMR vaccine controversy is a good example (see Jackson, 2020). But conspiracy theories fuel on doubts, and ignored doubts do not disappear. To the contrary, ignoring them is turned in itself into another piece of evidence in favour of the conspiracy. What is needed

is an approach that addresses the doubts hijacked by CTs without giving presence to the CTs themselves. That would be an approach that engages with doubt, but not with its denialist argumentative potential.

There is indeed a need to reconsider the ease in which doubt is being interpreted as an expression of a conspiracy theory, for as it signals irrationality, the CT label can neutralize valid concerns and delegitimize people (Douglas et al., 2019; Harambam & Aupers, 2017; McKenzie-McHarg & Fredheim, 2017; Orr & Husting, 2018; Rääkkä & Basham, 2018). But reconsidering the CT label only begins by acknowledging the legitimacy of doubt, and it is not completed until different argumentative potentials are assigned to the different types of doubt. Distinguishing between different argumentative potentials is a crucial element in a response that acknowledges legitimate concerns without empowering conspiracy theories. It is in a sense a way to avoid that an unnecessarily broad interpretation of conspiracy theory dominates the public debate and leaves an uncertain public a prey to it. It is important to distinguish between different argumentative potentials but when that is not possible, medical authorities should interpret doubt in the ambivalent potential. Ambivalent doubt ought to be addressed by experts and health authorities who have the adequate knowledge to respond to the reason motivating it.

A final word, on the argumentative potential of doubt in its relation to trust. Indeed, CTs cannot be countered without addressing the question of trust. In order to reduce the impact of conspiracy theories, Nisbet (2009) suggests that “trusted messengers” are employed. As she explains, combating the conspiracy theory may be likely to have more success if the counterarguments come from trusted sources such as valued ingroup members, instead of outgroup members who are typically associated with mistrust (ibid.). The “trusted messengers” strategy seems to have been guiding Dr. Anthony Fauci, Director of the US National Institute of Allergy and Infectious Diseases, as he fostered partnership with African American groups and religious leaders. Also in the same vein, it has been a news highlight that Moderna’s COVID-19 vaccine is being studied by a team of scientists led by a black woman, Dr. Kizzmekia Corbett. While it is surely helpful to present the public with sources they trust, an adequate response ought to also curb the argumentative potential that doubt can have in undermining trust. In CT discourse, doubt is presented as evidence against the OS. But that can be successful only if doubt is not already part of the OS. In other words, the argumentative potential of doubt to discredit the OS might disappear if doubt is integrated in the OS. While ambivalent doubt is surely already part of the vaccine OS, more communicative effort is needed to present it as such: to present an OS that is more realistic and therefore not easily discredited by doubt.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 8

Pandemic Communication Without Argumentative Strategy in the Digital Age: A Cautionary Tale and a Call to Arms



Fabio Paglieri

Abstract The Covid-19 pandemic has offered some notable examples of how public communication may backfire, in spite of the best intentions of the actors involved, and what role poor argumentative design plays in such failures, in the context of the current digital media ecology. In this chapter, I offer some preliminary considerations on the ongoing struggle to make sense of the new communication technologies in our media reality, analyze a concrete example of argumentative failure in anti-Covid vaccine communication in the European Union, and leverage this case study to issue a call to arms to argumentation scholars: argumentative competence is sorely needed for an effective response to the pandemic, yet argumentation theory will need to join forces with other areas of expertise to realize its societal impact. When it comes to arguments, self-isolation is not a viable strategy to fight Covid-19.

Keywords Online debate · Health communication · Argumentative strategies · Virality · Argument technologies

8.1 Introduction: A Tale of Many Waves

The mainstream narrative on the role of digital technologies in public discourse has always come in waves, occasionally overlapping each other. Gen Xers like myself, i.e. people born in between the late 60s and early 70s of the last century, have fond memory of the first wave: it was a time when digital technologies were still a novelty, when sending an email to another part of the globe and getting an answer within, say, 48 h was a near miracle, when smartphones did not exist and the first cellular phones were rare, cumbersome, and exotic—a time when getting online was perceived as a step towards a brighter future, no question asked. The Internet was hailed as the harbinger of a new age of global democratic engagement and the technological panacea to a variety of societal challenges: economic disparities, information

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S. Oswald et al. (eds.), *The Pandemic of Argumentation*, Argumentation Library 43,
https://doi.org/10.1007/978-3-030-91017-4_8

145

access, civic participation, lack of rational discussion, culture-based incomprehension, even nationalism. Prominent heralds of this initial optimism included scholars like Negroponte (1995) and Dertouzos (1997), and there was widespread consensus on the value of the collective intelligence made possible by the Internet, which years later would have been popularized by James Surowiecki's concept of "wisdom of crowds" (2004).

However, around the turn of the century, the narrative started to change: the second wave brought growing skepticism on the impact of digital technologies on democracy and society in general, as argued in the works of Shapiro (1999) and Sunstein (2001), among others. These misgivings continued to multiply over the next decades, often producing valuable insight on the dark side of our digital engagements, as in Sherry Turkle's exploration of the adverse effects of social media on interpersonal relationships (2011), but occasionally resulting in rather superficial misrepresentations of the alleged problems created by new technologies, as in the infamous best-seller *The shallows: What the internet is doing to our brains* by Nicholas Carr (2020, based on his equally successful 2008 article in *The Atlantic*, "Is Google making us stupid?"). Over the years, much of the concerns tended to accrue on social media, so much so that the prominent computer scientist Jaron Lanier felt compelled to list *Ten arguments for deleting your social media accounts right now* (2018).

More recently, such worries started being paired with raising panic about the "new" plague of disinformation. The scare quotes around "new" are mandatory here, considering that disinformation has been around since we evolved the ability to communicate. Nonetheless, in the last decade fake news became the buzzword of choice to scare away youngsters from digital apps, as well as a convenient scapegoat for any communication misstep of private and public institutions. In the meantime, the World Economic Forum dedicated an entire section of its Global Risk 2013 report to "digital wildfires in a hyperconnected world" (Howell, 2013), the Oxford Dictionary was busy declaring "post truth" to be the word of the year 2016, and just one year later *Time* magazine, in the wake of the election of Donald Trump to the Presidency of the United States, asked on its cover "Is truth dead?" (a self-citation of its iconic 1966 cover, "Is God dead?"). Bold claims were made and widely shared on the impact of social media campaigns in determining important political events, such as the Brexit referendum or the Presidential elections in the US, and monikers like "trolls", "hackers", and "information operations" became more and more frequent in media discourse. The oversimplification of those claims and the imprecision of those monikers did not detract from their popularity, with politicians, academics, and journalists taking turn in publicly admonishing the masses against the dangers of unsupervised access to digital information platforms. In the midst of this frenzy, social media ended up being considered by many as public enemy number one of rational discourse.

And now? How is the ongoing Covid-19 pandemic shaping our public perception of digital technologies and their role in collective reasoning and democratic engagement? Not surprisingly, most media were all too eager to draw an easy analogy between the virus and the spreading of disinformation about it, so that "infodemic" became yet another buzzword in this domain of discourse. This is not necessarily

problematic, insofar as there are good grounds for the analogy: e.g., virality is indeed a key element in information diffusion, and several epidemiologic concepts, such as replication rate, can be usefully applied to information dynamics. Yet the label may lead to equivocation when used to evoke fear, or to imply that what is being spread by an “infodemic” is necessarily misleading, false, or otherwise defective news. In contrast, recent studies on the circulation of Covid-related content on social media have shown that, while the volume of disinformation distributed on various platforms differs, “information from both reliable and questionable sources do not present different spreading patterns” (Cinelli et al., 2020); in other words, contra popular belief and previous research (e.g., Vosoughi et al., 2018), it is not true that a lie gets halfway around the world before the truth has a chance to get its pants on.

In spite of the dramatic consequences of any misinformation associated with a lethal pandemic (but again, read Thucydides to see how much the same was happening already in the V century B.C., when Athens experienced a severe plague and falsely blamed the Spartans for it), the current trend of research may indicate the beginning of a third wave, in our unresolved struggle to make sense of digital technologies in public discourse: after the initial optimism and the ensuing pessimism, we are entering a more nuanced phase, one best described by the Facebook relationship status “It’s complicated!”. The complexity and the velocity of the transformations brought about by online platforms is once again being appreciated, this time not to pass hasty, all-encompassing judgments on their overall value, but rather to make a serious study of them, to highlight both pros and cons of our new information ecology (Floridi, 2014), to develop suitable tools to understand it and appropriate policies to improve it – or so we can hope, at least.

This unresolved struggle can be usefully framed as a manifestation of “media logic” (Altheide & Snow, 1979), to describe the complicated process by which institutions rebuild their communication practices to fit new environments. This line of work has been fruitfully applied to online environments, and in particular to social media platforms (van Dijck & Poell, 2013). One of the important themes in this work is that our initial experiences with new communication media nearly always involve a mismatch between our legacy communication practices and the demands of the new media. It takes time and creative effort for society to learn how to live in a new communication environment and how to find advantage in what seems at first to be a collapse of common sense. In relation to the profound transformations brought about by digital communication platforms, what we are witnessing (and will probably continue to witness for some time) is an extended period of largely unpredictable inventiveness at the level of communication practices.

The role of argumentation theory in all of that remains to be established, and it constitutes the gist of this volume. *Prima facie*, there are good reasons to expect rational argumentation to be an essential ingredient in any healthy scenario of technology-mediated public discourse, all the more so in times of global crisis. To put it bluntly, how can we ever hope to support rational discursive interactions and responsible epistemic practices among users of digital technologies, without first understanding what makes those interactions rational and those practices responsible? Unfortunately, in spite of all this potential, so far argumentation scholarship

has largely failed to make a substantial impact on how public debate is conducted: argument-based analyses of real life discourse are frequent and often enlightening, yet policy-makers do not heed them in their (rare) attempts at improving the quality of citizen participation and democratic engagement, online or otherwise; similarly, argument technologies, including argument mining, are a thriving area of research in AI, yet it is doubtful that they are currently poised to scale up beyond research-driven applications (Paglieri, 2017).

However, the ongoing pandemic is providing numerous examples (often tragic ones, alas!) of how ignoring basic principles of argumentative design may severely impair the effectiveness of public discourse for the management of the current health crisis. More generally, such examples highlight how dealing with complex societal phenomena without curating their argumentative side is a recipe for disaster. In what follows, I will analyze a specific instance of this phenomenon: I will start from a single discursive contribution made by a prominent medical expert, to show how this is indicative of a more general and basic argumentative failure in anti-Covid vaccine communication in Italy, and more generally in the European Union (Sect. 8.2). This will serve to outline some crucial contributions that argumentation theory may offer to the scaffolding of better public discourse on the ongoing pandemic: in fact, Sect. 8.3 is devoted to taking stock of these insights, as well as offering some interim conclusions and clarify the role of social media in these dynamics (as we shall see, they mostly act as *amplifiers* of whatever message is put out there, regardless of its source).

8.2 Of Herd Immunity and Rotten Carrots: The Argumentative Debacle of Vaccine Communication in the EU

In November 2020, a prominent Italian medical expert injected a problematic issue in the debate on anti-Covid vaccines, which was immediately picked up on social media and by traditional news outlets. The occasion was a popular talk show on national television, *Dimartedì*, aired every Tuesday night on the La7 channel: during the pandemic, one of the frequent guests of the broadcast was Ilaria Capua, Full Professor at the University of Florida and Director of the One Health Center of Excellence for Research and Training. Besides being a member of the EU Parliament for 3 years (2013–2016), Capua is well-known in the medical community for her groundbreaking work on the avian influenza in 1999–2000: in other words, she is a well-reputed scientist and an authoritative voice on issues related to the pandemic.

On November 24, 2020, Capua was asked by the host of the show, Giovanni Floris, to explain how the anti-Covid vaccines under development would work. In answering the question,¹ Capua introduced to the general public the issue of sterilizing immunity, as follows:

¹ The clip of her statement is available here (in Italian): <https://www.la7.it/dimartedi/video/come-funzionano-i-vaccini-anti-covid-la-spiegazione-di-ilaria-capua-24-11-2020-352054>.

There are very few vaccines that grant sterilizing immunity: that is, that make me completely impermeable to the virus. What happens instead in the real world and in the natural world? If I am vaccinated, I have defenses against the negative effects that the virus would produce in me. Thus, the vaccine shields me from the illness. But does it also prevent infection? If you are asking me: “After vaccination, will I be able to get back to my life as if I was 100% safe”, the answer is “No!”. Because the virus, when it comes into contact with a vaccinated person, goes through a first replication cycle, therefore the efficacy of the vaccine means efficacy against the illness. Instead, it is not 100% effective against infection: however, it does reduce a lot the amount of virus being eliminated. To sum up: if you get the vaccine, then you will not get ill. But can you still get infected and transmit the virus to others, if you stop wearing a facemask? Yes. Thus, it is not the case that, when the vaccine will come, everyone will be free and without a care in the world. It is important to understand that the vaccine, once available, will not be a panacea. It will not mean “Once we used to have a problem, now it is all good”: it will just be one of the tools for us to use in the upcoming months.

There is a lot of relevant information in this passage, in spite of some occasional obscurity and infelicity of expression (e.g., it is unclear how reducing the amount of virus being eliminated could make vaccine more effective against infection). It is also clear that what motivates Capua to talk at length about sterilizing immunity is the need to explain that being vaccinated should not be considered as a free pass to do whatever one pleases, since vaccinated people can still get infected and transmit the virus to others. However, once inserted in the general debate on vaccination, Capua’s message raises two problematic implications: (i) it makes people skeptical that herd immunity against Covid-19 will ever be attained, since apparently getting vaccinated does not prevent the spread of the virus; (ii) it risks reinforcing a typical anti-vaccination concern, namely, the idea that the vaccine itself makes people contagious for others.

Let us first consider the latter issue. The (mistaken) reasoning behind it goes more or less as follows: “You are telling me that vaccinated people can still get infected and transmit the Covid-19 virus to others, and I know that vaccines work by inoculating small doses of the virus to the patient: therefore, the vaccine shot itself will turn vaccinated people into asymptomatic carriers of the disease, thereby accelerating the spread of the virus”. The pitfall of this line of reasoning is in the assumption that the viral carrier used in vaccines is capable of replicating, and therefore contagious. This is not the case in general, and it is certainly not the case with anti-Covid vaccines: those based on mRNA technology, like Pfizer and Moderna, do not even contain viral carriers, but rather use mRNA strings to tell the patient’s cells how to produce the immunitary response to the virus; and even those vaccines that contain a viral carrier, like AstraZeneca and Johnson & Johnson, are carefully designed to ensure that the viral load is incapable of supporting replication—that is, they do not make people contagious.

Unfortunately, all of this is fairly technical, so the message needs to be spelled out in simpler and more impactful terms for the general public. A good attempt at doing that had already been put forward by another Italian medical expert, Roberto Burioni, two years earlier (November 2018), as follows²:

² Source (in Italian): <https://www.medicalfacts.it/2018/11/20/vaccinati-trasmissione-virus/>

Most vaccines (hexavalent, antipneumococcal, anti-HPV, antimeningococcus) are made by single components of the virus or the bacterium. To speculate that from single proteins or other molecules may come out something capable of self-replicating is like thinking that the soup cube in your fridge may magically turn into a full-size calf.

Burioni, who is Professor of Microbiology and Virology at the Vita-Salute San Raffaele University of Milan, a science communication star in Italy, and a self-appointed blaster of pseudo-science on his website Medical Facts (<https://www.medicalfacts.it/>), directly intervened also on Capua's declarations. On November 25, 2020, in response to her TV statement, Burioni wrote on Twitter³:

Some say that (in general) vaccinated people are protected but they can be contagious. THIS IS NOT TRUE. For measles, rubella, mumps or chickenpox – and the list could go on – who is vaccinated cannot be infected and CANNOT transmit the virus. Clearly we don't know anything of what may happen with the various anti-Covid-19 vaccines.

It is worth noting that, even after clarifying that vaccines do not make people contagious (an issue on which Capua and Burioni are in agreement), there are still two points of factual contention between Capua and Burioni: on how many vaccines grant in fact sterilizing immunity (very few according to Capua, many for Burioni), and on whether anti-Covid vaccines prevent infection (Capua talks as if we knew they do not, whereas Burioni explicitly states that we do not know yet). Based on an interview released on November 24, 2020 on Axios⁴ by Tal Zaks, Chief Medical Officer of Moderna Inc. and thus at the forefront of the development of anti-Covid vaccines, Burioni's position seems to be the most accurate, given the evidence available at that time:

I think we need to be careful, as we get vaccinated, not to over-interpret the results. Our results show that this vaccine can prevent you from being sick, it can prevent you from being severely sick. They do not show that it prevents you from potentially carrying this virus transiently and infecting others. When we start the deployment of this vaccine, we will not have sufficient concrete data to prove that this vaccine reduces transmission. Do I believe that it reduces transmission? Absolutely yes, and I say this because of the science. But, absent proof, I think it is important that we do not change behaviours solely on the basis of vaccination.

While sharing Capua's admonishment against a "free for all" attitude once vaccination starts to be widespread, Zaks' statement makes it clear that in November 2020 there were not enough data to prove sterilizing immunity for anti-Covid vaccines, yet the medical evidence on vaccines in general justified the tentative expectation that they would prove effective also in curtailing transmission. Incidentally, recent evidence seems to vindicate such expectation, at least with respect to mRNA anti-Covid vaccines (Thompson et al., 2021).

Still, we are left with the other fundamental problem raised by Capua's public discussion of sterilizing immunity: if anti-Covid vaccines do not grant protection

³ Source (in Italian, spread across two tweets): <https://twitter.com/robertoburioni/status/1331707021536661510>.

⁴ Source: <https://www.youtube.com/watch?v=po7qt9BZz0s>.

against transmission, or if that protection is only partial, or if we do not know yet what to expect on that, then how can herd immunity be presented as the ultimate aim of vaccination? Contagion will not stop in the herd, no matter how many members get vaccinated, unless vaccines grant immunity from transmission: yet we still do not know whether they will, or to what extent. To make things worse, there are also other reasons to fear herd immunity may be a pipe dream for Covid-19 (Aschwanden, 2021): in addition to the unknown quantity of sterilizing immunity, vaccine rollout is uneven across different countries (and herd immunity can be effective only at a global scale, in our interconnected world), new variants of the virus change the herd immunity equation (since some vaccines may be less effective, or not effective at all, against certain variants), the duration of the immunity granted by vaccines is still uncertain, and, finally, vaccination change behaviours, typically making people less careful to avoid contagion—the very same worry that led Capua to speak up about sterilizing immunity, and prompted even one of the leading scientists developing a highly effective vaccine (Moderna) to suggest caution.

All considered, if herd immunity is supposed to be the carrot to get people vaccinated, it looks like a rotten one. Crucially, its faults are argumentative, not medical: there is nothing scientifically wrong with the concept of herd immunity, once properly understood; it is the poor use of it in the context of vaccine discourse that is to be blamed. Given the goal of persuading people to vaccinate as soon as possible against Covid-19, the herd immunity argument has two fatal flaws.

The first one is that it is likely to backfire, for all the reasons we just discussed: if herd immunity against Covid-19 turns out to be a myth, or if even the mere suspicion of it starts spreading in the general public (as it is already happening), then its value as a reason for vaccination will collapse, possibly producing a crisis of trust in vaccines in general. Selling people on a dream is always risky business, and doing so in relation to a pandemic is reckless.

The second problem is even more fundamental: promising herd immunity as our collective reward for mass vaccination is directly in conflict with another key aim of public authorities—namely, having people maintain safety measures and protective behaviours even after vaccination. The complex communicative gymnastic that medical experts like Capua and Zaks had to perform is a direct consequence of the untenable network of incompatible goals projected by a communication strategy determined to use herd immunity as the holy grail of vaccination. You cannot feed people conflicting messages, like “Take your vaccination shot, so that we may all soon live in a Covid-free world!” and “Don’t go clubbing once vaccinated, you are still a leper in disguise!”, without expecting them to get confused and start doubting the rationale of the vaccination campaign. The problem is not in the lack of understanding of the general public, nor in the occasionally defective communications issued by individual experts: it is in the poor argumentative choices made by the institutions in charge of dealing with the pandemic.

What is particularly striking in this case is that there is a potentially better reason to get people eager to vaccinate (a tastier carrot, if you like): the veridical promise of being protected from the symptoms of the infection, and in particular from its direst consequences, including death and permanent invalidity. Moreover, this line

of argument can leverage both self-interested goals (self-protection from harm) and altruistic motives—namely, preventing hospitals from being overrun by severe cases of Covid-19. In fact, in the absence of specific medicines capable of targeting the illness, the most problematic feature of Covid-19 has always been the high rate of infected subjects requiring medical treatment in intensive care units, which in turn has often created unbearable strain on the healthcare systems of the most affected countries. By guaranteeing full protection from severe consequences of the infection, vaccination is the single most powerful tool at our disposal to avoid catastrophic breakdowns of healthcare facilities (which, incidentally, are critical for all severe pathologies, including those other than Covid-19): this, in turn, is the chief concern of the worldwide strategy against the pandemic.

Finally, promoting vaccination by framing it as a shield against harm (to ourselves and to our collective resources) is also perfectly compatible with the other key goal of institutional communication on vaccination, that is, ensuring that people remain cautious and observant of containment measures even after getting their shot. Contrary to what happens with the herd immunity gambit, here both getting vaccinated and endorsing other sanitary precautions share the same goal: protecting each of us from harm and avoiding overtaxing the healthcare system. This allows institutions to promote vaccination as aggressively as needed, without fear of equivocation and no need of convoluted *ex post* clarifications, like the ones that Capua and others were forced to attempt.

To summarize, let us compare the two main arguments available to promote vaccination. On the one hand, we have herd immunity, for which we currently have no sound evidence, while there are several reasons to suspect it may never be achieved, and that is also at odds with the concomitant goal of keeping people prudent in their behaviours. On the other hand, we have protection from harm, which is supported by (literally) millions of data, is virtually guaranteed, and plays well with the aim of avoiding untimely relaxation of other safety measures. The main thing that herd immunity has going for it is a rhetorical connotation: it is better at evoking pleasant fantasies of a happy return to the status quo of normal habits and crowded interactions, whereas protection from harm keeps reminding us that the fight is far from over—hence the collective need to get up our shields, i.e. vaccines, as quickly as possible. The allure of the positive spin characteristic of the herd immunity argument is easy to understand, especially for politicians eager to stop bombarding their constituents with negatively charged public messages. Yet this allure is at risk of being short-sighted: not only because the herd immunity argument is likely to backfire, once it becomes apparent nothing of the sort will be achieved any time soon; but also because reminding people that the fight is far from over is precisely what institutional communication on the pandemic should strive to achieve, while the herd immunity argument undermines that.⁵

⁵ This second element is essential, because without it there might be good reasons to doubt the effectiveness of a communication campaign focused on protective goals: for instance, it may fail with all kinds of people who feel that they themselves are not at risk, and the altruistic side-benefit (reducing demand on hospital resources) may also disappear for those who are convinced they will

Unfortunately, this argumentative blunder is not an isolated instance in institutional communication about the pandemic. Another similar failure, once again tied to poor argumentative design, is the recent debacle of vaccine communication in the EU. In addition to being initially quite slow in vaccine roll out, at least compared to other countries (e.g., US, UK, Israel, Chile), most European institutions and several national governments of member countries managed to baffle and confuse their citizens during the first half of 2021, in their bungled attempts at keeping them confident in anti-Covid vaccines. According to some commentators, the relationship between the EU and anti-Covid vaccines was flawed since the very beginning: Paul Krugman, winner of the 2008 Nobel Prize in Economics, recently wrote an op-ed for *The New York Times*, significantly entitled “Vaccines: a very European disaster”,⁶ in which he argued that the EU priorities on vaccination were curiously skewed.

The common thread seems to be that European officials were not just risk averse, but averse to the wrong risks. They seemed deeply worried about the possibility that they might end up paying drug companies too much, or discover that they had laid out money for vaccines that either proved ineffective or turned out to have dangerous side effects. So they minimized these risks by delaying the procurement process, haggling over prices and refusing to grant liability waivers. They seemed far less worried about the risk that many Europeans might get sick or die because the vaccine rollout was too slow.

Subsequent events confirmed this European tendency to be penny-wise and pound-foolish in managing vaccine-related risks: after uncovering very few lethal cases of cerebral thrombosis in people vaccinated with AstraZeneca (about 30 cases out of several millions of doses administered), in March and April 2021 the use of this vaccine was suspended across most European countries, as well as in other parts of the world, pending further investigation by the competent authorities—in the case of the EU, the European Medicines Agency (EMA). In early April the EMA concluded its investigation, confirming that the benefits of the vaccine far outweigh its risks, yet suggesting the likelihood of a (very rare) causal link between vaccination with AstraZeneca and the reported fatalities.

As a consequence, amendments to the vaccine information sheet were mandated, and different levels of risk (all minuscule) were reported for various age groups: based on this information, most EU countries decided to restart administering this vaccine, yet limiting its use to people over 60. Incidentally, this constituted a complete reversal of previous recommendations: up to that point, the AstraZeneca vaccine had been typically recommended only for people under 65, due to lack of data on its effectiveness outside of this age cohort.⁷ In all this turmoil, the fact that AstraZeneca is by far the cheapest anti-Covid vaccine available in the EU (one dose costs about one

not get sick (Chevallier et al., 2021). However, this does not change the fact that herd immunity is not a serviceable argument to simultaneously promote mass vaccination and respect of other safety measures by vaccinated people.

⁶ Source: <https://www.nytimes.com/2021/03/18/opinion/coronavirus-vaccine-europe.html>.

⁷ The early reluctance to use the AstraZeneca vaccine with people over 65 was also tied to an article published on January 24, 2021, in the German newspaper *Handelsblatt*, claiming that the vaccine had only 8% efficacy in elderly people. These claims turned out to be completely unfounded soon after, but not before they were picked up and publicly endorsed on January 29, 2021, by the President

tenth of a dose of Pfizer or Moderna) has been conspicuously downplayed, although the impact of paying ten times more to vaccinate a significant portion of the European population is unlikely to prove trivial.

It is also worth noticing that this PR disaster (Wise, 2021) happened in the context of an already strained relationship between the EU and the manufacturer, due to the latter failure to deliver in time most of the doses stipulated in its contract with the EU: a dispute that led the EU to launch a legal action against AstraZeneca for breach of contract on April 26, 2021. However, the manufacturers are not the only ones to blame for this argumentative blunder: regulatory agencies, like the EMA, consistently employed obscure and fear-inducing jargon to communicate on the issue (“a causal link is not proven, but is possible”, “overall benefits outweigh dangers”, “higher risks in certain age groups”, just to mention a few), national European governments were overzealous in suspending administration of this vaccine and limiting its use to specific age groups, and the media were quick to pick up every rumors and magnify them a thousand fold—e.g., on March 12, 2021, *La Repubblica*, one of the main Italian newspapers, had a gigantic headline on its front page, reading “AstraZeneca, fear in Europe”.

Regarding regulatory agencies, their main communicative shortcoming in this crisis was to stick too much to “science talk”, without understanding how concepts like “uncertainty”, “small probabilities”, “benefit/risk ratio” plays out in the general public, and apparently also with policy makers (a well-known issue with risk communication; Hansson, 2009; Richards & Den Hoed, 2018). As for policy makers, they were again stuck with inconsistent argumentative and practical commitments: besides the complete turnabout on the recommended age for vaccination with AstraZeneca, they were trying to simultaneously reassure people on the negligible risks associated with this vaccine, while at the same time discouraging its use for the vast majority of the population. It is a lot like saying “Look, this water is 100% potable, yet I wouldn’t drink it if I were you...”: people cannot be blamed for being hesitant to take the AstraZeneca vaccine, in the face of such conflicting messages from their governments and medical institutions. Not to mention the idea of trying to sell the vaccine with the benefit/risk mantra, instead of emphasizing the much higher risks that we are all already facing because of the virus, and how vaccines (including AstraZeneca) drastically reduce those risks.

Inevitably, the first to pay the price of this bungled argumentative strategy are the manufacturers of the vaccine: in spite of some desperate last-ditch attempts at redeeming their reputation, e.g. by changing the name of the vaccine itself (it goes now under the moniker “Vaxzevria”), what was once a company poised to be one of the big winners in vaccine development and marketing, due to the very competitive price of their product, is now on the brink of disaster, with orders being rescinded, use of the vaccine being limited to specific age cohorts in several countries and stopped altogether in others (e.g., Denmark), and the EU on the legal warpath. However, AstraZeneca will not be the only one to suffer from this PR nightmare:

of France, Emmanuel Macron, who declared the AstraZeneca vaccine to be “quasi-ineffective” in over 65 s.

their vaccine, because of its low price and ease of transportation and storage, was (and still is, in principle) a key part of the vaccination strategy proposed by the World Health Organization (WHO); moreover, as mentioned, having to pay ten times more to vaccinate millions of people will have huge economic consequences, which in turn will aggravate the already severe societal impact of the pandemic; finally, this collective argumentative fiasco will likely fuel vaccine hesitancy for years to come, at a time when governments are in desperate need of getting as many people as possible to vaccinate, as quickly as possible.

From an argumentative standpoint, these incidents teach us that awkward and problematic communicative performances by individual actors need to be understood in the broader context of institutional communication and its underlying media ecology: not because individual actors are necessarily speaking on behalf of institutions (Capua was not, for instance), but because their thematic agenda and their argumentative moves are constrained by the communicative strategies that currently shape public discourse on that topic (Aakhuis, 2007). With respect to the pandemic, and to vaccination in particular, some of those strategies turned out to be sub-optimal, to say the least. This, in turn, suggests a twofold dimension of relevance for argumentation theory, in supporting rational and effective public discourse on health-related issues: not only as a tool to *refine message crafting* in relation to specific communicative acts, but also (and perhaps mostly) as a frame of reference to *design better argumentation strategies* to convey the key points of broader communication campaigns. As a case in point, input from argumentation scholars could have greatly helped the EU to leverage better reasons and focus on different issues, in its efforts of promoting mass vaccination in member states.

8.3 Conclusions: How to Save the World with Arguments

Although the title of this section is a bit of a stretch, the importance of proper argumentative design for achieving effective communication, rational debate, and sensible collective behaviours is not to be underestimated, as the case study discussed in this chapter aimed to clarify. A sound theoretical understanding of argumentative structures and their foreseeable interpretation by the intended audience is crucial to ensure both better message crafting on specific issues, and effective orchestration of large-scale campaigns on complex topics. However, the (mostly negative) examples offered by the recent pandemic communication also illustrate another interesting fact: in order to be relevant for public discourse, argumentation theory needs to get out of its comfort zone and explore partially new grounds.

To begin with, argumentation scholarship may need to take a more decisive empirical turn to stay relevant in this arena. Perceptive readers have certainly realized by now that much of the previous analysis of argumentative mistakes in pandemic communication was based on hindsight, which is a nice commodity for the analyst, but unfortunately it is never available to those charged with managing public discourse in real life. The notion of argumentative strategy needs to take this

into serious account: we can learn a lot by carefully reflecting on how different arguments may manage our multiple goals and what kinds of disagreement spaces they might open; yet this is only part of the story, since people continually surprise us in how they respond to what seem to be, on paper, really strong (or really weak) arguments. Incidentally, this is something well-known in health communication, where a mature technology of campaign design has emerged, anchored in persuasion theory, aimed at argument/message production, but centred on extensive testing of even the most plausible campaign ideas against how they will actually be received by audiences (Noar, 2006). Argumentation scholars should build on these best practices, keeping in mind both the problems raised by the new media ecology (in which orchestrating any coherent communication campaign is a formidable challenge) and the unique advantages offered by argumentation theories to this kind of empirical testing: most notably, a sophisticated framework to better appreciate not only what messages work, but also why they work, and what kind of force (logical, dialectical, rhetorical) is most likely responsible for their success.

However, treading relatively new ground will require argumentation scholars not only to increase their familiarity with empirical testing, but also to partially reconsider their theoretical framework. Indeed, none of the argumentative insights discussed in this chapter came from run of the mill applications of mainstream theoretical tools: for instance, establishing what argument schemes were used in communicating the pandemic was not one of our concerns, nor were we particularly interested in keeping track of the dialogical commitments of different parties involved in the debate, or in assessing what types of strategic maneuvering they might have employed in their communicative endeavors. In contrast, the main preoccupation was to investigate the factors responsible for making a certain message or a broad communication strategy *effective or ineffective* in promoting the desired behaviours, rather than taking as our gold standard some ideal of argumentative rationality. Clearly, sometimes effectiveness and rationality go hand in hand, typically because an argument derives part of its effectiveness, or lack thereof, from its underlying rationality: we saw a negative example of that in the previous section, where the conflicting commitments entailed by the herd immunity argument were suggested as its main communicative defect, and a severe risk to its effectiveness.

Yet a change of attitude may still be in order: while the traditional toolbox of argumentation theory remains very relevant for our purposes, those tools should be used to answer questions that really matter to the relevant stakeholders of public discourse, instead of limiting their application to some detached analysis of dialogical interactions, which unfortunately tend to have little or no impact in solving the issues under discussion. Today, in the face of a global pandemic, it is time for argumentation scholars to get in the trenches with scientists, policy makers, and media experts, and do their share of dirty work to get us out of this mess. Now is a time for intervention, not for analysis: or, more accurately, it is a time when every analysis must convey usable insight on how to intervene to make things better. There is a proud tradition of doing just that in the argumentation community, and many prominent argumentation scholars have demonstrated by example that such active advocacy is both possible and fruitful: for instance, Christian Kock's public outreach as a debate

commentator in Denmark, David Hitchcock's work with the nursing community on critical thinking, the Deweyian-inspired tradition of public debates/discussions in the US (for an historical review, see Keith, 2007), and of course the very same APPLY network responsible for organizing this volume, which has adopted this kind of "prescriptive" work as one of its aims. The invitation here is thus to expand this line of work, and to consider it as central, rather than ancillary, to the collective enterprise of argumentation theories.

An interesting corollary of this change of attitude is the following, sobering reminder: for the argumentative structure and content of a message to matter, that message needs first to be heard. In this day and age, this means tackling the issue of *virality*—not as an enemy to fight or a cancer to eradicate, but rather as a tool to exploit. So far, argumentation theorists have focused almost exclusively on negative viral contents, first and foremost on fake news: either to refine the definition of the phenomenon (Gelfert, 2018), to articulate how it has subverted normal standards of argumentative reasonableness (Neville-Shepard, 2019), to document how it feeds on lack of analytic reasoning (Pennycook & Rand, 2019), to suggest argument-inspired technologies to help dealing with it (Visser et al., 2020), to understand how deviant argumentative behaviours, e.g. trolling, shed light on how digital technologies change argumentation itself (Cohen, 2017), or to demonstrate how the very notion of disinformation can be used as a fallacious rhetorical device, e.g. when Donald Trump hollers "fake news!" at the top of his lungs to quickly silence dissenting voices (Zompetti, 2019). All these contributions are valuable, but there is no reason for argumentation theorists to confine their study of virality to disinformation: moreover, it is crucial to emphasize that what makes a content viral is not tied to its epistemic quality—neither positively nor negatively. Accurate news and blatant disinformation can become equally viral online (Cinelli et al., 2020), so we need to start harnessing the power of virality to ensure that good arguments and reliable data reach the general public faster and more widely than fallacious messages and fake news. In other words, virality is the much needed grease to make the argumentation engine run smoothly.

This brings us to the elephant in the room: the role of social media in the argumentative processes we have discussed so far. Current evidence does not support the idea that social media directly change the argumentative quality of public debate: however, they do act as powerful amplifiers of whatever message is put forward in public, both quantitatively (access is granted to many more people) and temporally (access persists for a much longer time), and they give voice to a much more diverse variety of sources. While it is patently false that anybody has the same degree of visibility on social media, it is certainly true that any centralized control of public discourse has become more difficult to achieve, especially for traditional players such as governments and official media. Incidentally, this development is not necessarily to be lamented; at the very least, it brings with it both advantages (e.g., greater transparency and more plurality) and dangers (e.g., too much noise, a shift of power from public governments to private companies, a climate of eternal campaigning in political communication). However, argumentation scholars have no reason to be "for" or "against" social media per se; instead, they need to study how their amplifying function raises the stake for public messages, especially when uttered by a

credible or authoritative source. The previous analysis provides ample evidence of that: both individual messages and institutional campaigns on anti-Covid vaccines own a significant part of their impact to the secondary circulation of these claims on social media. As soon as a communicative act goes viral, its relevance is magnified a thousand fold: hence, we need to take seriously the task of making sure only appropriate arguments become viral.

A right step in this direction, and a fitting way of concluding this brief contribution on a cheerful note, is the “humor over rumor” strategy employed by the Taiwanese government to deal with online disinformation. The first Digital Minister of Taiwan and former civic hacktivist, Audrey Tang, is the mastermind behind this innovative approach to institutional communication, which played a significant role in making Taiwan by far the most successful country in the world in dealing with the Covid-19 pandemic: as of early May 2021, the country has reported only about 1300 cases and 12 deaths since the onset of the crisis, without ever imposing a national lockdown and in spite of its relative closeness to China,⁸ the original epicenter of the contagion. Part of this outstanding success is tied to their ability of maintaining an open line of communication with the general public and their highly effective tactics in dealing with problematic instances of disinformation.

As a case in point, in early 2020 Taiwan, like many other countries, experienced a collective frenzy to stockpile toilet paper, fueled by the rumor that the raw materials and production lines used for sanitary masks were the same normally used for toilet paper, hence a massive shortcoming of the latter was believed to be imminent. The Taiwanese administration promptly applied their humor over rumor strategy, which consists in using humorous memes to spread quickly and widely the correct information about a controversial issue: since the jury is still out on whether humor-based or logic-based correction of fake news is more effective (according to extant evidence, it depends on context; Vraga et al., 2019), the Taiwanese pragmatic approach is to employ both in synergy, instead of considering them as alternative options.

In the case of the toilet paper panic, they issued a cartoon of the Prime Minister, Su Tseng-chang, standing in front of a table reporting all the correct information on how sanitary masks are produced (nothing to do with toilet paper, by the way...): the image was an animated GIF, so that the Premier could be seen vigorously shaking his bottom (or, as they say today, “twerking”) under the punchline of the meme, “Remember: we all have only one butt!”. As expected, the GIF went viral in a matter of hours, soon becoming much more visible than the rumor that it was designed to counteract: after having a laugh about their twerking Prime Minister, Taiwanese were able to get their facts straight about sanitary mask production, so the toilet paper stockpiling stopped almost overnight. This kind of success vindicates yet another motto of the Taiwanese government strategy for communicating with their citizens: “fast, fair, and fun”.

What is remarkable is not only the systematic use of virality to convey positive messages, but also the decision to do so professionally: Audrey Tang is fond of saying

⁸ In fact, the official position of the Chinese government is that Taiwan *is* part of the People’s Republic of China, albeit the Taiwanese people beg to differ.

that one of her greatest successes as Taiwan's first Digital Minister was to persuade the rest of the Government to employ hundreds of comedians to help curating their communication, so that the humor employed to fight rumor was, in fact, humorous, i.e. funny and therefore effective.

Argumentation theory should pay heed to this brilliant idea. Jokes are not typically arguments, although they can function in similar ways (Conley, 2004), play a key role in managing dissensus (Rose, 2007) and in articulating controversial political topics under the guise of lightly remarks (Waisanen, 2015). But the beauty of the humor over rumor strategy is that the joke plays an independent role, with respect to the content. Being humorous is our ticket to virality, which in turn allows our message to be heard loud and clear (and with an open mind) by as many people as possible. Sure, there are boundaries on the kind of humor that is appropriate for such purposes: for instance, great care must be taken to ensure that the joke does not offend anyone. This is exactly the reason why the Taiwanese government wisely chose to employ professional comedians, instead of asking public servants to improvise. As a result, the professional touch is palpable in the quality of their messages, since the devil (notoriously a great humorist) is in the detail: in the example just discussed, the one person twerking in front of the masses is not a random citizen, but rather the Prime Minister, and the message reads “*we* all have only one butt”, rather than “*you* all have only one butt”.

Similar minutiae mark the difference between a successful viral institutional campaign and a PR disaster: hence, we should all consider starting to channel our inner comedian, if we want to make sure our judicious and well-formed arguments gain the traction they need to really make a difference in public debate. More seriously, we all need to realize that virality is a serious challenge for argumentation theory, not an annoyance to bypass. This does not mean that argumentation scholars should strive to become professional comedians: it does mean, however, that argumentation theory will need to integrate with other areas of expertise, to be able to realize its societal impact. Making sure good arguments are heard, or read on a social media feed, is not something we can shrug off as “someone else's business”: it is our business, and we need to take care of it by joining forces more often with virality experts, communication design scholars, and persuasion researchers.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Part II
Justifying and Promoting Health Policies

Chapter 9

Rhetoric and Argumentation in the Pandemic Legislation: The Italian Case



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Abstract This chapter examines the argumentative and rhetorical structure of the regulatory techniques used to deal with the SARS-CoV-2 pandemic in Italy. The first part of the chapter aims to clarify the connection between law and rhetoric, in order to provide a framework in which the legislative activity has operated. After analyzing critical aspects of the chosen regulatory tools, we will focus on the three most innovative elements of the pandemic legislation: the frequent use of images, the sporadic presence of sanctions, and the relevant role of experts. In the second part, an analysis of the fundamental traits of visual argumentation will be presented to highlight the fact that the use of images, during the pandemic period, has become a political-normative technique, which is never a neutral tool, but is always subject to interpretation and endowed with a notable rhetorical value. Given the sporadic presence of sanctions, the second section will analyze the argumentative strengthening applied by the legislator in order to promote the obedience of the recipients of the measures. Finally, we will examine the involvement of experts in the justificatory activity of the legislator, and the need for them to acquire legislative legitimacy through a rhetorical-argumentative relationship with citizens.

Keywords Covid-19 Italian legislation · Justification of law · Legal rhetoric · Visual argumentation · Soft law

9.1 Introduction

The SARS-CoV-2 pandemic—henceforth COVID-19—appeared in all its severity in Italy on 31st January 2020: by a resolution of the Council of Ministers, a state

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of emergency was declared due to the health risks associated with the outbreak of infectious diseases. The state of emergency was then extended until 31st January 2021 (Law Decree no. 125/2020) and again until 30th April 2021 (Law Decree no. 2/2021). The period defined by this “regulatory pandemic” is the subject of this essay. During this period, the link between making and communicating law emerged in all its intensity (Gazzolo, 2020) and it reinforced the disappearance of the idea of law as a mere authoritative act subject to sanctions (Ferraro & Zorzetto, 2018, 3). The analysis of the norms that have characterized (and still characterize) the emergent pandemic period seems to confirm our starting assumption: so, it is considered appropriate to start with them in order to fully understand the rhetorical value of the legislative strategies chosen by the Italian Government. The intersection between public institution and argumentation is not, however, a novelty but a complex series of normative phenomena that originate from the post-war period, when the transition from the juridical culture of legal certainty to the culture of the justification of law began (Luzzati, 2018; Pino, 2017). This step has become irreversible with the constitutionalization of legal systems and with the most recent emergence of legal pluralism (typical, for example, of the relations of states within the EU and between the European institutions and the states themselves), which showed all the limitations of the Kelsenian model of legal order (mainly hierarchical and static), until then dominant (e.g. Delmas-Marty, 1986). In this context, the role of the legislator has also changed, because it increasingly needs to justify the rules on a rhetorical-argumentative basis. It is sufficient in this sense to look at the form of the various legislative measures which have increasingly become measures preceded or accompanied by the justification for the choices made, as is the case for example in the Preambles to the legislation or in the increasingly widespread phenomenon of soft-law, typical of EU law but also of national legislations. It is about that complex of activities in which the so called “legisprudence” is realized (Wintgens, 2006). This approach is able to emphasize the rhetorical value of the communication of the legislator, which took on a peculiar role in Italy during the management of the COVID-19 pandemic. In this context, the role played by the bond of trust between citizens, legislator and political institutions also appeared in all its importance. In fact, thanks to this connection, legislator and political institutions are able to create their «anterior groundwork of ethos building» (Kjeldsen, 2018, 279), which «depends on multiple factors: the purposes they pursue, their history, reputation, efficiency and the ability to respond to the expectations of their interlocutors» (Belardinelli & Gili, 2020, 86).

By moving from this legal philosophical background, the essay will first reconstruct the main three legislative activities issued in Italy to deal with the pandemic emergency (Sect. 9.1), emphasizing peculiarities connected with the role of rhetoric: frequent use of images; media activity to introduce and justify the dispositions; massive involvement of experts (Sect. 9.2). We will then dedicate a specific part of the research to each of these peculiar characteristics, which corresponds to a precise rhetorical purpose: Sects. 9.3–9.5 will be dedicated to the rhetorical role played by the use of images to support the legislative action; Sects. 9.6 and 9.7 will deal with the

argumentative strengthening put in place by the legislator to encourage the compliance with the restrictive norms introduced; Sect. 9.8 will deal with the role delegated to the experts within this legislator's rhetorical-argumentative activity. Finally, Sect. 9.9 will present some conclusions in order to underline possible changes due to the new legislative paradigm analyzed in our chapter.

9.2 The Need for Justification

In the case-study of the pandemic it is possible to note, on one hand, the passage from the juridical culture of legal certainty to the culture of the justification of law, and, on the other hand, the sunset of the hierarchy of law. They both are elements able to be a possible cause for the appearance of the rhetorical legislative activity, mainly during the state of emergency due to the pandemic. In this case of emergency, in fact, the legislator needed to reinforce the justification of the provisions (through imagines, media, and so on, as we will explain afterwards) and so to stress the connection between law and rhetoric, due to some forms of lack of formal legitimacy in the legislative activity. In order to start with a framework of the situation, a premise is necessary, which deals with the status of the sources of law in the Italian system. It is a hierarchy of sources of law, where, according to the Kelsenian and pyramidal view of legal order, every level of the pyramid has to respect the regulations in the superior level. Very briefly, we can summarize the hierarchy as follows. The higher level of status of law is the constitutional one: norms in the Constitution can be derogated, in some specific cases and respecting certain conditions, by the source of "primary status" only—and not by "secondary status law"; then there are sources of "primary status" (it includes ordinary law but also Law Decrees, the legislative tool seldom used during the pandemic to derogate the constitutional provisions); finally there is the "secondary status law" (in this level there are the Decrees of the President of the Council of Ministers, which formally cannot derogate constitutional or primary status provisions at all, but actually were frequently adopted during the pandemic due to their short promulgation process). Cassese (2021), a prominent Italian jurist, has underlined that the Government preferred to issue continuous and strict Decrees of the President of the Council of Ministers (D.P.C.M.), limiting constitutional rights (as the freedom of movement or of economic initiative).

Such a choice is highly controversial from a constitutional point of view and, as mentioned in the introduction, it has modified the static-hierarchical model of legal order. It means that the hierarchy of sources of law has been violated: for instance, the limitations connected to the basic freedom of movement (art. 16 of the Italian Constitution) were allowed, by the Law Decree n. 6/2020, in local areas and not in the entire Italian territory. The next D.P.C.M. (which is a "secondary status law" and therefore could not contradict neither the Law Decree, nor the constitutional provisions), since the 9th of March, introduced strict limitations on the entire Italian territory (Gatta, 2021). Therefore, the measure, as many others, was not authorized by the superior law and it has broken not only the balance between legislative

authorities (e.g. Parliament and President of the Council of Ministers) but also the hierarchy of the legal system itself. In this complex situation, it appears that Italian legislator, on the one hand, often used these inferior regulatory sources to simply encourage, even with the use of images, best practices to avoid the spread of the virus (without providing for sanctions, and therefore basing the effectiveness of such measures solely on their persuasive effect); and, on the other hand, she engaged in an argumentative reinforcement of the provisions issued through the lower sources, with the aim of increasing their normative power (Andone & Greco, 2018). In fact, this argumentative reinforcement seems to be needed: norms must search for their prescriptiveness, and in such a situation, since the legal hierarchy of the system was not respected, they need to be justified by using rhetoric.

9.3 Changes in Law: Images, Sporadic Sanctions, and Experts¹

In order to understand the rhetorical-argumentative changes, it is worth to start by a short analysis of the normative pandemic framework. It is possible to notice three different innovative aspects in the normative pandemic: namely, images that were provided, the lack of sanctions in the normative provisions and the prominent role of experts.

In the following sections there will be a focus on the most representative of them, namely the role of images; but, in order to provide any examples, we can remember that some provisions dedicated to the rules for cruise ships (dated 24th October 2020 and 3rd November 2020), have made use of images showing how to behave to prevent the spread of the virus. Images are also present in the Ministerial Decree of 26th April 2020, which requires manufacturing and commercial activities to display specific precautionary signs inside their business premises in order to remind personnel to respect the measures provided (such as, for example, the obligation to sanitize hands and the obligation to maintain safety distances).

The second peculiarity of pandemic legislation deals with the fact that in large parts of the legislation there is a lack of sanctions. Eighty-five acts have been issued, and sanctions have been sporadic:

Article 3, paragraph 4 of Legislative Decree no. 6/2020 provides for the arrest of, or a fine for anyone who fails to comply with the containment measures.

Article 4 of Legislative Decree no. 19/2020 (which is recalled in Law Decree no. 1/2021, 2/2021, 12/2021 and 15/2021) provides for administrative sanctions—criminal sanctions in cases which are considered to be a serious offence.

¹ Legal references are taken from the Official Gazette of the Italian Republic: <https://www.gazzettaufficiale.it/atti/Associati/1/?areaNode=12>. Consulted on 16.3.2021.

Article 2 of Law Decree no. 33/2020 refers to the administrative sanction of Law Decree no. 19/2020, unless the act constitutes an offence under Article 650 of the Criminal Code.

These sanctions, which can be found in the abovementioned Law Decrees, are not indicated in the D.P.C.M., even if the latter, as mentioned, has often modified the content of the former. This is an example of what was explained above: the role of the sanction is weakened and the law-making is changing.

Lastly, the role of experts has become predominant. In particular, the Scientific Technical Committee (in Italian, C.T.S.) was appointed for the first time by means of the Ministerial Decree of March 2020, following the declaration of the state of emergency. It has been established that, in order to face the emergency, the Head of the Department of Civil Protection is to coordinate all necessary interventions with the assistance of the C.T.S. (art. 2, Ordinance of 3rd February 2020), chaired by the Secretary General of the Ministry of Health.²

The decisional weight of this Committee has varied according to the content of the measures, and three possible variants of differing significance can be identified:

1. In many cases, the C.T.S. resolutions are referred to in the epigraph of the decree (see Ministerial Decrees dated 1st March 2020, 13th October 2020, 3rd December 2020).
2. In other cases, a series of criteria are drawn up by the C.T.S. itself, which are incorporated into the Ministerial Decree and therefore acquire legal value (e.g. Ministerial Decree dated 11th June 2020 and Ministerial Decree of 3rd December 2020).

A more significant weight is attached to actual scientific publications of the C.T.S., which acquire legal value once they are inserted within the Ministerial Decree, with an interesting combination of science and law (for example, the Ministerial Decree dated 2nd March 2021 provides a series of images, graphs and tables to explain the phases of the pandemic in Italy, the solutions adopted and possible future scenarios).

9.4 Image Rhetoric in the Management of the COVID-19 Emergency

The use of images in the management of the COVID-19 emergency appears to be one of the most interesting factors from a rhetorical-argumentative point of view: brochures, posters, infographics and diagrams designed by institutional bodies and the government have now become the mainstay of official communication and, even more so, of the urban landscape and buildings. Anyone, not only in Italy, has certainly stopped to look at and followed the instructions given by images such as those

² The complete list of expert members of the C.T.S. can be found on the website: <http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioContenutiNuovoCoronavirus.jsp?lingua=italiano&id=5432&area=nuovoCoronavirus&menu=vuoto>. Consulted on 15.4.2021.

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

 Duration of the entire procedure: 40-60 seconds

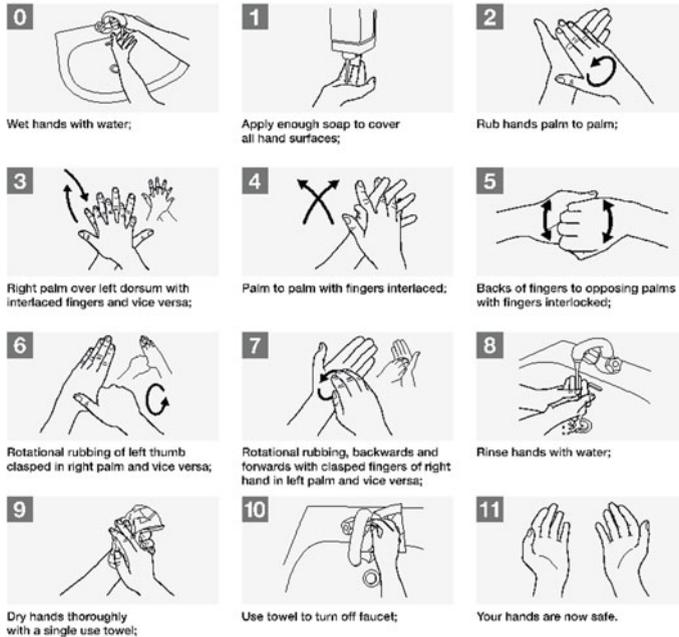


Fig. 9.1 Handwash method by the World Health Organization

developed by the World Health Organization³ (Fig. 9.1) or, in the case of Italy, by the Italian Ministry of Health⁴ (Fig. 9.2).

Such images are as numerous as they are varied, and we take their ubiquitous presence and use as commonplace. As stated before, such images have become an integral part of certain legislative measures and were published in the Official Gazette of the Italian Republic: evidence of this fact can be found in the already mentioned

³ <https://www.who.int/teams/integrated-health-services/infection-prevention-control/hand-hygiene/training-tools> Consulted on 10.4.2021.

⁴ <http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioMaterialiNuovoCoronavirus.jsp?lingua=italiano&id=28&area=nuovoCoronavirus&menu=vuoto> Consulted on 10.4.2021.



Fig. 9.2 Handwash method by the Italian Ministry of Health

D.P.C.M. of November 2020, whose appendices are the same as those contained in the Guidance for Ship Operators for the Protection of the Health of Seafarers of the International Chamber of Shipping.⁵ As examples, see Figs. 9.3 and 9.4.

It should also be noted that updates on the evolution of the pandemic and contagions in Italy was one of the duties of the Civil Protection Department (CVD), a structure of the President of Council and it acts in relationship with its decision, which has been in charge of communication and operational tasks. Every day, the CVD held an evening press conference during which it informed the country of the spread of COVID-19 and the hospital situation: such information is, from a strict formal point of view, different from legislation, but, from a substantial point of view, it can be considered as part of the legislative action of the Italian Government and Ministries (this point will be analyzed also in Sect. 9.7). The pandemic data, updated every 24 h, were summarized on the interactive dashboard on the Civil Protection Department’s website.⁶ Figure 9.5 represents the dashboard updated as of 14th April 2021.

⁵ <https://www.ics-shipping.org/wp-content/uploads/2020/11/covid19-guidance-for-ship-operators-for-the-protection-of-the-health-of-seafarers-v3-min.pdf>. Consulted on 14.4.2021.

⁶ <https://opendatadpc.maps.arcgis.com/apps/dashboards/b0c68bce2cce478eaac82fe38d4138b1>, consulted on 14.4.2021.

Fig. 9.3 International chamber of shipping example 1



Fig. 9.4 International chamber of shipping example 2



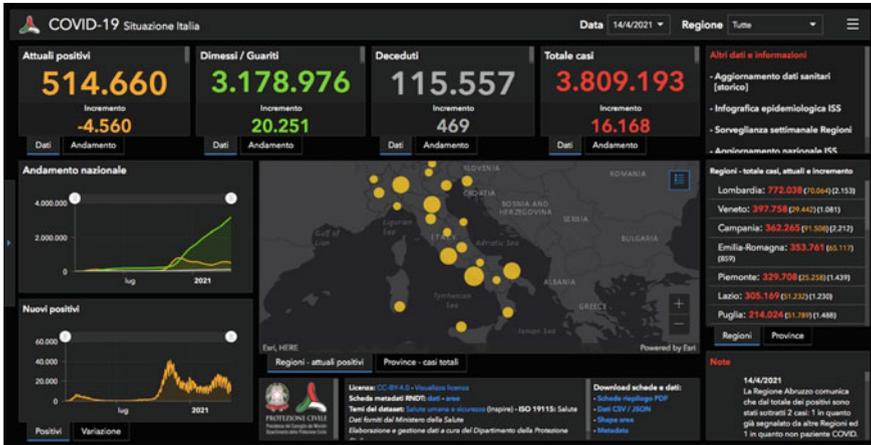


Fig. 9.5 Interactive dashboard



Fig. 9.6 Updated infographic

The Italian National Institute of Health also relayed official communications through specific infographics, such as the data of the COVID-19 Integrated Surveillance in Italy.⁷ Figure 9.6 represents the updated infographic as of 14th April 2021.

The use of images is a confirmation of the importance of visual tools as part of official political and legal communication, which can be argumentative or, even more so, rhetorical.

⁷ <https://www.epicentro.iss.it/en/coronavirus/sars-cov-2-dashboard>, consulted on 14.4.2021.

From this point of view, it should be noted that «pictures are able to provide vivid presence (Latin *evidentia*), realism and immediacy in perception, which is difficult to achieve with words only» (Kjeldsen, 2013, 4). In many cases, it can even be argued that «photographs, and other non-verbal phenomena are the best way to express what is impossible to say in words» (Groarke, 2017, 10).

But, from a certain point of view, it can be said that we may have different kind of evidence and realism in photographic images, infographics or dashboards. Just look at this from a rhetorical perspective: photographic images could have a deep impact because of their beauty, and so aiming at engaging emotions and pathos. Then, looking at a photographic image means taking into consideration the photographer, it means the subjective perspective by which the image is taken. Photographic images are representation of the world. At the other side, we have infographic and dashboard: they seem or pretend to be a ‘simple’ collection and, more than representation of data, presentation of them, with a sort of claim for objectiveness (we will say more on that in the next section). At the same time, it can be said that a certain kind of ‘pictorial beauty’ could be found in them: this particular kind of—as can be said by having in mind the subject who produces them—institutional images, «by the simple fact that they organize and articulate and give visual presence to information, use rhetorical means» (Kinross, 1985, 19), such as colors, pictograms and so on, in order to present data in a pleasant way. The above-presented Fig. 9.6, in black-and-white (Fig. 9.6b is), would surely have a different kind of impact, because «it is hard to think of anything that is more like a rhetorical device than this use of color» (Kinross, 1985, 20):

But, more than pathos, what seems here to be at stake is probably more related to ethos: in fact, infographics and dashboards «say something about the nature of organization that publishes them» (Kinross, 1985, 21). To present data in a pleasant way is a mean to appear efficient, trustworthy and reliable: something that is crucial in a particular historical period like the one of pandemic, mainly for lawmakers who need to benefit from the trust of people (even more if we consider that effectiveness of pandemic regulation, also due to the infringement of the Kelsenian hierarchy, depended more on the bond of trust between institutions and citizens, than on sanctions—we will return to this point in Sects. 9.7 and 9.8, also with reference to the concept of “accountability”).

Also from this point of view, such communications can be more immediate and effective, precisely because of the clarity that words often lack. The following section will be devoted to further consideration of this aspect, being aware that

moving beyond representation means shifting from an epistemological treatment of visuals to an ontological one. Such a move would “collapse the distance between presentation and representation: the image is the presentation” (Daston, 2014: 320–21). In part, this is to acknowledge that visuals are performative (MacKenzie, 2006), that they don’t just represent, they also constitute or coproduce (Jasanoff, 2004) the objects we encounter in the world (Brennen et al., 2021, 281).

9.5 Showing Is Not Saying

Jurists have long discussed the nature of legal language, which possesses the ineradicable characteristic of being vague (Puppo, 2012).⁸ This is, in fact, a general feature of any language: our «verbal code [...] is necessarily approximate and imprecise. In contrast, multimodal representations of the world attempt to present reality in a way which is particular rather than generic» (Groarke, 2017, 22). The difference is substantial: images can aspire to clarify what words struggle to achieve:

We can understand these differences in terms of Wittgenstein's distinction between saying and showing. In describing an action, an event or a thing verbally, we look for words that will allow us to say what it is like. [...] [T]his is a task that language accomplishes in a way that is inevitably approximate and vague. These limits are eliminated (or at least minimized) when we convey multimodal information in a multimodal way, because doing so obviates the need for an attempt to convert what we convey into a verbal code which is by its nature limited in its power of expression. This is because multimodal representations don't attempt to say what they convey, but attempt to show it – *i.e.* to display it, to exhibit it in a way that presents its essential character. (Groarke, 2017, 23).

This capacity of images is the subject of infographics, information and data visualization and information design. One of the greatest exponents of information design stated that «clarity and excellence of thinking is very much like clarity and excellence in the display of data. When principles of design replicate principle of thought, the act of arranging information becomes an act of insight» (Tufte, 1997, 9).⁹

Earlier in history, however, Otto Neurath had the opportunity to develop a project for a universal language based exclusively on signs and pictograms, named «Isotype, the International System of Typographic Picture Education» (Neurath, 1936, 7). This project has recently attracted significant interest¹⁰ and is based on the hope «to establish a global standard for education and to unite humanity through one ordered, universally readable language of vision» (Lupton, 1986, 47).

However, Neurath was aware that «every language is complex—even the simplest» (Neurath, 1936, 14) and that this applies to both words and images. This is why he was convinced that an organization capable of creating an unambiguous and universal language of images was needed, because

frequently it is very hard to say in words what is clear straight away to the eye. It is unnecessary to say in words what we are able to make clear by pictures; to make a picture is a more responsible work than to make a statement, because pictures make a greater effect and have a longer existence. (Neurath, 1936, 15).

At the same time, he was convinced that (the original text is in capital letters) «WORDS MAKE DIVISION, PICTURES MAKE CONNECTION» (Neurath,

⁸ And indeed, this might seem to contradict the fact that the function of the law and the rule of law is to protect citizens, although Endicott (2001) has shown that this is not necessarily the case.

⁹ In fact, Tufte's argument is more complex, since the intuitive mirroring of data is not the starting point, but the main objective of *good* infographics (as opposed to the so-called “chartjunk”) (Manchia 2011, 590, ft. 3. Our translation).

¹⁰ See https://hyphenpress.co.uk/journal/article/isotype_recent_publications (consulted on 15.4.2021).

1936, 18). On the basis of this conviction, Gerd Arntz created the Isotype visual dictionary with more than 4,000 symbols.¹¹

Today, this project is relevant in many ways (e.g. compared to emojis), as Neurath was already aware that «the effect of pictures is frequently greater than the effect of words, specially at the first stage of getting new knowledge» (Neurath, 1936, 22; Cat, 2021). In addition to this, his

idea was that images can bridge differences of language, are easy to grasp and, when done well, also nice to look at. The legibility of Isotype is determined by the simplicity of its symbols. These should be instantly recognizable, without any distracting detail. What counts is the general idea – for common use the precise details are of less importance. Or in Neurath’s words: “It is better to remember simplified images, than to forget exact figures”. (Bruisnma 2008).

It seems to us that Figs. 9.1 and 9.2 follow Neurath’s theory: even though they are addressed to a linguistically different audience (English and Italian speakers) they use the same drawings, and the verbal part of the description does not even appear in the Italian version. Eighty-five years later, after the digital revolution, Neurath’s words seem prophetic.

9.6 The Nature of Images

In fact, Neurath believed that «an Isotype character is similar to a scientific formula; it is a reduced and conventionalized scheme of direct experience. The picture for Neurath was an intrinsically neutral mode of expression» (Lupton, 1986, 50). But this is just an utopia, because it always exists a cultural framework and today it is clear that, when presented with any image, the spectator always plays an active role in the perception and reconstruction of the image itself (Kandel, 2012). Images are neither “objective” nor neutral.

The same work of creating images, icons and diagrams is far from neutral: Figs. 9.4 and 9.5 might indeed seem neutral and “objective”, but they are not. «Nothing is free of rhetoric, that visual manifestations emerge from particular historical circumstances, that ideological vacuums do not exist» (Kinross, 1985, 29.). In other words, «design is inherently rhetorical» (Kostelnick, 2004, 218), because.

a diagram does not imply reproducing, by similarity, certain qualities of an object in the real world but producing a representation of a network of relationships that does not resemble an existing thing, precisely because it creates its own object by visually giving structure and body to a series of data. (Manchia, 2014, 475. Our translation).

Therefore, graphic representation is not merely representative, but creative. There is perhaps no such thing as a representation that is not also a creation. This also applies

¹¹ Gerd Arntz developed the pictograms when he was working at Statistics Netherlands (<https://www.cbs.nl/>, consulted on 15.4.2021). More information on Gerd Arntz and the collection of his images is now available at <http://www.gerdarntz.org./content/gerd-arntz#isotype>, consulted on 15.4.2021 (image 7 is from that website).

to visual information, since it aims to «make certain phenomena and certain aspects of reality visible and comprehensible; many of these phenomena are not naturally accessible to the unaided eye and many are not even visual in nature» (Costa, 1998, 26. Our translation).

On the other hand, diagrams and infographics «are technologies, a means to an end, devices whose aim is to help an audience complete certain tasks» (Cairo, 2013, 23. Our translation). In other words, as it happens with every kind of communication, they have a rhetorical value.

It is for their appearance of objectivity in visual communication, that diagrams and infographics are powerful rhetorical means:

their effectiveness is motivated precisely by the fact that they *appear* objective, when, in fact, they are not. Today, many of these forms—bar graphs, pie charts, bi-polar diagrams—have become so familiar that we don't question their conventional status as genres. This process of enculturation creates rhetorical efficiency as well as poses an interpretive problem because readers come to regard conventional forms as natural, direct representations of fact unmediated by the artificial lens of design. (Kostelnick, 2004, 225, italics by the Author).

However, posters and brochures such as those on hand washing (Figs. 9.1 and 9.2) do appear to be exceptions to what has been stated so far: they do not seem to require any particular interpretation. But for this very reason they are good examples of how the Isotype project has affected the development of contemporary visual information. Indeed,

Isotype exemplifies a project common to much modern art and design – the attempt to eclipse interpretation with perception, to replace reading with seeing. Interpretation involves intellectual confrontation with language and other cultural products. Perception, on the other hand, describes experience in terms of conditioned reactions of the body and brain. [...] As people concerned with the visual, artists and designers tend to focus on perception at the expense of interpretation. (Lupton, 1986, 51).

Nevertheless, once again, it should be noted that «International pictures demand interpretation; they must be read» (Lupton, 1986, 51). Without going into detail, it can actually be argued that even the simplest images may require interpretation: perhaps those that appear in Fig. 9.3 are not immediate, but they become so by virtue of the verbal explanation. Spectators interpret the image once they have perceived it, then the image, given the context, automatically conveys its message. It is like a road sign: when it comes to understanding what the speed limit in a certain area is, the answer is simple, because you just have to look at the sign. In these cases, it seems that, contrary to Dworkin's (1986) statement, understanding does not require interpretation (Patterson, 1996). It is also interesting to remember that Neurath established two rules for Isotype: «*reduction*, for determining the style of individual signs; and *consistency*, for giving a group of signs the appearance of a coherent system» (Lupton, 1986, 53). Therefore,

these rules have both explicit, practical functions and implicit, rhetorical functions. These constructive rules project an image of empirical, scientific objectivity [...]. The implicit, rhetorical function of reduction is to suggest that the image has a natural, scientific relationship to its object, as if it were a natural, necessary essence rather than a culturally learned

sign. [...] And rhetorically, stylistic consistency gives the effect of an ordered, self-sufficient “language”. (Lupton, 1986, 53–54; 56).

In the case of Isotype and Figs. 9.1 and 9.2, we can detect a rhetorical purpose, although at first glance the empirical evidence tends to hide this.

9.7 Italian Pandemic Legislation and Its *Soft-Enforcement*

In the previous sections we detailed the main innovative techniques employed by the Italian Government in the context of the Covid-19 pandemic. We shall now make a number of considerations on the small number of sanctions provided for by the legislator and on the idea that normative power of many regulations needed to be reinforced. This thesis maintains that the soft enforcement,¹² which is subject to the repeated infringement of the formal hierarchy among the norms, has required the legislator to put a great effort into justifying the measures, as they had to motivate and persuade the addressees to obey the hard choices decided upon. In addition to the small number of sanctions provided for, a certain “reluctancy” of the Courts in applying them can be also noted. In order to give a clear picture of this phenomenon it is sufficient to refer to three emblematic pronouncements which occurred in the last 12 months.

1. On 16th November 2020, the Court of Milan¹³ held that any person would be free to make false statements in order to infringe the provisions restricting freedom of movement, without incurring any penalty. The Court held that, if this were not the case, the right of defense (Article 24(2) of the Italian Constitution) would be infringed, and a duty which is against the law, that is to incriminate oneself by a self-certification, would have been imposed.
2. On 25th March 2021, the Court of Milan ruled that it is lawful to lie in order to evade sanctions relating to travel bans, on the basis of the general principle of law that one cannot be punished for his/her own intentions: stating that one is going to a certain destination (however invented) is a mere future intention, and not a fact that has already occurred, and as such is not punishable.¹⁴
3. On 27th January 2021, the Court of Reggio Emilia ruled that the Ministerial Decree, as a secondary source of legislation, could not provide for the obligation to stay at home and, therefore, the related sanctions could not be imposed. According to the Court, art. 13 paragraph 2 of the Italian Constitution could allow for limitations of personal freedom only if they were established by a

¹² We will use the term “soft-enforcement” following the example of Terpan (2015, 10), who uses it to refer to circumstances in which compliance by recipients is not ensured through the use or application of coercive or punitive measures.

¹³ <https://drive.google.com/file/d/1MumUUy1Fz3jnEAMr3MEGatqc6JidYfhI/view>, consulted on 6.4.2021.

¹⁴ https://www.sistemapenale.it/pdf_contenuti/1610403797_gip-milano-falso-autocertificazione-covid-483-codice-penale.pdf, consulted on 6.4.2021.

primary source of law and for individual cases, singularly authorized by a judicial authority (but since such Decrees are addressed to the whole citizenship, this would be impossible).¹⁵

These examples are not intended to suggest that there is (or has been) any sort of ‘disconnection’ between legislative and judicial activities, but simply that the legislator, being aware of the difficulties of providing for and applying sanctions, had to engage in more argumentative (justifying the rules) and persuasive (convincing citizens to obey) activities than what is normally required.

In order to better understand the scope of the phenomenon, it is possible to make a comparison with the well-known Community soft-law, trying to understand whether it can be superimposed on the case that we are examining, and if so, what are the related consequences in terms of argumentation.

The term “soft law” is generally used to refer to guidelines issued by governments or international organizations to member states or their nationals, without them having full binding force and/or sanctions in the event of non-compliance. Terpan (2015, 71–78) defines the traits of soft law by examining two elements which are common to all legal provisions: obligation and enforcement.

The obligation would be the source of the provision and its content. A provision, therefore, could have a soft obligation whenever there is a softness of the source (soft *instrumentum*) or whenever there is a softness of the content (soft *negotium*) (this distinction, used by Terpan, 2015, was introduced by d’Aspremont, 2008, 1081–1087).

On the other hand, the enforcement would be composed of the actions carried out by the legal system for non-compliance: it could be defined as soft whenever there is not a stated sanction or there is not a judicial authority which has the competence (or the will) to impose it.

Finally, it is possible to define as soft law all regulatory provisions that (i) present both the obligation and the enforcement in a soft version (ii) have one of the two elements in a soft version; (iii) present only one of the two elements (in their hard or soft version).

Therefore, it can be argued that the measures implemented during the pandemic are soft law because the enforcement appears to be soft. In fact, for most of the rules there is no provision for a sanction and, even when it is foreseen, the legitimacy of the sanctions and therefore the Courts’ willingness to apply it seems questionable.

9.8 Argumentative Strengthening of Pandemic Legislation

On the basis of the discussion presented in the previous section on the extensive use of images, the thesis that we would like to support now is that, similar to what happens for community soft-law, the softness of the provisions issued during the pandemic

¹⁵ <https://canestrinilex.com/risorse/dpcm-non-puo-limitare-liberta-personale-tr-r-emilia-5421/>, consulted on 6.4.2021.

has led the Government to put in place an argumentative strengthening, aimed at providing citizens good reasons in order for them to comply with the provisions. Once again, this is a confirmation of the new nature of the legislative action also emerged during the management of the pandemic, more careful to convince citizens than to force them through sanctions. Indeed, this is an excellent example of how the normativity of law depends on moral reasons, a point which has also been stated by experts of the post-Hartian school of legal positivism (Schiavello, 2010).

In fact, in traditional soft law cases, which are characterized by the (total or partial) absence of sanctions, the legislator should be able to convince the recipients of the necessity to comply with the provision (And one & Greco, 2018). On the other hand, it is evident that a legislator who can rely on the systematic use of coercion does not have the need to justify its choices (Wintgens, 2006: 5; Picchi, 2011; Ferraro & Zorzetto, 2018); on the contrary, the presence of soft-enforcement would imply a more intense relationship between the legislator and the recipients, based on the ability of the former to persuade the latter (Terpan, 2015, 88).

With reference to Community soft law, the rhetorical-argumentative activity supporting the provision is traditionally contained in the preamble, which is expressly dedicated to the exposition of the factual situation in which the provision is inserted. In the preamble, therefore, by means of precise rhetorical-argumentative patterns, the legislator tends to state (i) that a problem exists or is imminent and it concerns the community, (ii) that the method proposed in the text of the provision is the most effective one to solve or prevent such a problem, (iii) the expected results of compliance with the provision (Andone & Coman-Kund, 2017).

In the case under consideration, the Law Decrees and the D.P.C.M. do not contain this kind of preamble: on the contrary—as in the case of Article 1 of Law Decree 6/2020—the reasons given for supporting the regulatory action are summarized in a single statement without explanations: «in order to avoid the spread of COVID-19».¹⁶ Therefore, rhetorical strengthening is carried out through a variety of factors which are external to the legislative *corpus stricto* sensu, namely the aforementioned use of images combined with a peculiar media activity of the legislator. In particular, and in addition to what has been noted on the use of images:

1. The Ministerial Decrees issued between March 2020 and January 2021 were announced live by the President of the Council of Ministers, on national television channels or via his personal pages on social networks. The live broadcasts all repeated the above-mentioned rhetorical-argumentative patterns: (i) they started with a review of the evolution of the pandemic in Italy, even using images and infographics, which rhetorical function was, in this case, to present the problem to be solved (by taking advantages of the resemblance of objectivity assigned to them); (ii) they offered arguments in favor of the measures, depicting them as the most suitable for solving the problem (the justification of the instruments adopted, referring also to pragmatic arguments) (Andone & Lomeli, 2019); (iii) they presented the goals to be reached during the period in

¹⁶ <https://www.gazzettaufficiale.it> Consulted on 6.4.2021.

which the measures would be operational (the identification of the objective to be achieved).

2. On the Italian Government's website, a page specifically dedicated to FAQs has been set up, containing answers to the most frequently asked questions concerning the interpretation to be given to the provisions issued during the pandemic.¹⁷ From our standpoint, this section has a clear rhetorical value, since it is aimed at representing the reasons for acting.

Therefore, in line with a broad interpretation of the concept of "legislative activity", capable of encompassing not only the production of legislation itself, but also the activity of rational justification of the norms (Wintgens, 2006, 10), we believe that these factors can be seen as part of the formal activity of the legislator and they consist, precisely, in the argumentative strengthening needed by regulatory instruments endowed with soft-enforcement.

In fact, the live presentation of the Ministerial Decrees, could fulfill the rhetorical-argumentative function aimed at convincing the addressees to abide by the regulation (which is typically performed by the preamble for a soft law).

On the other hand, the FAQ section on the Government's (and therefore the legislator's) website could be a means of disseminating an authentic interpretation of the rules (particularly authoritative and difficult to overcome).

9.9 The Role Played by the Experts and Their Rhetorical-Argumentative Accountability

To conclude, we shall make a few observations on the third element we initially identified as a characteristic of the Italian legislative activity during the COVID-19 pandemic, namely the role played by experts.

Haack (2014) explained the complexity of the relationship between science and law; however, we will only consider the position of experts in relation to the argumentative strengthening of the lawmaker through a comparison with soft law at EU level.

With reference to the latter, Rose (2016) expressly speaks of non-binding instruments, which (i) would be particularly appropriate to regulate constantly evolving circumstances and which, for this reason, require flexible regulatory responses; (ii) would be ideal for shorter formulation and revision procedures, as a new agreement among institutional negotiators would be sufficient; (iii) would allow for the active participation of experts in specific disciplines, as there would be no reason for involving just the people's representatives, to the exclusion of others, in the rule-making process.

The question concerning the choice of the most suitable legislative source (implied by (i) and (ii)) does not seem to arise in this case, since the declaration of a state of

¹⁷ <http://www.governo.it> Consulted on 6.4.2021.

emergency has allowed the Italian legislator to resort to legislative instruments which, although potentially binding, can be issued and amended extremely quickly—as is the case with Law Decrees and D.P.C.M.

In our opinion, however, case (iii) is more interesting. Further to this point, the concept of public accountability has been introduced into EU soft law (Bovens, 2006, 9). This explains how technical experts, negotiators or institutional subjects lacking democratic legitimacy can play an active role in the enactment of soft-binding legislation.

With regard to the Italian COVID-19 legislation, the relationship between the members of the C.T.S. and the recipients of the measures developed through the combination of two peculiar ways: the first one can be defined more *argumentative*, whereas the second one more *rhetorical*. The argumentative aspect of the activity of C.T.S. (1) concerns “the obligation to explain and to justify”, while the rhetorical element (2) concerns the possibility that citizens express their judgment on the “actors” (namely, the members of the C.T.S.) and the latter must bear the consequences (Piazza, 2008, 84–87).

- (1) Although the C.T.S. members have never participated in the live media broadcasts of the presentation of the D.P.C.M., the Government—as it did for the FAQ section—has created a section on the Ministry of Health website¹⁸ which is specifically dedicated to the reports of the C.T.S. meetings. In these weekly reports, several pages of data on the evolution of the pandemic can be found, accompanied by the experts’ conclusions which, for each region, identify and briefly justify the risk coefficients, to which the application of various restrictive measures is linked.¹⁹ The activity of argumentative strengthening of the dispositions does not involve only the Legislator, but also the other institutional subjects who are part of the legislative procedure: as they lack any form of democratic legitimation, they must establish a specific relationship of public accountability on an argumentative basis.
- (2) The C.T.S. has a technical-scientific role: this means that its opinions have a precise alethic value. They should meet the alethic rights of the citizen, such as the legitimate claim to know the truth and to be truthfully informed (D’Agostini & Ferrera, 2017). The fact that the C.T.S. can play the role of a “reliable alethic authority” reinforces its accountability and the citizens’ opinion of it, as the following circumstances attest:

- II. In order to prevent misleading information from affecting citizens’ opinions, the Ministry of Health set up a section specifically dedicated to the complex issue of uncovering fake news,²⁰ which has the potential

¹⁸ <http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioContenutiNuovoCoronavirus.jsp?lingua=italiano&id=5432&area=nuovoCoronavirus&menu=vuoto>. Consulted on 9.4.2021.

¹⁹ For example, see the link as of 5.4.2021: http://www.salute.gov.it/imgs/C_17_monitoraggi_54_1_fileNazionale.pdf

²⁰ <http://www.salute.gov.it/portale/nuovocoronavirus/archivioFakeNewsNuovoCoronavirus.jsp>. Consulted on 9.4.2021.

to undermine the alethic value of news just to have a social resonance (Keyes, 2004).

- III. On 13th July 2020, the Regional Administrative Court of Lazio declared that the minutes of the C.T.S. meetings must be public, as an expression of the social importance of knowing the truth, because citizens must be able to have all the information necessary to assess and judge legislative choices.²¹

In conclusion, this entails a general reliance on the C.T.S. as an “alethic authority”; it confirms the argumentative strengthening of the provisions in relation to fake news; it judicially recognizes the role played by accountability which, as mentioned, is developed on an argumentative and rhetorical basis.

9.10 Conclusions

In this chapter, we have described how the regulatory action to deal with the COVID-19 emergency was developed in Italy. From the point of view of political-legislative techniques, we have examined what kind of acts were employed and issues connected with them. Then, we have emphasized three main peculiarities connected with the role of rhetoric as presented by them: frequent use of images; media activity to introduce and justify rules and dispositions; massive involvement of experts. We have analyzed the visual strategies used, showing how they can never be considered objective or neutral, but always have a rhetorical purpose. Finally, we have returned to aspects of the legislation to consider its peculiar legal nature and other argumentative features, including the role of experts. The evolution of the COVID-19 pandemic, together with the social impact it has had, and still has, clearly shows the rhetorical value of political-legislative communication.

It is worth noting that the analysis conducted in this chapter, although it concerns specifically the Italian pandemic situation—which has involved surely emergency circumstances—could represent how rhetoric, in a broad sense, is increasingly taking on a predominant role in the public sphere, also in the provision of legal rules. From a certain point of view, trust in governments has always depended on the rhetorical *pisteis* of *ethos*, *logos* and *pathos*: but in today’s world, this dependence is increasing for the complex reciprocal relationships between legal and scientific knowledge, and multimedia technologies. Nowadays this, to some extent problematic, set of relations among these three components appears to be almost unavoidable. Surely, the scenario presents mutual and interdependent connections which are not easy to manage, to predict and to regulate for several reasons. Sometimes because law seems subjected to a scientific agenda and knowledge or vice versa, while debates appear to be influenced by the multimedia arena or even made by using it. In our opinion, all these situations demand the need to reach new forms of multi- and inter-disciplinary

²¹ The judgment is available at <http://www.quotidianosanita.it/allegati/allegato8935292.pdf>. Consulted on 12.4.2021.

approaches among different branches of knowledge, maybe by reaching again the unity of knowledge we have lost during the last centuries.

Acknowledgements This publication is based upon work from COST Action CA-17132 *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 10

The Case of Coronavirus

Contact-Tracing Apps: Arguments for Trust



Serena Tomasi

Abstract This chapter investigates, from a rhetorical perspective, the arguments used in public communication to overcome the prisoner’s dilemma when cooperation among citizens is needed, using as a case study a communication campaign designed by the Italian government to use the “Immuni App”, a Covid-19 contact-tracing application.

Keywords Legal argumentation · Rhetoric · Trust · Public communication · Topical demand

10.1 Introduction

The pandemic spread of the virus has brought about a change in the lives of citizens, requiring a cooperative effort to encourage everyone to do their part. To contribute to the collective plan to combat the spread of the virus, citizens’ coordination and cooperation skills are tested: from social distancing to fiduciary isolation, from compliance with the rules of access to public places up to the use of contact-tracing apps.

We are faced with a typical social dilemma: a situation in which individual interest seems, at first glance, to conflict with collective interest. This situation can be explained as a great ‘prisoner’s dilemma’ in which compliance with the rules by one subject can lead others to violate them. If everyone stays at home to avoid contagion, precisely because ‘they’ stay at home, bearing sometimes even high costs, I will be able to feel safe in going out and enjoying the benefits of the outdoors without running the risk of being infected. By benefiting from the loyal behaviour of most, free-riders get the benefits without incurring the costs. But if everyone were to behave non-cooperatively in the same way, of course, these benefits would evaporate in an instant. If everyone, seeing the crowded streets, underestimated the danger and went out, the danger would materialize precisely because of this.

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The protection of public health requires communication choices aimed at supporting citizens' cooperation. How to induce people to go against their personal interest to promote, at the same time, their personal interest as well as the social one?

This chapter aims to investigate the arguments used in public communication to solve the prisoner's dilemma and to induce individuals to continue to cooperate. I will use as a case study the one related to the use of the 'Immuni App': first I will select the topics presented in Italy in official government communication to convince citizens to use the contact-tracing application; secondly, I will analyse from a rhetorical point of view the strategies and reasoning errors that make us decide whether or not to download the app-system on our smartphone. The argumentative analysis will, finally, involve some reflections on the conception of social life, almost entirely based—at least as regards our juridically oriented behaviours—on a paradigm that we can call distrustful. The idea that seems to guide us is that, when we deal with the law, we put aside the trust we have in others, and indeed, precisely because we do not trust others, we turn to (compulsory) law and its solutions.

10.2 The Case of 'Immuni' Contact-Tracing App

The States affected by the pandemic have had to take measures to contain the spread of the virus.

Since the first phase after the emergency in April 2020, the possibility of using systems for tracing the spread of the virus, on the basis of the collection of personal data through specific technologies, such as contact tracing apps, was taken into account by multiple governments.

Italy, to whose experience we will refer in this article, opted for the use of 'Immuni', an application that uses Bluetooth technology.

This app is able to help to identify subjects who could be infected as soon as the potentially contagious event occurs, so as to avoid further transmission of the virus by those who are unaware of having come into contact with it. If an individual with the app on the phone becomes infected with the COVID-19 virus, the app allows others, who were in close contact with that individual in the recent past, to be alerted of a potential risk of infection and to take appropriate action.

The 'Immuni' application was developed from the collaboration between the Presidency of the Council of Ministers, the Minister of Health, the Minister for Technological Innovation and Digitization, the Regions, the extraordinary Commissioner for the Covid-19 emergency and the public companies Sogei and PagoPa. The app was publicly presented as the help of technology to break the chain of infections and better monitor the epidemic. The system was also developed thanks to an in-depth dialogue with the Guarantor for the protection of personal data, thus paying utmost attention to issues of privacy.

The use of this containment model, based on the ability of a computer system to reconstruct and, in a certain sense, predict the path of the spread of the virus, immediately aroused many perplexities. The effective use of this measure presupposes its

large-scale application, which requires a high level of trust, both in institutions and in citizens.

The Italian government, in April 2020, launched a communication campaign on raising awareness of the use of the app: encouraging information for downloading the application was made available on the official website of the app.¹

On the one hand, there is the fear of citizens for the spread of the virus, for the prospect of registering hundreds of deaths a day again, or for a new economic crisis. Faced with this scenario, the app could offer a concrete solution to monitor infections. But, on the other hand, citizens fear that someone may come into possession of sensitive data collected by the app, a risk that is not eliminated by the government decree which states that each piece of information collected by the app must be divided into various parts and each part must be stored on different servers.

Therefore, the dilemma is between using the app and not using it.

10.3 Social Dilemmas

The choice that Italian citizens (but not only Italians) are called to make regarding the Immuni app could be seen as analogous to the situation in which individuals find themselves in the famous Prisoner's dilemma (PD).

Such a situation is a typical social dilemma which is, by definition, a situation in which every group member gets a higher outcome if he/she pursues his/her individual interest, but everyone in the group is better off if all group members further the common interest (Bicchieri, 2006: 140).² In social dilemmas, there is a huge difference between the costs and benefits accruing to an individual.

Game theory has been applied, since the 1950s, to the analysis of various issues concerning the ethics and philosophy of policy, in order to determine the choices that a rational individual should make, in the most diverse situations, given its aims and opinions (John von Neumann & Oskar Morgenstern, 1944). In this perspective, 'games' are all those situations in which two individuals, or, more generally, two 'actors', where this term may apply not only to people, but also to organizations, businesses, governments and so on, are involved in some strategic interaction. The general and abstract nature of the notion of game has made it possible to apply game theory in the most diverse fields, social sciences and economics, strategic studies, ethics and philosophy of politics (Festa, 2008). Game theory offers us dynamic models for the simulation of actions by rational individuals and leads us to illuminating conclusions, and often unexpected ones (Axelrod, 1984, 1997).

The use of the Immuni App is an example of what experimental subjects may face in the Prisoner's Dilemma, which is a clear example of a public good dilemma. Public

¹ <https://www.immuni.italia.it/>.

² See also Dalyot et al. (2022, this volume) for a quantitative study of how people respond to social dilemmas in the context of the COVID-19 pandemic.

good dilemmas have the property that the individually rational choice is always a defection: but if all refuse to cooperate, all are worse off.

The Prisoner's Dilemma owes its name to the story with which it is usually illustrated: two thieves in a stolen car get arrested. The police can sentence both of them to one year for theft, but since it is suspected that the two have recently committed a major robbery, they would prefer to indict them for this crime, which would cost the perpetrators ten years in prison. To get a confession, the commissioner proposes to each of the prisoners the following alternative: confess the robbery and betray one's accomplice or remain loyal to him and keep quiet. If only one prisoner confesses, he will be set free and the accomplice will serve the entire sentence, that is ten years. If both prisoners confess, they will both get a 5-year sentence discount for cooperating with the police, serving only the remaining 5. If both remain silent, the police will not have enough evidence to indict them for the robbery, so that both will 'serve only 1 year for the theft of the car.

In its general form, the prisoner's dilemma can be defined as a game in which each player can cooperate or defect. If the prisoners cooperated, that is, if none of the two confessed, they would only serve 1 year in prison instead of 5. Cooperation ensures better results for both players, but each prisoner then finds himself grappling with a dilemma: on the one hand, he knows that the only rational strategy is to confess, but on the other hand, he understands that it would be convenient for both of them to remain silent (Pestelacci & Tomassini, 2008).

We can apply the PD model to the choice of application of the Immuni app: everyone has to decide whether to use the app or not, and may find themselves thinking that:

- (a) if at least 60% of Italians used the app, then it would be better for me not to use it, because in this way I would have two advantages: (1) most citizens would be traced and therefore the curve would remain under control even if new outbreaks re-emerge, and (2) I would not take the risk of giving my data to unknown servers;
- (b) if at least 60% of Italians did not use the app, then it would be better for me not to use it because (1) even if I were one of the few to use it, this would still not be enough to control the infection, and (2) I would not run the risk of giving my data to unknown servers.

Conclusion: whether others use the app or not, it is better for me not to use it.

Interpreting the problem as a Prisoner's Dilemma, it might seem that no one has any incentive to use the app. Not using the app is, in fact, the most advantageous answer regardless of what others do.

The result of a game of public goods will depend on the choices of the participants, each of whom must decide whether to cooperate in the production of the good (i.e., to contribute to its production costs) or to defect (i.e., not contribute).

The experimental game-model shows that there is a 'game result', which both players prefer to the proper solution of the game. This circumstance is a salient aspect of the prisoner's dilemma, and it is also the hallmark of social dilemmas. If

everyone behaves like a free rider', in the hope that others will contribute to the production costs of the public good, then no public good will be produced.

Furthermore, if everyone interprets the problem of the use of the contact tracing app in this same way, not using the app is going to be the stable choice.

According to the PD model, the choice to use the Immuni-App is thus excluded, while it would be the choice that increases the chances of getting out of the crisis.

Game theory precisely shows that, under certain conditions, the production of public goods can be successful by means of voluntary individual contribution (Verbeek, B., & Morris, C., 2004).

While in the prisoner's dilemma the paths of cooperation are obstructed by the rationality of the players, and by the trust in the rationality of their members, there is another game, the so-called Stag hunt game (SH), which demonstrates the different mechanisms for achieving a cooperative balance.

In the SH model, the players—two hunters—must choose whether to hunt the hare or the stag. While a hunter can hunt the hare alone, the stag hunt can only be implemented in collaboration with a partner; on the other hand, the reward that everyone can expect from the solitary decision to hunt the hare is rather small, while in agreeing to join the stag hunt, both hunters can expect a greater reward.

The decision problem involves a choice between a minor goal, but achievable individually, and a major goal, but possible only if individuals are willing to collaborate. In this second case, the possibility of achieving the greatest goal depends not only on the individual, but on the decisions of others: the best choice depends on what others choose to do. Since the Stag Hunt is the move that, if implemented by both, leads to the result preferred by both, it can be understood as the cooperative move; on the contrary, hare hunting represents non-cooperation, that is, defection.

The structure of the game-model applied to our case at hand is the following:

- (a) If others use the app, we should use it.
- (b) If others don't use it, we don't want to use it.

Conclusion: we should do what others do.

The advantage of this model is to hypothesize two situations of equilibrium: one in which everyone uses the app and one in which no one uses it. Applying this model to the app-case, the use of the app is not rationally excluded, depending on trust.

In the Stag Hunt, temptation defection is determined by the players' distrust in the rationality of their partners. This means that if we do not trust our hunting partner's cooperation and believe that he will eventually choose to hunt the hare, then it will be safer for us to do the same. Similarly, if we do not trust the cooperation of our fellow citizens and believe that many will not use the app, it will be safer for us not to use it.

This game model admits the possibility that players, voluntarily, realize the public good as long as there is trust. Trust is, therefore, the essential success factor of the interaction. The expectation of reciprocity increases the benefits for all participants: hence, mutual trust is the variable that influences the success of the strategy.

Game theory has the merit of analysing social relationships and showing different possible behavioural patterns, revealing the need, from a rhetorical point of view, to build trust.

According to Italian sociologist and economist Antonio Mutti, it is necessary to invest in ‘trusted speakers’. Trusted Speakers are institutions and individuals who already enjoy trust and who certify the trustworthiness of other individuals and institutions that need trust (Mutti, 1998). Trust Speakers have the task of producing the multiplicative effects of trust. The diffusion of trust at the institutional level is expressed by managers and experts, but also by political leaders who are bearers of highly expressive values. The more the confidence enjoyed by the speakers is high and extended, the more effective and extended the induced propagator effect will be.

It is, therefore, clear that the role of public speeches induces great responsibility. If the use of the app is associated with multiple risks to our privacy, rather than its advantages, the population will clearly tend to be less inclined to download and use it. There are many different interests and individual evaluations: the task of the institutional public communication would be to favour their coordination.

Using game theory as a method of analysis, according to the Prisoner’s Dilemma, when confronted with the decision whether or not to use the app, the strategically rational conclusion for each citizen would be that it is better not to use it. In contrast to the PD model, the SH model of strategic interaction has the advantage that it allows for two strategically rational solutions: when both players cooperate and when both players defect. Hence, a player’s decision to cooperate or not under the SH model depends on the expectation that the other player will cooperate. This means that citizens are more likely to be persuaded to use the app if they trust that their fellow citizens (or at least 60% of them) will use it as well.

Hence, for the purposes of the communication campaign, aimed at inducing citizens to act cooperatively by using the app, to maximise the chances of success, the Prisoner Dilemma should not be used to frame the central message, and preference should be given to the Stag Hunt model. Public speeches must build trust: only through collaboration and mutual trust will it be possible to overcome the crisis.

10.4 Trust in the App! A Selection of Pro-arguments

Considering institutional public communication, it is interesting to note that the name given to the app consists of the adjective in the plural: in Italian ‘Immuni’ (not ‘Immune’). This is an important expressive choice: from a rhetorical point of view, the name in the plural suggests the social interest in immunization. The name in the plural also emphasizes the relational dimension of the act of downloading: the choice to download the app does not only concern the individual, but affects everyone. Everyone’s behaviour can have positive effects on everybody else.

Despite several institutional messages, the public campaign in Italy turned out to be unsuccessful.

I will present a selection from the main topics that have been used in Italian political public communication to encourage citizens to use the application and I will try to explain its failure.

Some topics are those published on the official website,³ promoted by the Prime Minister Giuseppe Conte: in the section dedicated to ‘frequently asked questions’, recurring questions are fleshed out; their answers suggest reasons for deciding to download the application, for example:

- (6) Why is it important to download Immuni?

With Immuni we have an extra weapon to limit the spread of the coronavirus. The more people download it, the more effective this weapon becomes.

- (7) Can I decide not to use the app?

Yes, the download and use of Immuni take place on a voluntary basis. Immuni is an important tool in the fight against the Covid-19 epidemic and the more it spreads, the more effective it is. We therefore recommend that you install it and encourage colleagues, family and friends to do the same.

In October 2020, according to data released by the media, the application was only used by about 18% of the Italian population, between 14 and 75 years old, in possession of a smartphone. This was far from the 60% target, a percentage necessary for the system to become an effective tool in containing the pandemic. The government decided to give a greater push to the spread of the app, through a campaign, from 5 to 11 October 2020, in which all the newspapers, public and private, participated. The Prime Minister, Giuseppe Conte, during the presentation of this informative initiative, declared:

- (8) “It is a useful tool because it facilitates contact tracing. While it is optional, it is definitely a moral imperative to participate in this program. The data becomes anonymous. The geolocation remains disabled, but downloading the app gives our prevention system the possibility to be more efficient”.

Despite a pervasive awareness campaign, promoted by the government and supported by the main newspapers, the app was not sufficiently downloaded and was, in the end, a failure.

The reasons for the failure are explicit in some argumentative errors, which are already evident in the selected public discourses.

Let us examine more closely the selected paradigmatic discourses, on which the Italian public opinion was oriented in the choice of using or not the contact tracing app.

10.5 An Argumentative Analysis

At a first level of an analytical overview, it is possible to identify standpoints and arguments as follows:

³ <https://www.immuni.italia.it/faq.html>.

Example 1

ISSUE: Do I download the app?

STANDPOINT: Yes, I should download the app.

ARGUMENT: It is an extra weapon to limit the spread of the coronavirus.

Example 2

ISSUE: Do I download the app?

STANDPOINT: Yes, I will download the app.

ARGUMENT: It is an important tool in the fight against the Covid-19 epidemic.

Example 3

ISSUE: Do I download the app?

STANDPOINT: Yes, I will download the app.

ARGUMENT: It is a moral imperative to participate in this program.

I will now consider, more specifically, the topical component in the selected arguments. My analysis will draw on the *Argumentum Model of Topics*, following Eddo Rigotti and Sara Greco's inferential theory, by focusing on the maxims arising from hooking points and on the *endoxa* they evoke (Rigotti & Greco, 2019).

Here, I will limit myself to the presentation of its fundamental traits, useful to investigate the relationship between the argument choice and the communicative context. The theoretical commitment of the AMT model is that topics are the component of argumentation theory by which ideally all (theoretically possible) relevant arguments, in favour and against any standpoint, are generated by specifying their inferential structure through a system of *loci* (Rigotti, 2006, 2008).

Two fundamental notions are involved by this definition: standpoint and *locus*. A standpoint is a statement for whose acceptance by the addressee the arguer intends to argue. A locus is a "sub-generator" of argumentative procedures consisting of one or more maxims; the inferential process cannot be activated if the maxim is not combined with an *endoxon*, that is already within the shared opinion.

If we compare the arguments, we note that the *locus* at the origins is the same (specifically, *locus from final cause*), but the inferential connections are different, depending on the material-contextual component (Greco, 2011).

In arguments 1 and 2, the common *datum* is that "the spread of the coronavirus is a fight, a war". In this sense, the application to be used on the smartphone is not just a tool, but a weapon (*first conclusion*). Evoking, through images, the analogy with the weapons that are used to fight a war, has an effect of sure impact, in accordance with recurrent linguistic uses in the communication of the pandemic, such as "being in the trenches against the Coronavirus", "combat the virus".⁴

But the war metaphor is also a way of representing and organizing our world: there are "many expressions that are based on a conceptualization, and they are used not

⁴ For example, in the communication of local health companies (https://drive.google.com/file/d/1tTZH7QNfJdAae0oryM0Bx77a_dYjtp_/view), or in the expressive choice of the press to describe the action of the doctors (https://www.ilmattino.it/moltodonna/virologhe_scienziate_spallanzani_covid_vaccino_test-5607421.html).

just for talking about something, but for reasoning about it as well” (Lakoff, 1993: 206). Understanding a conceptual metaphor means establishing correspondences between the two domains. In this mapping, citizens can be represented as soldiers fighting together for the same cause. The battlefield is that of their own cities, the weapon is available to everyone and it is their own telephone.

The use of the war metaphor is a determining topical component of the argument, yet its use is not reasonable in the communication strategy that aims at building trust. The state of war evokes the survival instinct and might induce everyone to prefer individual as opposed to social choices. As a matter of fact, the use of the war metaphor involves the emergence of another issue: do I want to be a soldier or not?

Therefore, the language of war does not engender trust in the other: the instinct for one’s own survival can lead everybody to non-cooperative choices.

In example 3, the Prime Minister is supposed to be, due to its institutional and top role in the management of the pandemic, the trust speaker, who suggests the use of the app as a moral imperative. That is to say, it is a profoundly right act. Formally, it is a fair act (*first conclusion*), so it is plausible to use the app (*final conclusion*).

The use of the application is a mere recommendation, not sanctioned by any penalty in case of non-use.

The arising question is: why does it remain ineffective?

I argue that it depends on the *endoxon*, which is intertwined with the argument and regards the concept of social and legal relationships. The success of the argument that using the app is a fair recommendation depends on sharing a concept of trust in social and legal relationships; since the mandatory nature of law is associated exclusively with coercion, eliminating or underestimating the trust-factor, citizens do not recognize that their duty to do something does not depend on the sanction. A consequence of this view is that, to ensure the effectiveness of a rule, not adequately obeyed by citizens and above all not sanctioned by those who have the duty to do so, it is necessary to enforce the rule with the help of the police force.

If the coercive law model prevails, the rule is binding only insofar as it is endowed with a sanction, with the consequence that where the sanction does not exist, or where the sanction does not come because it fails to be effective, there is no obligation to comply with it (Greco, 2021). In this framework, trust cannot exist, except on the condition that it is produced by the exercise of a power that forces individuals to perform their duty.

This explanation can be represented as follows:

Claim: The moral imperative argument of government failed.

Standpoints:

- (i) moral imperatives (such as using the app) are norms which are not backed by any penalty;
- (ii) the addressees of the argument (citizens) will not obey a norm that is not backed by any penalty.

Standpoint: The addressees of the argument (citizens) will not obey a norm that is not backed by any penalty.

Argument (premises).

- (a) in law there is a ‘horizontal-relational’ dimension, which always accompanies the vertical-sanctioning one;
- (a1) The relational view of law is that according to which the law is addressed above all to citizens and their need to relate to each other; that is, the law asks to trust each other, establishing mutual rights and duties.
- (a2) The coercive view of law is that according to which, not only is a rule legal as it is sanctioned, but also—and above all—it is mandatory only because there is the threat of a sanction to support it.
- (b) on the basis of a coercive conception, citizens obey legal norms only because they are afraid of facing negative or painful consequences.
- (c) if an agent believes that a legal rule is binding only insofar as it is endowed with a sanction, plausibly, that agent will not consider rational to follow a rule that is not backed by any sanctions.

The analysis of the failure of the Immuni App allows us to conclude that the coercive and distrustful paradigm still prevails over the relational and trustful paradigm. The idea that seems to guide Italian citizens is that, when they are dealing with the law, they put aside the trust they have in others, and indeed, it is precisely because they do not trust others that they turn to law and its solutions.

A paradigm like this has solid and well-rooted foundations in modern legal thought (Greco, 2012): the coercive vision of law is a conception that is widespread not only among jurists, but also among ordinary citizens, which has the defect of removing an important part from the law, which concerns the ways of its functioning, the regulation of social relations and the responsibility that law attributes to each citizen. The law is addressed above all to citizens and requires them to trust each other and have consequent behaviours.

In some cases, even the effectiveness of a specific right and a specific legal relationship is based only on trust and on the behaviours aimed at achieving it: for example, the right to health, in particular in times of a pandemic, requires the cooperation of the majority of citizens as there is no full protection of one without the protection of the other. In many cases, certainly, the law requires less involvement, for example by imposing rather than doing, not doing: but also in these cases, trust comes into play. Indeed, when we expect others to behave according to what the rules prescribe, it is an act of trust that we put in place towards them: we all trust that other citizens respect the rules. There are norms (as principles or nudges) that, more than others, rely on those who apply them. Law never applies automatically and always relies on the responsibility of those to whom it is addressed; hence, hiding the trust means hiding the responsibilities that law entrusts to everybody.

10.6 Trust in Legal Relationships

I argue that the *endoxon* of the moral imperative argument (example 3) is different from that expected. For the argument to be effective, a trustful vision should be shared.

Instead, what appears to be common among citizens is an alternative compulsory conception of law.

The theory that there is a link between law and force has been much debated in the history of the philosophy of law. The fact that sanction and coercion must go hand in hand with law is not an invention of modernity. In the words of Aristotle (Aristotle, 1999, *Nicomachean Ethics*, 10.9):

For it is the nature of the many to be amenable to fear but not to a sense of honor, and to abstain from evil not because of its baseness but because of the penalties it entails; since, living as they do by passion, they pursue the pleasures akin to their nature, and the things that will procure those pleasures, and avoid the opposite pains, but have not even a notion of what is noble and truly pleasant, having never tasted true pleasure. [5] What theory then can reform the natures of men like these? To dislodge by argument habits long firmly rooted in their characters is difficult if not impossible. We may doubtless think ourselves fortunate if we attain some measure of virtue when all the things believed to make men virtuous are ours.

But for Aristotle, each community includes a particular type of friendship and justice. The concept of *philia* is extended to its maximum: when a community is created (*oinonia*), there are always relations of justice and friendship (Aristotle, *Nicomachean Ethics*, 8, 1159b 26–31).

Friendship is a virtue, or involves virtue; and also it is one of the most indispensable requirements of life. For no one would choose to live without friends, but possessing all other good things. In fact rich men, rulers and potentates are thought especially to require friends, since what would be the good of their prosperity without an outlet for beneficence, which is displayed in its fullest and most praiseworthy form towards friends? And how could such prosperity be safeguarded and preserved without friends? For the greater it is, the greater is its insecurity.

The Modern Age introduced coactivity as an essential element of law and removed mutual trust from the way of thinking about law. The concept of law is, for modernity, distrustful. Modernity overturns the paradigm of justice, which is no longer explained under the principle of friendship, but as legality under the banner of fear. Hobbes' theory makes explicit the connection between law and coercion: men respect pacts only if forced. Normativity is necessarily based on a no-trust model for which only when one is forced, one is subject to law; in the absence of coercive power, there is no obligation. In chapter XXV of his best-known work, *Leviathan* (Hobbes, 1651), Hobbes distinguishes between commands and advice:

COMMAND is, where a man saith, "Doe this," or "Doe this not," without expecting other reason than the Will of him that sayes it. From this it followeth manifestly, that he that Commandeth, pretendeth thereby his own Benefit: For the reason of his Command is his own Will onely, and the proper object of every mans Will, is some Good to himselfe.

COUNSELL, is where a man saith, "Doe" or "Doe not this," and deduceth his own reasons from the benefit that arriveth by it to him to whom he saith it. And from this it is evident, that he that giveth Counsell, pretendeth onely (whatsoever he intendeth) the good of him, to whom he giveth it.

Therefore between Counsell and Command, one great difference is, that Command is directed to a mans own benefit; and Counsell to the benefit of another man. And from this ariseth another difference, that a man may be obliged to do what he is Commanded; as when he

hath covenanted to obey: But he cannot be obliged to do as he is Counsell'd, because the hurt of not following it, is his own; or if he should covenant to follow it, then is the Counsell turned into the nature of a Command. A third difference between them is, that no man can pretend a right to be of another mans Counsell; because he is not to pretend benefit by it to himselfe; but to demand right to Counsell another, argues a will to know his designes, or to gain some other Good to himselfe; which (as I said before) is of every mans will the proper object.

This also is incident to the nature of Counsell; that whatsoever it be, he that asketh it, cannot in equity accuse, or punish it: For to ask Counsell of another, is to permit him to give such Counsell as he shall think best; And consequently, he that giveth counsell to his Sovereign, (whether a Monarch, or an Assembly) when he asketh it, cannot in equity be punished for it, whether the same be conformable to the opinion of the most, or not, so it be to the Proposition in debate. For if the sense of the Assembly can be taken notice of, before the Debate be ended, they should neither ask, nor take any further Counsell; For the Sense of the Assembly, is the Resolution of the Debate, and End of all Deliberation. And generally he that demandeth Counsell, is Author of it; and therefore cannot punish it; and what the Sovereign cannot, no man else can. But if one Subject giveth Counsell to another, to do any thing contrary to the Lawes, whether that Counsell proceed from evill intention, or from ignorance onely, it is punishable by the Common-wealth; because ignorance of the Law, is no good excuse, where every man is bound to take notice of the Lawes to which he is subject”.

From the Hobbesian analysis, the command can be traced back to the will of those who give it and characterizes the world of the law, which is imperative. The law is resolved in the power of an authority that commands its subjects (Gauthier, 1969).

The history of attempts to identify the differentiating features of legal norms from all other norms is long and complex. While proceeding in a synthetic way, it is impossible not to refer to Christian Thomasius, who in his *Fundamenta Juris Naturae et Gentium*, in 1705, argued that the qualification of law should be reserved only for the enforced norms, by distinguishing *honestum* (morality, understood as an internal forum), *decorum* (ie morality, in its social aspect) and *justum* (ie law) (Hunter, 2019).

A fundamental turning point is drawn by Immanuel Kant, who uses the concepts of autonomy and heteronomy (Kant, 1998). Autonomous are those imperatives, in which the one who sets the norm and the one who executes it is the same person. Conversely, heteronomous are those imperatives in which the person from whom the norm comes is different from the recipient who carries it out.

Autonomy of the will is the property of the will by which it is a law to itself (independently of any property of the objects of volition). The principle of autonomy is, therefore: to choose only in such a way that the maxims of your choice* are also included* as universal law in the same volition. That this practical rule is an imperative, that is, that the will of every rational being is necessarily bound to it as a condition, cannot be proved by mere analysis of the concepts to be found in it, because it is a synthetic proposition; one would have to go beyond cognition of objects to a critique of the subject, that is, of pure practical reason, since this synthetic proposition, which commands apodictically, must be capable of being cognized completely a priori. This business, however, does not belong in the present section. But that the above principle of autonomy is the sole principle of morals can well be shown by mere analysis of the concepts of morality. For, by this analysis we find that its principle must be a categorical imperative, while this commands neither more nor less than just this autonomy.

This is not the place to explain Kant's practical philosophy in detail: but it is interesting to note, for the purposes of our analysis that in morality, the will is pure, not influenced by fears or impulses. In law, however, the will is no longer pure because it is linked to the faculty of constraining those who prejudice the freedom of others. Moral adherence is an end in itself, it does not serve to avoid punishment; if such adherence were obtained by force, it would cease to be spontaneous and the moral character of the act would be lost.

The law-coercion links is endorsed by legal positivism. Austin (1995) argued that law is a set of general commands from an authority, the sovereign, which are backed by threats and receive habitual obedience. Within the legal positivism tradition, coercion turns into a mechanism without which the modern state apparatus cannot function (Manzin, 2014; Puppo, 2018; Tomasi, 2020).

The idea that every legal norm is accompanied by a sanction, however, triggers an infinite regress. For example, think of a parking ban: there is a rule that requires the municipal police to sanction those who park their cars in a prohibited area. But if the rule is not applied, a rule that sanctions the police who have not enforced the rule must be imagined, in an infinite chain, up to an ultimate rule, which will not be sanctioned. The last transgression remains unsanctioned.

Hans Kelsen, to overcome the limitations of the theory of coactivity, reconfigures legal norms as hypothetical judgments. The structure of legal norms is of the type: *if ... then*. In structure, the consequence is the sanction: thus, the sanction becomes a constitutive part of the legal rule. With Kelsen, force is something that lies within the law: in this way, Kelsen imposes coercive law as a model of legal norm because all the norms are reduced to a single type.

From being a distinctive element of only legal imperatives (as it was for Kant), coercion has become with legal positivism an essential element of law.

Finally, within this framework, it is easier to understand why the argument offered in example 3, is not effective. The foundation of normativity in common legal thought is coercion: citizens need to learn to *feel* the duty to obey the rules, regardless of the danger of facing negative consequences if they do not. It is quite obvious that the challenge of a renewed public ethics involves that intertwining of customs, morals and law. Only with a profound rethinking of the concept of law is it possible to create that circle between interpersonal trust and institutional trust, the absence of which is one of the weaknesses of the socio-political system.

10.7 Final Remarks

The result of the analysis of the app-case, both from the point of view of game theory and from the point of view of argumentation, lead to the same conclusion: trust plays a central role. Since the use of the tracking application is not encouraged by any sanctioning rule, but is a mere recommendation, its effectiveness depends on its applicators. The argument pro-app is successful if it is preceded by a common shared

opinion about the concept of law, which includes trust and respect for reciprocity in the society.

Trust must not be a mere “outcome” of the existence of the law, but a constitutive element of the functioning of law itself, and even of its concept.

The case of the Immuni-app highlights the existence of a space in which the law refers to the trust of (and among) citizens.

The lasting propagation, among citizens, of a regulatory model of law, fruit of modern thought, that excludes trust and values coercion, inevitably will mark the failure of the argument. The coercive model is distrustful: only when one is “forced”, one is really “obliged”; there is no obligation, on the other hand, in the absence of coercive power. If the respect for the law is determined by the threat of the sanction, the civil relationship is undermined. When the authority of law, in other words, focuses on the exercise of force, the moment of trust can only recede until it disappears completely.

Otherwise, if the obligations predate the implementation of the sanction, then there are legal relationships, made up of obligations and expectations, which are left to the subjects involved.

In fact, the legal order makes sense only when a social order pre-exists, since legal relationships cannot exist when the elementary data of civil life expire. Without necessarily having to summarise the Aristotelian discourse on friendship in society, it can be concluded consistently that “*law takes root in a society that has already tasted the taste of trust*” (Greco, 2020: 216). Trust is a “fact”, without which no social order can be achieved.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 11

Securitization, Emergency and the Rediscovery of Responsibility in Times of Pandemic: Analyzing Political Discourses from the European South



Salomi Boukala and Dimitris Serafis

Abstract This chapter intends to provide an argumentative perspective on the justification of securitization by Southern EU's political leaders in times of a public health crisis and the COVID-19 pandemic by examining instances of public discourses, specifically addresses to the nation of four EU leaders with different ideological positioning, in different social settings of the European South. Based on the theory of securitization, we perceive public debate as a polylogical phenomenon where multiple actors, from multiple (ideological) positions, in multiple times and spaces interact, creating a complex network of public communication while expressing and supporting their claims. Through this prism, our aim is to shed light on argumentative polylogues by unveiling whether and how the state of emergency has been justified. We employ the frame of the Discourse-Historical Approach (DHA) to Critical Discourse Studies (CDS) (Reisigl & Wodak, 2016) to study the socio-historically conditions against which established endoxical premises are (re)constructed by the political leadership and how these interrelate with specific argumentation strategies (topoi) in the social settings under scrutiny. We then draw on the quasi-Y structure provided by the Argumentum Model of Topics (AMT) (Rigotti & Greco, 2019) to scrutinize the interplay of topical and endoxical premises in the development of single standpoint-argument couplings.

Keywords Securitization · COVID-19 pandemic · Political discourse · Southern EU · Argumentative polylogues · Discourse-Historical Approach · Critical Discourse Studies · Argumentum Model of Topics

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S. Oswald et al. (eds.), *The Pandemic of Argumentation*, Argumentation Library 43,
https://doi.org/10.1007/978-3-030-91017-4_11

203

11.1 Introduction

The COVID-19 pandemic has unprecedentedly modified the social and living conditions in Europe. The videos depicting the overloaded intensive care units in Italy and Spain that were affected hard by the first wave of coronavirus were among the exemplary instances that accelerated insecurity and fear at the beginning of the public health crisis in March 2020. As such, the COVID-19 pandemic added to a continuum of multiple and long-standing crises in Europe such as the debt crisis (e.g. Kelsey et al., 2016; Serafis & Herman, 2018) and the ‘refugee crisis’ (Krzyżanowski et al., 2018). As Wodak noted “[e]ach crisis contributes to both new and old threat scenarios” and, as evidenced in the context of the ongoing pandemic, COVID-19 was “instrumentalized by governments in various ways in order to persuade people to comply with restrictive measures in view of the pandemic” (Wodak in press and refs therein). Through this prism, our aim here is to examine the discursive construction of the pandemic threat and how it links to the security measures that were implied to mitigate the spread of COVID-19. In particular, this chapter aims to offer an argumentative perspective to the justification of securitization by Southern EU’s political leaders in times of a public health crisis and the COVID-19 pandemic; the *argumentative justification of securitization* that, in so far as to our knowledge, remains rather overlooked.

In the following, we first outline a theoretical discussion that frames the ways political leaderships’ public discourses on COVID-19 pandemic, in different contexts (Greece, Italy, France and Spain) and from different political perspectives (right wing, centrism and left wing), converge to the imposition of measures in the fight against the pandemic, based on the theory of securitization; securitization refers to the discursive construction of an event as a threat, implicitly suggesting countermeasures to address this very threat (see McDonald, 2008). We grant the premise that public discourses and argumentation “in contemporary controversies and deliberation involves many players, many positions, and many places” and, as such, it is “the many-to-many *polylogue* that requires further conceptualization for argumentation theory” (Aakhus & Lewiński, 2017: 179, original emphasis). Moreover, given the fact, as Wodak (in press) maintains, that authoritarian tendencies are established in the relevant pandemic, we claim that argumentative polylogues in times of COVID 19 crisis should be seen from a critical perspective. Specifically, we draw on the framework of Critical Discourse Studies (henceforth CDS) (see Wodak & Meyer, 2016) to show how social inequalities and authoritarian turns can be sustained in the respective argumentative polylogues. Within this framework, we firstly employ analytical tools from the Discourse-Historical Approach (henceforth DHA) to CDS to study “nomination-”, “predication-” and “argumentation strategies” (see Reisigl & Wodak, 2016) to illustrate the authoritative dimension of the public health and social measures that were developed on the basis of security and public safety. Then, we pay particular attention to the ways in which argumentation strategies (i.e. topoi in DHA terms) interrelate with dominantly accepted macro-values, namely *endoxa* (see Boukala, 2016). We scrutinize the topoi-endoxa (inter)relation by appealing to the

quasi-Y reconstruction provided by the Argumentum Model of Topics (henceforth AMT) (see Rigotti & Greco, 2019) that enables us to show how standpoint-argument couplings are developed through inferences that stem on the basis of *topoi* (or *loci* in AMT terms) and *endoxa*. To explicate our methodological framework, we focus on a specific “discourse strand” (Rheindorf, 2019: 210–211) regarding COVID-19 at the beginning of the respective pandemic, that is in mid-March 2020, and we examine instances of public discourses, specifically addresses to the nation of four EU leaders (Kyriakos Mitsotakis, Giuseppe Conte, Emanuel Macron, Pedro Sanchez) with different ideological positioning, in different social settings of the European South. It becomes a truism nowadays that the social settings under study have gone through a long-standing polarization since 2010, being affected by the turbulences of the Eurozone debt crisis, the refugee crisis, among others (see e.g. Kelsey et al., 2016; Krzyżanowski et al., 2018). This very fact permits us to see the countries under study together as part of the same context for the sake of this analysis. In light of the analysis, we sketch a discussion and some tentative conclusions.

11.2 Securitization and the Discursive Construction of the Enemy in Times of Crisis

The discursive construction of specific topics and contexts as threats and the necessity for security has been well examined along the lines of the concept of *securitization* by the so-called Copenhagen School approach, among others, in cases such as “immigration, health, political dissidence and minority rights” (McDonald, 2008: 563). The concept was initially informed by Austin’s (1962) theory of *speech acts* and, accordingly, in this frame:

securitization can be defined as the positioning through speech acts (usually by a political leader) of a particular issue as a threat to survival, which in turn (with the consent of the relevant constituency) enables emergency measures and the suspension of ‘normal politics’ in dealing with that issue (McDonald, 2008: 567).

Hence, the theory of securitization is based on the discursive construction of a threat that leads to the legitimation of decision-making that could challenge civil rights in the name of national security. Moreover, recent approaches of the relevant concept, moved beyond the verbal means by which a securitization perspective could be realized. In particular, scholars within the same framework, considering the 9/11 attacks in the US, pinpointed the role of visual recourses (e.g. images) and other multimodal representations to be core elements in the discursive construction of security in times of crises, when certain issues are portrayed as threats that need to be addressed at any cost (see Williams, 2003; Möller, 2007). All in all, the core logic of this perspective is that the discursive construction of “threats justifies the use of extraordinary measures to handle them” (Buzan, Wæver & de Wilde, 1998: 21). Furthermore, the threat (existing or imaginary) could lead to the reinforcement of specific political elites.

According to Williams (2003: 514) security is one of the main means that is used by political elites to represent an existing -or not threat which might call for extraordinary measures beyond the prism of everyday politics. A state of emergency or, as Agamben (2003) labelled it, *state of exception*, “which appears as a threshold of indeterminacy between democracy and absolutism” (Agamben, 2003: 3). We argue that the emergency decrees announced by the political figures under investigation promoted security and the legitimation of emergency in the name of people’s safety against COVID-19. Through these premises, in what follows, we provide a theoretical discussion on the ways public argumentation in polarized times of crises could be conceived as a *polylogical* network that occurs at the interplay of different actors, in different places and times who apparently have different objectives.

11.3 Argumentative Polylogues and Standing Standpoint in Times of Pandemic

If crises are the highly fluid and polarized socio-political terrains where pre-existing values and views are (re)negotiated (Stråth & Wodak, 2009) through the innumerable perspectives that circulate in the public sphere, then within these contexts, a complex network of public communication may be constructed on the basis of interconnected public controversies and positions. In fact, as Fairclough and Fairclough (2012) pinpoint, crises are the contexts within which numerous, and, most of the times, contradictory open questions determine the public debate. Hence, we argue that discourses on crises could constitute an effective terrain for the public acceptance of restrictive measures that are developed on the basis of a serious threat and in the name of public security. In other words, the numerous political answers-positions coming from different actors in power, in different socio-temporal spaces, should point toward a mosaic of perspectives that could enable societies to overcome the crisis. It is on that basis that crises can be seen as the terrains where *argumentative polylogues* (see e.g. Lewiński & Aakhus, 2014; Aakhus & Lewiński, 2017) can be evolved.

As Aakhus and Lewiński (2017) put it,

[an] *argumentative polylogue* [is defined] not simply as a discussion between multiple participants, but rather multiple different argumentative parties defending their distinct positions. [The underlying premise is that] public controversies are dynamic activities where multiple parties pursue multitude of positions that unfold over time in a variety of places (2017: 181–182; original emphasis).

Through this prism, the positions expressed by leaders with different political and ideological backgrounds through their messages to the peoples of different European member-states at the very beginning of the COVID-19 pandemic, could be described in terms of an argumentative polylogue. More specifically, as we will further witness in our analysis, while the EU leaders kick off the relevant debate

from different ideological starting points, namely a center-right (Kyriakos Mitsotakis, Greece), a centrist-populist (Giuseppe Conte, Italy), a centrist-liberal (Emanuel Macron, France) and a center-left (Pedro Sánchez, Spain), they all appear to argue for the necessity of the restrictive measures to address the pandemic in the different EU contexts. While doing so, among other things, they employ the notion of invisible enemy and a construction of pandemic-as-war, further enforcing a discursive construction of a dangerous threat that needs to be fought in the name of public security and safety and is linked to a securitization perspective in the European public sphere through the prism of the COVID-19. In this sense, their discursive constructions tend to converge, naturalize an authoritarian tendency on the basis of restrictive measures. To explain this convergence in theoretical terms, we appeal to the notion of *standing standpoint* (Mohammed, 2019).

In Mohammed's (2019) words,

[a] standpoint that is attributed to an arguer on the basis of an argument that has become publicly associated with the standpoint may be referred to as a standing standpoint.[I]t takes effect only once a certain context is in place [, it is] always implicit [and] [i]n that sense, [it] ha[s] something of an enthymeme where the conclusion is unexpressed (2019: 318–319).

As such, a standing standpoint always remains implicit, and can be legitimately inferred as the final claim implicitly sustained by all different actors on the basis of their individual claims. In the present case, we could plausibly interpret the standing standpoint as being the consensus point or the agreement built among the different EU political leaders at the beginning of the pandemic. It is on this basis that authoritarian tendencies might be ultimately normalized. In other words, employing the discussion regarding the background knowledge on the ways securitization is explained through the prism of the discursive construction of a threat (see Sect. 11.2), we argue that political leaders are associated to standing standpoints, recontextualizing and justifying—through the underlying argumentation—their political decisions in times of pandemic.

To provide a critical micro-analysis of the reasoning based on which the aforementioned polylogue and, ultimately, the standing standpoint are premised, next, we present a synthesis of principles and tools coming from the Discourse-Historical Approach (DHA) to CDS (see Reisigl & Wodak, 2016) and the Argumentum Model of Topics (AMT) (see Rigotti & Greco, 2019).

11.4 Scrutinizing Argumentative Polylogues: A DHA-AMT Micro-level Synthesis

Focusing on the micro-level of our analysis, that is the examination of discursive constructions in public texts by the EU leaders during the time span under examination, we firstly employ principles and tools from the DHA to CDS. This approach permits us to unveil the discursive constructions in the different speeches, based on two main strategies. Namely, (a) the “nomination strategies” which refer to the

“discursive construction of social actors, objects, phenomena, events, processes and actions” in terms of “metaphors, metonymies [and/or] verbs and nouns used to denote processes and actions” and (b) the “predication strategies” which include “the discursive qualification of social actors, objects, phenomena, events, processes and actions (positively or negatively)” realized, among others, by “(stereotypical) evaluative attributions of negative or positive trails [...], explicit predicates or predicative nouns/adjectives/pronouns” (see Reisigl & Wodak, 2016: 33). Based on this first layer of micro-analysis, we then move toward an examination of the *argumentativity* (Reisigl & Wodak, 2016: 27; see also Amossy, 2009a, 2009b; Herman & Serafis, 2019) that permeates the aforementioned discursive constructions. This can be unraveled in terms of the “argumentation strategies” that adumbrate the basis of the “justification and questioning of claims of truth and normative rightness” through the use of *topoi* (see Reisigl & Wodak, 2016: 33). More specifically, DHA scholars perceive *topoi* as being some kind of “content-related warrants or ‘conclusion rules’ which connect the argument(s) with the conclusion, the claim [...], justify[ing] the transition from the argument(s) to the conclusion [realized in terms of] conditional or causal paraphrases such as ‘if x, then y’ or ‘y, because x’” (Reisigl & Wodak, 2016: 35; see also Reisigl & Wodak, 2001: 75–80; Reisigl, 2014). Drawing upon the *topoi* tradition, we argue that *topoi* are the logical basis on which a claim can be developed. Moreover, Boukala (2016, 2019) argues that *topos* should be methodologically seen as interrelating with accepted knowledge in contexts; this last is conceived in terms of the Aristotelian concept of *endoxon* (plural: *endoxa*) (see also Amossy, 2002). As such, *topoi* and *endoxa* are the starting premises from which something is claimed in an argumentative situation and we focus on them to decode the EU leaders’ argumentation on the necessity of restrictions and other government measures.

In an attempt to emphasise the analysis of particular standpoint-arguments borne out in EU leaders’ discursive constructions on security and threat, we draw on the quasi-Y reconstruction given by the AMT that provide an effective mean for our analysis. Based on the same conceptual ground as the DHA, the AMT examines how argumentative inferences are developed on the basis of topical and endoxical premises (see Serafis et al., 2020, Serafis et al. in press; for integrations of the AMT under a CDS perspective). More specifically, the AMT, outlines two different components that, if cross-examined, can show us the inferential connection between a standpoint and the supporting argument(s) (see Rigotti & Greco, 2019: 208–216, for an overview). The first one (i.e. the so-called “procedural inferential component”) comprises the “locus” (*topos* in Latin), that is the (onto)logical relation from which the argumentative inference departs, and the “maxim”, which refers to the various inferential principle(s) that are connected with each locus. The analytical advantage of this distinction between loci and maxims is that it “allows the list of *topoi* to remain within a reasonable number, while allowing for as many maxims as the analysts discover during the analysis of real texts” (Serafis et al., 2020: 560; based on Rigotti & Greco, 2019: 74). To provide a clear example here, in a “cause-effect” relation one of the maxims could be: “if the cause is present so does the effect” (see Rigotti & Greco, 2019: 208–209). The second component (i.e. the “material contextual” one) refers to the “endoxon”, that is the dominant views in a particular

context and the “datum”, which is actually the outcome from the interpretation of the discursive construction of the text (see Rigotti & Greco, 2019: 214–215); in our case the DHA analysis of nomination and predication strategies, could help us unveil the datum in each case and realize how the EU leaders develop their rhetoric under the umbrella of securitization. It is in this sense, that AMT may be advanced by the discursive strategies that the DHA pinpoints. At the intersection of the aforementioned components, we can step-by-step reach the “final conclusion” specifically the EU political decisions on COVID 19, which represents the defended claim.

As evident, DHA and AMT conceive in similar ways how argumentative moves may be developed in public texts. As Serafis et al., explain: “[T]he novelty that the AMT brings into th[is] picture is a rigorous examination of the ways in which topical and endoxical premises interrelate in the defense of a standpoint” (Serafis et al. in press). To do so, AMT could draw on an in-depth analysis of the discursive strategies (i.e. nomination and predication strategies) that could explicate the factual premises (i.e. datum) of the material component in each single argumentation. On this methodological basis, next we zoom in on our data.

11.5 Data Analysis and Discussion

We have chosen to focus on the discourses produced in addresses to the nation by the leaders of Southern EU member-states due to the central role that the European South played in multiple crises (debt, political, refugee, health). As already mentioned, since 2010, European South suffered by austerity policies during the Eurozone debt crisis, witnessing a structural transformation of its political system; this was also accompanied by the 2015 refugee crisis. In the Southern European context, our focus was on political leaders that serve governments with different ideological backgrounds. Namely, a center-right (Greece), center-populist (Italy), centrist (France) and center-left (Spain) orientation. In consequence, we deal with political actors with apparently different political starting points and objectives in the different social settings from whom, we can legitimately maintain, polylogical argumentative moves may depart. Our aim is to examine the similarity or differences of their arguments on the security of their nations and the fight against the pandemic threat.

Our study focused on a specific “discourse strand” at the beginning of the so-called ‘first wave’ of the COVID-19 pandemic (mid-March 2020). According to Rheindorf (2019: 283), a *discourse strand* is a set of data defined “in terms of an initiating event, topical continuity, strong intertextual links, and a limited group of social actors”. In our case, the examined data are produced by an elite group of powerful social actors, namely the Southern EU political leaders, in response to the COVID-19 eruption. Moreover, as we will show, the texts under analysis, released in this short time span (i.e. March 2020), are characterized by strong *intertextual* linkages (see Kristeva, 1980; Fairclough, 2003: Ch. 3) through, for instance, explicit references to the ‘(invisible) enemy’ and the role of the ‘State’ in the fight against it, anchoring in this sense

dominant meaningful constructions in different social contexts through their multiple *recontextualizations* (Wodak & Fairclough, 2010). In this sense, we can confidently maintain that the discourse strand under analysis provides us with a coherent snapshot of the political discourse on the relevant topic in the period under scrutiny. More importantly, although we deal with a polylogical argumentative network, as described above, we will witness that the different texts end up converging, producing solid discursive constructions that justify a securitization perspective and legitimation of the state of exception through the embedded argumentation and, more specifically, the emerging standing standpoint. Details regarding the speeches under examination (i.e. where, how long they were and what topics they covered etc.) are given in the links provided. For reasons of space we will refer to the most important details throughout our analysis. Next, we move to the data analysis.

On March 16th 2020, Emanuel Macron, President of the French Republic addressed his nation to announce a national lockdown, as hospitalizations were increased across the country.¹ In particular, he mentioned:

- (1) Women and men of France, On Thursday night I spoke to you about the health crisis that our country is confronting. Until that point, for some of you the epidemic might be a distant notion; however, it has become an immediate and pressing reality for our country as well [...] The government has taken strong measures to slow the spread of the virus [...] France has never had to make such decisions, which are, of course, exceptional and temporary in peacetime. They were taken in an orderly, prepared way, based on scientific recommendations and with one sole objective: to protect us from the spread of the virus.²

Macron explicates to the French people that the virus is not ‘a distant notion’, quite the contrary it has attacked the country and led to a health crisis (‘immediate and pressing reality for our country’). He justified the decision to limit free movement as a necessary measure to ‘protect the nation from the virus’ and amplified the validity of that decision by referring to ‘scientific recommendations’. In this sense, he appears as the responsible force that based on the health authorities’ recommendations, fulfils his presupposed role as the guardian of the society. An argument that is further developed via the Aristotelian topos of the analogue consequences (Rhetoric, B23, 1399b) or the DHA topos of responsibility (Reisigl & Wodak, 2001: 78) that here can be identified as *topos of governmental responsibility*. This can be further paraphrased as “if the nation faces a health crisis, then the government has to utilize every means to protect the health and prosperity of the people”.

In a similar vein, during his mandate to the Greek people on March 22,³ the right-wing Greek Prime Minister Kyriakos Mitsotakis, appealed to ‘the Constitution’ of the Hellenic Republic to back up his decision for a general lockdown:

- (2) My fellow citizens, [...] The State must, according to the Constitution, “ensure the health of its citizens” and to interfere when the exercise of the civil liberty

¹ See: https://www.youtube.com/watch?v=m_pXUmz5qN0.

² All the extracts have been translated into English by the authors.

³ See: <https://primeminister.gr/2020/03/22/23615>.

goes beyond the constitutional objectives and threatens the society. And when one's responsibility proves to be in deficit, then the public interest must be safeguarded. Thus, in the name of the common well I take today's decision.

As evident, Mitsotakis explains the responsibilities of the 'State' (i.e. 'The State must, "ensure the health of its citizens"', '[The State must] interfere when the exercise of the civil liberty goes beyond the constitutional objectives and threatens the society'). As such, the PM appears to be fully compliant with the charter of the Greek society ('the Constitution') and Greeks 'common-well', and therefore his actions and decisions should be embraced by the society. Again, the topos of governmental responsibility supports his political decisions.

The same kind of argumentation was followed by the Spanish Prime Minister and Secretary General of the Spanish Socialist Party, Pedro Sanchez when he addressed the Spanish nation on March 13th 2020 to declare a state of alarm (state of emergency)⁴:

- (3) Dear compatriots, Today, I have just communicated to the Head of State to declare the State of Alarm throughout our country, throughout Spain, for the next 15 days. The State of Alarm is an instrument of our Rule of Law, included in our Constitution, to face such extraordinary crises as the one that unfortunately the world and our country is suffering. The health and social emergency generated by the coronavirus known as COVID-19, creates extraordinary circumstances such as those contemplated by the Law to provide the Government of Spain with legal resources, also extraordinary.

Sanchez argues that COVID-19 is linked to 'extraordinary circumstances' that led to extraordinary political decisions, such as the declaration of the state of alarm. Hence, he underlines the importance of emergency decrees and the state of exception. By referring extensively to the Spanish Constitution (as his Greek counterpart did with the Greek constitution), PM attempted to justify such a difficult political decision-making. As he further, explained:

- (4) These decisions will be aimed at mobilizing all the resources of the State as a whole to better protect the health of all citizens [...] The Government of Spain will protect all citizens and will guarantee adequate living conditions to stop the pandemic with the least possible impact [...] I understand the political importance of such a decision, but I believe that we shall fight against the enemy all united.

Sanchez accepted the political cost of the decision and explicated that it is important to proceed to the state of alarm as a weapon against the 'enemy', the existing threat of the pandemic. In the relevant predicates he represents his government and the Spanish authorities as a responsible group that can ensure the safety of the Spanish people ('to better protect the health of all citizens...', 'and will guarantee adequate living conditions to stop the pandemic with the least possible impact...'). As such, his argumentation in favor of the necessary restrictions is honed by employing the

⁴ See: <https://www.youtube.com/watch?v=dS-bLh9Fud4>.

topos of governmental responsibility. As also evident, he utilized a war metaphor to highlight the emergency and to stress the necessity for the Spaniards to be ‘united’ against the ‘enemy’. We will further analyze this war metaphor choice below.

What is most important in the analysis of extracts 1–4, is the leaders’ attempt to secure their presupposed role to achieve their peoples’ consent to the state of emergency/exception. Namely that of the responsible guardian of the constitution who acts in favor of the society. Their argumentation predominantly revolves around the topos of governmental responsibility, on the basis of which a plausible standpoint-argument pair could be: 1 State’s action should be embraced by the general public 1.1. These actions are compliant with the Constitution and the role the State must have in securing the common-well. In AMT terms, the respective standpoint is facilitated on the basis of the *locus from ontological implications* (see Rigotti & Greco, 2019: 254), which is exemplified in terms of a maxim: if X does something good X should be thanked/embraced. On the material-contextual component, the endoxon would be: the Constitution should be followed and the common-well should be secured, while the datum that emerges from the extracts is the following three-fold: The government has taken strong measures to slow the spread of the virus (extract 1), PM is compliant with the Constitution and aims to secure the common-well (extract 2), The State will protect the health of all citizens and will stop the pandemic (extract 4). At the intersection of maxim and datum the first conclusion could be: State authorities do something good, and thus the final conclusion is: State’s actions should be embraced by the general public (see Fig. 11.1).

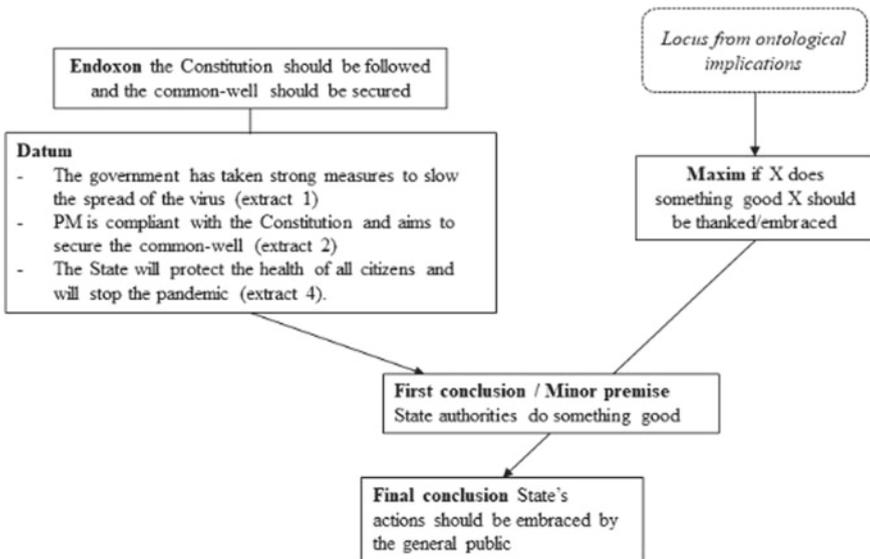


Fig. 11.1 The AMT quasi-Y reconstruction

Zooming in on the war metaphor that previously emerged in Sanchez's speech ('we shall fight against the enemy all united'), this also dominated Macron's rhetoric. As he mentioned:

- (5) We are at war, admittedly a health war: we're fighting neither an army nor another nation. But the enemy is there, invisible, elusive, and it's making headway. And that requires our widespread mobilization [...] We are at war. All the action of the Government and Parliament must now be geared toward combating the epidemic. Both day and night, nothing must divert us from this. We are at war. I call on all the political, economic, social and charity stakeholders and all French people to be part of this national unity that has enabled our country to overcome so many crises in the past.

Thus, the war metaphor has an important part in the political figures' discourses, insofar as it emphasizes the threat and ensures the consent of people to the restrict measures being imposed.

Furthermore, Sanchez focused on the impending dramatic consequences of the virus to support his argumentation:

- (6) We are only in the first phase of a fight against a virus that attacked all the countries of the world and in particular our continent, Europe. We expect, as I said at the beginning of the week, very hard weeks. We said that difficult days would come and we have to take measures to fight the enemy as more than ten thousands Spaniards will be affected from it.

And, as Mitsotakis finally claimed on that concept on March 17⁵:

- (7) We are at war. Against an enemy that is invisible but not invincible. [...] The greatest weapon against COVID-19 is, still, our everyday behavior [...]. The government does its duty. But, believe me, the victory will come only if all of us—each one of us—prove to be disciplined soldiers in this "war for life". Because the enemy is invisible and devious

Here, we present characteristic extracts of speeches delivered by the three leaders to underline the usage of the war metaphor that is repeated along their addresses to the nation too many times, creating intertextual linkages and thus inductively binding a dense discursive construction. By employing this metaphor the relevant leaders emphasized the danger of the epidemic (thereafter pandemic),⁶ adopting a militaristic frame, commonly observed in political communication on COVID-19 (e.g. Castro Seixas, 2021), while explicitly targeting the 'enemy' against whom the 'war' is to be fought. Two social actors dominated the above extracts from the political figures, the epidemic/pandemic that is characterized as 'enemy-invisible and elusive' (Macron) 'invisible and devious' (Mitsotakis) and the national governments, authorities and elites that have a duty to protect people via the restrictive measures that have decided (Macron).

⁵ See: <https://primeminister.gr/2020/03/17/23593>.

⁶ We decided to use both of the terms, insofar as the term epidemic dominated the public rhetoric in the beginning of the health crisis in March 2020 and was replaced later by the term pandemic.

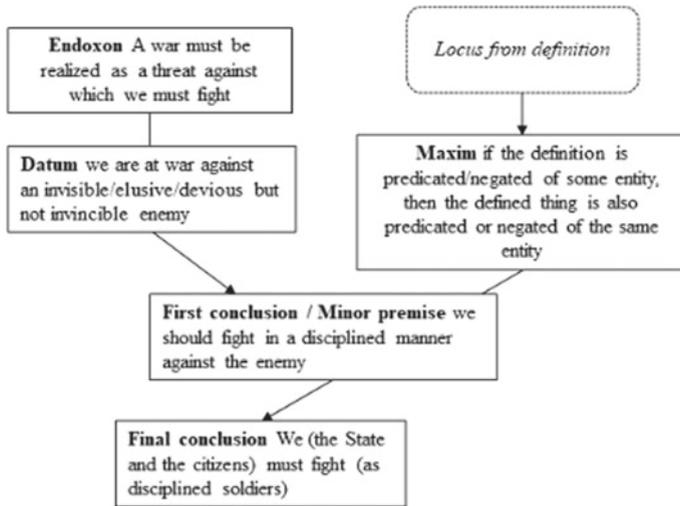


Fig. 11.2 The AMT quasi-Y reconstruction

Based on this specific metaphorical framing an argument is elaborated by the Aristotelian topos of the consequential (Rhetoric B23, 1399a) or the DHA topos of threat, realized in terms of the conditional “if there are specific dangers and threats, one should do something against them” (Reisigl & Wodak, 2001: 77); that here could be labeled as the *topos of epidemic/pandemic threat*. On that basis, a plausible standpoint could emerge as follows: 1 We (the State and the citizens) must fight (as disciplined soldiers) while the argument that supports it is: 1.1 We are at war against an invisible/elusive/devious enemy.⁷ To secure this interpretation, we employ the AMT quasi-Y structure in an attempt to unveil the inference that binds the aforementioned coupling. Describing COVID-19 pandemic in terms of ‘war’ and therefore as a threat that needs to be addressed, the locus that governs the inference—on the procedural-inferential component of the configuration—is the so-called *locus from definition*. A possible *maxim* that realizes this locus could be: if the definition is predicated/negated of some entity, then the defined thing is also predicated or negated of the same entity (see also Rigotti & Greco, 2019: 302). On the material-contextual component, an accepted *endoxon* could be: A war must be realized as a threat against which we must fight, while the *datum* that derives from the actual text is the following: we are at war against an invisible/elusive/devious but not invincible enemy. The first conclusion could be: we should fight in a disciplined manner against the enemy, paving the way to the final conclusion/standpoint: We (the State and the citizens) must fight (as disciplined soldiers) (see Fig. 11.2).

Moreover, what appears to be particularly important in extract 7 is Mitsotakis’ effort to construct an inclusive ‘We’ group (‘all of us-each one of us-’), comprised

⁷ We adopt the pragma-dialectics (see Van Eemeren 2018) way to distinguish between standpoint (i.e. 1) and argument(s) (i.e. 1.1, 1.2 etc.).

both from the ‘government’, himself and the citizens. In the unprecedented conditions of the COVID-19 pandemic, PM states that ‘We’ should ‘prove to be disciplined soldiers’ to achieve ‘the victory’ against the ‘enemy’. In this sense, Mitsotakis discursively constructs a citizens-government coalition as the responsible social alliance that could effectively combat the enemy through devotion and discipline. This involvement of citizens in leaders’ strategic lines is further advanced by the other PMs.

In particular, in another part of his speech Macron states:

- (8) I would like to repeat this with conviction tonight: [...] We must show solidarity and a sense of responsibility [...] Scientists have told us that this is our absolute priority. This is why, after having consulted and listened to the experts, I have decided to further strengthen the measures [...] Obviously, this evening, I am setting out new rules, we are imposing prohibitions and they will be enforced. But the best rule is the rule that you, as citizens, impose on yourselves. Once again, I am appealing to your sense of responsibility and solidarity.

What strikes our attention in this extract is the same construction of an in-group ‘We’ that is urged to prove solidarity and responsibility (‘We must show solidarity and a sense of responsibility’). In this sense, Macron, portrays an ideal national unity (‘We’) based on the shared values of ‘solidarity’ and ‘responsibility’ as an effective means to overcome the pandemic. In other words, one could say that Macron’s rhetoric here is led by the following conceptual schema: restrictions must be implemented as a sense of solidarity and responsibility toward the (French) nation. In this sense, Macron, combines the topos of governmental responsibility and the *topos of citizen responsibility*, which could be condensed into the conditional: “if citizens want to protect others and their beloved ones from the virus, then they have to demonstrate their social responsibility by following the measures”. In this sense, Macron, represented the French authorities and citizens as a coalition-protectors of the nation and legitimized the restricting measures as a means of social and individual responsibility that are based on scientific data (‘Scientists have told us’) (see also Andone & Loméli Hernández, 2022, this volume).

Furthermore, by employing the same rhetorical means and basing his argument on the synthesis of the two aforementioned topoi, Sanchez appealed to Spanish people duty. In particular, he noted:

- (9) And all of us, of course, have a personal duty; strictly follow the indications of the experts and collaborate together to defeat the virus with the utmost responsibility and absolute social discipline [...]. The declaration of the State of Alarm allows the maximum mobilization of material resources to combat the virus [...]. Victory depends on each one of us, in our home, in our family, at work, in our neighborhood. Heroism also consists of washing hands, staying at home and protecting oneself, to protect all citizens.

Sanchez, indeed, pinpoints the ‘personal duty’ of each member of the in-group (‘all of us’, ‘each one of us’). Similar to his counterparts, he urges the in-group to demonstrate ‘responsibility’ (Macron) and ‘social discipline’ (Mitsotakis) in order to achieve

the ‘victory’. He, moreover, mentions personal hygiene measures to highlight their importance against the ‘enemy’ and likened the exercise of personal hygiene practices and social distancing as ‘heroism’.

Overall, this sense of citizens-authorities ‘responsibility’/‘discipline’ and ‘solidarity’ is projected as the effective means by which the victory against the ‘enemy’ may be achieved. A standpoint-argument pair emerging here could be: 1 We need to rediscover a new responsibility/solidarity 1.1 Social responsibility/solidarity will be a key to defeat the virus/enemy. In AMT terms, this kind of reasoning is governed by a locus within the cause-effect argumentation, namely the *locus from final/instrumental cause* (see Rigotti & Greco, 2019: 258), related to a maxim such as the following one: If something is a (necessary) means to reach an important goal, it should be employed. On the material-contextual component, an endoxon could be: social responsibly/solidarity is something good, and the datum that emerges from the extracts is: the disciplined in-group will provide victory (Mitsotakis), responsibility and solidarity is the priority according to the scientists (Macron), responsibility and discipline will help us defeat the virus (Sanchez). At the intersection of the two components, a first conclusion could be: our responsibility and solidarity can effectively combat the pandemic, while the final conclusion could be: We need to rediscover a new responsibility/solidarity to fight the pandemic (see Fig. 11.3).

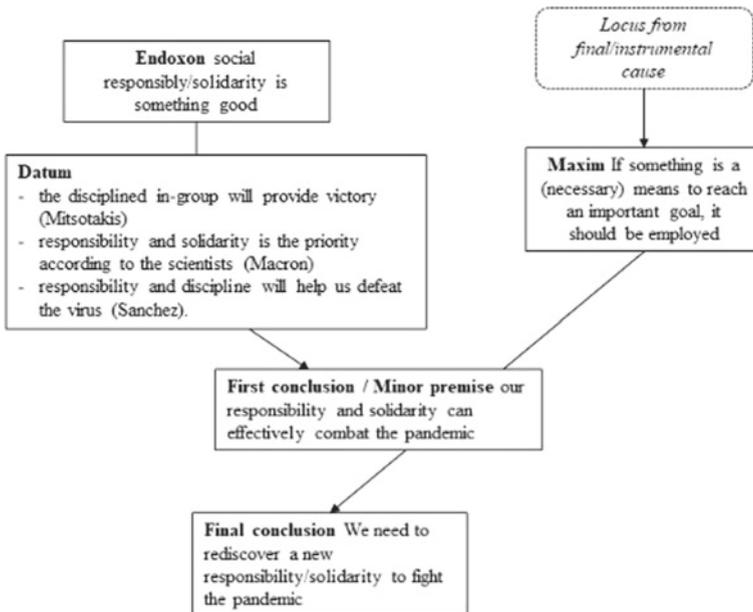


Fig. 11.3 The AMT quasi-Y reconstruction

In a slightly different way, though capitalizing on the same conceptual ground of the emergency, while announcing a general lockdown in middle-March, Italian Premier, Giuseppe Conte, claimed⁸:

- (10) Unfortunately, there is no time. [...] So, our habits should change. We must renounce something for the sake of Italy. [...] We must do it straight away and we will make it if all of us collaborate and adapt immediately to these more urgent norms. [...] If citizens' health as a public good is at risk, we are obliged to choose and impose sacrifices regarding other interests. The right decision today is to stay at home. Our future and Italy's future is in our hands and these hands should be responsible hands.

In his mandate to the nation, Conte constructs a sense of emergency through predicates that mention the lack of time 'Unfortunately, there is no time', 'We must do it straight away...'. In this sense he introduces the necessity for immediate countermeasures in the context of the pandemic. He constructs an in-group ('we', 'all of us', 'our hands') in an attempt to provide a sense of national unity (as his counterparts previously did) between his audience and himself and states that the action undertaken by the in-group is imperative because of the threat in public health ('citizens' health as a public good is at risk') and 'for the sake of Italy' and 'Our future and Italy's future'. Thus, the Italian leader attempts a legitimation of restrictive measures that need to be accepted because of the health emergency and on the conceptual basis that these serve national interests. The argumentative basis on which a claim could emerge is the DHA topos of (epidemic/pandemic) threat, which facilitates the necessity for countermeasures in front of a public danger/threat (see above). Therefore, a possible standpoint-argument pair could be: 1 We must underpin restrictive measures/sacrifices for Italy's shake/future 1.1 There is an emergency/public health is at risk. In AMT terms the inference that connects these elements is governed by the *locus from termination and setting up* (Rigotti & Greco, 2019: 263), realized in terms of the maxim: if X is bad, then X must be terminated. The endoxon that is activated in this case could be: public health emergencies are something bad and the datum that relates to this endoxical view is: there is a public health emergency in Italy at the moment. Resulting from the interplay of the two components, a first conclusion could be: the health emergency in Italy is bad and thus should be terminated, leading to the final conclusion: We must underpin restrictive measures/sacrifices to terminate health emergency for Italy's shake/future (see Fig. 11.4).

The EU leaders pinpoint the existence of an irresponsible 'Other' that could jeopardize the national effort in the war against the enemy-pandemic. This becomes evident in Mitsotakis speech on March 22nd:

- (11) I will not, however, allow a few careless ones undermine the safety of the majority. Because the few irresponsible can hurt thousands who are responsible. So, as hard times are approaching in the battle, we must close every backdoor to the evil.

⁸ See: <https://www.youtube.com/watch?v=dEqqbwk7XI>.

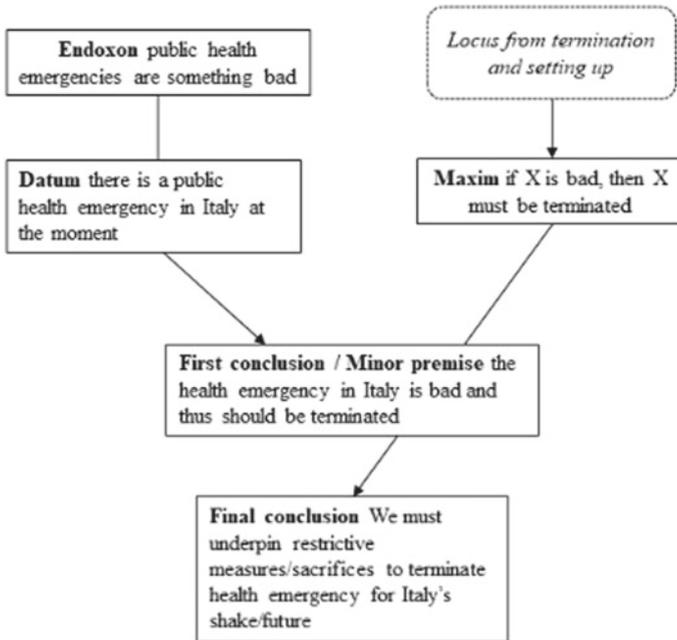


Fig. 11.4 The AMT quasi-Y reconstruction

In this case, Greek PM targets the ‘few careless/irresponsible’ that can ‘hurt’ the society as a whole. Thus, he creates an out-group of ‘Others’ that appears as an extra reason why the measures must be implemented. The same construction is evidenced in Macron’s speech who also referred to the same social actors who do not follow the rules. In particular, he noticed:

- (12) we also saw people gathering in parks, packed markets, restaurants and bars which did not respect the instructions to close [...] To all those who, by behaving like this, defied the instructions, I would very clearly like to say this evening: not only are you not protecting yourselves – and recent trends suggest that everyone is vulnerable to this virus, including the youngest in society – but you are failing to protect others.

Moreover, the Spanish PM personified those (‘young people’) who do not respect the measures. More specifically, he represented ‘young people’ as irresponsible via a generalization and requested their ‘collaboration’. In particular, he mentioned:

- (13) I would also like to address young people, who also have a decisive mission. It is true that due to their vitality they can feel sheltered from the most severe effects of the virus, but they can act as transmitters to other close people who are much more vulnerable. Their collaboration, the collaboration of young people, is decisive to cut infections and that is why they must limit contacts and maintain social distance.

Along the lines of Greek PM's rhetoric, French and Spanish leaders developed a distinction between those who protect the nation and those who do not conform and 'fail to protect others' (Macron) since they 'can act as transmitters' (Sanchez). This kind of representation was previously implied also in Mitsotakis' speech (see extract 2) where he mentioned that 'the exercise of the civil liberty goes beyond the constitutional objectives and threatens the society' while favoring the implementation of restrictions based on some groups' irresponsibility ('when one's responsibility proves to be in deficit'). The reference to (ir)responsibility, once again, creates intertextual links among the different speeches, developing, in this sense, a discourse and argumentation against the irresponsible citizens. The overall argument is based again on the topos of citizen responsibility (see above).

All in all, citizens' responsibility appears to be among the effective means by which the different societies combat the pandemic, according to their leaders. The emerging standpoint-argument pair could be sketched along the following lines: 1 (Citizens') Responsibility will protect our society from the virus/enemy 1.1 Irresponsible behaviors can transmit the virus and negatively affect the vulnerable and the society. In AMT terms, this reasoning is, once more, governed by the *locus from final/instrumental cause* (Rigotti & Greco, 2019: 258), related to a maxim such as the following one: If something is/is not a means to reach an important goal, it should be employed/avoided. On the material-contextual component, an endoxon could be: citizens must responsibly follow the rules, and the datum that emerges from the extracts is: being careless/irresponsible can harm the society (Mitsotakis), irresponsible individuals fail to protect others (Macron), irresponsible (young people) can be transmitters of the virus (Sanchez). At the intersection of the two components, a first conclusion could be: being irresponsible can negatively affect the spread of the pandemic, while the final conclusion could be: (Citizens') Responsibility will protect our society from the virus/enemy (see Fig. 11.5).

11.6 Conclusion

To sum up, our analysis reveals that leaders share similar lines of reasoning while attempting to impose restrictions in their countries and declare a state of emergency. Although they do not belong to the same political camps, their discourses seem to converge in this particular instance. Specifically, they employ the topos of (governmental) responsibility or the AMT locus from ontological implications while attempting to emphasize the positive portrayal of authorities that act in accordance to the constitutional rules and the common-well, and thus should be embraced by the public. They underline the emergency through the usage of war metaphors and the topos of (epidemic/pandemic) threat or the AMT locus from promising and warning before constructing the urgency of national unity, responsibility and solidarity as the means to overcome the pandemic on the basis of a combination of the DHA topoi of (governmental/citizen) responsibility and threat or the loci from final instrumental

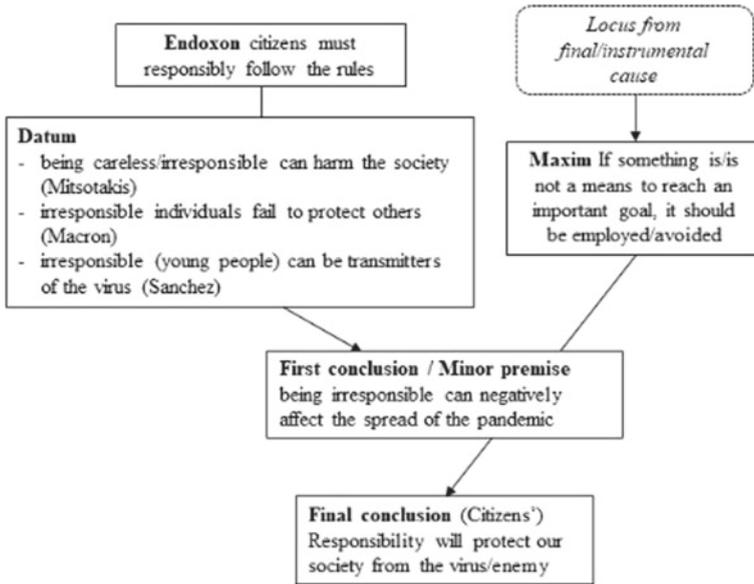


Fig. 11.5 The AMT quasi-Y reconstruction

cause and termination and setting up. In addition, they pinpoint citizen irresponsibility among the risks that could jeopardize the common fight against the enemy by employing the topos of (citizen) responsibility and the locus from final instrumental cause.

The comparative study that we provide here, at a first step apparently deals with a polylogical network that starts from different ideological orientations, in different places and with different audiences in Europe. In a second step, we observe that intertextual linkages permeate leaders’ speeches that were linked to the recontextualization of similar constructions, while the political figures’ argumentation that converges, made them “argumentative associates” (Mohammed, 2019) in the specific time span. On the basis of this overall convergence a standing standpoint could emerge along the following lines: *Restrictive measures are necessary to address the pandemic adequately*. In this vein a securitization perspective can be justified and further honed in a context of a state of emergency/exception such as the pandemic crisis. In an attempt to explain the state of exception and its function, Agamben (2003: 30) emphasized the concept of *necessity*. In our view necessity could be considered as an aporia of the discursive construction of the existential threat and the legitimation of emergency decrees on the name of security and peoples’ safety. The war metaphors and the discursive construction of national responsibility cultivate the necessity of the restrict measures, and legitimize the political decisions by the usage of the above argumentation schemes (topoi/loci), and the emergence of the standing standpoint-outcome of the scrutinized argumentative polylogue. It is worth mentioning that PMs start from different ideological positionings (e.g. centrist,

center-left, center-right), address different nations within the Southern EU crisis-hit context. Thus, they apparently create the premises for a complex, polylogical frame of communication/argumentation, where multiple players, from different positions advanced claims-arguments in different audiences. However, in light of the analysis, we can claim that their discourses ultimately seem to converge to the necessity for restrictive measures in order for the threat of the pandemic to be addressed effectively (see standing standpoint). In this sense, we could observe different ideological and political perspectives in different places in the EU coming together, creating and justifying, in the present case, a securitization viewpoint against a perceived threat-pandemic. We content that future research toward the same research avenue could shed light to the overall convergence of different political voices in the EU (e.g. center-right and center-left), which although historically belonging to different backgrounds, in times of crisis they seem to converge creating new hegemonic political views and narratives.

Moving beyond the function of the speech act and drawing on the elliptic narrow of the securitization theory (Wodak & Boukala, 2014), we illustrate via this comparative study that the discursive construction of the COVID-19 threat can be further sustained by its underlying argumentation. Therefore, the proposed methodological approach can offer a critical perspective to the study of securitization in times of pandemic. This critical stance proves to be necessary in times of tectonic changes when political elites capitalize on crises/threat constructions, naturalize national (State-people) unity, to make socio-ideological antagonism vanish and confine democratic liberties and rights while declaring war to the perceived enemy.

The French President, Emmanuel Macron commented in the concluding lines of his address to the nation:

- (14) Let us rise, individually and collectively...
 I know, my dear compatriots, that I can count on you.
 Long live the Republic, long live France!

An ending that reveals that COVID-19 challenged the civil rights and created a war climate. The fight against the pandemic required individual and collective attempts, as Macron noted, that justified emergency through securitization and on the basis of the discursive construction of the pandemic threat. Similar concluding remarks were utilized by the other political leaders and illustrate the diachronic value that war metaphors, nationalism and securitization have, insofar as politicians re-utilize them when they seek a way to invoke emergency strategies and ensure that they will be at peace with the citizens.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 12

The UK Government’s “Balancing Act” in the Pandemic: Rational Decision-Making from an Argumentative Perspective



Isabela Fairclough

Abstract This chapter looks at how the “balance” between lives, livelihoods and other concerns was talked about in four main newspapers in the UK, between March 2020 and March 2021, in assessing the UK government’s performance. Different arguments were made for opposite conclusions, favouring either strict and prolonged lockdowns or, on the contrary, a speedy exit from lockdown and a resumption of normal life. From the point of view of argumentation theory, the empirical data suggests that what is being balanced or weighed together in pro/con argumentation by two opposite parties are not as much the costs and benefits of one’s own proposal, but the costs of one proposal against the costs of its alternative (a “cost-cost” analysis). Rather than defending their own proposal by arguing that the benefits outweigh the costs, each side is criticizing the opponent’s proposal by claiming that the costs of their proposal are more unacceptable than the costs of their own. An implicit *minimax* strategy (minimize costs in a worst-case scenario) was applied in different ways, depending on how the consequences were assessed, and how this assessment changed over time. The debate over lockdown illustrated an interesting type of pro/con argument, typical to crisis situations, in which all the intended “benefits” were in fact avoided “costs”, and contrasted a medical/epidemiological perspective with a political perspective on the best course of action.

Keywords Balance-of-consideration arguments · Conductive arguments · Covid-19 · Decision-making · Pro/con arguments · Lockdown · Minimax · Uncertainty

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S. Oswald et al. (eds.), *The Pandemic of Argumentation*, Argumentation Library 43,
https://doi.org/10.1007/978-3-030-91017-4_12

225

12.1 Introduction

Throughout 2020, it could not escape anyone's notice that in newspapers, on radio and on television, many journalists and commentators talked about how the UK government was trying to strike the "right balance" between different stated goals, e.g. between protecting "lives and livelihoods", or between "saving lives" and preserving our "civil liberties", as well as what its "priorities" ought to be in getting the country through the corona virus pandemic.

I will look at how the "balance" between lives, livelihoods and other concerns was talked about in four main newspapers in the UK, between March 2020 and March 2021, in assessing the government's performance. Different arguments were made for opposite conclusions, favouring either strict and prolonged lockdowns or, on the contrary, a speedy exit from lockdown and a resumption of normal life. I will suggest that the empirical data corroborates the view on pro/con argumentation I have suggested elsewhere (Fairclough, 2018b, 2019a, 2019b), namely that what is being weighed together are not as much the costs and benefits of one's own proposal, but the costs of one proposal against the costs of its alternative. Each party will try to claim that the costs of the opponent's proposal are more serious than the costs of their own proposal, cannot be suitably mitigated and therefore (being ultimately unacceptable) conclusively rebut it. Consequently, that the balance of judgment inclines in their favour.

Having worked on deliberation, decision-making and pro/con argumentation in various settings, and mainly on the public policy debate on fracking in Lancashire (Fairclough, 2019a), as well as more generally on practical reasoning in politics (Fairclough & Fairclough, 2012), I found the emerging discourse on "getting the balance right" both familiar and intriguing. A balance of judgment that seemed right for one group of people often seemed wrong for another. As people assessed their own risks and priorities differently, different course of action seemed "best" to them. Was it possible to arrive at a policy decision that satisfied the interests of everyone concerned? From the start, there seemed to be wide disagreement across society, including among epidemiologists, as to what the best course of action was, and this was reflected in the media coverage of the unfolding of the pandemic.¹

I began by collecting a media corpus,² with *balance* and *lockdown* as main search terms, from Nexis. After repeated efforts to narrow down the immense amount of

¹ The proponents of the Great Barrington Declaration (n.d.) advocated 'focused protection'—shielding older and vulnerable people, while encouraging the rest of the population to carry on as normal and build up herd immunity; this strategy was aimed at minimizing the public health, economic and educational harms.

² The examples I give in this paper come from two main searches: (1) an earlier search (23 March 2021), with *balanc** and *lockdown* as search terms, which yielded 1771 articles in *The Guardian*, 1916 in *The Times*, 1069 in *The Daily Telegraph* and 509 in the *Daily Mail and Mail on Sunday*; (2) a later one (7 April 2021), with *balanc**, *lockdown** and *government** as search terms (narrowed down by excluding: "work-life balance", "balance sheet*", "balanced diet*", "balance of power", etc.). This search yielded 223 articles (*The Guardian*), 85 (*The Times*), 83 (*Daily Telegraph*) and 26 articles respectively (*Daily Mail*). I have used Antconc (Anthony, 2019) for concordances.

media data on the pandemic, I ended up with 4 data sets from *The Guardian* (223 articles), *The Times* (85), *The Daily Telegraph* (83), *The Daily Mail & Mail on Sunday* (26), over one year, from 23 March 2020 to 23 March 2021. I will examine how these newspapers were commenting on the government's attempt to strike the "right" balance, and reporting on how this balance was being assessed throughout society and what it ought to be. Secondly, I will use the empirical data to answer this theoretical question: what exactly is being weighed together, in pro/con argumentation, in arriving at a conclusion "on balance"? What has to be kept in balance for a decision to be made rationally? I will suggest that it is primarily the costs of each alternative, not the costs against the benefits. This particular case is in fact one where there are no "benefits" (in the sense of intended positive consequences): all the intended "benefits" are in fact avoided costs.³

A critical rationalist approach to the evaluation of a theoretical or practical hypothesis looks at the consequences derived from that hypothesis. Criticism of a hypothesis is criticism of its consequences – which may be false or in other ways unacceptable (Miller, 2006: 79). If subjecting a practical proposal (e.g. repeated lockdowns) to criticism reveals it either as being ineffective in achieving a set of goals (failing to achieve its intended consequence), or as having unacceptable impacts or risks (unintended consequences), it will follow that repeated lockdowns are not the right way forward. In conditions of uncertainty and risk, and whenever agents cannot avoid action, a rational approach to decision-making suggests that a practical decision is made rationally only if it avoids or mitigates the worst possible consequences. What is meant here by "rational decision-making" is the "rational making of decisions", i.e. according to a methodical procedure of critical testing, and not the "making of rational decisions" (Miller, 1994, 2006, 2013). The purpose of criticism is not to narrow down a range of alternative proposals to the "best" and maximally rational solution, but to eliminate the clearly unreasonable ones (the ones with unacceptable consequences) from a set of alternatives. If several reasonable alternatives survive the testing procedure, one can still be chosen as a better solution, in light of some preference criterion that is relevant in the context (e.g. because, in addition to achieving the goals, it has some additional benefits that outweigh any counter-considerations against it, as I explain below). A decision arrived at in a rational manner may be satisfactory though sub-optimal, and may turn out not to have been a good decision at all, in hindsight.

What are the implications of such a view when two (or more) alternatives are put forward by different arguers—e.g. suppression vs elimination vs mitigation of the virus, or adoption vs rejection of lockdown measures? Each alternative will have its own costs, but its supporters will have come to the conclusion that the costs potentially incurred by their proposal are less serious than the costs of the alternative, that are

³ There were of course unintended positive side effects (unintended benefits) of lockdown, e.g. less road traffic, cleaner air, more time spent with family and less time spent commuting to work, etc., but these were not the intended consequences in light of which lockdown decisions were made, but side effects. Some positive side effects, once observed, might become potential future goals (intended benefits): both companies and employees might intentionally opt for working-from-home policies in the future, to reduce costs.

potentially avoided. The opponents' proposal will be criticized by undertaking a "cost-cost" (rather than a "cost-benefit") analysis, claiming that one's own preferred alternative minimizes the worst possible costs, unlike the opponents' alternative, which does not. The preferability of one's own alternative will emerge from criticizing the opponent's alternative, from showing it cannot withstand criticism in light of its potential risks and impacts. By arguing in this way, and criticizing proposals in light of their consequences, both parties will be following a rational *minimax* strategy: minimize costs in a worst-case scenario, minimize those losses that you consider to be most serious.

How can the same strategy produce two different decision outcomes? In many situations of choice between alternatives, the answer will be seen to lie in the different ways that costs are assessed (or weighed) by each of the parties involved. At the beginning of the pandemic, prolonged lockdowns resulted from worst-case scenario thinking in which there was a unique concern to minimize the Covid death count. Costs to "lives" (Covid mortality – see also Lewiński & Abreu, 2022, this volume) weighed more heavily in the balance for decision-makers than costs to the "livelihoods" (the economy), hence the need to minimize those costs as a matter of priority by imposing a hard lockdown: saving lives was an overriding reason in favour of this course of action. Soon, however, lockdown sceptics argued that there were other undesirable outcomes that needed to be considered, and that the right policy should be based on minimizing those losses as well – not just deaths from Covid, but deaths from untreated cancer and strokes, impacts on lives from the destruction of the economy and education. Crucially, they argued that there was *mitigation* available for Covid-mortality, e.g. shielding all vulnerable people (focused protection), and vaccination later on, which meant that the worst possible consequences were no longer in terms of Covid deaths, but in terms of collateral public health, economic and educational costs, and these costs were maximized by prolonged lockdowns. Briefly, at some point during the pandemic, the balance of considerations changed, in the eyes of many people, from seeing Covid deaths as the worst consequence to seeing other collateral impacts as the worst consequence, in a context where a dramatic spike in Covid deaths became increasingly preventable and other costs gradually became more serious.

I will begin by giving some background information on the Conservative government's efforts to steer the country through the pandemic, and the Labour opposition's criticism of these efforts. In Sect. 12.3, I will first explain how a concept of balance is used in a particular area of argumentation theory concerned with pro/con or "conductive" argumentation. In Sects. 12.4–12.7, I shall look at the views expressed in newspapers on whether the "right balance" was achieved or not, and what it ought to be. In Sect. 12.8 I will look at the implications of this analysis for a theory of pro/con (conductive) argumentation.

12.2 The United Kingdom: Worst Death Toll and Worst Recession in Europe

Throughout the spring of 2020, the government's stated overriding priority was to save lives, and the slogan "Stay at home. Protect the NHS. Save lives", accompanying the first lockdown (which began on 23 March 2020), indicated this. In September 2020, Prime Minister Boris Johnson overruled government scientists who pressed for another national lockdown, after the relaxation of restrictions over the summer, arguing that it would spell "misery" for everyone and was therefore unacceptable. Around mid-October 2020, he was declaring that his policies were "getting the balance right" between keeping the virus under control and allowing some levels of economic activity and socializing. After 15 August, some businesses had been allowed to open, children had gone back to school in September, and various schemes such as "eat out to help out" encouraged the population to go to restaurants; international travel for holiday purposes had also been encouraged in the summer. At the same time, around mid-October, calling for a strict three-week "circuit-break" lockdown, Labour leader Keir Starmer was criticizing the PM for getting the balance completely wrong, and for "balanc[ing] the needs of the [Conservative] party against the national interest" (Labour.org.uk 2020). In response, according to BBC journalist Laura Kuenssberg, a senior government source declared that Starmer was a "shameless opportunist playing political games in the middle of a global pandemic" (Peat, 2020). Eventually, the PM had to call a second national lockdown in November, when infections had risen much higher, and yet another one in January 2021.

Against a background of polarized opinion, pro or against lockdown, the UK government alternated periods of lockdown with periods of relaxation of restrictions, apparently trying to steer a middle course that would avoid the worst consequences of both alternative courses of action. The strategy was assessed differently by different media outlets, by politicians of different parties, and the population at large. Throughout 2020, the balance struck at any given time was accepted by some and rejected by others, and what the "right balance" was seemed to change not only over time, as the situation evolved and in light of new evidence, but also in relation to who exactly was actually assessing it or from whose perspective (e.g. young vs old people), what their circumstances were (e.g. which professional groups they belonged to) and how they were assessing their own risks – health risks from the pandemic or emerging impacts on jobs, education, social life, other aspects of health. Many economic costs were attributed to the lockdowns imposed by the government, although economists have since then argued that an overall drop in economic activity would have occurred anyway, due to voluntary behavioural changes (Bourne, 2021: 83–85).

According to a widespread view, not only was Britain woefully unprepared at the beginning of the pandemic, but many crucial decisions were taken too late and with insufficient consistency. While trying to encourage some forms of economic and social activity, keep children in schools, and being reluctant to impose border controls and quarantine regulations, the government had at many crucial junctures

apparently got the balance wrong. Another widespread view is that, once the first lockdown had passed, the Prime Minister's "libertarian instincts" had been right. He ought to have listened more to economists and anti-lockdown epidemiologists rather than to his narrow group of advisors, who promoted a "lockdown-at-all-costs" viewpoint. On this view, what Britain experienced in late 2020 and early 2021 was "no longer a health crisis, [but] ... a total economic catastrophe", which suggests that the PM got the balance wrong in allowing lockdown to continue.⁴

Undeniably, one year into the pandemic, the UK's response compares poorly with that of other countries. Delays in introducing the first lockdown in March 2020 are thought to have been responsible for around 20,000 deaths. Failure to protect care homes and to impose border controls and quarantining arrangements at the right time, together with the inefficiency of the test-and-trace system and the overcentralised management of the pandemic, have had disastrous effects. Admittedly, not everything in the UK's response went wrong. The government's support for businesses through the furlough scheme and business rates relief was widely praised. Other UK successes include the development of a vaccine at Oxford University, followed by a wide-scale vaccination programme. On 23 June 2021, exactly 15 months since the first lockdown, the UK had vaccinated 47.6% of its population, with 75.2 million doses given and 31.74 million people fully vaccinated (according to ourworldindata.org).

On 23 March 2021, the one-year anniversary of the first lockdown in the UK, *The Guardian* newspaper was blaming Prime Minister Boris Johnson for the highest death toll (126,284 deaths by that date) and the deepest economic recession in Europe. An article entitled "Johnson marks year since first lockdown – knowing he acted far too late" made the Prime Minister entirely responsible for being "unwilling to take the coronavirus seriously" in the early days and for the government's disorganized strategy in subsequent months:

Then there was the abject failure of test and trace in its early months. The care home scandal. The over-optimistic relaxation of the rules over the summer. The refusal to adopt a circuit breaker in autumn. The complacent messaging around Christmas. The delay in bringing in a third national lockdown. So arguably what the country was also pausing to remember was the many thousands of people who had lost their lives through Johnson's incompetence and negligence. (Crace, 2021).

In one of their own anniversary articles, assessing the "grim cost of lockdown on health and wealth", the *Daily Mail* arrived at a somewhat different assessment. The article focused not on the death toll from the virus but on the "collateral damage" inflicted by a total of 195 days of lockdown:

Tomorrow marks the anniversary of the most draconian restrictions imposed on our freedoms in modern times. Today, the *Mail* counts the devastating cost of Covid lockdown. The collateral damage to national health has been immense. A staggering 79 million fewer in-person GP appointments. Hospital waiting lists soaring to nearly 4.6 million. Urgent cancer tests down by 400,000, 44,000 fewer starting therapy...

⁴ All the examples quoted in this paper come from the above-mentioned 4 newspaper corpora. For reasons of space, it has not been possible to fully reference every example, but only the longer ones (i.e., longer than two lines).

So many thousands of people are suffering and dying that the casualty list of lockdown may well end up being far worse than from the virus itself...

Then there is the ruinous economic cost. Unemployment up by 700,000 and rising. One in four businesses closed and many more on the brink. Prominent chain stores boarded up - some for ever. High streets decimated. The travel and hospitality industries hollowed out. National debt well above the £2 trillion mark. Public borrowing at £1 billion a day. Output down by £500 million a day. Compared with this monumental car crash, the 2008 financial meltdown was little more than a scraped wing-mirror. (Groves, 2021).

The *Daily Mail* rejected the "time-consuming, energy-sapping blame game" and urged the PM to "get the country moving again", "show more ambition with his road map to freedom" and put an end to the lockdown, "urgently and irreversibly", taking advantage of the "spectacular success" of the vaccination programme.

As of 23 March 2021, while Labour is accusing the government of "monumental mistakes" and "disastrous U-turns" in its handling of the pandemic, the Conservative government is defending itself by invoking the genuine uncertainty about the virus, which required a policy of constant revisions and adaptations in a quickly evolving context of limited knowledge. While admitting that, with the benefit of hindsight, many things could have been done better, government ministers are also pointing out that deciding on the best course of action has not been easy, that every alternative came with its own costs, that any decision has had to balance the divergent interests of different groups of people and also take into account the likelihood of prolonged public compliance with harsh measures.

12.3 Practical Reasoning, Deliberation and Decision-Making

In my work so far (Fairclough, 2016, 2018a, 2018b, 2019a, 2019b) I have tried to take a critical rationalist (deductivist) perspective on practical reasoning and decision-making in conditions of incomplete knowledge, i.e. uncertainty and risk (Miller, 1994, 2006; Popper, 1963). Confronted with a practical problem and the goals of solving it, agents put forward proposals for action, as hypotheses. These hypotheses, generated in light of goals, have to be tested or criticized (in advance of action) by thinking of all the consequences that might arise if they were adopted. The process is essentially deliberative (whether undertaken by one or more arguers), and can be seen—I suggested—as a critical procedure that filters out those conclusions (and corresponding decisions) that would not pass the test of whether the intended or unintended consequences of a proposed course of action would be acceptable. Unacceptable consequences (unacceptable goals, or foreseeable unacceptable impacts or risks) are "decisive objections" against a proposal and can conclusively rebut it, indicating it should be abandoned (unless some acceptable mitigation, insurance or a Plan B are available, or unless the agents are willing to take the risks involved). The purpose of critical testing is: (1) to eliminate unreasonable proposals by examining

their potential intended and unintended consequences (is the stated goal acceptable, and would the potential side effects be acceptable?); (2) to enable (if possible) non-arbitrary choice of a better proposal, if several reasonable proposals have withstood criticism at stage (1). From this perspective, I have challenged the concept of “conductive” argument, as it exists in the literature (Blair & Johnson, 2011; Govier, 2010). I suggested that what (confusingly) appears to be a “conductive argument”—as a distinct structure, with pro and con reasons pertaining to a single conclusion—is a particular outcome of a deliberative process, involving the critical testing of one or more proposals (conjectures), for the purpose of deciding in rational way which one to choose.

Deliberation (I suggest) involves putting forward one or more alternative proposals for action, in light of problems (and other facts), desirable goals and potential means-goal relations, and testing each proposal in turn in light of their potential undesirable consequences for the parties concerned. A “normative minimum” of two schemes—a practical argument from goals and an argument from consequence—is required: the practical hypothesis (conclusion) is tested by an argument from consequence (Fairclough, 2019b). For any one alternative X being suggested, there will be reasons in favour of doing X (e.g. minimally, the potential achievement of the goal, but possibly of some other benefit) and reasons against doing X (e.g. some undesirable potential consequence). For any alternative Y, there will be reasons in favour of doing Y and reasons against doing Y, and similarly for any alternative Z. But the reasons counting against any one alternative may be of different strengths, and it is by examining the strength of these reasons, and the way they may rebut a proposal (as unreasonable), or leave it in place but show it is still less preferable than another one that has also survived criticism, that a decision can be made among them. I have drawn a distinction between undesirable consequences that do not necessarily indicate that a proposal is unreasonable (i.e. *counter-considerations*), on the one hand, and ultimately unacceptable consequences that do indicate the proposal is unreasonable and ought to be abandoned or revised (which I called *decisive objections*). Decisive objections will rebut the proposal, indicating it should not go ahead. If a proposal Y has only counter-considerations against it, but no decisive objections, then the balance of considerations may still come down in favour of going ahead with it, seeing that the reasons against it are not considered serious enough to warrant abandoning it (Fairclough, 2019b). If the decisive objections to Y that have come to light can be made acceptable (e.g. by mitigating their effect or by enabling a switch to an alternative course of action if and when they arise), then again Y can (provisionally) go ahead. If none of this is possible, and decisive objections remain, agents had better abandon the proposal, and either do nothing or look for an alternative, or (if this is not possible either) they may decide to go ahead, accepting the risks and impacts involved (Miller, 2013). As I shall show, all of these possibilities were explored, over time, in dealing with the current crisis.

From the start, the pandemic unfolded in conditions of incomplete knowledge, i.e. risk and uncertainty. While risks are known and therefore to some extent calculable (e.g. the R number tried to quantify the risk of infecting other people), little if

any calculation of probability could be done, for example, about the possible long-term effects of the rapidly developed (and therefore insufficiently tested) vaccines: that was the realm of genuine uncertainty. However, uncertainty was often talked about in terms of risks, as if some calculation had been performed and the risks to the population from the vaccines themselves had been found to be negligible. And although uncertainty (the "unknown unknowns") cannot be reduced to risk (the "known unknowns"), political decision-making seemed to require such a reduction in order to act with authority in a situation of emergency. Governments, but also the scientific establishment, often made claims with considerable certainty about matters they could not possibly know about, e.g. the safety of vaccines, their efficacy over time. The emergence of iatrogenic effects (including deaths), as the vaccination campaign went on, subsequently leading to vaccine "hesitancy" and to an erosion of trust in institutions (including in the impartiality of scientific institutions), became a significant public debate issue in the UK much later than the debate on the costs and benefits of lockdown that I deal with below, and I will not attempt to address it here.

The Covid-19 pandemic has raised a host of scientific/ theoretical questions about the nature of the virus, leading to findings that can be assessed in terms of their truth or falsehood, and a host of practical questions, including public policy questions about what can and ought to be done to prevent or mitigate the risks and impacts, at an individual and collective level. Naturally, these have been closely interrelated. The conjecture that action Y may be capable of achieving certain goals cannot occur in isolation from an understanding of what the situation is. Just as a theoretical hypothesis can be falsified by comparing its predictions (i.e. which statements would be true if the hypothesis were true) to experimental evidence, a practical hypothesis (that doing action Y is the right course of action) can be falsified by comparing its predicted consequences to what we take to be desirable or "right". If the predicted consequences (e.g. impacts or risks) are unacceptable, if they undermine goals which the deliberating agents do not want undermined, then action Y is not reasonable or recommended.

While such a way of evaluating practical conclusions may seem straightforward when conducted by single agents who know what their hierarchies of goals and values are, what they are willing to risk or sacrifice (although even a single agent's goals are often in conflict), the situation becomes complicated when deciding for groups of individuals, e.g. politicians deciding for whole countries, where multiple hierarchies of goals and values are espoused by different individuals and have to be kept "in balance", and where there will be both reasonable and unreasonable disagreement on any one chosen course of action. The assessment of any course of action or decision as being the "right" one (or as striking the "right balance") may be different among individuals. In Christian Kock's memorable phrase, "choice is not true or false" (Kock, 2009, 2017), and practical conclusions cannot be assessed in the same way as theoretical/epistemic ones. A theoretical statement about the nature of the virus's genome is true or false for everyone, while a practical statement about what ought to be done about the pandemic may not be "right" for everyone affected. It is not unreasonable to expect the resolution of disagreement on matters of epistemic truth, i.e. the retraction of a standpoint that has been shown to be false (van

Eemeren & Grootendorst, 2004). It is however unreasonable to expect consensus on a wide range of practical matters, and particularly in politics, where disagreement may persist among proponents of different lines of action, often grounded in competing (and often incommensurable) values and goals, or in the same values and goals, but differently prioritized (Fairclough & Fairclough, 2012: 59–60).

According to the standard view of pro/con or “conductive” argumentation, to say that a practical conclusion (hence decision or plan of action) has been arrived at “on balance” means that reasons in favour (pro) and reasons against (con) have been considered, and the reasons in favour have outweighed the reasons against. On this view, both the pro and con reasons pertain to only one conclusion, and the fact that this one conclusion (e.g., in favour of doing Y) is recommended (or even chosen as a basis for action) is the result of a sort of “weighing” and “subtraction” process: the weight of the reasons against was subtracted, as it were, from the weight of the reasons pro, and the result was positive.

As I said above, I have suggested a different way of looking at pro/con arguments (Fairclough, 2019b), which assumes that, if several possible alternatives (as solutions to a problem) are suggested, then each one has to be tested in turn, by considering the reasons that count against each. So, for each proposal or possible solution Y (out of a set of several alternatives), two possible conclusions are always involved: Do Y versus Don’t do Y; or Y is the right course of action vs Y is not the right course of action. When reasons for doing Y and against doing Y are considered, the fact that the pro (and not the con) conclusion may be recommended in the end will result from the assessment of the objections raised against Y as being counter-considerations, and not decisive objections. (Or, if any potentially decisive objection had been raised, some acceptable mitigation or other solution was offered, which removed its rebutting force). If rational decision-making involves criticism, i.e. involves a thorough search for potential reasons against a proposal (against Do Y), not just for reasons in favour, and therefore allows for the possibility that the opposite conclusion (Do not do Y) might in fact be the reasonable option, it follows that two opposite conclusions are always potentially in play, for each of the proposed solutions: Do Y and Don’t do Y, Do Z and Don’t do Z, etc. It follows that, whichever proposal emerges as the better choice (or the less bad choice) among several reasonable alternative, it has survived a process of critical questioning, meaning that its potential costs were assessed as not being ultimately unacceptable. Moreover, if more than one alternative has emerged as reasonable (with no decisive objections against it), then the “better” choice also has less undesirable counter-considerations against it than those of any other reasonable alternative (a “cost-cost” analysis). When this critical filtering procedure still yields more than one possible reasonable course of action, decision-makers can look at what other additional relevant benefits are afforded by one and not the other. To sum up, a “cost-cost” comparison, examining the consequences of alternatives, is the main activity in deliberative practice and will help to eliminate (first) the downright unacceptable and (subsequently) the less desirable options. Weighing the pros (additional benefits) and cons (counter-considerations) of the options that have survived criticism occurs, if at all, at a later, final stage, and only if more than one alternative

has survived criticism up to that point; otherwise, a decision (albeit a fallible and revisable one) can be made on the basis of the "cost-cost" analysis alone.

The question that arises immediately, when speaking of unacceptable consequences, is "unacceptable for whom", or "serious" for whom? And if there is going to be disagreement on the answer to this question, and the final decision is not going to be acceptable to everyone concerned, how is a way forward to be found? This is a situation of genuine "polylogue" (Lewiński, 2014; Lewiński & Aakhus, 2014; Lewiński, 2017), where each of the several alternatives that have been proposed, in response to a problem and a goal, is advocated as the best course of action by its own supporters. In the controversy I analysed in Fairclough (2019a),⁵ the unacceptable consequences that constituted decisive objections for one party were considered acceptable (and suitably mitigated) by the other party. Consequently, the balance inclined towards radically opposite conclusions (and decisions) for the two parties concerned, and each conclusion (decision) was considered reasonable by its proponents. I shall illustrate a similar situation with examples in the next four sections.

12.4 Getting the Balance Right or Wrong: A View from *The Guardian*

The Guardian acknowledged that the way forward was a difficult "balancing act":

[11 May 2020, Editorial] None of this, of course, is easy. The prime minister is simultaneously confronted with a public health crisis and an unfolding economic disaster which he must address. This is a delicate and dangerous balancing act. (*The Guardian*, 2020).

[28 May 2020] Easing the lockdown is a balancing act. The optimal strategy relaxes the right restrictions by the right amount to allow some return to normalcy without risking a second wave of infections. (Sample, 2020).

The newspaper was generally critical of the Conservative government's approach, criticizing it for being inconsistent, 'muddled', full of U-turns, always too late and half-hearted in implementing lockdowns and tighter controls. The correct balance, on their view, would have inclined more consistently towards saving lives by closing down the economy and schools—more lockdowns, circuit breakers and restrictions of all sorts. A frequent view in the opinion articles seems to be that "the government is misjudging this balancing act and lifting too many restrictions, too quickly".

On 22 February 2021, when a phased lifting of restrictions was announced (Boris Johnson's "roadmap"), *The Guardian's* verdict (expressed by a panel of scientists and health advisors) was sceptical on several grounds: the opening of schools, deemed imprudent, would need to be accompanied by a host of "basic mitigation measures" (e.g. proper ventilation and mask wearing), so would the opening of the hospitality sector. Timing was said to be essential: "balancing the amount of social contact with the speed of the vaccine rollout will allow us to exit the epidemic with minimal

⁵ The public debate on the proposal to explore shale gas in Lancashire.

damage”. Not overly enthusiastic about the PM’s “roadmap”, *The Guardian*’s experts concluded that a “coherent and sustainable long-term strategy to suppress Covid-19” was still missing. One of them claimed that the PM’s “roadmap throws caution to the wind”, getting the balance wrong again (Sridhar et al., 2020).

Nevertheless, the idea of a necessary trade-off that avoids the worst impacts on both sides of the balance (i.e. different kinds of costs), while not prioritizing one concern at the expense of the other, was aired early on in *The Guardian*, and was specifically said to be the responsibility of politicians, as distinct from scientists and doctors⁶:

[Article on 23 April 2020, citing Prof Mark Woolhouse, epidemiologist at Edinburgh University] “I do think scientific advice is driven far too much by epidemiology... What we’re not talking about in the same formal, quantitative way are the economic costs, the social costs, the psychological costs of being under lockdown,” he said. Woolhouse said that while it was understandable that saving lives was the top priority, the idea of doing this at any cost was naive. “With any disease there is a trade-off. Public health is largely about that trade-off. What’s happening here is that both sides of the equation are so enormous and so damaging that the routine public health challenge of balancing costs and benefits is thrown into incredibly stark relief. Yet that balance has to be found.” (Devlin & Boseley, 2020).

A similar warning, about the disproportionate influence played by pessimistic epidemiological modelling in shaping policy, was issued by David McCoy (Professor of Global Public Health and director of the Centre for Public Health at Queen Mary University of London) on 10 April 2020. What was needed, in his view, was “political experience and good judgment”, not a proliferation of mathematical models:

There is also a non-scientific element to decision-making which involves choosing between competing demands and needs in society, determining what is ethical and moral, and balancing challenges that are current and immediate with those that will only emerge in the future. For example, a model that incorporates value judgments is needed to balance the direct, visible and dramatic harms of Covid-19 with the more indirect, chronic and hidden social and economic harms of lockdown.

Furthermore, while it is often said that Covid-19 “does not discriminate”, this statement is only partially true.... How we manage this differentiated vulnerability is all about ethics and politics. It may be informed by a scientific model, but it shouldn’t be disguised as a technocratic problem that can be resolved by mathematical equations. (McCoy, 2020).

Both examples acknowledge the magnitude of the consequences on “both sides of the equation” and seem to suggest that worst-case scenario thinking informed exclusively by an overriding concern to prevent Covid deaths, driven by epidemiological models, ought to be balanced by a political concern for a wider range of social and economic harms, and that it is the government’s duty to consider the overall potential costs, including the less immediately visible ones that will impact people in the future.

Another clear exception to *The Guardian*’s general pro-lockdown stance was an opinion piece (on 4 November 2020) signed by Lord Jonathan Sumption, former Justice of the Supreme Court, who made a strong case for ending lockdown as an “indiscriminate” approach that punishes young people disproportionately. According

⁶ For an analysis of how scientific disagreements over Covid-19 mutually impact policy debates, see Antiochou & Psillos (2022, this volume).

to Lord Sumption, "England underestimates the costs of lockdown at its own peril" and "we need to think hard about whether the benefits outweigh the harm", particularly for young people. His intervention focuses on the "immeasurable collateral damage" of lockdown policies, felt by categories of population who are not at risk from Covid, but suffer other unacceptable harms instead:

In my opinion, the problem with lockdowns is that they are indiscriminate, ineffective in the long term, and carry social and economic costs that outweigh their likely benefits...

Lockdowns are indiscriminate because they do not distinguish between different categories of people whose vulnerabilities are very different. Some are young, some old. Some have had the disease and enjoy a measure of immunity while others do not... Some live alone and are starved of company, others have their families around them... Ministers treat the entire population as an undifferentiated mass. This one-size-fits-all approach is irrational.

The result is to inflict an appalling injustice on the young, who are unlikely to become seriously ill but are bearing almost all the burden of the counter-measures... The risk of death for young people is very small. They are not the ones who are filling NHS beds. Yet their job prospects are being snuffed out... But the young and healthy should not be deprived of the ability to live fulfilling and productive lives simply to spare the old and vulnerable from taking precautions for their own safety...

Scientists advise on science, statisticians on numbers. But what weight should be given to this material, when the humane values of our society and the preservation of its economic and social fabric are placed on the other side of the scales? This is not a scientific question. It is a political one. And therein lies the problem. Politicians rarely ask what is in the public interest. They ask what they will be blamed for.

The result is that the whole issue is distorted by concentrating on what is visible, dramatic and immediate: deaths, frantic hospitals, frightened people. The collateral consequences, however severe, do not have the same media impact or political weight... Sometimes it takes courage to do the right thing. (Sumption, 2020).

On Lord Sumption's view, therefore, the priority placed on reducing Covid deaths is not in the "public interest" (but in the interests of politicians as decision-makers, for reasons of immediate accountability), and not the "right" thing to do, seeing as lockdowns seem to cause more cumulative damage than the virus itself. The balance ought to change not in relation to dramatic daily statistics, but ought to favour that course of action which avoids the even more unacceptable undermining of the "fabric" of society and of the future.

12.5 Getting the Balance Right or Wrong: the *Daily Mail* View

Similarly to Lord Sumption's argument above, the *Daily Mail* tended towards a consistent anti-lockdown stance, according to which the right balance ought to tilt in favour of "freedom"—resuming normal social and economic life as soon as possible, seeing as the costs of prolonged lockdown were said to be worse than the costs of the

alternative. According to the prevailing *Daily Mail* view, “the real risk would be not easing lockdown”, and any fear of infection “must be balanced against the profound damage lockdown itself is doing both to our safety and the fabric of national life”, particularly the “terrifying collateral damage caused to public health, as the NHS became a fortress against coronavirus—to the near exclusion of everything else” (1 June 2020).

To avoid effects that are “far deadlier than the disease” they were meant to cure, the country should be kept functioning as normally as possible, “sheltering the vulnerable while everyone else gets on with life”. The Prime Minister “must prise himself from the grip of scientists—whose sole concern is health issues—and start striking a balance between epidemiology and the economy” (21 September 2020). In other words, a *political* decision that is made rationally is one that has looked at the potential consequences of alternative proposals and has chosen the one with the least damaging impacts on a wider range of concerns that governments are responsible for, not only Covid-related mortality.

12.6 Getting the Balance Right or Wrong: *The Daily Telegraph* View

Like the *Daily Mail*, *The Daily Telegraph* emphasized the “economic catastrophe”, criticizing the PM for not being consistent enough in his attempts to relax restrictions earlier. Several articles paint a picture of a Prime Minister “overwhelmed” by his “public health advisers [who] are weighted very heavily in favour of virus control, with too few people weighing the human costs”. According to economist Roger Bootle, in a *Telegraph* piece (9 November 2020), “there needs to be a major input from economists into Covid decision making”:

The only thing that can really have a major effect in both boosting the economy, reducing financial strains and heading off a future fiscal calamity is a different policy with regard to locking down the economy. Sadly..., the influence of economic considerations in the key decisions taken with regard to controlling the virus is next to zero. (Bootle, 2020).

Overall, the balance was said to be wrong (even “irrational”) if achieved at the expense of the economy and without taking in to account the collateral impacts of lockdown on people’s lives. For *The Telegraph* too, the impacts of lockdown spoke more decisively against it than in favour of it, particularly since there were ways of mitigating the risks for the more vulnerable categories. Citing views from the business community, *The Telegraph* (12 June 2020) was concerned that “the government has erred too much on the side of precautionary closure while other countries have been quicker to balance the economic risk with the health one”. Urging the PM to “break the endless lockdown cycle”, to reject a “cure just as deadly as Covid”, the newspaper emphasized that “a pandemic kills people directly and indirectly, and a sensible government seeks to minimise both kinds of deaths” (20 November 2020).

The imperative of minimising the worst consequences overall, having considered different kinds of consequences, is explicitly advocated in these interventions, which suggest that the balance is wrong when it tries too hard to avoid the potential costs of the alternative it decides to reject without sufficiently considering the costs of the alternative it decides to adopt.

12.7 Getting the Balance Right or Wrong: A View from *The Times*

On 5 May 2020, an article bearing the title "Ignore these siren calls to end the lockdown" acknowledged "Johnson's complex balancing act" and Britain's "horrible choice between protecting the economy and safeguarding life and health", and came down against the "economy-firsters" and their insistence that "lockdown must end immediately".

Later in the year, in an article entitled "When a politician says they follow the science, that's when I start screaming" (1 September 2020), statistician Sir David Spiegelhalter was cited as saying that young people who carried on partying were behaving perfectly rationally, given the low risks to themselves, but that "everyone has to look at the threat in the round rather than just from an individual perspective"... "This whole crisis has turned into an issue of risk management. That means perpetually a balance of potential harms and benefits. There's no such thing as safe, there's no such thing as right or wrong. Everyone has to carry out that balancing act"... On the question whether the "government got the balance between lives and livelihoods right", Spiegelhalter argued that the initial radical response (lockdown) was appropriate. However, "now we know a lot more about it and so it's reasonable to start weighing up the costs and the benefits of policies with the acknowledgement that we're never going to be safe" (Pond, 2020).

On 24 October 2020, in an article entitled "To say there's no trade-off between health and the economy during lockdown is a convenient delusion", Phillip Aldrick (Economics Editor of *The Times*) challenged "the argument that there is no trade-off between lives and livelihoods" used both by Labour (in calling for a new lockdown) and by some leading economists, as well as by the IMF:

It would be nice if there were no trade-off, if public health and economic policy were neatly aligned, if every life saved at whatever cost improved the overall wellbeing and wealth of the country. Decision making would be so easy then. But it's dangerously oversimplified wish fulfilment by well-intentioned people whose hearts are ruling their heads... (Aldrick, 2020a).

Instead, according to him, seeing as "knowledge allows people to tailor their behaviour to their circumstances", and much more is known now than at the beginning of the pandemic, e.g. that young people are not so badly affected, a rational case can be made for a relaxation of restrictions. He had made a similar point in another article (25 June 2020), citing a report from the Institute for Economic Affairs. The

report had concluded that “it is increasingly hard to justify the economic and social costs” of lockdown against “a growing risk that more lives will be lost as a result of the lockdown than those that might be saved”. Briefly, “lockdown may have been worth it originally, but is no longer so now” (Aldrick, 2020b).

Other articles acknowledged that “the government is facing fiendishly difficult choices”, also pointing out that “the danger of Covid-19 is not spread equally in the population, and neither can the burden of inconvenience be”, and therefore that “children must stay in school and ... elderly people must be protected”, and any new school shutdown would be “manifestly unjust”. Overall, there was a recognition that lockdowns and restrictions, while appropriate at the beginning, were inhibiting the economic recovery a year into the pandemic, and “the principal threat to our wellbeing now is economic”. In the end, in a context of limited, yet ever growing knowledge, *The Times* acknowledged that “any new rules will be a political judgment and a balance of difficult options”, as no way forward is without its own risks.

In January 2021, an article citing Professor Chris Whitty (Chief Medical Officer for England), who had told a House of Commons committee that it is “very unlikely we’ll get to zero level of risk”, placed the decisions made by scientists and politicians into stark contrast. At some point in the roll out of the vaccination, the writer argued, “priorities can change”, and society (through political leaders and parliament) will decide that a certain level of risk can be tolerated. “That means that government must balance the stark certainty of some deaths against the economic, psychological and political damage of restrictions”, and “such a decision is not for doctors but government”. The idea of a “nirvana where nobody suffers and dies” is an illusion (Purves, 2021).

12.8 Pro/Con Argumentation: What Reasons Are Weighed Together in Arriving at a Conclusion “On Balance”?

The disagreement over what the right balance, hence what the right way forward ought to be, in coping with the pandemic, is relevant for a theory of pro/con (so-called “conductive”) argumentation. The examples above contain arguments for or against prolonged lockdown measures (or for or against resuming normal life and restarting the economy as soon as possible). Are these courses of action evaluated by weighing the costs against the benefits of each, e.g. the benefits of lockdown versus the costs of lockdown? I have argued that this is not what goes on. What is being compared are the costs of lockdown against the costs of rejecting lockdown. Depending on what consequences are considered or omitted, on what “weight” is assigned to these costs by the arguers and crucially what mitigation is said to be available (that can remove the rebutting force of a potentially decisive objection), the supporters of each side will arrive at different conclusions, but this will be based on a cost-cost analysis of both alternatives, not on a cost-benefit analysis of one proposal at a time.

Maintaining a state of lockdown was said to prevent further loss of lives to the virus and avoid overwhelming the NHS, i.e. avoid the unacceptable consequences allegedly resulting from the opposite course of action. Putting an end to lockdown was said to avoid the collateral social and health costs to the population, and prevent economic and educational catastrophe, i.e. similarly, avoid the unacceptable consequences of the alternative. Each course of action was therefore defended in light of its presumed ability to avoid the even worse consequences said to result from the opposite course of action. Both the risk of an increase in Covid deaths, on the pro-lockdown side, and the impacts on the economy and other aspects of life, on the anti-lockdown side, were taken to be decisive objections, indicating that the opponent's proposed course of action was wrong. Each side accepted that their own proposal also came with certain potential costs. However, these were said to be mitigated to an acceptable extent: the economic costs would be mitigated by support from the Treasury; the excess mortality would be mitigated by shielding the vulnerable and later by vaccination take up.

It is customary to speak of doing a "cost-benefit" analysis, or of weighing the costs against the benefits. Some of the examples above also use these phrases. For example, Lord Sumption argued that lockdowns "carry social and economic costs that outweigh their likely benefits" and emphasized the "need to think hard about whether the benefits outweigh the harm". A closer look shows, however, that the intended positive consequence ("benefit") is in fact one and the same here with avoiding the negative consequence ("cost"). What the lockdown is designed to avoid (an increase in deaths from Covid), as "benefit", on the pro-lockdown view, is an avoided cost of the alternative course of action. A return to normal life is intended to avoid undermining the economy: once again, the intended benefit is an avoided cost. Asking whether the benefits of lockdown are not in fact outweighed by the harms is another way of asking whether the costs that lockdown avoids are not in fact outweighed by the costs that it incurs. The "cost-benefit" analysis in this case is clearly a "cost-cost" analysis.

Depending on who is assessing them, the costs of one alternative will be more unacceptable than (and thus outweigh) the costs of the other. Of two proposed lines of action that have survived criticism, one will allegedly minimize the potential costs better than the other and will therefore be the "less bad" option, the "lesser evil". Government officials sometimes spoke clearly in these terms. According to Chief Medical Officer Chris Whitty (cited in the *Daily Mail*, 7 February 2021), the government found itself in a situation where "there were no good solutions": "what we're trying to do is have the least bad set of solutions". This is to say that the "best" decision in choosing among two proposals with negative consequences is the one that avoids the proposal with the worse consequences (and thus minimizes the maximum possible loss). "Cost-cost" reasoning of this type is to be expected in situations of crisis management, where the goal itself is to minimize the damage.⁷ However, on the view of deliberation I am proposing here, along critical rational lines, "cost-cost" (*minimax*) reasoning is the paradigm case of rational decision-making, whether one

⁷ I am grateful to one of the reviewers for this important point.

is dealing with crisis management or with choosing among alternatives that have both costs and substantive benefits. This amounts to saying that, if a decision is to be made rationally, maximizing any additional benefits ought to come at a later stage, after minimizing the costs: first by eliminating the alternatives with ultimately unacceptable costs (or, if possible, by acceptable mitigation, insurance, or Plan B availability); only then by choosing the alternative with the best cost–benefit ratio from the remaining set of potentially reasonable alternatives).

This implicit *minimax* strategy was applied in radically different ways, depending on how the consequences were assessed by the two sides of the debate, and which consequences were considered less unacceptable. Proposals on how to mitigate (reduce) the worst impacts were crucial in these arguments. The prevailing opinion expressed in *The Daily Telegraph* and the *Daily Mail* was that the balance was wrong when it inclined excessively towards protecting “lives” from Covid risks. On this view, also expressed by Lord Sumption in his *Guardian* piece, it was unacceptable to sacrifice certain categories of the population who were not at significant risk. The old and vulnerable ought to protect themselves, while the rest of society ought to get on with normal life, each taking those risks considered personally acceptable. The consequences of prolonged lockdown were, on this view, worse than an increase in Covid-related mortality. Resuming normal life and economic activity (“freedom”) was therefore the reasonable course of action, on this view, and was in fact a necessary condition for protecting lives (“without wealth, Boris cannot safeguard the nation’s health”).

In addition to this instrumental justification (saving the economy is necessary for achieving any other goal, including public health), which turns the destruction of the economy, as cost, into a decisive objection against lockdown policies, there is a moral justification as well for resuming normal life as soon as possible, springing from the reasonably different, yet legitimate goals of different categories of population. As Lord Sumption argues, a “one-size-fits-all approach” is not only “irrational” but “inflicts an appalling injustice on the young”—a decisive objection against pursuing it. This view emphasizes that lockdown kills too, that the rights of individuals might legitimately conflict with general collective interests, and that they cannot be overridden by the “common good”. The choice is said to be not between “lives and livelihoods” but between saving the lives of some people and destroying the lives of others, and lockdown policies seem to have been unacceptably doing the latter, on this view.

Arguments like Lord Sumption’s above show that an overriding concern for human lives is involved on both sides of the debate. The decision to be made is not between saving lives and keeping the economy going, not between human beings and economic growth. If it were, then the “lesser evil” would be easy to figure out: sacrificing the economy would have to be the lesser evil, and the right balance would clearly incline towards saving as many lives from Covid as possible. With the passing of time, as the implications of potential economic collapse for all human lives became clearer, “saving lives” at any cost by means of lockdowns no longer seemed a straightforward choice. Both courses of action had unacceptable consequences for human lives, and—because the risks and impacts were so unevenly distributed across categories of population—what was “right” for one group was often “wrong”

for another. As a cabinet source cited in the *Daily Mail* (15 October 2020) said, "The caricature is that this is health versus the economy" ... "The reality is it is health versus every other responsibility the Government has". In other words, a government has many competing goals and duties and cannot be expected to focus only on protecting vulnerable people by bringing most other activities to a halt.

In Sect. 12.4, I said that a proposal against which decisive objections have been raised can be still maintained if some acceptable mitigation (or alternative plan) is found, or (if this is not possible) if the agent is prepared to take the risks involved. On a pro-lockdown view, the potential damage done to people's livelihoods was taken to be temporarily mitigated by the furlough scheme and other government support measures. On the anti-lockdown view, the potential increase in deaths can be mitigated by selective and voluntary self-shielding; more recently, the emergence of vaccines, universally hailed as "game changers", are providing the most significant mitigation of Covid death risks. With acceptable mitigation of either sort, actions which seemed to have *prima facie* decisive objections against them became reasonable options. As more and more experts agree that a "zero Covid" future is an "illusion" (*Daily Telegraph*, 22 March 2021), seeing as "we can't stay in suspended animation indefinitely" (*Daily Mail*, 1 June 2020), a return to normality is also being defended by appealing to people's willingness to take their own risks and use their "common sense" in circumventing them. (I have discussed mitigation and risk acceptance as part of rational decision-making in Sect. 12.3.) The least bad option is now to resume normal life while accepting the inevitability of some Covid deaths (as a lesser cost):

[*Daily Mail*, 21 February 2021, citing a government source] This is the delicate equilibrium... Just as we sadly have to accept a certain death toll from the flu every year, we will have to learn to live with Covid fatalities. (Owen, 2021).

12.9 Conclusion

In looking at how the government's "balancing act" was assessed from different perspectives, I have tested my own conception of pro/con argumentation, as one involving a comparative assessment of the consequences (or costs) of two contrary alternatives (a "cost-cost" comparison, not a "cost-benefit" assessment of one alternative), and indirectly supported the view that a *minimax* approach (minimizing loss in a worst-case scenario) is both more defensible than a cost-benefit approach and a more accurate representation of what goes on in rational decision-making in conditions of uncertainty and risk. In the case discussed here (though not necessarily in every case), speaking of achieving "benefits" was no different from saying that certain negative consequences would be averted: the benefits amounted to an avoidance of costs. Based on different priorities (and what consequently was assessed as decisive objections), but also on different conceptions about risk mitigation, the defenders and opponents of lockdown policies decided differently on what the "least bad" option was. Benefits are not always tantamount to avoidance of costs, though in the case discussed here they were. In addition to comparing the costs of two options,

one can usually compare the benefits as well. Normatively speaking, I suggest, if a decision is to be made rationally, maximizing the benefits ought to come at a later stage, after minimizing the costs.

Each of the two proposals (for/against lockdown) was defended and criticized in light of the imperative to avoid the unacceptable consequences of its counter-proposal. What was taken to be an unacceptable consequence has varied in relation to political and ideological affiliation, but also seems to have changed over time, as the serious impacts of prolonged lockdown have become more apparent and risk-mitigation measures have become possible. Moving from a simple “lives versus livelihoods” dilemma, which seemed to promise a clear solution, one favouring “lives” as a moral, overriding imperative (a perspective also favoured by the scientific and medical advisors), the political balancing act has had to encompass a much wider range of concerns, including duties towards different groups of people. None of these duties can be allowed to override others permanently, in the long term, reasonable trade-offs must be found, and what the least bad option is will reasonably change. Both alternatives have their costs, and the dilemma seemed to change from saving lives versus protecting the economy, to one involving protection of lives from harms arising from both alternatives.

As of May 2021, the popular consensus seems to be moving, with the roll out of the vaccination programme (as the most obvious way of mitigating risk), from avoiding Covid deaths at all costs, as an overriding priority, towards avoiding the worst of the economic, social and collateral health damage inflicted by prolonged restrictions, while accepting a certain amount of risk as unavoidable. With vaccination and mass-testing holding the prospect of a return to normal life, including a return to workplaces and public transport, people will be expected (or forced) to manage their own risks—deciding which risks are worth accepting but also which risks they might have to accept.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 13

Justification of Decision-Making in Response to COVID-19 Socio-Scientific Dilemmas



Keren Dalyot, Yael Rozenblum, and Ayelet Baram-Tsabari

Abstract Argumentation skills are important for informed decision-making, especially in everyday life when engaging with science. The onset of the COVID-19 pandemic is an ideal opportunity to study laypeople's use of argumentation skills when engaging with a scientific issue daily, while making relevant decisions that affect their families and society. This study frames the pandemic as a Socio-Scientific Issue (SSI)—a scientific issue with links to several social science disciplines (economics, politics, and sociology). The current study explores decision making and argumentation in the context of COVID-19 among the Israeli public as well as the connection between demographic characteristics, scientific knowledge and education and the quality of their argumentations. An online survey to examine responses to 2 specifically designed social dilemmas was conducted in April 2020 ($n = 439$). Our findings suggest that laypeople tend to use justifications that were classified as 'scientific argumentation' but we could not demonstrate a connection between demographic characteristics, scientific knowledge and decision making. We did find a positive connection between peoples' perception of control over the situation and their compliance with the official guidelines. As a relevant Socio-Scientific Issue (SSI), COVID-19 stretched to the limit the need for public argumentation with changing scientific and medical information.

Keywords Argumentation · Socio-Scientific Issues · Decision making · Public engagement with science

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13.1 Introduction

Argumentation skills are an important part of making informed decisions, and they are especially important in everyday life when engaging with science (Erduran et al., 2004; Lazarou et al., 2017; Osborne et al., 2016). Although many studies have dealt with factors influencing levels of scientific arguments, there is no consensus among researchers regarding the impact of these factors. Some argue that the quality of an argument is affected by content knowledge (Driver et al., 2000; Zangori et al., 2017), others point to a direct link between the quality of the argument and the level of education (Kuhn, 1991).

The onset of the COVID-19 pandemic offers a timely opportunity for researchers to study laypeople's use of argumentation skills when engaging with a scientific issue daily, while making relevant decisions that affect their families and society. In this study we frame the COVID-19 pandemic as a Socio-Scientific Issue (SSI)—a scientific issue with links to several social science disciplines, such as economics, politics, and sociology. 'The term 'socioscientific issues' has come to represent controversial social issues with conceptual, procedural, or technological ties to science' (Sadler & Donnelly, 2006, p. 1463). SSI refer to complex, ill structured and controversial social issues that are often value-laden with competing public views. Features that distinguish them from traditional school science are uncertainty and acceptance of different types of knowledge, rather than only scientific knowledge (Simonneaux, 2008). For over a year now, people globally have been faced with the need to make daily decisions that are related to health (how do I keep from contracting the virus and stay healthy?), to economics (how do I keep my job?), education (should my children study from home or go to school? Is online learning working for them?) and politics (are my representatives promoting appropriate relief policies?). Moreover, all these important decisions were made with very scattered information and a high level of uncertainty regarding many aspects of the pandemic.

The COVID-19 pandemic is a telling example, but people also encounter SSIs in many situations throughout their lives, such as when having to make decisions about childhood vaccinations, diet or even purchasing a mobile phone. When engaging with SSIs, social, economic, and cultural factors enter into play, and often they have more influence over decision making, than scientific factors (Dalyot et al., 2019; Weeth Feinstein et al., 2013).

SSIs are of interdisciplinary nature and often several alternative and viable decisions exist (Sadler & Donnelly, 2006). Engaging with them in class and in life requires, among other skills, science literacy alongside the ability to coherently construct arguments (Sadler et al., 2007; Zeidler & Nichols, 2009). Colucci-Gray (2014) points out that SSIs offer an example of the importance of moving from treating 'scientific knowledge as something theoretical and abstract to recognizing that such knowledge is deeply enmeshed with action' (p. 638). Thus, the aim of this study was to explore decision making and related argumentation in the context of COVID-19 governmental guidelines among Israeli public as well as their relation to science knowledge. Specifically, we asked:

RQ1: Which justifications do people use to explain their stance on COVID-19 related dilemmas?

RQ2: What is the connection between demographic characteristics, scientific knowledge and education and decision making (stance and justification)?

13.2 Theoretical Framework

13.2.1 *Decision Making in the Context of SSIs*

In a world where science and technology have a significant impact on society and culture, there is great importance in cultivating scientific literacy among the public, which will support problem-solving processes and decision-making in daily life (OECD, 2017). The Programme for International Student Assessment (PISA) 2024 strategic vision, published at the onset of the pandemic in March 2020, aims to add to this framework relevant competencies for science education, as they acknowledge indirectly that decision making, and knowledge are intimately linked with SSIs, it reads (OECD, 2020).

Using scientific knowledge for decision-making and action, as young people need the capacity to actively use their scientific knowledge to decide on courses of action, and to create new value. These decisions need to be made in complex systems, taking into account economic, political, and ethical considerations (p. 7).

There is broad support within the science education community for the inclusion of decision-making in the context of SSI as an integral component of scientific literacy (Sadler & Donnelly, 2006) as well as its evaluation (Allchin, 2011; Romine et al., 2017). The role of argumentation in SSI is specifically emphasized. Scientific argument is a complex form of reasoning requiring domain-specific knowledge to construct and critique claims and their relationship to supporting evidence (Osborne et al., 2004, 2016).

Decision making and action in scientific issues is thus gaining more attention and becoming an important issue within science literacy studies, also encompassing argumentation skills and capacities. The PISA 2024 document states that some of the main objectives of science education are transferring knowledge and skills to daily life, using science for personal or social needs and making informed decisions (OECD, 2020). However, there is no consensus among researchers about the role of scientific knowledge in the decision-making process and there is conflicting evidence on the subject (Kahan, 2014; Sharon & Baram-Tsabari, 2020). Some studies have demonstrated a complex relationship between science knowledge and science-based decision making, explicating how social or political and economic concerns as well as trust in science and scientists mediate engagement and decision making (Dalyot et al., 2019; Drummond & Fischhoff, 2017; Heyd-Metzuyanim, 2021; Jho et al., 2014; Orr & Baram Tsabari, 2018; Plohl & Musil, 2021; Shauli & Baram-Tsabari, 2019; Taragin-Zeller et al., 2020). Moreover, making decisions on SSIs ‘is probably

the most common instance where science and the public interest come into contact with one another' (Rudolph & Horibe, 2016, p. 811). For example, when governments needed to make lockdown decisions during the pandemic, while balancing economic and health needs of the population.

Many non-scientific personal factors influence the decision-making process in SSIs. These factors include emotion, religious belief, personal experiences and tendencies, and traits of the individual including skepticism (Sadler & Zeidler, 2009; Jho et al., 2014). For example, on the issue of climate change, people are known to use their cultural and political perspectives to filter information on the issue and interpret evidence in a way that is consistent with their initial positions (Drummond & Fischhoff, 2017; Howarth et al., 2020; Sherkat, 2011).

Similar findings were also discovered in the context of COVID-19. A recent study in the United States concerning public knowledge and behavior in the context of the pandemic, found that while knowledge about COVID-19 was found to be connected to public behavior, this knowledge was mainly related to the political affiliation of the participants. According to Clements (2020), Republicans are more likely to ignore expert recommendations regarding behavior in the context of COVID-19, while Democrats tend to behave in line with these recommendations (Clements, 2020). In addition, there is an underlying assumption that public exposure to knowledge about scientific topics is not sufficient to create behavioral change, that relies heavily on personal stances and affiliations (Howarth et al., 2020; Sharon & Baram-Tsabari, 2020). Engaging with COVID-19 requires a certain grasp of science alongside mathematical and geographical understanding, while engaging with uncertainty in personal and public health issues (Heyd-Metzuyanim et al., 2021; Lammers et al., 2020; Plohl & Musil, 2021). The literature points to the complexity of the intricate relations between scientific knowledge and decision making when confronted with science in daily life. Here we focus on their interaction also with argumentation skills.

13.2.2 The Importance of Argumentation Skills in Engagement with SSIs

We started with the premise that decision making in the context of socio-scientific issues involves argumentation skills, but how do we define and study these skills? Osborne et al. (2016) write that 'Argument and critique are, therefore, at the very center of science—connecting the 'hands-on' work of scientific inquiry with the 'minds-on' work of developing scientific ideas and theories' (p. 822). Argumentation is thus a critical skill in the development of explanations, models, and theories (Erduran et al., 2004). This conceptualization of argumentation emphasizes links between claims (or warrants) and data through justifications or an assessment of knowledge claims (Jiménez-Aleixandre & Erduran, 2007).

Driver et al. (2000) have long emphasized that opportunities for argumentation are pathways to learning socio-scientific issues and indeed argumentation in science is studied widely in K-16 educational contexts, with children, teenagers, college student and pre-service teachers (Driver et al., 2000; Jiménez-Aleixandre & Erduran, 2007; Lazarou et al., 2017; Osborne et al., 2016). Similar to studies on SSIs in classrooms, studies on argumentation suggest that basic science knowledge influences student's ability to engage in meaningful and complex discussion (Driver et al., 2000; Lewis & Leach, 2006; Zangori et al., 2017).

Some researchers suggest that positive emotions towards the issue may affect high quality reasoning, but further research is required to fully understand this complex relationship (Fischer et al., 2014). In the context of COVID-19 the rise in the prevalence of misinformation and conspiracy theories has fueled a cycle of anxiety, powerlessness, and helplessness feelings that are detrimental to emotional well-being (Van Prooijen & Van Dijk, 2014).

Šrol et al. (2021) thus suggest that in this climate, where “people are strongly motivated to preserve the sense of control of their lives” (p. 2) making sense of control is an important issue when analyzing argumentation in this context. Psychologists refer to “cognitive control and cognitive flexibility” as playing an important role in our ability to respond to uncertain and changing situations (Gabrys et al., 2018). Relevant here is the definition of cognitive control as ‘the ability to focus on information that is currently relevant to a particular goal, while inhibiting information that is not relevant’ (p. 2), as well as the cognitive flexibility to respond and change response strategies when circumstances require.

Socio-scientific decision making characterizes many situations adults face in their daily lives; from deciding on what to eat to maintain a healthy lifestyle, through deciding what kind of car to buy as well as what types of public policy or energy to support. During the COVID-19 pandemic global crisis, adults were faced with not only the need to make constant daily decisions (should I go out? should I visit other people? do I need to wear gloves?) but also making these decisions with very uncertain information, abundance of conflicting policy solutions and while being exposed to an array of opinions (and news) promoted on social networks. In this amplified situation actively searching for information online may contribute to confirmation bias (Meppelink et al., 2019) as ‘people will tend to seek out information and make judgments and decisions that are consistent with what they want to believe’ (Dieckmann & Johnson, 2019, p. 18). Our study is focused around two leading questions that investigate argumentation in the context of living during the initial stages of an unfolding world Socio-Scientific drama—the spread of COVID-19 pandemic. We examined the justifications and arguments that people use to explain their stance

on COVID-19 social dilemmas (Braund, 2021).¹ We also looked at the connection between demographic characteristics, scientific knowledge and education and people's decision making (stance and justification) in the dilemmas.

13.3 Methodology

The aim of the current study is to explore decision making and argumentation in the context of COVID-19 among the Israeli public as well as the interactions between the justifications they offer for these decisions and science knowledge.

13.3.1 Context of Study

The first case of COVID-19 in Israel was discovered on February 21, 2020. On March 14, the Israeli government introduced drastic social distancing measures, which included, the closure of the economy and restrictions on gatherings. These measures culminated in a full lockdown in March 25. During the lockdown, people were forbidden from leaving their living area, except in cases of emergencies, or for helping the elderly. The most severe restrictions were during Jewish holiday Passover, when it was forbidden to move more than 1000 m from the place of residence or to stay in another person's house. Passover is one of the major Jewish holidays, which takes place during the months of March or April. Typically, the celebration begins with a large family meal including the entire extended family. The number of confirmed COVID-19 cases increased rapidly during the last week of March, from 1442 cases on March 23rd, to 6857 cases by April 2nd, which was the day we began to distribute our survey. During the first half of April, when the data in this study were collected, the Israeli media concentrated heavily on news related to the spread of the virus, with daily news editions devoted to press conferences with Ministry of Health officials and the Prime Minister. At the time of the study, scientific knowledge, recommendation, and regulations changed weekly. For example, at the time of data collection masks were not recommended or enforced but using gloves outside the house was recommended (recommendations that were later flipped).

¹ See also Tomasi (2022, this volume) for an analysis of social dilemmas from a legal perspective, and Puppo et al. (2022, this volume) for a case study of argumentation in official decisions regarding COVID-19—which somewhat mirrors our own study of people's reasoning in deciding whether to comply with official guidelines or not.

13.3.2 Research Tool

During the early stages of the COVID-19 pandemic in Israel (2nd–12th, April 2020), an online survey was distributed among a representative sample of Hebrew-speakers in Israel ($n = 439$). The questionnaire included two parts. The first was constructed around public understanding of the mathematical and quantitative aspects of the COVID-19 pandemic (Heyd-Metzuyanim et al., 2021). This chapter focuses on the second part, that dealt with personal decision making in the context of COVID-19. This section of the survey is based on a questionnaire developed within our research group that used real life dilemmas and collected measures of general science knowledge, deference to the governmental guidelines and demographic characteristics (Baram-Tsabari et al., 2020; Taragin-Zeller et al., 2020). The measurements used in this analysis included:

The dilemmas were designed to assess how the Israeli public make COVID-related decisions amidst changing guidelines and uncertainty. Respondents were asked to decide on two policy-related and socially relevant dilemmas:

(15) Visiting elderly family members. A dilemma about which no formal guidelines existed at the time (but recommendations were issued). Respondents were asked ‘Suppose you have an adult parent / grandparent living alone. Will you visit them in the coming days?’ The respondents had to choose only one of the following options: Yes / Yes, but while keeping a distance / Yes, but I will only place objects near the door / No.

(16) Celebrating Passover. A dilemma regarding a situation where strict formal guidelines existed. Respondents were asked ‘Will you celebrate Passover dinner with your elderly family members?’. The respondents had to choose only one of the following options: Yes / Yes, but while maintaining distance (without physical contact) / No. In both dilemmas, the closed-ended question was followed by an open-ended question: ‘If you had to convince your parents or spouse of your decision, what would you tell them? What arguments would you use?’.

General Knowledge about Science. Scientific knowledge was measured based on two close-ended questions, taken from a widely used research tool to assess public understanding of science (National Science Board 2018). One point was given for each correct answer (range 0–2, average 1, SD. 0.6).

Demographics. The demographic variables included self-reports of gender, age group, place of residence, occupation, highest level of completed formal education, income level and level of religious affiliation, all as close-ended items (Table 13.1).

Perception of control over the situation. We asked participants to rate their degree of agreement (on a scale between 1–5) with three statements regarding their perception of their cognitive control over the situation: ‘I can follow developments regarding COVID-19 and understand them’, ‘I feel I can anticipate what will happen in the coming days regarding COVID-19’ and ‘I understand what I need to do to deal with COVID-19’. Perception of control was expressed as the average of answers to the three statements (range 1–5, average 3.7, SD. 0.7).

Content validity. The content validity of the research tool was determined by expert professional judgment. The questionnaire received feedback from ten experts in science communication and science education.

Table 13.1 Selected demographic characteristics variables of the sample (n = 439) and comparison to the general population (Benchmark data)

Variables	Categories	Sample (%) ^a	Benchmark Data (%)
Gender	Women	44	51
	Men	55.8	49
Age	18–22	9.8	11
	23–29	18	15
	30–39	20	22
	40–49	18	19
	50–70	34.2	32
Religiosity	Secular	56	44.3
	Traditional ^b	27.6	33.6
	Religious	12.1	11.5
	Ultra orthodox	3.4	10.2
Highest education	No high school matriculation certificate	12.1	28.4
	High school matriculation certificate	23.9	21.3
	Post-secondary program, without academic degree	18.2	15.6
	Academic degree	45.8	34.6

^a Percentages do not add to 100% due to a small percentage of incomplete answers

^b Traditional Jews observe only a few of the religious customs. Usually, this is due to the preservation of Jewish tradition, rather than adherence to Jewish law (as opposed to religious).

Pilot. A pilot version was tested among a sample of 31 respondents. Respondents were purposely selected to ensure variation in level of education. Cognitive interviewing, a qualitative method used to evaluate survey questions from the perspective of potential participants (Drennan, 2003) was then used to assess the clarity of the questions (Heyd-Metzuyanim et al., 2021). The questionnaire was modified based on their feedback.

Ethics The study was reviewed and approved by the Institutional Review Board at the Technion—Israel Institute of Technology (Approval #2020–032).

13.3.3 Sample

Participants were recruited by the market research company Ipanel, from an online representative panel of Hebrew speaking Israeli internet users (participants answer surveys for a modest reward given by Ipanel). In total, 439 participants completed

the questionnaire. Average completion time was 15.73 min (SD 50 min, range 3–281 min). Table 13.1 compares the demographics of the sample to the general Israeli population.

The survey was launched on April 2nd and closed on April 12th, 2020.

13.3.4 Data Analysis

Careless versus Careful index. This variable was based on respondents' claims in the two dilemmas and on their response to the direct close-ended question asking about general adherence to the guidelines. Calculation of the index used an average of the scores of these 3 questions (as detailed in Table 13.2). Table 13.2 shows the distribution of respondents' claims for each of the questions (0–2 for each of the dilemmas and 0–3 for the closed question). A score of 0 indicates carelessness, and an increase of this score indicates higher levels of careful behavior regarding the COVID-19 governmental guidelines and recommendations (range 0.33–2.33, average 2 SD. 0.3).

Justification. This variable is based on Osborne's (2010) components of an argument, specifically data and warrant. Respondents' formed justifications for their claim about the COVID-19-related dilemmas and these were coded based on a codebook, that was developed to analyze COVID-19 related dilemmas (OECD, 2020; Taragin-Zeller et al., 2020). The codebook included the following 3 categories:

(17) Justification of claim. These included two codes: first we coded for justification theme (Table 13.3) and then we coded for spontaneous reference to sources of authority. In case of multiple justifications, up to three different themes were coded.

(18) Spontaneous reference to sources of authority. These included mass media, social media, government websites like the Ministry of Health, university, and research institutes websites and more. However, respondents only referred to the Ministry of Health as a source of authority.

(19) Health-related justification. The proportion of health-related justifications (Table 13.3) was calculated out of the total number of justifications for each respondent. This included five themes: Health, Reference to high-risk populations, National institutions and authority, Responsibility and concern for immediate environment and Public concern (range 0–1 average 0.6 SD. 0.35).

(20) Argument quality. The quality of argumentation was scored based on (1) providing a justification of claim (1 point), (2) the number of health-related justifications (up to three points), and (3) 1 point to those referring to a relevant information source, such as The Ministry of Health, (range 0–4, average 1.96 SD. 0.76).

Coding procedure and intercoder reliability. Coding was conducted by two individual coders. Reliability test was run for 10% of all answers (50 answers for each dilemma). Cohen's Kappa results for the justification $K = 0.8$, and for source of authority $K = 0.86$.

Table 13.2 Careful versus Careless Coding scheme and distribution of respondents' stance for COVID-related dilemmas and general adherence to governmental guidelines and recommendations. Range of score on the index run 0–2.33 (average)

Dilemmas	0 points (Careless)		1 point		2 points		3 points (Careful)	
	Claim	Frequency	Claim	Frequency	Claim	Frequency	Claim	Frequency
Visiting elderly family members (n = 438)	'Yes, I will visit the elderly family members'	4 (0.9%)	'Yes, but while keeping distance'	32 (7.3%)	'No' or 'Yes, but I will just drop things (such as groceries) outside the door'	402 (91.8%)	NA	
Celebrating Passover with elderly family members (n = 435)	'Yes, I will celebrate Passover with the elderly family members'	14 (3.2%)	'Yes, but while keeping distance'	13 (3%)	'No'	408 (93.8%)	NA	
Self reported general adherence to the guidelines (n = 439)	'I don't follow the guidelines'	4 (0.9%)	'I partial fulfill the guidelines'	34 (7.7%)	'I apply the restrictions when they come into force'	290 (66.1%)	'I apply the restrictions even before they enter into force'	111 (25.3%)

Table 13.3 Coding scheme and distribution of respondents' justification's theme for their claims on COVID-related dilemmas^a. 'n' refers to the number of respondents for each dilemma^b

Justification theme	Example	Visiting elderly family member's claims (n = 426)			Celebrating passover claims (n = 386)			Total		
		'No' or 'Yes, but I will just drop things outside the door'	'Yes, but while maintaining distance'	'Yes'	Total	'No'	'Yes, but while maintaining distance'		'Yes'	Total
<i>Health, medicine and science</i>										
Health	'Health comes before everything'	283	14	2	226 (42.6%)	242	8	2	325 (52.1%)	551 (47.6%)
Reference to high-risk populations	'My mother has cancer, so it is dangerous for her'	70	3	1	74 (14%)	51	1	0	52 (8.3%)	126 (10.9%)
Responsibility and concern for immediate environment	'It is important to me to keep my family healthy'	19	2	0	21 (4%)	65	0	1	66 (10.6%)	87 (7.5%)
Public concern	'To protect the public'	37	1	0	38 (7.2%)	16	0	0	16 (2.6%)	54 (4.7%)
<i>Other</i>										
Personal reasons	'Helping my parents clean up for Passover'	75	8	0	83 (15.7%)	74	1	4	79 (12.7%)	162 (14%)

(continued)

Table 13.3 (continued)

Justification theme	Example	Visiting elderly family member's claims (n = 426)				Celebrating passover claims (n = 386)				Total
		'No' or 'Yes, but I will just drop things outside the door'	'Yes, but while maintaining distance'	'Yes'	Total	'No'	'Yes, but while maintaining distance'	'Yes'	Total	
National institutions and authority	'These are the instructions of the Ministry of Health'	31	5	1	37 (7%)	48	2	0	50 (8%)	87 (7.5%)
Decision making in the face of uncertainty	'I don't know if I was exposed to an undiagnosed Corona patient and whether I can then infect others'	32	3	1	36 (6.8%)	19	0	1	20 (3.2%)	56 (4.8%)
Religion	'Taking care of parents is a mitzvah' ^c	9	3	0	12 (2.3%)	11	0	1	12 (1.9%)	24 (2.1%)
Lack of concern	'The corona is not a severe disease'	3	0	0	3 (0.6%)	3	0	1	4 (0.64%)	7 (0.6%)

As some people offered more than one justification (up to 3), the total number of justifications is higher than the number of respondents

^a The percentages are from all the respondents who chose the claim in any dilemma

^b The n described in this table refers to the number of participants who answered both the open ended (arguments) and close ended questions (behavior)

^c 'Mitzvah' is a religious commandment in Judaism

13.3.5 Statistical Analysis

The association between the Careless versus Careful index and characteristics of the justifications (Health related justification and Argument quality) were tested using a Pearson correlation. The association between demographic characteristic, Careless versus Careful index and justifications were tested using a Chi-square test. The analyses were conducted using SPSS version 24.

13.3.6 Methodological Limitations

Compared to the general population, our sample was male dominant, was more educated and more secular. In addition, there were more responses to the close-ended questions than to the open-ended questions (an average of 437 responses compared to 407).

13.4 Findings

First, argumentation patterns for each of the COVID-19 dilemmas will be presented, followed by the interactions between the variables.

13.4.1 RQ1. Which Justifications Do People Use to Explain Their Stance on COVID-19 Related Dilemmas?

Visiting Elderly Family Members: Government Recommendations.

438 respondents replied to this question. Over 90% of them adhered to the recommendations and said they will not meet in person their elderly family members, of them 66.2% declared they would completely adhere to the recommendations and not visit elderly family members and 24% declared that they would only put items near their door. The remaining respondents were divided up between two claims: 7.3% declared they would partially adhere to the recommendation were visiting elderly family members while maintaining social distancing, and only 0.9% bluntly declared that they will visit (Table 13.2).

The respondents' justifications were classified into eleven themes ($n = 426$) (Table 13.3): Health justifications, were the most prevalent, e.g. 'We need to keep distance, because we cannot know who carries the virus' Among the respondents who claimed that they will adhere to the recommendations, health arguments highlighted the threat of the virus. For example, 'The virus is very contagious, so it is best to avoid meetings'. Among those who said they would not fully adhere to the recommendations,

the health justification contained reservations. For example, ‘Although the virus is dangerous, it is difficult for my parents because they are lonely’. In addition, other justification themes were: Personal reasons and thinking about populations at risk were both rather prevalent themes, followed by thinking about public health, Law and guidelines, and decision making in the face of uncertainty.

Only 1.2% of the respondents spontaneously referenced sources of authority in their justifications, and all of them said that they will adhere to the recommendations. The only source the respondents referred to was the Ministry of Health, and it appeared in two themes: *health* e.g. ‘It is about the health of people in addition to the regulations of the Ministry of Health which are laws to which we are bound’ and *concern for the immediate environment* e.g. ‘Ministry of Health regulations are designed to protect those who are close to me’.

Celebrating Passover with Elderly Family Member: Government Guidelines

Over 93% of the participants adhered to the guidelines and declared that they will not celebrate Passover dinner with their family, including the elderly family members. Over 6% said they would not follow the guidelines. Of them half declared that they would celebrate Passover dinner with their family members, but would maintain distance and another half declared that they would celebrate as usual (Table 13.2).

The respondents’ justifications were classified into eleven themes (n = 386) (Table 13.3): Health justifications, were the most prevalent, e.g. ‘We need to keep our family healthy and if one Seder night without them is what is needed then it is worth it and we will celebrate together many more things in the future’. Among the respondents who claimed that they will adhere to the guidelines, health justifications highlighted the threat of the virus. Among those who said they would celebrate Passover dinner while maintaining social distancing, the health justifications contained a reference to the fact that social distancing mitigates the risks of the virus. For example: ‘As long as you keep a distance the virus is less dangerous’.

In addition, other justification themes were: Personal reasons, that emphasized the difficulty of the respondent’s parents in celebrating Passover alone, concern for immediate environment and reference to high-risk populations, followed by, law and guidelines, decision making in face of uncertainty, public concern, religion and lack of concern (Table 13.3).

Only 2.5% of responded spontaneously referenced sources of authority, and again all of them adhered to the guidelines and referred to the Ministry of Health in two ways: *Health*. e.g. ‘High chance of being infected according to the Ministry of Health’ and *Law and guidelines* e.g. ‘Because these are Ministry of Health guidelines’.

13.4.2 RQ2. What is the Connection Between Demographic Characteristics, Scientific Knowledge and Education and Decision Making (Stance and Justification)?

What are the variables that interact with the characteristics of the justifications?

After reviewing the responses to each of the dilemmas separately, we analyzed the level of conformity with health guidelines (Passover dilemma and how do you usually behave in regard to limitations) and recommendations (visiting the elderly family members). We then calculated the percentage of health-related justifications and the quality of argumentation and examined what variables are associated with them.

The Health-related justification is an index that presents the proportion of health justifications (Table 13.3) out of the total justifications given by the respondent. A low level of Health-related justifications includes such themes that were classified as unrelated to health issues, e.g., ‘because I miss them’, ‘COVID is global conspiracy headed by Bill Gates’. A medium level of Health related justifications included such themes that were classified as both related and unrelated to health justifications, e.g., “on the one hand my parents are lonely, on the other hand it puts them at risk”. A high level of Health related justifications included health related justifications exclusively e.g., “this disease is dangerous for elderly people, and a person that gets infected can infect additional people’. The proportion of health related justifications were associated with the respondents’ level of Careless versus Careful index ($r = 0.164$, $p < 0.001$) (Fig. 13.1). Meaning that the more respondents follow the guidelines, the more likely they were to give health justifications for their claims.

Another aspect examined was argument quality index. A low-quality argument usually consists of one justification unrelated to health, without reliance on sources of information, e.g. ‘this is an opportunity to celebrate alone’. A high-quality argumentation, consists of a number of justifications related to health., e.g. ‘It is necessary to be careful and follow the guidelines. To maintain our health and theirs so that we can celebrate together in holidays to come’ or contained reference to a source of authority, such as the Ministry of Health. The argument quality index was associated with the respondents’ level of Careless versus Careful index ($r = 0.219$, $p < 0.0001$) (Fig. 13.1). Meaning that the more respondents follow the guidelines, the more likely they were to give a high- quality argument.

Comparing the Health-related justifications and the quality of the argument in the first dilemma (visiting the elderly, Fig. 13.1a) and in the second dilemma (Passover, Fig. 13.1b) indicated that the average Health related justifications as well as the quality of argument are higher for the first dilemma.

Moreover, in the first dilemma (visiting the elderly), those who claimed they will follow the guidelines gave, on average more health related and quality argumentation, compared to those who claimed they follow the guidelines in the second dilemma (Passover) (Fig. 13.1a, b). On the other hand, those who answered that they will not follow the guidelines in the first dilemma gave less health related and quality argumentation compared to those who claimed this for the second dilemma.

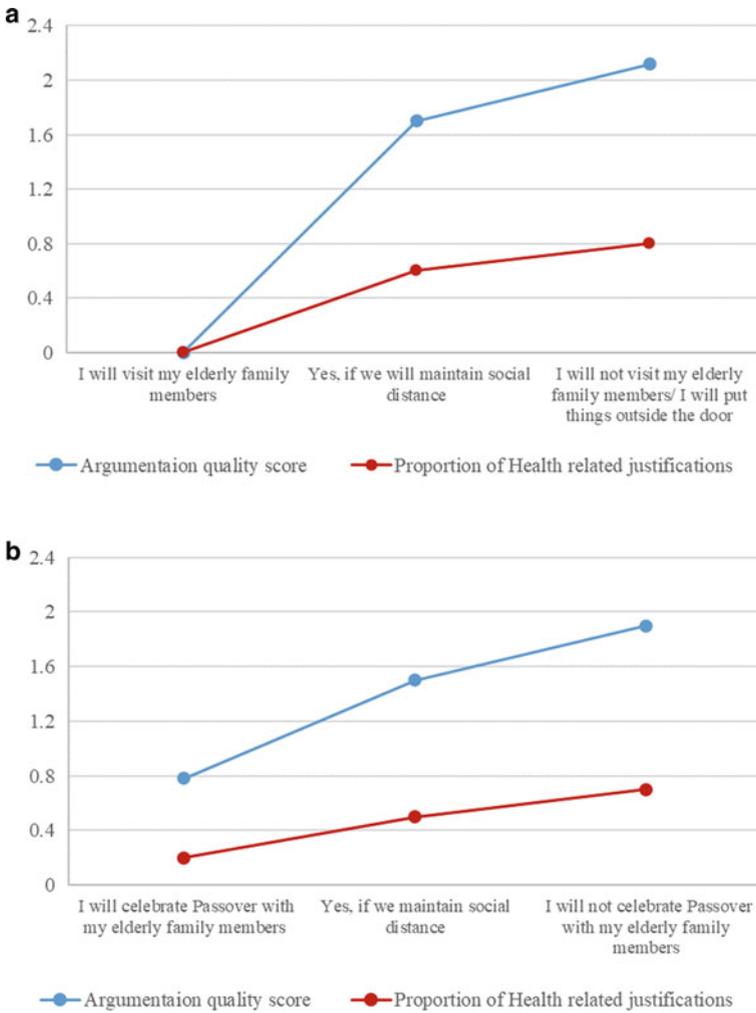


Fig. 13.1 Proportion of health-related justifications and argumentation quality on COVID-related dilemmas. **a** Visiting elderly family members (n = 429) **b** Celebrating Passover with elderly family members (n = 386)²

The Careless versus Careful index was associated with the perception of control over the situation ($r = 0.105, p < 0.05$) (Fig. 13.2). The higher the respondent's perception of control was the more they tended to comply with the guidelines.

² Health related justifications include the following themes: Health; Reference to high-risk populations; Responsibility and concern for immediate environment; National institutions and authority, and Public concern. The quality of argumentation sums scores for: Providing justification of the claim, The number of Health related justification and spontaneously reference to source of authority.

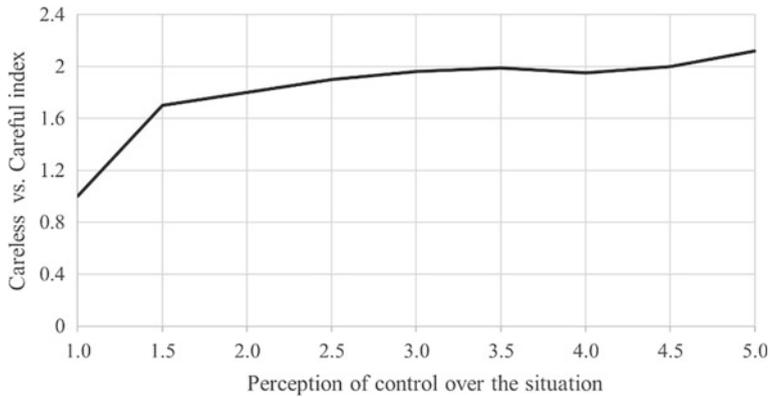


Fig. 13.2 Association between perception of control over the situation and Careless versus Careful index (n = 427)³

Our findings did not indicate a significant association between the level of education and scientific knowledge and the argumentation.

13.5 Discussion

This chapter provides a snapshot of public engagement in the initial stages of the COVID-19 pandemic. Our findings demonstrate that most of the public follow official guidelines and recommendations, however, adherence to formal guidelines (Passover dilemma) was higher than the adherence to the recommendations (visiting elderly family members). The survey was conducted during the first lockdown that was followed by 2 more lockdowns. After the subsequent lockdowns data showed that public tendency to follow strict guidelines deteriorates (Academia IL, 2020; Chen et al., 2020). Our data reinforces these surveys to suggest that policy makers have a window of opportunity to gain public trust and obedience, but these will probably be eroded over time. The reasons for this are varied and are beyond the scope of this study.

Globally, societies were faced with a variety of social dilemmas related to COVID-19, often these were similar to the dilemmas faced by Israelis. People wanted to visit family members, celebrate together momentous events all while trying to maintain the health of their families (and communities).

In our survey, frequently used justification themes (Table 13.3) were health-related, demonstrating use of scientific or health argumentation that is not related to

³ Careless versus. Careful index was calculated according to the respondents' claims regarding how they would have behaved in the two dilemmas and the closed question dealing with their behavior regarding the guidelines. The higher the score in the index, the more careful the respondent is. The perception of control is the average of their answers to three closed questions on a scale of 1 to 5.

science knowledge nor to education levels. In addition, rarely do participants refer to experts and authority spontaneously when justifying their stance, and this is a consistent finding (Taragin-Zeller et al., 2020). We also found a positive association between respondents' Careful versus careless stance and their health-related justification and argument quality. When people are more careful (tend to follow guidelines and recommendations) they are more likely to use high quality arguments and more health-related justifications. It seems that people tend to follow guidelines when they make sense of them—i.e. when they are able to make coherent health-related arguments. Overall, the public in Israel in these early stages of the pandemic probably believed public messages and felt some sense of control that contributed to their use of relevant health-related arguments (Dieckmann & Johnson, 2019).

Our findings do not point to an association between science knowledge and decision making (either in the claims or justifications). These findings add to existing studies demonstrating that scientific knowledge is not enough when looking at daily decision making and argumentation, especially when engaging with complex SSIs (Feinstein & Meshoulam, 2014; Jho et al., 2014; Taragin-Zeller et al., 2020). This is especially crucial since SSIs usually involve dilemmas that combine knowledge, values and beliefs that are often contradictory for the individual (Jho et al., 2014). Moreover, determining what scientific knowledge people need when making such decisions is still widely debated (Feinstein, 2011).

Crowell and Schunn (2016) examined whether studying science leads to applying it to situations in peoples' daily lives—the transfer of science from classroom to real life. Their study on adults in the American Midwest found little impact on environmental conservation action. Our study provides another demonstration of this—science knowledge gained in formal setting is not relevant to observing COVID-19 guidelines. However, our findings do demonstrate that overall people tend to understand the health context of our dilemmas and thus frame their justifications (and claims) within a health-related framework.

Moving forward we believe that policy makers, especially in the field of health and education need to understand that argumentation skills in SSIs may not come naturally to lay-people. This means that '... that argumentation is a form of discourse that needs to be appropriated by children and explicitly taught through suitable instruction, task structuring, and modeling (Erduran et al., 2004)'. Thus, the implications of our study apply to different arenas and different locations. First, we must dive more in-depth into argumentation process in the context of daily decision making during a pandemic. Second, we must continue with curricular reform in school science so that future citizens are better prepared for engaging with SSIs. Lastly, policy makers at the time of a pandemic need to be aware of how people form arguments and make decisions and how their engagement changes over time so that they can form better policy solutions and responses.

Further studies will need to examine scientific knowledge in the context of relevant and real-life dilemmas (i.e., COVID-19) as some researchers suggest that contextual knowledge augments the effect of general scientific knowledge in different ways (Sturgis & Allum, 2004). Another aspect of argumentation that needs to be explored is the social component – since it has been claimed that 'social-discursive and dialogic

argumentation is an integral component of many scientific reasoning processes' (Fischer et al., 2014, p. 35). Thus, looking at social dialogues and discourse, for example in social networks, in the context of negotiating decisions in COVID-19 related dilemmas can be an important step forwards in our understanding of how the public engages with relevant science.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Part III
Improving and Promoting Argumentative
Literacy

Chapter 14

Inoculating Students Again Conspiracy Theories: The Case of Covid-19



Sharon Bailin and Mark Battersby

Abstract Posing a significant danger to society are conspiracy theories, particularly those regarding the Covid-19 pandemic. This paper argues for the crucial role of critical thinking education in ‘inoculating’ students against conspiracy theories and outlines an approach for building their defenses against these, and other, conspiracy theories. There are numerous epistemic, social, and psychological factors which play a role in the attraction of conspiracy theories and which need to be addressed in critical thinking education. Epistemic factors include myside bias, the ignorance of epistemic criteria, a lack of understanding of source credibility, and the particular epistemic traps of conspiracy theories. Social factors, including the structure of the information environment and psychological factors, including the desire for control, defensive bias, and cultural cognition also play a role. The paper describes how critical thinking education can address the epistemic shortcomings and errors which facilitate conspiracy belief and can provide students with the resources for inquiring in a rigorous and systematic way and for making reasoned judgment. It also outlines how the social and psychological factors can be addressed by creating a community of inquiry in the class that can counter these influences and foster a spirit of inquiry.

Keywords Epistemic issues · Community of inquiry · Conspiracy theories · Covid-19 pandemic · Critical thinking education · Social and psychological factors

14.1 Introduction

Conspiracies theories, although having a long history, have gone viral in recent years. Posing a particular danger are conspiracy theories regarding the Covid-19

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pandemic. Given the research showing how difficult it is to change the minds of conspiracy believers, it is crucial to intervene and educate people before they succumb to the siren call of conspiracy thinking. This paper will argue for the role of critical thinking education in ‘inoculating’ students against conspiracy theories and outline an approach for building their defenses and thereby reducing their susceptibility to these, and other, conspiracy theories.

14.2 The Nature and Influence of Conspiracy Theories

Why are conspiracy theories problematic? Real conspiracies do, in fact, exist. There is, for example, substantial evidence that the staff of then U.S. President Richard Nixon conspired to cover up the Watergate burglary, that the CIA plotted to assassinate Cuban president Fidel Castro, and that the tobacco industry conspired to hide the evidence of the harms of smoking. Thus, an explanation for these events in terms of “a secret plan on the part of a group to influence events partly by covert action” (Keeley, 1999, p. 116; Pidgen, 1995, p. 5) is entirely appropriate. The term conspiracy theory, however, is generally used to refer to theories, claiming the existence of conspiracies, that provide explanations which go against a straight-forward and well supported consensus explanation of events to posit unsupported, complex, and usually implausible explanations which attribute malevolent intent and are self-sealing and unfalsifiable. Being self-sealing and unfalsifiable is thus part of what defines a conspiracy theory (Napolitano, 2021).

Moreover, such conspiracy theories often pose considerable dangers to society. Conspiracy theories have emerged historically throughout the world (Sunstein & Vermeule, 2009). And, although many conspiracy theories (for examples those related to purported alien landings, flat earth, or the death of Elvis) seem relatively innocuous and have been considered fringe phenomena, more insidious conspiracy theories have recently entered the mainstream. As one example, QAnon, a group which posits the existence of a powerful cabal of Satanic cabalistic pedophiles, including prominent Democrats and media celebrities, which is plotting to control the United States, is purported to have millions of followers (Sen & Zadrozny, 2020) and counts among its supporters members of the U.S. congress (Cornwell, 2020). As an indication of the penetration of conspiracy theories, four nationally representative surveys between 2006 and 2011 indicated that half of the American public consistently endorsed at least one conspiracy theory (Oliver & Wood, 2014a, p. 952). A 2016 Italian study produced a similar result (Mancosu et al., 2017).

The dangers posed by such conspiracy theories take a number of forms. Many conspiracy theories are based on a suspicion of and antipathy toward certain groups in societies, often ethnic and other minorities e.g., the replacement theory which claims that the white population of France is being systematically replaced by non-Europeans, or the perennial theory that Jews are conspiring to run the world. Such theories fuel discrimination and hatred and are sometimes used to justify violent

extremism, a prime example being the Nazis' use of antisemitic conspiracy theories to justify the extermination of Jews (Jolley et al., 2020; Nera et al., 2021).

Many conspiracy theories also have dangerous political consequences. In identifying an entire group as an enemy, they exacerbate social and political divisions. Moreover, their frequent targeting of government and public institutions promotes mistrust of these institutions, constituting a serious threat to democracy—the false claim that the 2020 U.S. Presidential election was stolen and the violent attack on Congress which ensued being a particularly chilling example.

A frequent target of conspiracy theories is science. Many theories spread mistrust in science as an institution and in scientific information. The idea that climate change is a hoax is one of the most pernicious, hindering efforts to try to mitigate this pressing and profound danger.

Medical and health information has also been a frequent target of conspiracy theories, with one study showing 49% of adults in the U.S. believing in at least one medical conspiracy theory (Oliver & Wood, 2014a, b). The theory that the fluoridation of drinking water is a communist plot to weaken the American population, that government agencies have conspired with Big Pharma to hide the effectiveness of natural cures, and that HIV and Ebola were created as a form of genocide against African-Americans and gay men are all examples of conspiracy theories that have been widely disseminated. A common target for conspiracy theories has been vaccination, with anti-vaccine theories promoting false claims, including that the pharmaceutical industry has mounted a cover-up of a causal link between vaccines and autism and the theory, popular in Nigeria and Pakistan, that vaccines are part of a secret anti-Islam plot (AFP, 2013; Eckel, 2013; Vaccines, CIA, 2011). Such theories encourage a mistrust of reliable medical and health information and promote risky health-related behaviours (Romer & Jamieson, 2020). Anti-vaccine theories have, for example, played a role in vaccine resistance (Jolley & Douglas, 2014) and have contributed to increased rates of infection and death from diseases such as measles in many countries, including the U.S., Italy, Germany, Romania and the UK (Germany Vaccination, 2017).

The Covid-19 pandemic has proven to be a particularly inviting target for conspiracy theories. The following are a few examples: the virus is a Chinese biological weapon; the pandemic is a Jewish plot to force mass vaccinations or sterilizations; the virus was spread as part of a Muslim conspiracy; the pandemic is a population control scheme; the pandemic is a plot by global elites to take away freedoms; Bill Gates is using the vaccination program to implant microchips to control people (Wikipedia, "List of conspiracy theories"). The widespread diffusion of these kinds of theories and the misinformation they promote play a role in impeding health and safety measures such as masking and social distancing necessary for controlling virus spread and virus-related deaths and contribute to a suspicion of and resistance to vaccination, the best tool available for ending the pandemic (Earnshaw et al., 2020).

In addition to these dire practical consequences, conspiracy theories also pose serious problems of an epistemological nature. To the extent that they reject accepted

criteria for what counts as evidence, what constitutes relevant expertise, how claims are justified, and how reasoned judgments are arrived at, conspiracy theories pervert basic norms of inquiry and undermine the possibility of making judgments on the basis of a collection of shared facts. In addition, in proffering explanations that are unfalsifiable and that tap into strong, often negative emotions, conspiracy theories tend to be deeply held and extremely difficult to shake.

14.3 The Attraction of Conspiracy Theories

14.3.1 Social Factors

There is significant research to suggest that various social and psychological factors play an important role in explaining the attraction of conspiracy theories (Douglas et al., 2017; Miller et al., 2016; Oliver & Wood, 2014a; van Prooijen & Acker, 2015). There are, for example, aspects of the social context which provide fertile ground for their proliferation and acceptance. The information environment provides one such context. As so much of our information is now gleaned via the internet, the filtering effect of search engines and social media in directing people to views with which they agree or in which they have shown an interest can limit their exposure to opposing views and evidence (Gelfert, 2018; Newman et al., 2017; Pariser, 2011). Social media “permit like-minded people to find one another ... while simultaneously shutting out criticism and disagreement” (Fukuyama, 2020, p. 15). Even views with little basis in fact can spread quickly (Miller et al., 2016), promoting conspiracy cascades, with continually increasing numbers of posts and followers reinforcing the impression of veracity (Sunstein & Vermeule, 2009). Moreover, the commercial motivation of social media corporations, which rely for their economic viability on keeping users active and ‘clicking’ as much as possible, has resulted in algorithms which are designed to capture attention and hence prioritize sensational content, amplify angry and divisive voices, send users ever more deeply down ‘rabbit holes’, and continually reinforce the developing narrative (Applebaum & Pomerantsev, 2021). These various features of the information environment can result in an amplification of conspiracy theory messaging and a limitation on the exposure to more reliable sources of information.

14.3.2 Psychological Factors

There are a number of psychological factors which have been shown to contribute to the acceptance and tenacity of conspiracy theories. One of the principal factors cited in the literature is a desire for control (Imhoff & Lamberty, 2020). The kinds

of causal explanations which conspiracy theories provide tap into the human need for safety and security and for exerting control over the environment (Douglas et al., 2017; Miller et al., 2016). Research has demonstrated that conspiracy beliefs are heightened in circumstances in which people feel unable to control outcomes (van Prooijen & Acker, 2015).

Although the feeling of lack of control may stem from a sense of powerlessness in the face of one's life circumstances (Abalakina-Paap et al., 1999), it can also be caused or exacerbated by external conditions of uncertainty. Conspiracy theories appear to provide broad, internally consistent explanations that can reduce uncertainty in the face of conflicting information or seemingly inexplicable events (Douglas et al., 2017).¹ Thus situations and events which give rise to uncertainty and confusion (e.g., societal crises and major traumatic events such as the Kennedy assassination, the 9/11 attacks) are frequent targets of conspiracy theories (van Prooijen & Douglas, 2017). Pandemics create just such circumstances.

The current coronavirus crisis is an almost ideal breeding ground for conspiracy thinking (Van Bavel et al., 2020), as there is no easily comprehensible mechanistic explanation of the disease, it is an event of massive scale, it affects people's life globally and leaves them with lots of uncertainty (Imhoff & Lamberty, 2020, p. 1111).

Believing in certain conspiracy theories may also address feelings of intellectual disempowerment by providing a sense of being 'in the know', of thinking for oneself, of not being duped by the 'elite', of possessing important information that others don't have. Ironically, many conspiracy theory believers think of themselves as critical thinkers and pride themselves on "seeking the truth" (Tiffany, 2021).

Another factor encouraging receptivity to conspiracy theories is defensive bias, the tendency of people to perceive challenges to their beliefs as threatening to their sense of self-worth and so to defend them in the face of contrary evidence (Sherman & Cohen, 2002). Conspiracy theories serve to defend beliefs from disconfirmation by viewing disconfirmatory evidence as the product of the conspiracy (Lewandowsky et al., 2013).

Factors related to group identity, in particular cultural cognition, also play a role in fostering the acceptance of conspiracy theories. Cultural cognition involves individuals holding onto specific beliefs as a way of expressing their group identity and solidarity with others. As a consequence, they tend to evaluate information in a selective pattern that reinforces their group's worldview and resist information and evidence that goes against the dominant beliefs within their group in order to maintain their loyalty to and identity with the group (Kahan, 2013). This kind of resistance to counterevidence and identity based on group loyalty is often a prominent feature of conspiracy theories—one which we have witnessed with respect the 2020 U.S. election. This phenomenon is doubtless heightened by the extreme polarization of contemporary society, where those who hold differing views are not viewed simply

¹ That such explanations come so readily to mind may be accounted for, in part, by the human tendency to see patterns in disconnected phenomena, what Shermer (2008) calls patternicity.

as opponents but rather as enemies.² Many conspiracy theories, both historical (e.g., those targeting Jews) and contemporary (e.g., QAnon), have as a central tenet the demonization of “the other”. In addition to reinforcing a strong sense of group identity and conformity, they also create an enemy who can become the object of grievance and can be blamed for problems encountered by the members of the group (Sunstein, 2013). Fear of “the other” is a strong animating factor for such conspiracy theories.

14.3.3 Epistemic Factors

A number of epistemic factors also play an important role in facilitating and encouraging the belief in conspiracy theories. These relate to cognitive biases, ignorance of epistemic criteria, and the particular epistemic challenges posed by conspiracy theories.

14.3.3.1 Myside Bias

Epistemic biases such as myside bias or confirmation bias are common weaknesses in people’s thinking that help sustain beliefs in dubious theories as people only seek information that supports their theories (Stanovich, 2011). Failure to seek alternative information or counter claims and the resultant reliance on limited and one-sided sources of information when making judgments and decisions constitutes what Sunstein and Vermeule (2009) call a “crippled epistemology” (p. 204). This reliance on “a sharply limited number of (relevant) information sources” is, they claim, a primary contributor to the belief in conspiracy theories.

14.3.3.2 Ignorance of Epistemic Criteria

In addition, a failure to understand how claims and theories are established and evaluated means that individuals do not have the tools to distinguish between the credible and the dubious. A lack of knowledge of the range of epistemological norms used to justify and critique claims in a variety of areas, including, for example, criteria for judging causal claims, for evaluating statistical arguments, the role of consensus in validating scientific claims, allows for belief in dubious claims. In addition, epistemic considerations such as the burden of proof, Occam’s Razor, and Hume’s Rule, which play a crucial role in evaluating explanations, are frequently violated by conspiracy theories (Wagner-Egger et al., 2019). Thus, the failure to apply them can lead to misplaced credence in such theories.

² See also Mohammed & Rossi (2022, this volume), for a discussion of the argumentative potential of doubt that is typical of conspiracy theories, where opponents are treated as enemies rather than as cooperative discussants.

14.3.3.3 Lack of Understanding of Source Credibility and Expertise

Conspiracy theories are also fueled by and rely on a mistrust of established and widely accepted sources of information. Accepting reliable sources of information depends on trust in those considered experts in an area and in the institutions that generate the information and produce the experts. While there can be grounds for questioning authoritative sources in particular cases, an overall trust in these sources is a crucial basis for making reasoned judgments. There has, however, been a considerable eroding of trust in such knowledge-producing institutions and in the expertise they authorize, as well as in governments and institutions and in their recommendations and actions (Fukuyama, 2020; Naím, 2013). Imhoff and Lamberty (2020) make the point with respect to the belief in Covid-19 conspiracies:

Conspiracy mentality... has been connected to distrust in both science in general and the biomedical system more specifically (Galliford & Furnham, 2017; Lamberty & Imhoff, 2018; Oliver & Wood, 2014a, b). Thus, people who endorse a conspiracy worldview are particularly unlikely to trust the expert recommendations aimed at reducing infection rates (p. 1111).

Such a link between conspiracy theories and lack of trust is also noted by Smallman in his examination of numerous conspiracy theories, including those related to the 2009 H1N1 flu pandemic (which are very similar to those related to the Covid pandemic):

With the outbreak of H1N1 in 2009, people began to create narratives about the virus, which reflected their fears not only of the disease but also their mistrust of authorities... At the core of these narratives was the question of trust, which often entailed conspiracy theories (Smallman, 2015, p. 17).

Ironically, the trust vacuum is largely filled by trust in outsiders, those considered not part of the 'elites' and so immune from the type of self-serving motivations attributed to the elites (for example, trust in false information regarding the Covid pandemic from a discredited former researcher in the film *Plandemic* rather than from legitimate health authorities) and from like-minded users of social media. Conspiracy believers are not, then, generally sceptics, doubting all claims and refusing to trust any sources. What is striking is their naive acceptance of highly dubious sources. This misplaced trust demonstrates that understanding the criteria for assessing reliable sources of information is crucial to identifying the epistemic weaknesses of conspiracy theories.

In addition, a lack of trust in expertise and in knowledge-generating institutions such as science can be fueled by a failure to understand how claims and theories are established and evaluated. To have a reasonable trust in scientific information and scientific experts requires understanding the crucial role that scientific consensus, peer review, peer criticism, experimental replication, and statistical inference play in the establishment and advancement of scientific claims. Failure to understand how these processes contribute to the self-correcting and evolving nature of science can lead people to the belief that changes in scientific claims means that such claims cannot be trusted. It can also contribute to the general lack of trust in expertise described in Sect. 3.1. A lack of understanding of the features of the information environment, described in Sect. 3.1 (e.g., the filtering effects of search engines, the

commercial motivation and attention-capturing algorithms of social media), can also contribute to trust in social media sources over traditional more credible sources.

14.3.3.4 Epistemic Traps of Conspiracy Theories

Finally, there are a number of epistemic features of conspiracy theories which are particularly problematic. Although they may add to the initial plausibility or appeal of such theories, they reflect a misunderstanding of how theories are supported and evaluated and need to be recognized as such.

One of the characteristics of conspiracy theorists that they share with, for example, climate deniers and intelligent design theorists, is “anomaly hunting”—focusing on facts that are inconsistent or cannot be explained by the established theories as evidence of the alternative theory. A failure to understand that theories are justified by the preponderance of evidence, not by a single study or fact, nor are they refuted by a few anomalies, can lead to the appeal of theories which appear to have an answer to every possible piece of errant data (Keeley, 1999).

Conspiracy theories also have a self-sealing quality, making them appear particularly immune to challenge. When counter evidence is provided or lack of evidence for the theory is noted, the theorists ascribe these problems to further efforts by the conspirators to obscure or mislead inquiry. The consequence of this strategy is that the theory becomes self-sealing or unfalsifiable—nothing is allowed to count as counter evidence.

Most conspiracy theories are implausible on their face because they require elaborate participation by significant numbers of conspirators. For sceptics the elaborateness of the conspiracy is evidence of its unlikelihood, but for believers it fits with their theory that the conspirators are widespread and well-coordinated, curiously crediting them with remarkable ingenuity and loyalty.

14.4 The Role of Critical Thinking Education

The widespread belief in conspiracy theories is a cause of considerable concern. Thus, finding ways to counter or undermine such beliefs is a vital task. Research shows, however, that conspiracy beliefs tend to be tenacious and not easily overturned, and that trying to change people’s minds through evidence and argument is extremely difficult and can even backfire (Nyhan & Reifler, 2010). It is crucial, then, to intervene early and educate people before they have adopted unsupported or conspiratorial views and to provide them with the resources necessary for resisting their temptation.

The obvious venue for such intervention is critical thinking education. The traditional approach in critical thinking courses, i.e., the analysis and evaluation of individual arguments and fallacy identification, can be helpful by providing logical criteria (both formal and informal) for the evaluation of individual arguments. Being able to identify invalid or fallacious arguments is useful in helping to recognize the

many false or misleading claims that permeate conspiracy theories. It is not, however, sufficient. Critical thinking courses need to address the various reasons for and causes of belief in conspiracy theories described previously. One main type of reason we have suggested is epistemic. The problem is not just that students have difficulty in identifying falsehoods and fallacies, but that they lack the resources necessary for finding credible information and for making reasoned judgments. They lack the resources to inquire in a rigorous and systematic way into the issues that are the subject of the conspiracy theories.

Consequently, giving students the resources for making reasoned judgments is an effective way to prepare students to resist conspiracy theories. This is a task which we believe is fulfilled by an approach to critical thinking education focused on critical inquiry (Bailin & Battersby, 2016). In this approach, students learn how to go about inquiring into controversial issues, including clearly identifying the issue, identifying arguments on various sides of the debate around the issue, identifying credible sources, and comparatively evaluating the various reasons and arguments according to relevant criteria to reach a reasoned judgment. They also learn to address the particular epistemic challenges posed by the nature and structure of conspiracy theories.

In addition to attending to the epistemic shortcomings and errors which facilitate conspiracy belief, critical thinking instruction also needs to address the social and psychological factors outlined previously that underlie believing in conspiracy theories. This can be done by creating a community in the class that can counter these influences. Finally, critical thinking courses need to have as a focus fostering the habits of mind and spirit of inquiry that will assist students in caring about truth and giving a fair-minded assessment of a diversity of views, including those with which they disagree.

14.4.1 Addressing Epistemic Issues

14.4.1.1 Avoiding Myside Bias

There are several ways in which the inquiry approach can help to mitigate this tendency to only look at and favour arguments on one side of an issue. One aspect that can be helpful in this regard is that the criteria for clearly identifying an issue require an issue to be framed in a neutral way. As example, a neutral framing of an issue with respect to the pandemic might be “What are the costs and benefits of vaccination?” This can be contrasted with the kind of biased search for information and arguments that might result from asking, for example, “Is the pandemic a hoax?” which will likely turn up largely conspiracy theory websites and sources.

The inquiry approach can also address the tendency to myside bias by requiring a systematic evaluation of arguments on various sides of an issue, including objections and opposing positions, and basing one’s judgment on a comparative evaluation of

the various arguments (Bailin & Battersby, 2017). This can help to prevent a “crippled epistemology” and introduce the kind of “informational diversity” (Sunstein & Vermeule, 2009) that can lead to reasoned judgments.

The exposure to conflicting views is also facilitated by deliberation in groups. There is considerable evidence that discussion of conflicting positions among peers helps people to see both sides of an issue, to acknowledge counter-arguments, to make better arguments (Battersby & Bailin, 2018; Kuhn, 2015; Kuhn & Crowell, 2011), and to change their minds toward better beliefs and decisions (Mercier et al., 2015; Neblo, 2007).

14.4.1.2 Emphasizing Relevant Epistemic Criteria

For a critical thinking course to inoculate students against conspiracy theories, it must provide instruction in the various criteria required for assessing claims and theories. Although these would include logical criteria for evaluating argumentative inferences, students also need to learn the range of epistemic criteria used to justify and critique claims in a variety of areas, including, for example, criteria for evaluating scientific claims, causal claims, or statistical arguments. The ability to apply such criteria is important for evaluating the numerous scientific or pseudo-scientific claims that arise in the context of conspiracy theories about the pandemic.

There are, in addition, epistemic considerations and criteria that are especially relevant to assessing conspiracy theories. One of these considerations relates to the burden of proof. It seems clear that those who assert conspiracy claims bear the burden of proof, similar to prosecutors in court. Since their theories challenge default and widely accepted views, often to a considerable extent, they should provide evidence appropriate to their very significant burden of proof. To do so, they must meet well established epistemic criteria. Students need to learn to require of all claims, but especially the more implausible claims, that they meet all relevant epistemic criteria before they are tempted to abandon well established views.

Another such criterion is Occam’s Razor. Occam’s Razor requires that the simpler, less complex explanation for an event should be favoured over more complex explanations. Thus, conspiracy theories, which frequently propose widespread participation requiring numerous players and elaborate efforts and coordination, generally violate Occam’s Razor. For example, the explanation of the destruction of the second of the Twin Towers in 9/11 as a pre-rigged explosion that was part of a government conspiracy requires numerous actors and elaborate efforts to prepare the tower for destruction. The accepted explanation, that planes crashing into the tower caused the collapse of the second tower, requires only the work of two Saudis who flew that plane. Thus, it is a simpler, and thus more epistemically acceptable, explanation.

Another relevant epistemic criterion is Hume’s rule: “claims of extraordinary events require extraordinary evidence.” While Hume used this rule to criticize belief in miracles, it also applies to any extraordinary explanation of events. Explanations of events in terms of large conspiracies (e.g., the pandemic is a Jewish plot to force mass sterilizations), or extraordinary assertions such as that Bill Gates is using vaccination

to implant micro-chips, clearly fail Hume's rule. There is no evidence that would satisfy Hume's Rule. Such theories would be rejected by anyone who understands the role of this epistemic criterion in preventing the acceptance of unwarranted beliefs.

14.4.1.3 Understanding Source Credibility and Expertise

Given our dependence for our beliefs on external sources of information and given the reliance of conspiracy theories on dubious and untrustworthy sources, the ability to evaluate source credibility and expertise becomes especially crucial. There are two interconnected issues involved. One is how to evaluate the expertise of an individual or group making a claim. Among the criteria which students need to understand in order to make such an evaluation are the competence of the expert in the domain, the lack of obvious bias, and consensus of the relevant experts supporting the claim in question (Bailin & Battersby, 2016, p. 143).

Knowledge of the criteria is not sufficient, however. Given the current distrust of expertise, students also need to understand the basis for the criteria, the reason for trust in particular experts and in expertise more generally. Why, for example, should one generally trust an epidemiologist over an anesthesiologist regarding information about the Covid-19 virus? (Competence in the relevant area). Why should one be suspicious of claims about hydroxychloroquine by a company which sells it? (Bias, conflict of interest). Why should one trust a medical researcher over one's friend regarding the safety of Covid-19 vaccine, even if the friend is well-meaning? (Rigour of scientific research).

The second issue relates to the credibility of different sources. Students need to understand, for example, why one should trust scientific information in *Lancet* over CNN or Fox News, or over a post on social media. In order to appreciate the differences among these sources, students need to understand the role of peer review in establishing scientific claims in comparison to how claims are established and disseminated on news sites or through social media (see Sect. 4.2). They also need to know to look for disciplinary consensus of the relevant experts when trying to verify a claim. It is important for students to recognize, however, that scientific consensus does not mean that all scientists agree and that there will often be a minority of dissidents on any issue. But students need to understand that the best basis for a layperson's trust in a claim is that the claim is held by the vast scientific majority.

The issue of source credibility is complicated, however, by the fact that the web and other digital media, which now provide a prominent source of information, appear more and more to contain heavily biased websites and sources which are solely designed to persuade rather than inform but have been constructed to deceive viewers into thinking they are credible sources of information. There are a number of criteria which can be helpful to students in evaluating web and other media sources, including those related to their credibility, expertise, possible bias, and motivation, as well as to their manner of presentation, e.g., tone, intelligibility, reasonableness, confidence level (Bailin & Battersby, 2016, pp. 151–152).

The traditional approach to evaluating websites and their arguments involves deploying these criteria when examining the arguments and sources provided by the site or source itself. But a more sophisticated approach is to employ “lateral reading,” which involves first moving off the site in question to other sites or sources to identify the authorship and biases of the site as well as what the disciplinary consensus is on the claim in question (Caulfield, 2017; Wineburg & McGrew, 2017). Recognizing websites or sources as deceptive can then be a basis for not spending valuable time looking in detail at the arguments of the source and so not risking falling into its traps.

As an example, let us look at a web page put out by the organization, America’s Frontline Doctors, which features an interview with a former Pfizer VP arguing that the Covid-19 vaccination is being used for massive-scale depopulation (America’s Frontline Doctors, 2021). The site is constructed to look like a legitimate medical site. However, students doing a lateral reading would quickly discover that America’s Frontline Doctors is an American *right-wing* (<https://en.wikipedia.org/wiki/Right-wing>) political organization opposed to pandemic restrictions and promoting unapproved *treatments* (https://en.wikipedia.org/wiki/Treatment_and_management_of_COVID-19) and that the group’s founder and its communications director were both arrested in connection with the *January 6 storming of the United States Capitol* (https://en.wikipedia.org/wiki/2021_storming_of_the_United_States_Capitol) (Wikipedia, “America’s Frontline Doctors”). A look at other, credible sites would quickly reveal that the views promoted on the site about Covid-19 vaccination are widely rejected by health professionals. In addition, the claims on the site exhibit all the problematic features of conspiracy theories. These factors, as well as the discovery of the motivations behind the site and its deceptive nature would provide students with grounds for not going deeply into the detailed arguments. This is a case where knowing information about the site is relevant to its evaluation (Bailin & Battersby, 2016, pp. 86–88) and dismissal of the arguments on the site avoids the ad hominem fallacy by being supported by other relevant epistemic criteria.

14.4.1.4 Avoiding the Epistemic Traps of Conspiracy Theories

One of the misleading epistemic features of conspiracy theories noted previously is their appeal to anomalies and discrepant data in the accepted theory to bolster their alternative account. To avoid being taken in by this strategy, students need to understand that typically theories will face data for which there is not, or not yet, a satisfactory explanation. Such data furnish the material for further inquiry and are not a ground for the rejection of well-established theories. Theories are justified by the convergence of evidence from many lines of inquiry and are not refuted by a few anomalies.

Another problematic feature of conspiracy theories noted above is their unfalsifiability. For a theory to be worthy of investigation, it must be stated in such a manner

that it is clear what facts could in principle count against it.³ If the destruction of the second tower in the 9/11 attack were caused by explosives inside the building, then one would expect the existence of explosive residue, and the lack of explosive residue would count against the theory that this was the cause. But if the conspiracy believers counter that the lack of such evidence is actually further evidence of the effectiveness of the conspirators in removing or suppressing evidence, then it becomes clear that the theory is “self-sealing” and that no facts are allowed to count as counter evidence. The conspiracy theorist’s stand turns the usual support relationship between evidence and proof on its head so that the absence of evidence is taken as support for their theory. Students need to learn to recognize this self-sealing structure of conspiracy theories and understand that it renders them immune to challenge—a characteristic that means that they will fail to meet the criterion of falsifiability.

Another problem that conspiracy theories run up against is plausibility. We all use an informal notion of plausibility to weed out seriously unlikely claims. One of the major weaknesses of most conspiracy theories is that the alleged conspiracies involve a large number of people (the Jews, the Democrats, global elites, the deep state, the U.S. government). Those actual conspiracies that we know about, e.g., Watergate, we know about in part because of “leakage.” The more people that are involved, the more likely it is that some will leak what is going on to the press or public. It is implausible that a widespread conspiracy would not have leakers. Technical challenges can also undermine the plausibility of a conspiracy theory, for example the technical implausibility of the claim that Covid vaccines are being used by Bill Gates to place microchips in people or of the claim that the collapse of the 2nd tower in the 9/11 attack was the result of extensive rigging of explosives (World Trade Center Demolition, 2021). Thus, a question that students need to learn to bring to such theories is “Are they really plausible?”

A useful contrast with the functioning of conspiracy theories to point out to students is how real conspiracies have been identified. These are known because they have been uncovered by the very mainstream media that conspiracy theorist reject—often by obtaining access to formerly classified documents for proof or by the publication of information from knowledgeable participants. For some examples, see revelations about the Tuskegee Syphilis Study uncovered by Associated Press (AP, 2017); The New York Times uncovering of secret CIA LSD experiments (Hersh, 1974); and Edward Snowden’s exposure of the secret collecting of the telephone records of U.S. citizens by the NSA, revealed in The Guardian (2013).

³ While falsifiability is controversial as a tool for demarcating scientific vs pseudo-scientific claims, it is not controversial to require that a claim be able to be falsified at least in principle and that believers should be able to state the kind of evidence that could falsify the claim.

14.4.2 Addressing Social and Psychological Issues

Providing students with the epistemic resources for making reasoned judgments as well as addressing the particular epistemic traps set by conspiracy theories are essential for building their defenses against such theories. They are not, however, sufficient. It is also vital, in critical thinking education, to address the various social and psychological factors which account for their attraction (Bailin & Battersby, 2018).

We discussed previously the necessity of teaching students how to evaluate information, including on the internet and in social media. In order to appreciate the basis for such an evaluation, however, it is also important for students to understand the structure and functioning of the information environment. They need to understand, for example, how social media tend to create echo chambers which limit exposure to opposing views and evidence, facilitate information cascades which reinforce the impression of the veracity of the information, and employ algorithms that highlight sensational content. But more broadly, what is required is an understanding of “the social and economic contexts that influence how information is created and circulated” (Fister, 2021) and that give rise to such features. An important aspect relates to the commercial values and motivations of social media corporations in contrast to the values and practices of “truth-seeking institutions such as science, scholarship, and journalism” (Fister, 2021). Such an understanding undergirds an appreciation of the difference in trustworthiness between social media sources and more mainstream institutions of knowledge production and dissemination, and between accredited experts in a field and social-media influencers.

An inquiry approach to teaching critical thinking also has the potential to address the desire for control and feeling of powerlessness in the face of uncertainty and confusion that fuel the belief in conspiracy theories. Learning a systematic and manageable approach to sorting through and evaluating masses of information, conflicting information, and mis/disinformation in order to make reasoned judgments can reduce anxiety in the face of uncertainty and can give students a justified sense of intellectual agency. Rather than simply demonstrating the weaknesses in conspiracy theories, the inquiry approach offers a way to find credible sources and claims and to make reasoned judgments. Given that many conspiracy theory believers think of themselves as truth-seekers (Tiffany, 2021), the inquiry approach offers an accessible, comprehensible, and powerful method of seeking the truth which can be profoundly empowering.

Concern over uncertainty can also be reduced through an understanding of why information may, and, indeed, is likely to change and that the evolution of information indicates that we are learning on the basis of new evidence and acquiring ever improved beliefs. Students thus need to acquire an appreciation of the fallible nature of knowledge and the self-correcting nature of inquiry and need to understand that, as long as we continue to inquire, certainty is an unrealistic, and perhaps impossible goal.

The resources which students need to acquire in order to be less vulnerable to the lure of conspiracy theories go beyond the understandings and capacities necessary for making reasoned judgments to include many of the virtues of inquiry, including intellectual humility, an openness to evaluating counterevidence in a fair-minded way, and a willingness to revise one's beliefs when warranted by the evidence. Also important is the ability to engage in reasoned interchange and dialogue and the propensity to do so in one's argumentative interactions.

Fostering these virtues in critical thinking education requires a focus on the setting, structure, and relationships in the class. This can be achieved through the creation of a community in the classroom (Dewey, 1938; Lipman, 2003) in which small group collaborative deliberation is central and which instantiates the norms of critical inquiry, including open-minded and fair-minded exchanges, rigorous but respectful critique, following arguments where they lead, and changing one's mind when justified by the evidence and arguments. It is also a community committed to respectful treatment, meaningful participation, and productive interaction (Bailin & Battersby, 2016, 2018).

The focus on small group deliberation and on a community of inquiry instantiating norms of collaborative rational inquiry can help to address some of the social and psychological factors which increase vulnerability to conspiracy beliefs. Such a community can mitigate defensive biases in that it is a community in which value is placed not on supporting particular views but rather on being reasonable. Thus, students can learn not to feel threatened by challenges to their views and so to become less susceptible to the self-affirming quality of conspiracy beliefs.

A community of inquiry also has an important role to play in addressing the challenges posed by cultural cognition by creating a community of affiliation as an alternative to or counterbalance to one's cultural community. In a community of inquiry, group identity is constituted not by a commitment to specific beliefs but rather by adherence to the norms of rational inquiry.

Small group deliberation and the community of inquiry can also lessen polarization and foster social trust among people who disagree by creating a community of individuals working collaboratively toward a common goal of making the best possible judgments. Particularly important in a highly polarized climate are norms for respectful interaction and respectful disagreement. Learning to conduct reasonable and respectful deliberative discussions in the context of disagreement is an important aspect of a community of inquiry.

14.5 Conclusion

Conspiracy theories pose considerable dangers to society, not least among them is the harm caused by conspiracy theories regarding the Covid-19 pandemic. Given the difficulty in dissuading those who hold conspiracy beliefs once these beliefs become entrenched, there is a need to educate students before they come under the thrall of these theories in a way that enables them to protect themselves from such

beliefs. This entails developing an understanding of inquiry—of how to inquire and why one should—and an understanding of and justified respect for expertise and epistemic criteria, including those which address the special challenges posed by conspiracy theories. It also involves fostering the virtues of inquiry, including intellectual humility, an openness to evaluating counterevidence in a fair-minded way, and a willingness to revise one’s beliefs when warranted by the evidence. Finally, it involves providing students with the experience of inquiring in a reasonable community which respects the norms of inquiry and of reasonable dialogue, including with those with whom we disagree. Intervening early, before students have adopted unsupported or conspiratorial views and providing them with the resources necessary for resisting their temptation is perhaps our most promising avenue for combatting conspiratorial views.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 15

Combatting Conspiratorial Thinking with Controlled Argumentation Dialogue Environments



Lindsay Fields and John Licato

Abstract The COVID-19 pandemic has been associated with an explosion in misinformation, leading to increased interest in methods to combat the failures in critical thinking which make such misinformation so powerful. In combatting misinformation, simply throwing uncontrolled argumentation at the problem is often counterproductive, partially because the means by which people evaluate arguments are highly subject to cognitive biases. Such biases which promote jumping to unwarranted conclusions have been shown to correlate with conspiratorial belief. We consider the use of Controlled Argumentation Dialogue Environments (CADEs) as a means to mitigate cognitive biases which contribute to belief in COVID-19 conspiracy theories. We will discuss *Warrant Game* (WG) and *Warrant Game for Analogies* (WG-A), CADEs in which two arguers are presented with a divisive issue and two competing positions on that issue. They then compete by iteratively improving warrants for their arguments and attacking those of their opponents. The warrant, when made explicit, makes it easier to determine key features typically associated with argument strength and may reveal hidden assumptions or fundamental reasoning incompatibilities. By presenting an issue and positions which relate to conspiratorial thinking, CADEs may operate as an educational tool for breaking conspiratorial belief into core values and building cognitive skills.

Keywords Conspiracy theories · Controlled argumentation · COVID-19

15.1 Introduction

The ongoing COVID-19 pandemic has led to a major proliferation of misinformation and disinformation (The Lancet, 2020; World Health Organization et al., 2020), and

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this has led to increased interest in methods to combat the failures in critical thinking which make them so powerful. In combatting misinformation, simply inviting people to engage in unstructured argumentation can be counter-productive, in part because the means by which people evaluate arguments are highly subject to cognitive biases, of which the arguers may be unaware. Some of these biases promote jumping to unwarranted conclusions, as opposed to methodical inference, and have been shown to correlate with conspiratorial belief (Denovan et al., 2020; Pytlik et al., 2020; Swami et al., 2014). In this paper, we consider the use of Controlled Argumentation Dialogue Environments (CADEs) as a means to mitigate those cognitive biases which contribute to belief in COVID-19 conspiracy theories. We will show how CADEs can restrict the structure of allowed arguments, such that they will tend to disallow argument patterns which are hallmarks of conspiratorial thinking. In this paper, we focus on showing how two specific CADEs (WG and WG-A) can perform this function, and leave the task of empirically studying the persuasive powers of such argumentation environments to future work.

In this work, we will be using Keeley's (1999) definition of a *conspiracy theory* as a "proposed explanation of some historical event (or events) in terms of the significant causal agency of a relatively small group of persons—the conspirators—acting in secret" (p. 116). This definition does not preclude the possibility that such a theory may be accurate and, as will be discussed in Sect. 15.6, CADEs tolerate this possibility and may allow arguers to refine and strengthen a valid argument. An *argumentative dialogue* is a dialogue whose intended purpose includes to exchange, evaluate, communicate, or otherwise address at least one argument. Acceptance of an argument may consist of either: (1) accepting that the conclusion is true; or (2) accepting that the conclusion would follow from the premises, but not necessarily that the premises are true. *Controlled Argumentation Dialogue Environments* (CADEs) are frameworks for argumentative dialogues which are highly structured, restrictive of the communications allowed between participants, and may be supervised by either a human or an artificially intelligent moderator.

Argumentation is inextricably entwined with persuasion; perhaps the most common purpose of argumentation is to trigger belief change in the self or others. Unstructured argumentation, however, is often unsatisfactory in promoting belief change amongst arguers, in part due to the detrimental impacts of cognitive biases (Kahneman, 2011; Mercier, 2016; Mercier & Sperber, 2011, 2017; Stanovich & West, 2007). Further, emotionality may exacerbate the expression of cognitive biases in argumentation dialogue environments. On social media platforms, for example, certain types of emotion-provoking content are known to attract higher user engagement, or "clicks," and make content more viral (Berger & Milkman, 2012; Brady et al., 2017; Chen, 2020; Ferrara & Yang, 2015; Ksiazek, 2016). Many existing studies on the relationship between emotionality and environment conclude that limiting external influence on the environment and re-framing emotional topics may effectively address the maladaptive effects of emotionality (Choi et al., 2018; Richards & Gross, 2000). However, it is naïve to assume that any such controlled dialogues can be maintained within a social media platform which prioritizes engagement over discussion quality. Instead, we seek to mitigate conspiratorial belief in susceptible

individuals prior to their entry into emotional environments, thereby enabling them to recognize and lessen any harmful persuasive effects of misinformation.

Previous work suggests that CADEs specifically designed to optimize persuasion and minimize emotionality have promise in mitigating the effects of cognitive bias (Cooper et al., 2020). This may be due to Oswald's (2016) belief that if arguers are influenced by cognitively biased inferences, then traces of those biases should become evident in the argumentative discourse. It is also possible that, due to the inherently emotional nature of conspiracy belief, CADEs may facilitate emotionality enhanced memory retention, which has been previously shown to decrease the rate of memory decay in cognitive skills tasks (Steidl et al., 2011). In either case, there is cause to extrapolate that introducing controlled argumentation techniques to COVID-19 conspiracy forums, which are particularly susceptible to both biased and emotional appeals, could build resistance to misinformation.

Existing argumentation methods have shown *cognitive inoculation* effects, whereby participants identify and build resistance against social media misinformation (Basol et al., 2020; Roozenbeek & van der Linden, 2018, 2019); participants were able to maintain this resistance for up to five weeks following the initial inoculation (Roozenbeek, 2020). Further research has also considered the "prebunking" effects of a priori inoculative intervention against conspiracy theories, in particular (Cook et al., 2017; van der Linden et al., 2017). When individuals were presented with both a scientific consensus and misinformation casting doubt on said consensus, their previously-held beliefs saw no significant change (van der Linden et al., 2017), implying that simply presenting susceptible parties with accurate information may be sufficient to combat conspiracy belief. Further, it was found that false-balance media coverage had the greatest impact on perceived consensus, but prebunking which specifically targeted false neutrality had the greatest influence on neutralizing misinformation (Cook et al., 2017). CADEs have the potential to create such prebunking effects dependent on the strategies employed by each arguer. Additionally, the nature of two-party argumentation and the selection of controversial theories removes the potential for false neutrality in the inoculative intervention.

We will discuss the recently designed *Warrant Game* (WG) and its successor *Warrant Game for Analogies* (WG-A), CADEs in which two arguers are presented with a divisive issue and two competing positions on that issue. The arguers then compete by iteratively improving warrants for their arguments and attacking those of their opponents. Here the warrant, drawn from Toulmin et al. (1984) influential model of argumentation, is part of an argument which, when made explicit, makes it easier to determine key features typically associated with argument strength and may reveal hidden assumptions or fundamental reasoning incompatibilities. By presenting an issue and positions which relate to conspiratorial thinking (e.g., that COVID-19 was created by the Chinese government as a biological weapon), these CADEs may operate as educational tools for mitigating conspiratorial belief, identifying core values and biases, and building cognitive skills.

15.2 Known COVID-19 Conspiracies

Multiple common conspiracy theories related to COVID-19 have emerged since February 2020 (The Lancet, 2020; Prichard & Christman, 2020; Romer & Jamieson, 2020; Roozenbeek et al., 2020; van der Linden et al., 2020). The nature of these conspiracies has changed over time, as has the scientific consensus regarding the health risks, best practices, and lasting effects of the virus on the public and the world economy. For example, at the beginning of the pandemic, most conspiracies revolved around the existence of the virus and the veracity of expert recommendations (Romer & Jamieson, 2020). However, new developments, such as the introduction and rapid distribution of vaccines, have led to the emergence of entirely new conspiracy theories, which were not present in early 2020 (Brenan, 2021; COVID Collaborative, 2020). We will discuss a few of the more prevalent theories. In many of these theories, the flaw in reasoning seems to be caused by the perceived frequent shifting of scientific consensus (which in turn was a consequence of the novelty of COVID-19). This appears to invite susceptible parties to engage in ad hominem attacks on the source of the consensus and ignore evidence that, on a cursory glance, seems contradictory. We will discuss these, and other, common features of COVID-19 conspiracy theories, as well as how their influence can be reduced by CADEs, in Sect. 15.3.

Almost immediately following the declaration of COVID-19 as a pandemic, conspiracy theories emerged that the virus was bioengineered in China. A survey performed in May 2020 indicated that 23% of Americans believed that the idea that the virus was engineered in a laboratory in Wuhan was “reliable” (Roozenbeek et al., 2020). This is notable, as individuals who are susceptible to believing that the virus was bioengineered are reported to be less likely to comply with social distancing and masking guidelines and less likely to accept a COVID-19 vaccine (Prichard & Christman, 2020; van der Linden et al., 2020). The proliferation of this theory was exacerbated in September 2020 with the release of the controversial “Yan Report,” a preprint of a study which claimed that the genome composition of SARS-CoV-2 implied that the virus was man-made. This study has been repeatedly debunked (Koyama et al., 2020; Rassmussen, 2021), however the theory has since been considered by multiple well-known scientists, including Nobel laureate Luc Montagnier (Clavel, 2020) and immunologist Anthony Fauci (Brewster, 2021) leading many conspiratorial thinkers to believe that COVID-19 is a bioweapon and its release is being covered up.

One conspiracy theory that should be noted for its cultural and ethnographic implications is the belief that the COVID-19 vaccines being introduced are used to subversively test on Black Americans. A survey conducted by the National Association for the Advancement of Colored People (NAACP) reported that 71% of Black Americans believed the vaccines were not adequately tested on Black people prior to their launch and 80% had concerns that they would receive less-safe versions of the vaccine (COVID Collaborative, 2020). This theory is the latest in a history of distrust, paranoia, and conspiratorial thinking within the Black community in regard to medical

treatment and, particularly, vaccination. In light of historical events involving the Tuskegee syphilis study (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2020) and the HeLa cell line (Skloot, 2000, 2011), among others, many Black Americans are fearful of participating in front-line medical treatment. The same NAACP survey reported 81% of Black Americans intended to wait to receive the vaccine, as opposed to getting it as soon as it was available, and that 87% believed that earlier versions of the vaccine were less effective than later versions. Distrust in medical authority is further exacerbated by continuing racial disparities in the American healthcare system which directly contribute to higher rates of infant and maternal mortality, complications of chronic conditions, and lower life expectancies in Black Americans compared to their White counterparts (Bajaj & Stanford, 2021). This results in a community-wide conspiratorial environment where only 14% of Black Americans report confidence in the vaccine's safety and only 18% had an intention to be vaccinated in September 2020 (COVID Collaborative, 2020), considerably less than the 58.9% (Romer & Jamieson, 2020) and 65% (Brenan, 2021) of Americans who indicated willingness in March 2020 and December 2020, respectively. As of June 2021, only 9% of individuals receiving at least one dose of the vaccine were Black (Ndugga et al., 2021). This is staggering, especially when considering that Black patients have been reported to account for up to 33% of U.S. COVID-19 cases and make up only 13% of the U.S. population (Dyer, 2020).

Further, many believe that the COVID-19 vaccines, particularly those stemming from research funded by the Bill and Melinda Gates Foundation, are being used as a cover for inserting microchips to monitor global citizens (Evanega et al., 2020; Goodman & Carmichael, 2020). This theory likely stems from a misunderstanding of the Gates Foundation awarding grants to researchers to find better ways to keep track of vaccination information (Goodman & Carmichael, 2020). One such method, proposed by researchers at MIT, was to use a dye containing quantum dots to keep track of those who have already been vaccinated (McHugh et al., 2019). Even though this method never expanded past animal trials, it was cited as proof of an intent to covertly monitor vaccinated individuals.

There are at least two main conspiracy theories connecting 5G technologies with COVID-19 (Meese et al., 2020). One version posits that electromagnetic radiation from 5G lowers the immune system, thereby making the population more susceptible to the virus. This theory shares clear similarities with another conspiratorial claim that sustained exposure to electromagnetic fields causes cancer. However, the more prominent conspiracy theory argues that 5G directly causes COVID-19 via radiation and that the virus initiated in Wuhan, due to the city being the "initial" 5G test site. Although Wuhan was one of the first cities in China to receive 5G (Xinhua, 2019), it has not been confirmed to be the first either in China or globally. It is unclear exactly how these theories began and were so quickly propagated, but they are possibly descendants of previous conspiracies related to electromagnetic radiation and cell phones.

One of the only conspiracy theories which can be traced directly back to a government official, the belief that COVID-19 is no worse than a standard flu infection and the health risks are overblown, was presented by former U.S. President Donald Trump

in early 2020 (Beer, 2020; Woodward, 2020). Mr. Trump was later revealed to have stated in an interview with Bob Woodward (2020) that, not only was the virus more deadly than the flu, but that he was also intentionally attempting to downplay its severity. Despite this, the initial statements made by the Trump administration, in conjunction with since-debunked claims made in the conspiracy documentary film *Plandemic*, allowed conspiracies attacking the severity of the pandemic to take hold (Evanega et al., 2020; Prichard & Christman, 2020). As late as November 2020, 38% of Americans reported believing the seriousness of COVID-19 was being exaggerated, and 36% reported believing that it was definitely or probably true that the pandemic was a planned conspiracy (Prichard & Christman, 2020). This had serious implications on compliance with public safety measures. Filtration efficiency of bioaerosols was found to be as much as 94% for single-layer cloth masks and up to 99% for disposable medical-grade masks (Clase et al., 2020). Yet, there is continual proof of a strong negative correlation between conspiratorial belief and engaging in mask-wearing safety protocols (Prichard & Christman, 2020); in July 2020, 21% of Americans reported not wearing masks while in public and only 21.1% reported being “very worried” that they, or a member of their household, would become infected (Romer & Jamieson, 2020).

15.3 Features of Conspiracy Belief

To identify the ways in which CADEs can combat conspiratorial thinking, it is helpful to identify common features of conspiracy theories such as those listed in the previous section. Oswald (2016), in particular, detailed many recurring features of conspiracy belief, which we will attribute back to our previously defined COVID-19 related conspiracies. The first such feature is that, in an attempt to refute an official account of an event in favor of a conspiratorial account, an arguer will attempt to cast doubt on the integrity or competence of the official account’s source, thereby engaging in an *ad hominem* attack. Individual susceptibility to falling back on such attacks may increase with historical framing which is perceived to support distrust in authority. For example, Black Americans may be more susceptible to engaging in *ad hominem* attacks in an attempt to refute vaccine efficacy if the attack is framed from the historical context of previous government-sanctioned, involuntary medical testing on Black people.

Another major feature impacting conspiratorial thinking is that belief in one conspiracy theory correlates with belief in others through unwarranted leaps in reasoning. Thereby, from an argumentative perspective, we can extrapolate that conspiracy theories are likely to rely on arguments from generalization and analogy. This is often exacerbated by the tendency of susceptible parties to misrepresent insufficient or unrelated evidence for acceptable argument premises (Byford, 2011; Keeley, 1999). This method of asserting an unrelated premise is known as *errant data* (Oswald, 2016), and using it as the basis for accepting a conspiratorial conclusion is employed most often in defending anti-establishment focused conspiracy theories,

such as those surrounding vaccine and mask efficacy. If an arguer can misrepresent prior historical context as relevant to their current belief, then they can reframe their conclusion as having stronger support. WG-A (Licato & Cooper, 2019) can be used to address these kinds of unrelated or insufficient analogical connections, as we will demonstrate in Sect. 15.6.

Many proponents of conspiracy theories have a propensity to infer or accept conclusions based solely on the lack of contradictory evidence. This kind of inference of fact based on the absence of contrary evidence is known as the *ad ignorantiam*, or appeal from ignorance, fallacy (Walton, 1999). This is a very common fallacy for arguers attempting to dismiss COVID-19 as a typical flu. Such arguers will attribute a decrease in reported influenza cases and deaths to a conspiracy to misreport these cases as COVID-19, as opposed to a mitigation of illness due to social distancing and mask protocols. Other arguers have used the lack of an immediately available vaccine as proof of COVID-19's genetic dissimilarity to previous SARS-CoV strains and, subsequently, as proof that COVID-19 was designed as a bioweapon, not as a naturally mutating virus.

Finally, Oswald (2016) noted that arguers of conspiracy theories are highly likely to follow a set dialectical format. Specifically, conspiratorial thinkers will argue from a "position of refutation and challenge," (p. 8) wherein they are more inclined to attack opposition to their argument than to directly defend their own argument. This places the onus of argumentation on the source of the official account, as opposed to on the arguer. CADEs are uniquely equipped to both work within and combat this feature. Because the structural characteristics of CADEs are to defend one's own position and attack the opponent's position, arguers can lean into the natural propensity to attack, but are also guided to contemplate their own argument's deficiencies. Further, by controlling the allowed moves within the dialogue environment, arguers are forced to only attack an opposing argument on merit, as opposed to from a fallacious position.

Cook et al. (2017) present two possible elements to an effective inoculation technique: (1) an "explicit warning" of an impending threat to information accuracy and (2) a refutation of an anticipated argument which exposes the imminent fallacy (p. 4). CADEs are potentially equipped to address the second element. By creating a dialogue environment where arguers are required to both defend their own position and attack their opponent's, while limiting their ability to devolve into unstructured argumentation (along with the biases and distractions that result), CADEs may motivate arguers to make their own cognitive biases explicit.

15.4 Warrant Game

We will now describe our proposed approach for combatting conspiratorial thinking through controlled argumentation. A warrant, in Toulmin's (1984; 2003) model of argumentation, is a statement connecting the premises and conclusion of an argument, showing how the premises permit the inference of the conclusion. While a premise may be any fact or evidence which an arguer uses to support a conclusion, a warrant

is a broader principle connecting the premise to its resulting conclusion. Arguers may use any heuristic means to obtain a warrant, but it must define some causal link between premise and conclusion. For example, given the premise “Humans are mammals” and the conclusion “Humans don’t lay eggs,” two possible warrants are W_1 : “No mammals lay eggs,” and W_2 : “Most mammals don’t lay eggs.” Each warrant creates a causal link between the premise and the conclusion, but the links’ levels of support differ, as does the potential methods of challenging the argument: W_1 can be disproven by simply pointing out that a platypus is an egg-laying mammal; whereas W_2 requires the contesting arguer to prove that most mammals do lay eggs. Clearly, there is a much higher onus of proof for an arguer to show that most mammals lay eggs than to assert the existence a single platypus. Therefore, the best strategy for a defending arguer is to ensure the strongest, and most generalizable, possible warrant is used for their arguments, thereby shifting the onus of proof onto the attacking arguer.

This is the concept behind the Warrant Game (WG), a CADE in which two arguers compete by iteratively improving warrants and attacking those of their opponents (Licato & Cooper, 2019). By explicitly defining the warrant, arguers are able to build and improve their own argumentative skills, many of which are relevant to the features of conspiratorial thinking, including: (1) determining what methods of attacking an argument are most effective, (2) distinguishing relevant premises from those that are unrelated the argument, and (3) defining whether the conclusion follows from the premises and the strength of the causal link. However, despite its utility in fostering cognitive skills, the warrant is often left implicit in arguments. This omission is often to the detriment of analytical reasoning (Beach et al., 2016; Warren, 2010) and allows conspiratorial thinkers, specifically, to make leaps in reasoning without regard to the bias induced by errant data. Instead, by centering argumentation on the warrant, WG is able to promote reflection on the properties of conspiratorial arguments.

In WG, arguers are presented with a controversial issue and required to produce warrants which either support or refute the conclusion. The arguers then take turns attacking their opponent’s warrant on the basis of its connection to the argument. Arguers are allowed to use any of a pre-defined set of attacks (a subset of which are listed in Table 15.1), thereby inducing them to consider the argument’s validity while mitigating the impact of bias. A human or artificially intelligent moderator is assigned to determine whether each attack is successful; if an attack succeeds, then the attacking party receives a certain number of points and the defending arguer loses points and is required to improve their warrant based on the nature of the attack. Therefore, WG can provide an overall model for creating and iteratively improving a warrant: (1) create a warrant which causally links the premise and conclusion, (2) determine whether the warrant is susceptible to any of the allowed attacks and revise as necessary to avoid such attacks, and (3) iterate until the warrant is sufficiently strong. Warrant strength is determined by how resistant the warrant is to attacks and an argument’s overall strength is given by its strongest warrant.

Adjustments to the standard structure of WG were necessary to appropriately account for the nature of conspiratorial persuasive dialogues. First, a new allowed attack was defined on the basis of *equivocation*, which is the use of ambiguous

Table 15.1 A subset of allowed attacks in WG

Rule name	Points	Description/Tests
Clear if–then structure	+2/–2	The warrant cannot easily be rephrased into an equivalent statement of the form “If X, then Y” without changing its meaning
Premise-antecedent connection	+1/–1	The warrant’s antecedent doesn’t follow closely from the argument’s premises
Consequent-conclusion connection	+1/–1	The argument’s conclusion doesn’t follow closely from the warrant’s consequent
Unnecessary premise	+1/–1	A premise connected to the warrant isn’t necessary (as determined by the warrant’s antecedent)
Defeating counterexample	+2/–1	There is a counterexample to the warrant: a case where the antecedent is true, but the consequent is false; and this counterexample is significant enough to make the original warrant seem useless as a generalized rule
Warrant generalizability	+1/–1	The warrant is specific to a very limited number of scenarios, rather than being a general rule

language to conceal the truth or to avoid committing to an argument. As such, to make an equivocation attack, an arguer must show that multiple premises or the conclusion use the same term with different meanings. To respond, the defending arguer must either prove that the terms have equivalent meanings or clarify the definition. Second, the initial configuration of WG was based on the starting premise being unambiguous, established fact, which could be accepted by both parties. However, given that many conspiratorial arguments are based on controversial, insufficient, or unrelated premises (see Sect. 15.3), we allowed for arguers to attack their opponent’s starting premise at any time. Finally, if an attack on a premise was successful, leading to its alteration, then we allowed the attacking party to challenge the new premise, and any premises resulting therein, even if they had been previously attacked prior to the alteration.

15.5 Warrant Game for Analogies

Warrant Game for Analogies (WG-A) (Cooper et al., 2020; Licato & Cooper, 2019) is a variant of WG used for the evaluation of analogical arguments based on Bartha’s (2010) *Articulation Model* (AM). AM is a normative model of analogical argumentation that attempts to explain both what a “good” analogy is, and what kinds of dialogical moves can be considered relevant towards assessing an analogical argument. An analogical argument consists of propositions divided into source and target domains. A pair of analogous propositions is said to be in the *positive analogy* if they

have the same truth value, and in the *negative analogy* if they have opposite truth values. The structure of a WG-A setup is equivalent to two parallel instances of WG: two parallel arguments (the source and target analogies) are forced to share a single warrant, such that the warrant jointly explains the primary inference on both sides. In this way, the warrant takes on the properties of both the *prior association* and the *potential for generalization*, which are the two elements central to a good analogy according to Bartha’s AM. Although we will summarize it here, for full details on how WG-A approximates AM, see Licato and Cooper (2019).

WG-A provides a web-based interface wherein two arguers engage in the roles of advocate and critic, and work together to evaluate a given analogical argument. Similar to WG, arguers are provided a pre-determined set of moves which have a high probability of being relevant to the argument. WG-A’s central assumption is that, when provided with the source and target domains of an analogical argument, the process of explicitly defining a warrant which connects each domain’s facts to its conclusion is roughly equivalent to elaborating a prior association and potential for generalization in AM (Licato & Cooper, 2019). For example, consider the analogy in Fig. 15.1. The argument begins with a set of premises referred to as “facts.” We refer to the left box as the *source facts*, and the right box as the *target facts*. The analogy is shown as a pair of conclusions and the overall analogical argument is that if the source facts, target facts, and source conclusion are true, then the target conclusion must follow. The warrant, shown as the “current rule,” is defined and iteratively improved by both arguers working together.

A WG-A session proceeds as follows. Two arguers, in the roles of advocate and critic, are presented with a pre-selected set of source facts, target facts, source conclusions and target conclusions. The advocate is tasked with defining the initial warrant such that (1) its antecedent is a generalization of the source and target facts, (2) its consequent is a generalization of the source and target conclusions, and (3) it serves as a causal connection between the source facts and source conclusion, and between the target facts and target conclusion. The critic may then attack the links connecting the warrant to the various facts and conclusions (labeled L.1–L.5 in Fig. 15.1). For example, if the warrant’s antecedent is not a generalization of the

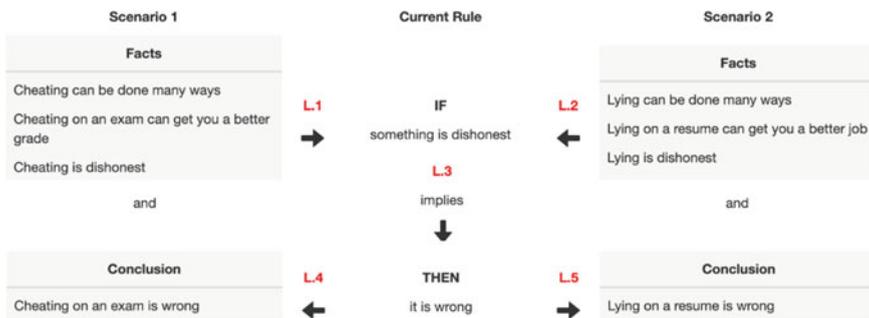


Fig. 15.1 Example analogical argument and warrant in WG-A

source or target facts, then links **L.1** or **L.2** can be attacked, respectively. Furthermore, if a strong, defeating counterexample to the warrant can be found, then **L.3** can be attacked. An attack on a link must be accepted by both parties to be deemed successful (using a resolution process that discourages direct communication and instead requires very structured, template-restricted interactions), at which point the advocate is tasked with improving the warrant. Conversely, the advocate may challenge the attack as invalid and make a case for the warrant's strength. Thus, the final definition of the warrant is subject to multiple constraints, and the parlay of attacks and subsequent edits between arguers serves to iteratively improve the warrant as the game progresses.

WG-A has been shown to be capable of addressing the problem of ensuring that moves made by players are relevant to the assessment or improvement of the analogical argument under discussion (Licato & Cooper, 2019). Furthermore, when arguers play WG-A, as compared to debating an analogical argument through open-ended text-based chat, there appears to be evidence of marginal improvement in critical thinking skills, though this effect appeared only in a one-week follow-up (Cooper et al., 2020). However, WG-A is restricted to analogical arguments, whereas WG is designed to address all premise-conclusion arguments in general.

15.6 Examples

As an example of the previously-described CADEs' potential to mitigate conspiratorial thinking, we present sample argumentation dialogues for two common COVID-19 conspiracies. We will first use WG to combat the belief that COVID-19 was bioengineered in China. Suppose we provided the players with a typical conspiratorial premise, e.g., "COVID-19 is genetically dissimilar to previous coronavirus strains," and the conclusion "COVID-19 was bioengineered in China." Then it would fall upon the advocate to create a warrant which connects these nodes. The advocate may present the warrant "If a virus is naturally mutated, then it must be genetically similar to its precursors." But although this warrant contains an antecedent and consequent, it is not properly structured: this warrant could easily be challenged by the critic using a "Premise-antecedent connection attack" (Table 15.1), e.g., by saying that genetic similarity is not related to natural mutation. Subsequently, the consequent (the "THEN" part of the warrant) can be said to not connect to the conclusion: genetic similarity is not directly related to bioengineering, this is the relation the arguer is attempting to prove. At this point, the advocate may wish to completely replace the warrant with its contrapositive: "If a virus is not genetically similar to its precursors, then it is not naturally mutated." Note that the premise and warrant antecedent are now parallel. We may now begin the iterative stage of gameplay with the argument presented in Fig. 15.2.

The critic has a few options for attack at this point. Let us assume that they choose to attack **L.3** by stating that a virus not being naturally mutated does not necessarily imply that it is bioengineered. The critic may also provide a counterexample to

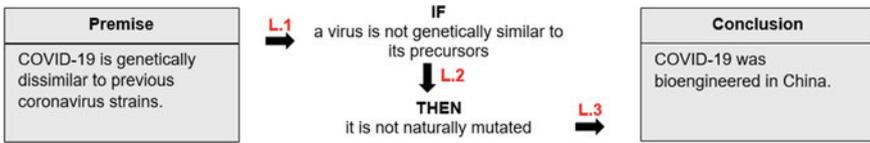


Fig. 15.2 Initial warrant for WG example of “COVID-19 was bioengineered in China”

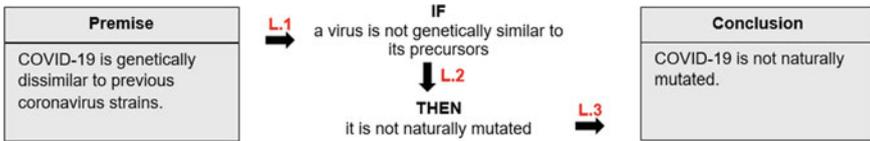


Fig. 15.3 Modified conclusion for WG example of “COVID-19 was bioengineered in China”

strengthen this attack, e.g., an individual with HIV being infected by a new, distinct HIV strain, which then forms a recombinant superinfection strain (Redd et al., 2013). This is a valid attack within the current environment and should be accepted by the advocate. As such, the advocate is now compelled to modify either of L.3’s nodes, i.e., the warrant’s consequent or the conclusion. Assume they choose to modify the conclusion to now say “COVID-19 is not naturally mutated.” The resulting structure, as seen in Fig. 15.3, now leaves L.3 less vulnerable to attack. However, the critic can now attack the initial premise on the basis of equivocation: because neither player has defined the acceptable bounds of genetic similarity (and therefore, genetic dissimilarity), the initial premise may utilize a different meaning of ‘genetic similarity’ than that used in the antecedent.

To respond, the advocate must now either show that the premise and warrant are using the same definition of genetic similarity or clarify the definition and adjust the warrant’s antecedent accordingly. In either case, this requires them to explicitly define genetic similarity within the context of their argument. Ideally, a rational actor would at this point realize that the premise “COVID-19 is genetically dissimilar to previous coronavirus strains” is impracticably vague at best, and unequivocally false at worst. But even if the advocate decided to continue with the game, the remainder of the argument is subject to attacks, the corrections of which would effectively neuter the argument’s conspiratorial component. In order to correct this argument, the advocate would have to concede the game and reevaluate their argument with more defensible components. Note that the given series of attacks allows the critic to deconstruct the argument without having to directly attack the irrelevant aspect of the conclusion, namely that the virus was bioengineered in China, specifically. Multiple attack strategies are possible based on the strength of the warrant, and this is just one example. However, by invalidating the premise, WG forces the arguer to either weaken their conclusion to something less conspiratorial (e.g., “COVID-19 is not naturally mutated”) or to improve an indefensible premise (“COVID-19 is genetically dissimilar to previous coronavirus strains”).

WG can continue indefinitely, in an iterative loop of attack and response. However, let us now shift gears and provide an analogical example, using WG-A to combat the conspiratorial belief that COVID-19 vaccinations are being used to covertly test on Black Americans. Suppose we provided the players with errant data via the source fact “Scientists claimed that participants would receive medical treatment for syphilis during the Tuskegee study” and presented the target fact “Scientists claim that Americans will receive vaccines to prevent COVID-19” as a relevant relationship. Then suppose we provide the source conclusion “The Tuskegee study was used to covertly test the effects of syphilis on Black men,” which is a historical fact, and the target conclusion “The COVID-19 vaccines are being used to covertly test on Black people,” which is a conspiratorial belief. It would fall upon the advocate to create a starting warrant which connects these nodes. They may present the conspiracy-reminiscent warrant “If scientists are offering medical treatment to Black people, then the medical treatment is being used to covertly test on Black people.” The corresponding WG-A environment for this initial argument is presented in Fig. 15.4.

The critic now has the option to attack the links to the advocate’s warrant, update the facts provided, or to add new facts. Let us assume that they choose to attack L.3 by providing a counterexample where scientists offer medical treatment to Black people without covertly testing on them (e.g., ethical studies to treat sickle cell anaemia). The advocate accepts this attack as valid and is now compelled to modify the warrant’s antecedent to say, “If scientists are offering medical treatment to Black people and they are lying about the treatment provided, then the medical treatment is being used to covertly test on Black people.” This updated warrant, shown in Fig. 15.5, prevents the critic from launching the same attack, but its antecedent is now no longer a clear generalization of the source and target facts (due to the antecedent now including an intent to deceive), thus opening up the possibility of L.1 and L.2 attacks. We assume the critic chooses to attack L.2 by saying that neither player has established that scientists are lying about the treatment provided with the COVID-19 vaccines.

The advocate may respond by introducing new facts into the source and target domains: “Scientists did not provide medical treatment for syphilis during the Tuskegee study” and “Scientists are not providing medical treatment to prevent

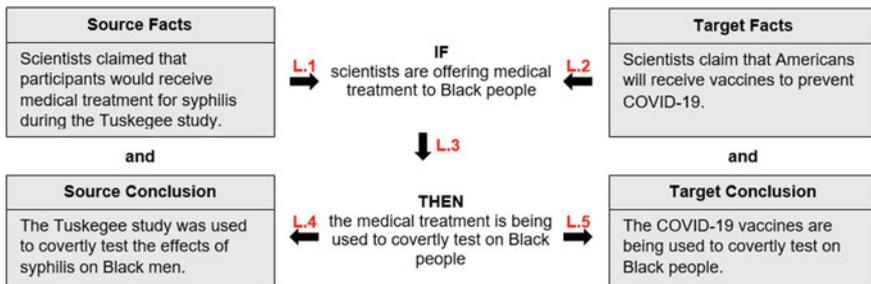


Fig. 15.4 Initial warrant for WG-A example of “COVID-19 vaccines are being used to covertly test on Black people”

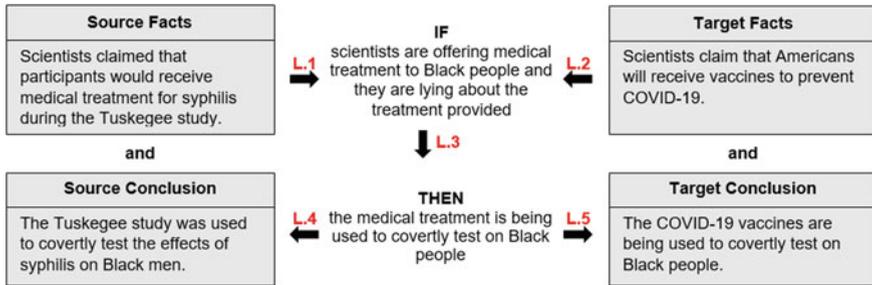


Fig. 15.5 Modified warrant for WG-A example of “COVID-19 vaccines are being used to covertly test on Black people”

COVID-19 with the vaccines.” Note that the new target fact exposes the advocate’s belief that the vaccines are either ineffective or fake. Both players must accept the phrasing of new facts before they are included, and here we assume the critic refuses to accept this fact addition on the basis that their opponent has not proven the COVID-19 vaccines are ineffective. The advocate may attempt to make the argument that the vaccines are fake, further clarifying their own biases, but this is equally unproven. In the course of an unstructured discussion, this side issue can quickly devolve into a full debate of its own, detracting from the focus on the original argument. By disallowing direct dialogue between participants, WG-A avoids this potential complication. In the present case, if the advocate is not able to quickly and convincingly show that the new facts they propose to introduce are supported, they will not be allowed, and the advocate will need to try a different tactic (ideally, one which draws on claims that can be better supported).

We have thus reached a point where the overall argument is no longer clearly defensible, at least in its conspiratorial form—a similar pattern of attacks will require modifications of the warrant and source/target facts in such a way that will either open the argument up to an increasing number of attacks or weaken the conclusion substantially. As can be seen in this instance, WG-A does not necessarily invalidate the target conclusion (i.e., the conspiratorial belief) entirely, and does not preclude the possibility that the conclusion may be true. This CADE merely confronts the analogy, itself, and allows arguers to (1) identify the basis of their own conspiratorial belief (“COVID-19 vaccines are either ineffective or fake,”) and (2) recognize errant data as irrelevant to the argument. Therefore, both arguers have improved argumentative skills to recognize a similarly fallacious argument in the future.

15.7 Conclusion

As discussed previously, decreasing conspiratorial belief has far-reaching implications for minimizing the health risks of COVID-19. There is proof of a strong

negative correlation between conspiratorial belief and engaging in safety protocols (Romer & Jamieson, 2020), despite conspiratorial thinkers' concern for their own health outcomes (Prichard & Christman, 2020). Echo chamber effects exacerbate conspiratorial polarization on social media (Del Vicario et al., 2016; Schmidt et al., 2018) and, as such, any contradictory evidence must be presented in an environment separate from emotional influence.

Warrant-centered reasoning is useful to improving conspiratorial argumentation in ways not limited to the following: By making warrants explicit, counterexamples to them can be found, and in response the warrants can be assessed and improved iteratively. This provides a framework to incorporate counterarguments, and more tightly link premises to their conclusions. This iterative improvement is the driving factor behind WG, described in Sect. 15.4. Further, by allowing arguers a means to iteratively improve arguments to which they are exposed, it is possible for CADEs to both inoculate susceptible individuals against conspiratorial misinformation and allow them to reduce conspiratorial arguments to their relevant facts when they are exposed.

A long-term goal of WG and WG-A is to break down warrant-centered reasoning into steps that are amenable to implementation, and moderation, by artificially intelligent algorithms. In keeping with that goal, if we were provided a dataset of argument premises and conclusions made by reasoners from some particular community, a suitably powerful warrant induction reasoning tool may be able to identify the argumentative norms used by these reasoners, thereby allowing a comparison of such norms across datasets. As such, CADEs have the potential to allow researchers to identify common argumentative features of conspiracy theories and classify their susceptible populations into categories for further intervention.

Finally, the value of a warrant induction tool in personal argumentation is particularly appealing, as it suggests the ability to identify flaws in one's arguments before those arguments are made public. We hope, in the future, to study the possible inoculative effects of CADEs like WG and WG-A. By making conspiratorial thinkers aware of their own reasoning tendencies, and identifying inconsistencies, we may be able to further inoculate these reasoners against their own common cognitive biases and reduce the proliferation of misinformation. As a natural consequence, it is possible that applying warrant-based reasoning to a valid, but flawed, conspiratorial argument may expose the irrelevant aspects and make the overall argument stronger. This method is not intended to completely dissolve all conspiratorial thinking, indiscriminately, but rather to aid conspiratorial thinkers in recognizing their own cognitive biases, clarifying their arguments, and ultimately becoming better reasoners.

It should be noted that the goal of this paper was to show that some of the patterns symptomatic of conspiratorial thinking can be minimized using controlled argumentation dialogue environments, such as WG and WG-A. However, this is but one piece of the puzzle. Further work is required to study whether participants using CADEs are more likely to be convinced of the arguments that arise from them. Although preliminary empirical work with WG-A has suggested its use has some power to influence reasoning patterns (Cooper et al., 2020), conspiratorial thinking may often be accompanied with powerful emotional motivators that may lead to a backlash

effect. The question of how best to combat unfounded conspiratorial thinking thus remains open, but it is our hope that work such as that reported here can serve as a useful tool in that regard.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 16

Staying Up to Date with Fact and Reason

Checking: An Argumentative Analysis of Outdated News



Elena Musi and Andrea Rocci

Abstract This paper tackles outdated news about COVID-19 as a type of misinformation from an argumentative perspective, focusing on the fact-checker Snopes. In rapidly changing information environments the circulation of outdated news can be highly detrimental causing risky behaviors. Such type of misinformation is difficult to pin down through fact-checking since encompassing different types of contents, motivations and channels. To fully understand this phenomenon we deem necessary to move away from a naïve view of fact checking to an argumentative one. But what are the argumentative configurations of outdated statements in the context of the current information ecosystem? To answer this question we rely on the distinction between upstream and downstream argumentation to anchor the kind of issues put forward by outdated statements. We then take as a sample all the news that have been rated as “outdated” and “misprompted” by Snopes during the pandemic and analyse the type of source, the semantic type of news claim and the argumentative role played by the outdated information. We come up with an argumentative taxonomy of outdated news where the presence of multimodal information as well as the semantic-argumentative role played by outdated statements pattern with the spread of mis- and disinformation.

Keywords Misinformation · Outdated news · Fact-checking · Defeasible argumentation

16.1 Introduction

During the pandemic, the phenomenon of fake news has received more and more attention from the scholarly community at an interdisciplinary level, in the attempt

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S. Oswald et al. (eds.), *The Pandemic of Argumentation*, Argumentation Library 43,
https://doi.org/10.1007/978-3-030-91017-4_16

of mitigating the proliferation of false and misleading information leading to misbehaviors. In such a misinformation ecosystem what counts as *fake news* has become an *issue*: without an operationalizable definition it is challenging to develop systems and approaches for their identification. The majority of frameworks have provided arguments to define “fake news” which point to the definition of “fake” as fabricated or, more generally, false information (Klein & Wueller, 2017). There is general agreement, though, that fakery in the context of news making constitutes a *continuum* rather than a discrete notion: as it happens within misinformation, certain news can become fake since the context is misleading or does not accurately portray the entirety of a state of affairs (e.g. Wardle, 2017). However, less attention has been devoted to the very notion of news which, as underlined by Tandoc et al (2018), has undergone substantial changes through the advent of digital media: on the one hand, the rise of citizen journalism has blurred the gatekeeping process; on the other, journalists need to shape their pieces to fit the affordances of different platform guaranteeing popularity, frequently measured through re-posting, re-sharing and so on and so forth. It is no doubt that the “sharing without caring” attitude on social media is a vehicle for fake news spread, but it is even more worrisome that it can trigger new misinformation on its own: if a news that happened to be “an accurate account of a real event” (Kershner, 2011) at t_1 has been overridden by new evidence at t_2 but gets shared as $t \geq 2$, it turns into a fake news. Such a situation is especially common in the highly dynamic epistemic environment of the pandemic post-truth world where an emphatically defeasible picture of “scientific truth” about the virus gets continuously updated. This happens both because *prima facie* facts supported by defeasible arguments are defeated as new evidence emerges (*change in the state of knowledge*) and because the underlying facts themselves change in time (*change in the state of the world*). For instance, *prima facie* real news about the side-effects of the vaccine can become fake if the results of a new scientific trial falsifies them (change in the state of knowledge between t_1 and t_2), or a generalization about the efficacy of a certain vaccine *against all known variants of the virus* can become factually false as a new mutation emerges (change in the state of the world between t_1 and t_2).

Paradoxically, the ease of access and fast-paced sharing of information offered by digital media slows down this double update process, creating an environment where “old” and “new” truths float as competitors in the digital mediasphere. This chaotic, ill-structured, update process boils down to different perspectives on what is *newsworthy*: while for traditional journalism timeliness—a news being recent and up to date—constitutes a core news value (Shoemaker & Reese, 2014), for other publics factors such as alignment with personal and previous beliefs, or repeated exposure (Boehm, 1994) might take precedence as factors affecting trust and shareability with effect of extending the life cycle of news. As a result, mere adherence to facts at the time t_1 of original publication cannot be taken per se as a benchmark to ascertain the validity of a news, and a temporal check becomes necessary.

The awareness of the proliferation of outdated news has brought social media companies such as Facebook¹ to implement alerts system warning users when an article is three months old. Such a top down approach is, for sure, beneficial, but far from solving the issue: what if the article is recent, but contains an outdated image, or draws upon an outdated source? To allow for a proper news screening it is first of all necessary to define systematic criteria to identify different configurations of outdated news.²

16.2 Related Work

16.2.1 Argumentation and Fake News

While the role played by argumentation in shaping the newsmaking process has been thoroughly investigated (e.g. Zampa, 2017), less attention has been devoted to the argumentative underpinnings of the misinformation ecosystem. Gelfert (2018: 108), through a discussion of the parameters used in the media literature to define *fake news*, arrived at the following definition: “Fake news is the deliberate presentation of (typically) false or misleading claims as news, where the claims are misleading by design”.

The phrase “by design” in Gelfert’s definition implies that the author of a fake news either intentionally fabricates non factual content or deliberately puts into place a process of news production and presentation designed to output false or misleading claims. While this allows to distinguish fake news from propaganda or satire, it does not account for the complexity brought about by digital media, especially when it comes to outdated content: any user can, for example, unintentionally become a fake news originator by reposting an article reporting about the results of a vaccine trial, without knowing that it has then been dismissed as non significant by the scientific community. Another user could instead share a mis captioned image since focusing on its iconographic fit rather than its timeliness. Such phenomena are corollaries of the digital media revolution during which skimming and scanning, or “hyper reading,” are the new forms of reading (Hayles, 2012). To encompass such cases, we adopt a broader definition of fake news leaving out the intentionality trait as *news that have the appearance of information without being so* that includes both disinformation—fabricated news distributed with the intention to mislead—and misinformation—news which happen to be misleading without the intention to be so (Carmi et al., 2020). One of our goals is that of understanding the argumentative role played by outdated information in news in relation with disinformation and misinformation.

¹ <https://9to5mac.com/2020/06/26/facebook-will-now-alert-users-before-sharing-old-articles-on-the-social-network/>.

² Although the whole paper has been the result of a continuous process of interaction between the two authors, Elena Musi is the main responsible of Sects. 16.2 and 16.4, while Andrea Rocci of Sects. 16.3 and 16.5.

From an empirical perspective, a few studies have leveraged argumentative features with the overall goal of advancing fake news detection. Alhindi et al. (2020) have shown that argumentative components constitute relevant features to build classifiers able to automatically distinguish opinion articles from news stories and, thus, help fact checkers distinguishing facts from opinions. Focusing on semantic content rather than genre, Kotonya and Toni (2019) have built a system for stance detection that aggregates multiple stance labels from different text sources upon a claim to predict its veracity, assuming that (dis)agreement expressed by sources with high credibility is tied to claim trustworthiness. Finally, Sethi (2017) has built the prototype of a graph framework to verify the validity of proposed alternative facts, using an abstract argumentative framework to help shaping new features for automatic fake news detection.

16.2.2 *From Fact-Checking to Reason Checking*

It is well recognized that fact-checking initiatives are currently not enough to counter the infodemic: the pace of proliferation of information disseminated through the Internet is such that human gatekeeping is unfeasible, while automatic detection of fake news is not viable due to the complexity of the misinformation ecosystem. A central issue is that fact-checking is for the most not a matter of mere facts: a proposition can convey factual information and still trigger false, misleading, inferences. This can happen through wrenching from context, through selective omission of detail and by the more or less explicit evocation of argument schemes whose critical questions are, in fact, not met. This possibility of “lying by omission” is a direct consequence of the defeasible, non-monotonic nature of the inferences through which we make sense of the world (Pollock, 1987, 2010). In other words, the veracity of the single statements goes hand in hand with their argumentative role in forming a (un)trustworthy news. Acknowledging that fake news can be produced starting from true factual statements, Visser Lawrence and Reed (2020) advocate for supplementing fact-checking with reason checking, “evaluating whether the complete argumentative reasoning is acceptable, relevant and sufficient” and introduce a set of digital tools (e.g. *Evidence toolkit*) aimed at aiding the public developing critical thinking. In a similar vein, the UKRI funded project *Being Alone together: Developing Fake News Immunity* proposes to reverse-engineer the manipulation of information teaching citizens and communication gatekeepers how to critically assess news through Fallacy Theory. Drawing from the analysis of more than 1500 fact-checked news about COVID-19 and the vaccine, the scholars identify *10 fallacies* which recurrently trigger misinformation during the pandemic and can be used to inform fact-checkers’ ratings. They then developed a *Fake News Immunity chatbot* where citizens interactively learn how to reason check news though fallacies engaging in conversation with ancient philosophers. In such a framework, *outdated news* are generally flagged as instances of “red herring” fallacies since information not anymore valid at the moment of utterance constitutes an irrelevant argument for the news claim. However, building

epistemic vigilance towards this kind of defeasible argument is easier said than done: as explained by Britt et al. (2019: 96), due to the *continued influence effect*, “our memory system does not handle new discrepant information by simply replacing old information. That is, initially faulty or wrong information remains available and can continue to have an effect despite encoding new, correct information”, more so when the faulty information happened to be true in the past. Furthermore, psychological studies (e.g. Otero & Kintsch, 1992) have shown that it is highly challenging for readers to evaluate the relevant support of arguments making reference to events that are not only spread across time, but also expanded in text: doing so calls for a working memory of the claim while looking for the support which is cognitively taxing. In assessing the deceiving value of an outdated news, its argumentative configuration does play a crucial role.

16.3 Theoretical Framework: Upstream and Downstream Issues and Arguments

In this section we outline a basic conceptual framework to capture how news items interact with the argumentative structures that determine their significance in affecting the broader epistemic landscape of the interpreting public. *Prima facie* news are a subtype of factual statements. There are, however, some significant qualifications to this characterization. More precisely, a news story can be seen as a special kind of *assertive* (macro-)speech act, imposing some specific *preconditions*. Recency is one of them: news need to be assertions of recent states of affairs. An assertion such as:

- (1) The Romanised way of life subsisted in Britain well into the fifth century
Cannot be news by itself. For the simple fact it does not relate a recent state of affairs. On the other hand a statement like (2) can:
- (2) Exciting discovery of a fifth century mosaic in Chedworth proves that Romanised way of life subsisted in Britain well into the fifth century.

The complex statement in (2)—not so uncommon in journalistic prose—packs together a recent event of the discovery and its implications. In fact, the recent event can be interpreted as providing an argument in support of an ulterior standpoint expressed in the objective clause. We could reconstruct the argument as:

1. Romanised way of life subsisted in Britain well into the fifth century
 - 1.1 ³A Roman fifth century mosaic was discovered in Chedworth

A further propositional content condition on news concerns aspectuality: punctual or culminative events make good news, processes or activities without culmination as well as stative states of affairs make terrible news. This requires states and processes

³ The notation X.1 designates an argument supporting the standpoint X.

to be anchored to a culminative event in order to make into the news. As it happens in example (3):

- (3) Young people drinking less is a real phenomenon, the latest report of the Office of National Statistics data shows.

As in the previous example, the anchoring event can be seen as functioning as an argument—an argument from authority—while the anchored one can be seen as a standpoint in an ongoing debate of some sort about alcohol consumption:

3. Young people drinking less is a real phenomenon
 3.1 The latest report of the Office of National Statistics data shows.

Another constraint about news is that evaluative, prescriptive, or generally speaking, deontic statements cannot be news by themselves. A statement like:

- (4) We should continue with AstraZeneca.

Cannot be news and belongs to the opinion sections of the newspaper. As with the previous examples, we can find a form of anchoring that salvages it as viable news content. In this case, like in the previous one, the anchoring consists in embedding the opinion into an attribution frame. Again, attribution can have an argumentative value.

- (5) “We should continue with AstraZeneca”, says chief medical expert.
 5. We should continue with AstraZeneca

- 5.1 Says chief medical expert

In the three examples discussed above we have two orders of phenomena overlapping: (a) a natively non-news assertion (non-recent, non-event, evaluative) that is made relatable in the news through anchoring to a factual statement denoting a recent punctual event, (b) a standpoint that is relevant to some sort of ongoing public discussion—be it history or public health—which is supported by an argument.

In this configuration, the factual statements of the *news appear to be arguments supporting further standpoints* relevant for some public discussion. We call this phenomenon the *downstream argumentativity* of the news. It is interesting to observe, however, that punctual factual statements in the news can be themselves standpoints at issue, supported and attacked by arguments. Consider the following piece of news:

- (6) a. The United States has cancelled the deployment of two warships to the Black Sea, Turkish diplomatic sources said on Wednesday, amid concerns over a Russian military build-up on Ukraine’s borders. (Reuters April 14, 2021)

In example (6.a) the event of the cancellation is supported by reference to a source, forming a very basic argumentation structure:

6. The United States has cancelled the deployment of two warships to the Black Sea
 6.1 Turkish diplomatic sources said on Wednesday.

Interestingly, the very fact that this cancellation took place is questioned. Physically a non-event, the non-deployment of ships becomes news due to the complex social event of the cancellation, which presupposes evidence of pre-existing plans. These plans were, in fact, the subject of another news item a few days earlier:

- (6) b. The United States will send two warships to the Black Sea next week, Turkey said on Friday as Russia, which has boosted its military forces near Ukraine, accused NATO powers that do not have a coast line in the region of increasing naval activity. (Reuters April 9, 2021).

Yet, the existence of such plans is somewhat put into question by an American source on April 14:

- (6) c. U.S. officials said that Turkey may have misunderstood the initial notification and the deployment was never confirmed.

They said the United States frequently notifies Turkey for potential access to the Black Sea. But a request does not necessarily mean its ships will pass through, but rather ensures that if they choose to, they already have the required approval (Reuters April 9, 2021).

According to the source, the passage of ships was only “potential” and “never confirmed” we cannot therefore be considered a “cancellation”. The cancellation debate offers a simple example of what we call *upstream argumentativity* of the news. Here it is the news event itself that is at issue. There are at least two distinct ways in which the news events can be at issue.

Reference of the *stases* of Classical rhetorical theory can help us to differentiate between the kind of issues that are discussed in upstream arguments:

- **Conjectural stasis** (*An sit*): “Did it really happen?”. Upstream argumentation can be directed at supporting or attacking the very factuality of the news event. In this type of argument the issue revolves around the referential-deictic aspect of the news statement: the anchoring to places, times and individual actors. A conjectural stasis upstream attack to the previous example could have involved evidence that US ships *did* in fact pass into the Black Sea (so no cancellation took place), or evidence that the US did not notify any upcoming passage to Turkey (so there was nothing to be cancelled in the first place).

Typically in this case the discussion revolves on the evidential basis of the news event. Rarely the news are based on inferences from indirect evidence. In this case we talk of investigative journalism. More often news are based on a chain of direct witnessing and report. Both kinds of evidential source can be the object of criticism.

- **Definitional stasis** (*Quid sit*): “What did actually happen?”. Upstream argumentation can be also directed as supporting or attacking the definition, nature or “framing” (Entman, 1993) of what happened. In this type of upstream argument the issue revolves around the categorical component: the definition or description of what happened. The denial by US officials in example (6.c) amounts exactly to an attack on the framing of the news event: whatever happened with the US warships cannot be really defined as the cancellation of a planned deployment.
- **Quality stasis** (*Qualis sit*): “What was it really like?”. Closely related to the definitional stasis are the upstream issues that revolve on non-essential details, elaborations or features of the reported event. Discussing whether it is correct to say that the mosaic discovered in Chedworth is “intricate” or “vast” or that it is the “product of high craftsmanship” would belong to quality.

Definitional and quality issues in upstream argumentation are important. While not evaluative in themselves they impact on the news framing and thus make the news statements more or less apt to provide arguments for an evaluative standpoint downstream.

In fact, argumentation upstream and downstream of the kernel news statement is closely connected, so that what might appear at first sight a “plain” factual statement turns out to be argumentatively constructed upstream and argumentatively oriented downstream.

If we go back to example (6.a) we can observe that a reconstruction involving both upstream and downstream arguments is quite natural:

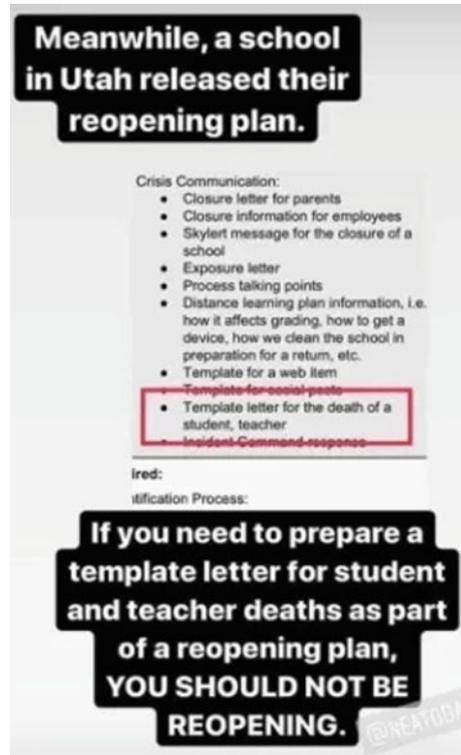
- 6. (The United States acted to avoid a military confrontation with Russia in the Black Sea)
- 6.1a The United States has cancelled the deployment of two warships to the Black Sea
- 6.1a.1 Turkish diplomatic sources said on Wednesday
- 6.1b amid concerns over a Russian military build-up on Ukraine’s borders.

In this reconstruction, the prepositional phrase introduced by ‘amid’—a preposition that is typically used in news texts to vaguely suggest causality in a non committal way—functions as an argument (6.1b) jointly with the kernel news event (6.1a) to provide compound support to an implicit downstream standpoint (6); while 6.1a.1 functions as upstream argument in support of the kernel news event. One advantage of this reconstruction is that it casts light on the argumentative functioning of the denial by US officials in (6.c). By reframing the cancelled deployment as a non-event, the officials tried to undermine the support to the downstream standpoint that the US acted out of concern for Russian reaction or, worse, as a consequence of Russian “warnings” or “threats”.

The notion of *standing standpoint*, introduced by Mohammed (2018) can be invoked to fully capture the largely implicit downstream argumentative value of news: standing standpoints are virtual implicit standpoints that can be presumptively attributed to an arguer on the basis of the following criteria: (a) the standpoint is relevant to an issue that has public presence, (b) certain statements of the arguer can provide support for the standpoint and (c) these statements have been “publicly associated” with the standpoint as arguments, (d) the arguer does not openly reject the standpoint. If these criteria are met the discourse of the arguer functions like an “enthymeme where the conclusion is unexpressed” (Mohammed, 2018)—the conclusion being the standing standpoint.

The argumentative analysis of (6.a) shows also how the framing of definition and quality issues upstreams can provide the basis to support a downstream standpoint. The framing of facts is important because licenses further inferences, often of explanatory, evaluative and practical nature (Entmann, 1993: 52).

Fig. 16.1 Meme shared on Facebook in early July 2020 (Source snopes.com)



16.3.1 *Applying the Framework to the Analysis of Outdated News: An Example*

Let us apply this basic framework to an example of outdated news about the Covid-19 crisis that was circulated through social media.

The fact-checking website snopes.com rates the sharing of the meme in Fig. 16.1 in early July 2020 by Facebook users as a case of *outdated* news dissemination. The meme alleges that the reopening plan of a Utah school⁴ district included a template letter in case of student and teacher deaths. The piece of news about the template letter was used in the meme as argumentative support for the downstream standpoint that “School should not be reopening”. The significance of this explicit downstream standpoint appears clearly if we consider that the meme was shared amid controversy sparked by U.S. President Donald Trump, who tweeted on July 6, 2020, that schools “must” open for fall term despite a surge of coronavirus cases in the U.S.

Snopes’ fact-checking article concentrates on the upstream support of the news-worthy event. The information in the meme turns out to be outdated both because

⁴ Did a Utah School Reopening Plan Include Template Letter in Case a Student Dies? (<https://www.snopes.com/fact-check/utah-school-death-template-letter/>).

it ignores the subsequent developments of the events surrounding the reopening plan—the letter was included in an early version of the plan, but was then discarded (change in the state of the world between t_1 and t_2), and because the subsequent news coverage reported further explanations by superintendent of the School District in question, which argued that this kind of letters are not unusual in crisis planning (change in the state of knowledge between t_1 and t_2). The first new element affects the *conjectural* stasis (the alleged facts are not anymore the case), the second affects the *quality* stasis (the alleged facts have since been reframed differently). Clearly, the fact-checkers argument that the factual premise supporting the downstream article was faulty. However, it is much less clear whether substituting the updated facts in the meme’s argument would make any substantial difference in the epistemic force of the meme’s argument - which was already rather weak to begin with.⁵

16.3.2 *Applying the Framework to the Analysis of Miscaptioned News: An Example*

Our second example of application of the framework concerns Snopes’ fact-checking of a video of the demolition of a building in China which was shared through social media in March 2020 with a caption suggesting that a 5G tower is being torn down in China because people feared that 5G was causing the COVID-19 coronavirus disease.⁶ The downstream argumentative role of the video is clear: it is supposed to provide evidence to the conspiracy theory that COVID-19 was caused by 5G. While this downstream standpoint is not stated in the caption, it represents an extremely prominent standing standpoint circulating in social media discussions: the captioned video provides reinforcing evidence in support of this standpoint. In fact, the caption simply says: “Now the Chinese are destroying the 5G”. This statement is however meant to be taken jointly with a number of other premises prominent in the discussion, some of which true (yet irrelevant), some false. For instance, Snopes’ article mentions propositions (7.a) and (7.b), reproduced below.

- (7) a. China started to install 5G towers around the same time that the coronavirus started to spread in the country (true)
- (7) b. Japan is banning the development of 5G over health concerns (false).

The fact-checking argument of Snopes openly addresses both the upstream arguments supporting the news that the video purportedly conveys, and the downstream argument in which the story represents a purported piece of corroborative evidence.

Upstream, the fact-checking argument addresses the conjectural stasis (the footage was taken in August 2019 in Hong Kong, before the outbreak of COVID-19) and

⁵ Rhetorically, the nuanced facts certainly would make it impossible to obtain the terseness (*brevitas*) and aphoristic poignancy required by the genre of the meme - but that’s another matter.

⁶ *Was a 5G Tower Torn Down in China To Stop COVID-19?* (<https://www.snopes.com/fact-check/5g-tower-torn-down-china-covid/?collection-id=24041>).

the definitional stasis (“it shows anti-surveillance protesters tearing down a “smart” lamppost”). This is sufficient to make it completely irrelevant as support for the downstream claim. Nevertheless, Snopes’ fact-checkers chose to directly address also the inferential relevance of the broader abductive argument in support of the downstream claim, stressing, in particular, that the mere temporal concomitance of 5G deployment and Covid 19 does not imply causation between them, and stressing that “we already know a lot about the true origins of this strain of coronavirus”.

Temporal considerations often play a key role in mis captioned pictures and videos. There is, however, a clear difference with respect to the outdated example examined before. Here the news did not ignore subsequent changes of the situation nor subsequent development of the state of information about the world, but rather falsely anchored a punctual event in the line of time. In this specific sense many miscaptioned videos are outdated, or, better perhaps, *misdated*.

16.4 Case Study

In this section we extend the analytical approach illustrated by the two previous examples to a small corpus of fact checking arguments.

16.4.1 *Corpus and Levels of Analysis*

For our case study, we have focused on the fact checker *Snopes* since encompassing among its 14 ratings the specific categories called “outdated” and “miscaptioned” defined as follows:

- **OUTDATED:** “This rating applies to items for which subsequent events have rendered their original truth rating irrelevant”
- **MISCAPTIONED:** “This rating is used with photographs and videos that are “real” (i.e., not the product, partially or wholly, of digital manipulation) but are nonetheless misleading because they are accompanied by explanatory material that falsely describes their origin, context, and/or meaning.” (<https://www.snopes.com/fact-check-ratings/>)

We have crawled all the fact-checked news about COVID-19 from the beginning of January 2020 till 1st March 2020 and filtered them out for type of ratings. As a result, we have obtained a corpus of 19 fact-checked news coming from a variety of sources, ranging from social media to official traditional media. Table 16.1, below, presents the dataset providing shortened URLs for each item and headlines (when applicable).

We have analysed the news accounting for the following aspects:

- **Type of source:** what is the digital media type of venue (e.g. social media, blogs, official news media) hosting the fact checked news?

Table 16.1 Snopes dataset of outdated and miscaptioned news about COVID-19

#	Fact-checking article	Source Article	Rating
1	<i>Does Video Show Guns, Violence in Aftermath of Coronavirus Outbreak in China?</i> https://tinyurl.com/snpfactcheck1	Twitter https://tinyurl.com/snpsource1	Miscaptioned
2	<i>Did Kenya Have Maasai Tribe Whip People To Enforce Curfew?</i> https://tinyurl.com/snpfactcheck2	<i>Since people were not taking the police seriously the Kenyan government started using the Maasai tribe for the curfew.: PublicFreakout (Reddit)</i> https://tinyurl.com/snpsource2	Miscaptioned
3	<i>Did Trump Say 'I Don't Care How Sick You Are ... Get Out and Vote'?</i> https://tinyurl.com/snpfactcheck3	Twitter https://tinyurl.com/snpsource3	Miscaptioned
4	<i>Was a 5G Tower Torn Down in China To Stop COVID-19?</i> https://tinyurl.com/snpfactcheck4	Instagram https://tinyurl.com/snpsource4	Miscaptioned
5	<i>Did an Orangutan Start Hand-Washing During COVID-19 Pandemic?</i> https://tinyurl.com/snpfactcheck5	Twitter https://tinyurl.com/snpsource5	Miscaptioned
6	<i>Are These Vegan Foods Left Unsold During the COVID-19 Pandemic?</i> https://tinyurl.com/snpfactcheck6	Twitter https://tinyurl.com/snpsource6	Miscaptioned
7	<i>Does This Photograph Show Women Wearing 'Flu Masks'?</i> https://tinyurl.com/snpfactcheck7	<i>Ladies' fashion from 1913 Stock Photo (Alamy.com)</i> https://tinyurl.com/snpsource7	Miscaptioned
8	<i>Was a Swastika Flag Displayed at Operation Gridlock Protest?</i> https://tinyurl.com/snpfactcheck8	Twitter https://tinyurl.com/snpsource8	Miscaptioned
9	<i>Was 'Proud Boy' Rob Cantrell Seen Screaming at Cop at Anti-Lockdown Protest?</i> https://tinyurl.com/snpfactcheck9	<i>Protesters Swarm Michigan Capitol Amid Showdown Over Governor's Emergency Powers</i> https://tinyurl.com/snpsource9	Miscaptioned
10	<i>Do These Photos Show Staph Infections Caused by Face Masks?</i> https://tinyurl.com/snpfactcheck10	<i>Chickenpox Varicella High-Res Stock Photo (Getty Images)</i> https://tinyurl.com/snpsource10	Miscaptioned
11	<i>Does an Old Photo Show COVID Vax Creator as an Immigrant in Germany?</i> https://tinyurl.com/snpfactcheck11	<i>2nd virus vaccine shows overwhelming success in U.S. tests</i> https://tinyurl.com/snpsource11	Miscaptioned
12	<i>Does a Photograph Show Michigan Gov. Whitmer Without a Mask?</i> https://tinyurl.com/snpfactcheck12	<i>CDC Now Recommends Americans Voluntarily Wear Cloth Masks In Public: Coronavirus Updates</i> https://tinyurl.com/snpsource12	Miscaptioned

(continued)

Table 16.1 (continued)

#	Fact-checking article	Source Article	Rating
13	<i>Did Democrats Fail To Wear Masks at John Lewis' Funeral?</i> https://tinyurl.com/snpfactcheck13	Clinton attends Jackson funeral https://tinyurl.com/snpsource13	Miscaptioned
14	<i>Does a 1994 Denver Airport Mural Show a Masked Global Population?</i> https://tinyurl.com/snpfactcheck14	Facebook https://tinyurl.com/snpsource14	Miscaptioned
15	<i>Is Trump Blocking COVID-19 Aid in Favor of Tax Cuts That Would Drain Social Security?</i> https://tinyurl.com/snpfactcheck15	<i>Trump: No COVID Aid Unless Congress Defunds Social Security</i> https://tinyurl.com/snpsource15	Outdated
16	<i>Was a Fatal Motorcycle Crash Listed Among COVID-19 Deaths in Florida?</i> https://tinyurl.com/snpfactcheck16	<i>Coronavirus: Florida records highest one-day COVID-19 death toll</i> https://tinyurl.com/snpsource16	Outdated
17	<i>Did a Utah School Reopening Plan Include Template Letter in Case a Student Dies?</i> https://tinyurl.com/snpfactcheck17	Facebook https://tinyurl.com/snpsource17	Outdated
18	<i>Did an Oregon County Say Only White People Must Wear COVID-19 Masks?</i> https://tinyurl.com/snpfactcheck18	<i>Oregon county issues face mask order exempting non-white people</i> https://tinyurl.com/snpsource18	Outdated
19	<i>Did Anthony Fauci Say People No Longer Need to Wear Masks?</i> https://tinyurl.com/snpfactcheck19	<i>March 2020: Dr. Anthony Fauci talks with Dr Jon LaPook about Covid-19</i> https://tinyurl.com/snpsource19	Outdated

- **Semantic type of news-claim:** does the news claim express a description of the state of affairs presented as factual, an interpretation or an evaluation?
- **Argumentative** role played by the outdated information: does the outdated information constitute an argument or a standpoint?

In selecting what claims to fact-check, *Snopes*, as most fact-checkers, prioritizes what is popular on search engines and social media sites to address potential fake news which are bound to spread fast. As a result, our dataset is not representative of the information ecosystem per se, but of the type of news that become targets of fact-checkers.

It has to be noted that the reported fact-checked claim (e.g. “Photographs depict persons who developed staph infections from wearing masks to prevent the spread of COVID-19”) does not always coincide with the claim of the fact-checked source(s) (e.g. “Also serious lung infections and loss of consciousness due to restricted airflow from wearing masks”). To allow for the argumentative configuration to be analysed, we have, thus, retrieved the claim as appearing in the original source.

16.4.2 Results: A Taxonomy of Outdated News

According to our sample, outdated news do not leave any room for uncertainty in the way they are presented: their claims, even when interpretative and evaluative, do not contain modal verbs of the epistemic type. In argumentative terms, their defeasibility is, thus, not recognized. As to the source, outdated news (16 out of 19) tend to be hosted on social media. While our dataset is too small to draw any conclusion, the lack of a gatekeeping process makes social media an easier venue for the spread of outdated news: editorial guidelines of major news media outlet (e.g. <https://www.bbc.co.uk/editorialguidelines/guidelines/>) point to authors' accountability for checking the reliability of their sources, while what is worth sharing in a social media environment depends on values and common ground knowledge of the users' community. If I am, for example, part of a normative type of vegan community, I might be less inclined to check whether a photograph that shows store shelves stripped of all food-stuffs except for vegan products going viral online has actually been shot during the COVID-19 pandemic. The tweet⁷ that points to the picture expresses a claim ("Not even the threat of starvation from a panic buying food shortage can move vegan food off the shelves...") that aligns with my beliefs. In such a *confirmation bias* context, the role of the image is purely *illustrative* rather than serving the function of testimonial evidence as in official news. Therefore, the fact that the same picture was already posted just after *Hurricane Harvey* made landfall in Texas and Louisiana in September 2017 would probably not make it an instance of fake news for the user: the picture effectively portrays the general attitude that people have in crisis scenarios leading to stockpiling, regardless its temporal coordinates. In other words, the picture, despite forming outdated news, for social media users primarily serves the function of strengthening the argumentative force of the claim through its definitional stasis since it offers a convincing framing.

Furthermore, the affordances created by different social media allow for the same picture to invite argumentative inferences which can undermine epistemic vigilance: if I see a picture posted on Instagram, where no caption is required, I assume that it makes reference to the *hic et nunc* rather than 4 years ago since the communicative goal of the social media channel is that of sharing everyday life experiences rather than discussing past events; on Twitter, the presence of a written text commenting on the picture, even if limited, would disambiguate such a conversational implicature. The less structured configuration of social media as news venues compared to official ones is particularly relevant for the phenomenon of outdated news in the presence of multimodal content, primarily for semiotic reasons. As underlined by post-digital semiotics, digital photographs/videos convey a digital sign that can be conceived "as a relational, tripartite entity of the sign's embodied digital form (a version of Peirce's representamen), what the sign form refers to (its object) and its interpretation (interpretant)" (Lacković, 2020: 445). The photographs/videos are indexical, since they signal the existence of the object/event they show; at the same time they are iconic, since they signify according to the similarity between the event they portray and

⁷ <https://tinyurl.com/4v428bnr>.

its embodied representational form. Due to their indexicality, digital photos/videos potentially bear a strong argumentative force as upstream arguments, pointing to the factuality of the object they represent. However, they happen to be used in social media as embodiments of more abstract concepts, offering downstream support. A video showing a crowd with wounded people, armed police and shooting evokes the concept of “violent repression” and can be used to illustrate manifestations of that concept: the video factchecked⁸ could have per se been interpreted as a symbol of social repressions across contexts other than the pandemic. Reposting and resharing of such video through social media renders it what Barthes (2009) calls a “myth”: in such a situation a miscaption or a tweet (“Meanwhile over 25,000 killed they have started shooting down all the people with the virus in China... this is so sad 😞😞😞”) offering fake contextual infos about the video can falsely anchor its embodied iconic content, triggering false interpretations and creating a fake news.

In other words, the fake news is not originated by the use of the images themselves, but by the miscaptions which assert a false, “outdated” link between the *representamen* (digital form) and its *object*.

Through the analysis of our sample of mis captioned news, two main types of “outdated” links emerge:

- *outdated digital form* → *outdated object*: the picture/video was taken in a time different from what asserted/suggested in the caption/social media post: e.g. a photo showing the two women wearing masks captioned “Photo taken in 1919 during the Spanish flu pandemic”, while the photo was not taken during the flu pandemic, but already available via *Alamy* and presented with the title “Ladies’ fashion from 1913”.⁹ As a result, a faulty interpretation of the *object* is triggered both in terms of *conjectural stasis* (the object represented), since the indexed event happened before 1918 and of *quality stasis*, since main reasons for wearing masks in 1913 had to do with fashion rather than an epidemic.
- *outdated object* → *outdated digital form*: The picture/video does not represent what is described/suggested in the caption since (i) some iconographic elements are misrepresented (*definitional stasis*), e.g. a widely shared photograph showing an immigrant family, where the boy in the yellow shirt is wrongly identified by the caption (“This is an immigrant family, newly arrived in Germany. The boy in the yellow shirt will go on to invent the COVID vaccine”) with Ugur Sahin, CEO of BioNTech¹⁰ (ii) the entire iconography is misrepresented (*conjectural stasis*), e.g. a video shared on Reddit showing a man whipping people in Kenya, captioned “Since people were not taking the police seriously the Kenyan government started using the Maasai tribe for the curfew”,¹¹ while the video, despite being shot in Kenya, does not show a member of the Masai tribe employed by the government and it comes from a Kenyan comedian who created it for entertainment purposes. In both cases, the miscaption entails an outdated interpretation of the *digital form* in terms of when and where the digital artefact has been taken.

When the main claim is of the descriptive type, it constitutes in our sample of mis captioned news the caption of the image. In these cases, the outdated news constitutes

⁸ <https://tinyurl.com/snufactcheck1>.

⁹ <https://tinyurl.com/snufactcheck7>.

¹⁰ <https://archive.is/1bDjw>.

¹¹ <https://tinyurl.com/yh67k2vh>.

an instance of disinformation since it expresses information related to the embodied iconic content by the photo/video which is non factual and thus propositionally false.

When the main claim is instead of the evaluative or interpretative type, the *outdated link object-representamen* features as an argument supporting a downstream claim. The claim expressed by the Tweet “#covid19#coronavirus#coronavirusupdate unbelievable president: “Trump to the terminally ill: vote for me before you die”,¹² for instance, expresses a negative sentiment towards Trump, presenting as argument a statement pronounced by the former president taken from a genuine video. However, the video is outdated since it was not shot during the COVID-19 pandemic, but during a campaign rally in Nevada on Nov. 6, 2016. As a result, the statement does not constitute a relevant argument to assess Trump’s behavior during the 2020 campaign. In a similar vein, memes that went viral in November 2020 with captions such as “Problem I had in being told I must wear one! Picture taken directly after the Governor’s conference room full of people. No masks. No distancing”¹³ constitute an instance of red-herring fallacy: the picture of Democrat Michigan Gov. Gretchen Whitmer not wearing a face mask to protect against the virus was taken in late February 2020, before Michigan had its first confirmed case of COVID-19 and before masks were recommended by public health officials by the *Centers for Disease Control and Prevention* (April 2020). In both cases, the social media news vehiculates misinformation rather than disinformation: the posts do not contain fabricated infos, but make use of multimodal content in a misleading way. The photo/video are not accompanied by captions that wrongly ascribe spatio-temporal coordinates to the *objects* indexically referred to, but that are presented as relevant arguments, making the public infer their (faulty) timeliness. In such a scenario, the outdated images are used as upstream arguments to increase political polarization.

Turning to the news in our sample directly rated as ‘outdated’, we attest the same correspondence between claims of the description type, downstream argumentation and disinformation. The headline “Oregon County Issues Mask Order that Exempts ‘People of Color’”, for instance, published by Breitbart on the 25th June 2020,¹⁴ informs the public about a rule established by Lincoln County officials upon its resident presenting it as a matter of fact. However, even if it is accurate to say that such a directive was put into place on the 17th of June, the policy was changed on the 24th of June to remove the controversial exemption, originally put into place to defend people of color from racial profiling and harrassment when wearing masks. We have, thus, a change in the state of the (institutional) world. As a result, when published by the right wing news outlet, the news does not any more portray states of affairs that are factual at publication time, giving rise to misinformation.

In 2 out of 4 fact-checked news, the main claim is of the interpretation type, such as in the meme stating “If you need to prepare a template letter for students and

¹² <https://tinyurl.com/hx37vath>.

¹³ <https://tinyurl.com/snpfactcheck12>.

¹⁴ <https://tinyurl.com/snpfactcheck18>.

teacher deaths as part of a reopening plan, you should not be reopening”.¹⁵ While in these cases the outdated situation (e.g. the draft of a template letter that has then been modified) constitutes an argument rather than a standpoint, what is common across news with this rating is that a piece of information is *outdated* since the record concerning the present state of the world or the present state of information about the world should have been *updated*. In the first subcase (failure to account for changes in the world) an event that happened in the past is reported in an accurate manner but its termination or subsequent changes are completely neglected. In the second sub-case (failure to account for changes in the state of information about the world) an event or situation is depicted in a way consistent with a previous state of public knowledge—i.e. in a way that would have deemed fair (*prima facie* truthful) at a certain point in the past when we knew *less* about the world—but failing to acknowledge recent updates or revisions of the state of public knowledge on the world. Both sub-configurations have the potential to produce a misleading argumentative configuration downstream. Let’s, for instance, consider the tweet in (8), which relates to case 19 in our corpus. The example revolves around change in the state of public information in the world and consequent change in the institutional world, which both remain unacknowledged.

- (8) Reminder: (1.) Fauci said not to wear masks (2.) Sur geon General said not to wear masks (3.) Surgeon General said to wear masks because asymptomatic people spread virus (4.) WHO now says its “very rare” for asymptomatic people to spread the virus. Yet the mask mandate remains.

CONTROL

(<https://tinyurl.com/tweetexample8>)

This Tweet gives voice to the conspiracy theory suggesting that masks are imposed by governments as a means of control over the population rather than a means to avoid the spread of the virus. This downstream claim is supported in the tweet making reference to authoritative sources in the field of epidemiology which did not recommend wearing masks, ruling, thus, out the efficacy of masks to counter the pandemic. Zooming on the first argument (“Fauci said not to wear masks”), the statement does not convey false information: in a “60 min” interview from early March 2020 (cf. the source of case 19), Dr. Anthony Fauci actually said there was no reason people in the U.S. needed to wear a mask. However, in light of new scientific evidence showing that people *without* coronavirus symptoms could still transmit the virus through close interactions with others (change in the state of public information), the CDC and Fauci updated as of April 2020 their recommendations (change in institutional realities). By cherry picking an outdated statement by the NIAID director instead of making reference to his current *prise de position*, the tweets misrepresents Dr Fauci’s stance leading to a fallacy of false authority. Even in its original statement, in fact, Dr Fauci stresses on the provisional nature of his statement (“**Right now** in the United States people should not be walking around

¹⁵ <https://www.snopes.com/tachyon/2020/07/meme-2.jpg>.

with masks ...), revealing the inherent defeasibility of recommendations in a crisis scenario.

16.5 Conclusions

In this study we tackle the phenomenon of *outdated news* as instances of fake news, adopting an argumentative perspective. While timeliness constitutes with no doubt a news value since far before the COVID-19 outbreak, its meaning has undergone substantial changes during the pandemic due to constant variations in states of affairs related to the virus and consequent institutional measures which are hard to keep up with across digital media. In such a scenario, *outdated news* can trigger not only disinformation (blatantly false information), but also misinformation which cannot be easily pinpointed through human, let alone automatic fact-checking. While reason-checking as a means to keep up with the current misinformation ecosystem has been advocated for in the argumentation mining community, the argumentative underpinnings of *outdated news* have not undergone systematic analysis (Sect. 16.2). In this paper we propose a conceptual and analytic framework to make sense of the role played by outdated information in giving rise to defeasible arguments and thus misleading news. We do so by distinguishing upstream and downstream argumentative configurations (Sect. 16.3) and accounting for types of digital media hosting a news, type of semantic claim of the main standpoint as well as argumentative role of the outdated information (premise/standpoint) (Sect. 16.4). We then observe how these analytic levels interweave and offer insights as to the argumentative configuration of outdated news through the analysis of the COVID-19 news flagged for timeliness by the fact checker *Snopes*.

From the corpus analysis, an argumentative taxonomy of outdated news emerges. An overarching distinction lies in the multimodal nature of the outdated information, which can be expressed by an image/video as well as a written statement. In the first case, it is the miscaption that causes fakery by ascribing to the image faulty conjectural, definitional or quality stases. Due to the peculiar triadic relation *object-representamen-interpretant* imposed by the digital medium, an *outdated representamen* (e.g. the picture was not taken in year x) implies an *outdated object* (e.g. the picture does not represent y) and vice versa. Furthermore, the argumentative role played by photos/videos for the interpretants is affected by the affordances of social media that are privileged hosts for this type of outdated news: for social media users the indexical function of images as providing reliable and factual upstream arguments is less relevant than their symbolic role of effectively illustrating a concept/opinion beyond the *hic et nunc* and in consonance with their communities' downstream claims. When no multimodal info is at stake, a piece of information is outdated since reporting on state of affairs or on a set of information sources which have then changed and are no longer valid at the moment of utterance. In both scenarios, we could say that the news is outdated since it has not been updated, while in the case of multimodal content the news is outdated since alternative scenarios not relevant

to the moment of utterance are established. Regardless the nature of the content, when the outdated information constitutes the main standpoint of the news and it is expressed by a descriptive statement, it conveys disinformation; when, instead, an interpretation or an evaluation are offered downstream or upstream support by an outdated information, misinformation happens to be in place. We believe that our argumentative account of outdated news has the potential to offer fact-checkers and the argumentative community with new means for epistemic vigilance.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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Chapter 17

Critical Questions About Scientific Research Publications in the Online Mask Debate



Jean Goodwin and Ekaterina Bogomoletc

Abstract Successful management of sociotechnical issues like those raised by the COVID-19 pandemic requires members of the public to use scientific research in their reasoning. In this study, we explore the nature and extent of the public's abilities to assess research publications through analyzing a corpus of close to 5 K tweets from the early months of the pandemic which mentioned one of six key studies on the then-uncertain topic of the efficacy of face masks. We find that arguers relied on a variety of critical questions to test the adequacy of the research publications to serve as premises in reasoning, their relevance to the issues at hand, and their sufficiency in justifying conclusions. In particular, arguers showed more skill in assessing the authoritativeness of the sources of the publications than in assessing the epistemic qualities of the studies being reported. These results indicate specific areas for interventions to improve reasoning about research publications. Moreover, this study suggests the potential of studying argumentation at the system level in order to document collective preparedness to address sociotechnical issues, i.e., community science literacy.

Keywords Argumentation at the system level · Community science literacy · Appeal to expert opinion · Argument mining · Argument schemes · Public use of research · Science communication · Public scientific argument · Altmetrics

17.1 Introduction

The emergence of the COVID-19 pandemic in the early months of 2020 forced all of us to form quick yet consequential views on complex sociotechnical issues. The maturity of open access publishing meant that in doing so we could freely draw on an increasing share of the world's store of scientific knowledge (Piowar et al.,

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2018). And the ubiquity of social media gave us opportunities to press the science we discovered on each other (Colavizza et al., 2021; Fang & Costas, 2020). The pandemic, in short, provided an ideal growth medium for public arguments about scientific research publications.

Contemporary argumentation theory offers surprisingly few insights into such arguments. Adopting the familiar ARS framework (e.g., Blair, 2012), we know that arguers must be grappling with a series of basic questions: Is the research publication *adequate* to serve as grounds in reasoning? Is it *relevant* to the claim under examination? And does it, with other evidence, offer *sufficient* support for a conclusion? Beyond this widely applicable framework we have little understanding of the critical questions arguers use to assess the research publications they come across.¹ Mark Battersby's excellent textbook, *Is That A Fact?* (2010) seems to be the only extended treatment of the topic. Intriguingly, at different points in the book he recommends distinct approaches.

Battersby's first approach focuses on what we will call the *epistemic quality* of a research publication, that is, the quality of the scientific evidence it reports (Chap. 10 see also pp. 163–168). We can see this approach as an accommodation for general use of the sophisticated practices for systematic evidence reviews honed within the scientific community (e.g. Schünemann et al., 2013). Battersby wraps up his treatment of “evaluating scientific claims” with a set of heuristics urging attention to the design of the study reported and the strength of its results: “experiments are more credible than observational studies; prospective is more credible than retrospective; bigger is better; longer is better; more variety of studies is better; larger effects are more credible” and so on (pp. 149).

Battersby's second approach shifts attention from the study reported in a research publication to the act of reporting itself. Here research publications are treated as one sort of material to be found online, and the focus is on “who is supplying the argument or information? Is the supplier a credible source? (Government organizations, academic institutions, reputable publications?) Is there bias (obvious or not so obvious) because of financial support, or political bias?” (pp. 174–5). This is the familiar terrain of the appeal to expert opinion (e.g. Walton et al., 2008): the assessment of what we will call the *authoritative quality* of a research publication.

This study aims to advance on these slender beginnings and deepen our understanding of the critical questions members of the public use to assess, and thus also to challenge and defend, the quality of scientific research publications. Presuming that skilled practitioners are already making good arguments, we adopt an empirical

¹ In focusing on critical questions, we follow the widespread, pre-theoretical practice of supporting information users by explaining the factors they should consider when assessing sources (e.g., Understanding Health Research, n.d.; see Goodwin, 2012 for a broader review). Within argumentation studies, these factors have been theorized as deriving from the commitments undertaken in a given utterance, and therefore at the same time the lines along which that utterance can be called out (Jackson, 2019). In addition, some argumentation theorists have proposed clustering critical questions into determinate schemes of argument (Walton, Reed & Macagno, 2008) useful for both analytic and inventional purposes (Walton, 2005); although we note that other theorists have challenged this approach ().

approach (Goodwin, 2020; Paglieri, 2021; Walton, 2005) to the investigation of arguments related to research publications. Are arguers focusing more on the epistemic or authoritative qualities of research publications? What specific standards, i.e., what critical questions, are they using to assess these qualities?

We take as a case study the early debate over the effectiveness of community use of cloth face covering (“masks”) in slowing the spread of the pandemic. As COVID emerged as a global threat, both WHO and the US CDC were recommending against widespread use of masks; the US Surgeon General even tweeted at the end of February, 2020:

Seriously people—STOP BUYING MASKS! They are NOT effective in preventing general public from catching #Coronavirus, but healthcare providers can't get them to care for sick patients, it puts communities at risk!

But this official advice pushed up against the well-publicized and apparently successful practice of universal masking in East Asian nations, the increasing evidence of spread by non-symptomatic individuals, and the common sense appeal of creating a barrier between oneself and contamination. Throughout March an online movement quickly grew advocating for #Masks4All, together with a drive among makers undertaking a #MillionMaskChallenge (see Bogomoletc et al., 2021 for a more detailed history). Arguers in the emerging debate sought from scientific research answers to basic questions such as: Do masks work at all? If so, for what purposes and in what situations? What materials and designs are best? But they found few answers. There were only a handful of studies relevant to use of cloth face masks in community settings, and those provided only tentative and ambiguous answers.² While this was bad news for those trying to figure out what to do, it is good news for argumentation theorists: the deep uncertainties around the topic of masking can be presumed to drive increased care and effort by the arguers who were trying to draw what they could from the sparse scientific literature.

In order to explore the argumentative use of research publications (RPs) in the mask debate, we turned to a segment of a previously-collected corpus of RP-related discourse from early in the pandemic (Bogomoletc et al., 2021). In constructing that corpus, we began by identifying the research publications (RPs) related to cloth face-mask use which received the most public attention, relying on Altmetric, a service that provides information about the quantity of mentions of a scholarly article across multiple non-academic media. We identified six widely circulated articles with higher Altmetric scores as of May 2020; see Table 17.1 for details. We then used the Altmetric database to collect the English language, original posts on Twitter mentioning these RPs from January 1 to April 14, 2020, selecting the cut-off to be ten days after the CDC shifted its position to require masking, but before the intense tribalization of the mask issue in the US (Yeung et al., 2020). The resulting corpus consisted of 4775 tweets (including duplicates when a tweet linked to more than one of the target RPs).

² The pandemic year saw rapid expansion of research in this area; we now know that widespread use of facemasks is one important tool for slowing the spread of infection (Howard et al., 2021).

Table 17.1 Target research publications

Research publication	Summary and typical quotation	# Tweets
Dato, V. M., Hostler, D., & Hahn, M. E. (2006). Simple respiratory mask. <i>Emerging infectious diseases</i> , 12(6), 1033	A short letter describes a t-shirt mask, subjected to a standard test for inward protection (“fit”) “A hand-fashioned mask can provide a good fit and a measurable level of protection.”	915
Van der Sande, M., Teunis, P., & Sabel, R. (2008). Professional and home-made face masks reduce exposure to respiratory infections among the general population. <i>PLoS one</i> , 3(7), e2618	Two experiments tested the inward protection of N95, surgical and homemade masks during short-term and longer-term use (N = 39, 22); a final test measured outward protection of the masks on an artificial test head “Any type of general mask use is likely to decrease viral exposure and infection risk on a population level, in spite of imperfect fit and imperfect adherence.”	1020
Rengasamy, S., Eimer, B., & Shaffer, R. E. (2010). Simple respiratory protection — evaluation of the filtration performance of cloth masks and common fabric materials against 20–1000 nm size particles. <i>Annals of occupational hygiene</i> , 54(7), 789–798	Five fabrics were tested for penetration of particles of a variety of sizes, velocities and dispersal patterns “Common fabric materials may provide marginal protection.”	180
Davies, A., Thompson, K. A., Giri, K., Kafatos, G., Walker, J., & Bennett, A. (2013). Testing the efficacy of homemade masks: would they protect in an influenza pandemic?. <i>Disaster medicine and public health preparedness</i> , 7(4), 413–418	In this multi-pronged study, t-shirt masks constructed by 21 volunteers were tested for inward protection during a variety of movements, and ten common fabrics were tested for pressure drop (breathability), for penetration by two sizes of particles, and for ability to block particles in coughs, relative to no mask and surgical masks “A homemade mask should only be considered as a last resort to prevent droplet transmission from infected individuals, but it would be better than no protection.”	797
MacIntyre, C. R., Seale, H., Dung, T. C., Hien, N. T., Nga, P. T., Chughtai, A. A., ... & Wang, Q. (2015). A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. <i>BMJ open</i> , 5(4), e006577	1600 health care workers in Vietnamese hospitals were divided into medical mask, cloth mask, and usual practice (mask use of some kind) cohorts during flu season. Infection rates were significantly higher using cloth masks “This study is the first RCT of cloth masks, and the results caution against the use of cloth masks...Moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection.”	1832

(continued)

Table 17.1 (continued)

Research publication	Summary and typical quotation	# Tweets
MacIntyre, C. R., & Chughtai, A. A. (2015). Facemasks for the prevention of infection in healthcare and community settings. <i>BMJ</i> 350, h694	A review of previous studies on use of cloth facemasks, surgical masks, and respirators to prevent illness in health care workers and in the community <i>“The use of reusable cloth masks is widespread globally, particularly in Asia, which is an important region for emerging infections, but there is no clinical research to inform their use and most policies offer no guidance on them.”</i>	31

One of us (Goodwin) then coded this data for features relevant to the argumentative use of RPs. Because we were familiar with the corpus from a previous analysis for other purposes (Bogomoletc et al., 2021), in the first round of coding we adopted a provisional coding strategy (Saldanha, 2016, p. 168) supplemented by in vivo coding (Saldanha, 2016, p. 105) of emergent features. We aimed to capture (a) the descriptors arguers used for the RPs, (b) the way arguers represented the content of the RP, (c) the way arguers assessed the quality of the RP, and (d) any additional features that might be relevant. For (a) we coded in vivo the noun(s) arguers used to refer to the study, the presence of date, journal or author information, the terms “scientific” (and variants), the term “peer reviewed,” and any other descriptors (in vivo). For (b) we coded whether arguers represented the content of the RP at all, and if so, what part of the RP they mentioned and how close was the representation to the RP itself; see Table 17.3 for the full list of codes. For (c) we coded in vivo both specific terms arguers used to express their assessment, and also marked any extended discussions of RP quality. For (d) we noted additional features that emerged during the coding as potentially relevant to arguers’ use of RPs, including the presence of a formal citation, mention of numbers from the articles, use of jargon, expressions of epistemic certainty or humility, and interpersonal put-downs. Finally, in a second pass we adopted pattern coding (Saldanha, 2016, p. 236) to review the initial coding, grouping the in vivo codes into larger categories and using the provisional codes to guide the development of themes.

In the following sections we lay out what the analysis tells us about the specific ways arguers assessed the adequacy,³ the relevance, and the sufficiency of RPs for their decisions about masks. Our overall goal is to produce an improved account of critical questions related to RPs, both (descriptively) to deepen our understanding of sociotechnical argumentation and (prescriptively) to support improved pedagogy and practice. In addition, our examination of reasoning on social media contributes to

³ Readers with a background in argumentation theory will notice that the more general term “adequacy” is here being substituted for the more common term “acceptability” to refer to the criterion for assessing premises. As Blair (2012, p. 76) notes, this is preferable in order to avoid imposing a theory of premise assessment before (in this case) seeing what principles are actual being used by arguers.

the emerging theory of argumentation at the system level (Goodwin, 2020). Previous studies of the circulation of RPs on social media have focused on what the circulation means *for science*: on the effectiveness of social media for science outreach (Alperin et al., 2019) and what social media-based metrics of scientific impact actually measure (Wouters et al., 2019). But such a study can also be valuable for what it reveals about *the public*. Our success in managing situations like the pandemic (or climate change, or the impacts of new technologies) depends in part on our collective ability to bring scientific knowledge to bear through argumentative deliberations. The density and sophistication of social media arguments about RPs can serve as an indicator of how well or ill the public is accomplishing this task. Social media shows us the public mind at work; even as we can mine Twitter for sentiment to assess collective happiness (e.g., Hedonometer n.d.), we should be able to mine it for arguments to assess *community science literacy* (Roth & Barton, 2004; Snow & Dibner, 2016; Howell & Brossard, 2021), including the community's capacity to identify, evaluate and deploy RPs. This study is an early step in developing the tools for such an assessment.

17.2 Adequacy

17.2.1 Assessment: Authoritative or Epistemic?

None of the six research publications (RPs) were recent, so we presume that those tweeting them were putting them forward as relevant to reasoning about the emergent situation of the pandemic—i.e., using them as *adequate premises* (Blair, 2012) within some larger structure of argument about masks. As discussed above, when arguers want to bolster or undermine the premise adequacy of a RP, they face a choice: they can reinforce/undermine its qualities as an authority that deserves to be followed, or they can reinforce/undermine its quality as epistemically sound results. Both of these approaches are legitimate—both authoritative and epistemically sound RPs can serve as adequate premises of arguments; however, each approach suggests a different set of assessment standards. Assessing RPs for their authoritative qualities frames them as *utterances* and focuses on who said what. Assessing RPs for their epistemic qualities frames them as *studies* and focuses on what evidence they offer in support of their findings. While arguers in this corpus deploy and critique research publications both as authorities and as studies, overall, authority dominated. In the following discussion, we document the emphasis on authoritativeness both in the terms arguers used to describe the RPs as well as the ways arguers deployed the RPs in their arguments.

Start with the terms. Extended, explicit discussions evaluating RPs are relatively rare in the corpus, perhaps due to the brevity required by the medium, Twitter. But arguers can provide implicit support for (or against) the adequacy of the RPs they tweet about in the choice of nouns they use to identify them and the adjectives or

phrases they use to characterize them. As seen in Table 17.2, over a third of arguers provide this sort of information, and their choices tilt towards emphasizing assessment of authority. Source indicators are prominent in comparison to other information, suggesting that arguers view as important the authors, journals and institutions guaranteeing the soundness of the RP. Adjectives directly focusing on the credibility of the source or statement, such as “expert, not authoritative, peer reviewed,

Table 17.2 Quality indicators for research publications

Indicator	Code	Examples (bold ≥ 10 instances)	# Tweets
Term for RP			1366 (29%)
	PUBLICATION: GENERAL	article, link, source	261
	CONTENT: GENERAL	evidence, info/information, instructions	223
	SCIENTIFICNESS	study, research, science	645
	PUBLICATION: SCIENTIFIC	paper, lit/literature, journal article	135
	CONTENT: SCIENTIFIC	data, findings, results	75
	STUDY TYPE	randomized clinical trial (many variations), experiment, test	102
Evaluative term			343 (7%)
	ADEQUACY: GENERAL	good, best, decent	31
	ADEQUACY: SCIENCE	scientific, research, actual	66
	ADEQUACY: AUTHORITY	peer reviewed, published, credible	50
	ADEQUACY: EPISTEMIC	evidence-based, reliable, objective	30
	RELEVANCE	interesting, important, relevant	96
	SUFFICIENCY	some, clear, one	80
	OTHER	open access	9
Temporal indicator		2013, recent, pre-pandemic	316 (7%)
Source indicator			528 (11%)
	JOURNAL	BMJ Open	192
	AUTHOR	Davies et al., researchers	71
	OTHER ENTITY	CDC, NIH, Cambridge	351
At least 1 quality indicator			1759 (37%)

published,” are more common than epistemic adjectives focused on knowledge-producing activities, like “(not) evidence-based, anecdotal, empirical.” Very few tweets indicate what kind of study the RP reported—information key to any epistemic assessment of RP quality—and almost all of those refer to the MacIntyre RP, where the study type is named in the title. By contrast, the most common terms referring to RPs characterize them simply as “science, research” (terms also frequent as adjectives) or most frequently of all, as a “study.” For example:

They have zero actual disease blocking effect. Science.⁴

Research!!

This is not a joke. Peer-reviewed science says even home made masks are effective.

That’s completely false, here’s a peer-reviewed study that says so:

Anyway, I’m done debating this. Real science says masks work.

Listen to the scientific studies.

Please remember, a #homemademask is not the same as a #medical mask! Follow the #Science !!!

Peer reviewed published research in a leading medical journal. But I’m sure your “belief” in cloth masks and trust in the non-scientist mayor is better to rely on. Lol. Just FYI:

Arguers are proceeding as if identifying a RP as “science”—sometimes intensified as “*real*” or “*actual* science”—is sufficient to establish its adequacy (cf. Thomm & Bromme, 2012). The last tweet in particular makes the contrast explicit: we can place our trust in authoritative science, or we can grant it to “non-scientists.” “Science” has spoken, and what it “says” must now be “listened to” and “followed.” Indeed, some arguers even position RPs as *conclusive*—as grounds to conclude that “debating” is “done.” Arguers are thus able to deploy RPs as interpersonal slap-downs, in which the opponents’ refusal to follow the science demonstrates their “stupidity”:

#COVIDIOT Read and learn.

Morons! “Penetration of cloth masks by particles was almost 97% “

bUt mAsKs DoN’t do aNyThing! Read this study, then get back to me

Authority is a relationship between persons; invocation of authority creates a situation where the opponent can appear to be a bad person if they fail to respond with appropriate respect (Goodwin, 1998).

The dominance of authoritative over epistemic assessment is evident not only in the terms in which the RPs are described, but also in the ways the RPs are used. Table 17.3 shows how arguers deploy the RPs in their arguments; the codes are listed in a plausible increasing order of sophistication, with tweets being assigned to the highest

⁴ For readability and to save space, the link to the target RP, links to other content, and most handles (“@Name”) have been stripped without ellipses. Emojis have been replaced with shortcodes. Errors are not marked, and are corrected only when they would impede understanding. Hard returns within tweets have been deleted; each paragraph here represents material from one tweet.

Table 17.3 Uses of research publications in tweets

Code	Explanation and example	Proportion (%)
LINK ONLY	Tweet contains no other content beyond a link and possibly an addressee	11
REFERENCE	Tweet mentions the article but includes no representation of its content <i>I read a lot. Like this article. Science</i>	9
TITLE	Tweet includes the title of the RP without any representation of its content <i>Testing the Efficacy of Homemade Masks: Would They Protect in an Influenza Pandemic? Disaster Medicine and Public Health Preparedness Cambridge Core</i>	9
OPINION	Tweet expresses a conclusion presumably supported by the RP without providing any information about the study <i>Demand proper masks from the government! We need PPE! The richest country in the world and we have people sewing masks in their houses!?</i> <i>Come on</i>	23
ABSTRACT	Tweet (near)quotes the abstract of the study <i>a homemade mask should only be considered as a last resort</i>	8
TOPIC	Tweet states what the RP is about <i>Data on cloth mask effectiveness</i>	7
BRIEF SUMMARY	Tweet provides a general summary of the RP <i>I did some research on this since I was advising (volunteer) an NGO making masks for the homeless. I find this article very helpful: Efficacy is limited but better than nothing at all!</i>	23
EXTENDED SUMMARY	Tweet provides a summary of the RP including distinctions, qualifications, limitations or other significant details <i>One study "cautions against them": (MacIntyre et al., 2015) in BMJ Open BUT compared only to medical masks, no comparison to a non-mask wearing control. No evidence of risk to wearers & industrial partner for the study is 3 M (who make medical masks...)</i>	6
QUOTATION	Tweet quotes the body of the RP <i>The use of scarves and T shirts "are not designed for respiratory protection and their use may provide a false sense of protection because their effectiveness against larger and >1000 nm size particles including viruses is not well understood"</i>	3

(continued)

Table 17.3 (continued)

Code	Explanation and example	Proportion (%)
POINT	Tweet represents a point in the body of the RP <i>This study also tested “coughing out” with homemade masks and surgical masks. They found that even the DIY masks significantly reduced sub-micron particles coming out of the masks</i>	2

justifiable category. In this data, arguers’ interest in the RPs appears to be highly pragmatic. Nearly a quarter of tweets do not discuss the RP at all but proceed immediately to assert a conclusion that the arguer (apparently) draws from it (OPINION). Over a third provide only a general overview of the RP content (ABSTRACT, TOPIC, BRIEF SUMMARY). In these uses, the adequacy of the RP is simply presumed; the content at the other end of the provided link is manifestly “science,” and thus authoritative. By contrast, only about 10% of arguers demonstrate that they have read beyond the abstract, offering either a detailed summary (EXTENDED SUMMARY) or a reference to material in the body of the RP (QUOTATION, POINT). Many of these more sophisticated uses turn out to be stereotyped. For example, two thirds of the references to the Davies RP are to just one target: the table at the top of the second page of the article. This sort of convergence suggests that the arguers may be lifting passages from other arguers, not from the article itself. Thus overall, the uses of the RPs suggest that arguers are not undertaking epistemic assessment of the RPs. Indeed, some arguers even admit that they don’t have the capacity to do so:

I read this today. I’m not medically trained so may have missed the nuances.

@Atul_Gawande have you seen this? I think you tweeted recommending bandanas or cloth masks today. What do you think?

Would love to hear a comment from knowledgeable source regarding this study.

In the last two tweets, arguers are going on Twitter specifically to seek help from “knowledgeable” others in evaluating the study. Epistemic evaluation is best done by experts, and the experts’ judgment of RP epistemic quality is itself authoritative:

Don’t ask for a link to a scientific study if you think you’re smarter than the scientists who performed it, and every scientist who is saying we’ve read the study and it’s sound.:joy:

By contrast, there is only one tweet in the corpus seeking help with assessing the *authoritativeness* of a RP:

I sew and would love to help, but do cloth masks help? This study makes me wonder. But I’m also unfamiliar with these journals so I don’t know how trustworthy the study is.

Where arguers admit they are unable to assess the *epistemic merits* of RPs, in general they appear to feel confident of their ability to assess RP *authoritativeness*.

Arguers’ use of temporal indicators provides an interesting test case of the dominance of authoritative over epistemic evaluation of RP adequacy. In some cases,

dates are mentioned simply as part of identifying the RP, as when the tweet provides a more or less formal citation or the arguer locates the RP as a response to a previous pandemic. But the date of publication can factor into epistemic evaluation of RPs: based on the legitimate assumption that “scientific knowledge is open to revision in light of new evidence” (Next Generation Science Standards, 2013, p. 2), newer RPs can be taken to be epistemically better. Some arguers do use temporal indicators with this rationale. For example:

People are quoting this recommendation from the CDC—what are your thoughts on it? Its from 2006. The paper I sent you is from 2015 so more recent.

This was from 2015 but still a consideration. Cloth masks not recommended for clinical respiratory illnesses.

In the first tweet, the 2015 RP is positioned as better than the older one; in the second, the arguer is defending the “consideration” of the RP despite the fact that 2015 is not very recent. This sort of evaluation is surprisingly rare, however. Instead, a few arguers express dates as part of evaluating epistemic quality, but apply the opposite rule: *older* results are better, since they are well-established and time-tested:

Home made masks have been extensively tested for effectiveness and breath-ability for prevention of respiratory illnesses—since 2008.

And more frequent than either of these epistemic uses are the use of temporal indicators for social evaluations. Put simply, what did officials know, and when did they know it? “This is not new” is a frequent theme:

Amazing how the mask issue came up 14 years ago but nothing was done then. Look:

It was known in 2008 that masks work to reduce exposure to infections. The public has been lied to throughout this crisis.

By the way, this is research from 2015. So when millions more die from wearing cloth masks instead of procedural masks, don’t believe CDC when it backtracks and says it is due to “new” research. OLD RESEARCH proves that MEDICAL masks for everybody protect everybody.

Here the RPs are being used as evidence in a broader project of assessing social actors. But these social assessments can be turned around and used as evidence relevant to the authoritative quality of the RPs. Older articles can be deemed more trustworthy because they precede the current politicization of health agencies:

I don’t know what they were showing on MSNBC, but the CDC has a way to make it. To make you feel more comfortable it’s not trumps CDC, it’s the CDC from 2006.

The date of the RP is here considered important because of what it tells us about the credibility of the source: before Trump. Arguers, in sum, are more focused on social relations than on the nature of science. Taking use of temporal indicators as a test case thus confirms the analysis of the terms used to describe the RPs and the ways the RPs were used: arguers are assessing the authoritativeness more than the epistemic quality of RPs.

17.2.2 *Authoritativeness*

Arguers are assessing authoritativeness: how? In this section we explore in more detail the critical questions arguers are using—and not using—when they perform such assessments. As we will see, arguers do not put much effort into establishing the scientificness of the RPs or the qualifications of their authors. Instead, arguers focus on associating the RPs with institutions that have reputations for trustworthiness, and in probing for bias.

A first step in assessing the authoritativeness of some item will have to be to establish that it does in fact fall into the category of “science, research, study.” There are occasional mentions in the corpus of the obvious superiority of the RPs over the statements of non-scientists, and especially over other arguers on Twitter; e.g.:

I'll just point you guys towards some studies that, you know, experts use rather than random social media.

Try reading the last sentence. I trust real medical experts over Twitter know-it-alls.

However, this sort of boundary-work distinguishing experts from non-experts is relatively infrequent, possibly because the RPs which are the targets in this study were in fact conspicuously scientific (published in scientific journals, by authors with scientific credentials, in standard scientific formats) and thus required no defense.

Also largely absent from the corpus are efforts to bolster the credibility of the RP authors or journals. As seen in Table 17.2, author information of any kind was relatively infrequent. Authors are named almost exclusively as part of something like a citation; otherwise they are referred to vaguely by role terms such as “authors, scientists, researchers, doctors.” Journal information is offered more frequently. But examination of these references shows that they occur because arguers were using the share buttons on the RP source pages to autopopulate their tweets. Few tweets offer credentials for RP authors and none, impact factors for RP journals—the sorts of evidence that experts would use in assessing the authoritativeness of other experts and their statements.

Instead, what arguers do give attention to are “other entities” (Table 17.2) associated with the RP. In some cases, these “other entities” are likely mentioned just to identify a RP, as when the MacIntyre RP is described as “Vietnam/Vietnamese.” But in many cases, the “other entities” are ones with established, widely acknowledged reputations for scientific legitimacy. The US agencies National Institutes of Health and Centers for Disease Control, the University of Cambridge, and PubMed are often named. This last is—correctly—noted as a trustworthy source for science:

When in doubt, go to the [National Library of Medicine news feed] and PubMed for evidence-based science and health information. I wondered about the efficacy of homemade masks. Don't trust some bullshit blogger who isn't a scientist; trust actual scientists.

The other three entities are similarly—but less correctly—put forward as associated with the RPs. “NIH” appears in large font in the header of the PubMed pages that many arguers linked to. Arguers took this association and ran with it. The Dato,

MacIntyre and Van Der Sande RPs were each described as “NIH studies;” the Dato RP, with its useful mask recipe, was said to be “the NIH guide.” NIH was even positioned as the author of RPs:

NIH speaks. Last sentence. [Davies RP]

All of the Health Policy wonks keep saying that laymen don't need masks and they're of no value. The National Institutes of Health said differently in 2008. I think these doctors are only worried about dwindling supplies [Van Der Sande RP]

Or again: Cambridge University Press is the publisher of the journal where the Davies RP appeared, and is thus the prominently displayed owner of the website where some arguers found it. But arguers assert closer relationships, for example that Davies was “at Uni Cambridge.” These associations may be the result of confusion, but even the confusion is strategic. The Davies RP was also linked from ResearchGate, but ResearchGate is not mentioned in the corpus. Arguers appear to be looking for entities with known reputations as sources of trustworthy science and then bolstering the authoritativeness of the RPs by emphasizing whatever connections they can make (or make up) between those entities and the RPs.

In addition to paying attention to institutions with established reputations, arguers are sensitive to the potential for bias. Industry involvement in supporting or circulating the RPs is particularly suspect. Several arguers noticed, for example, that the mask producing company 3 M had funded the authors of the MacIntyre RP. Some arguers feel that this funding disqualified the RP:

So, I found this study really interesting until I saw that it was funded by 3 M.:rolling_eyes:

Original 2015 paper showing non-efficacy of cloth masks was funded by....drumroll...3 M

Shocked face that results show [health care practitioners] must buy 3 M products! Shocked face!

But other arguers read the small print at the end of the RP, and argued in support of the RP that 3 M had not been “involved in study design, data collection, or analysis.” Government funding, by contrast, is mentioned as a factor bolstering RP authoritativeness. At least if the government funding is from “the Netherlands Ministry of Health;” as we saw above in the discussion of temporal indicators, arguers found contemporary US agencies less credible. And in addition to bias through funding, distrust of partisanship was a consistent theme:

Trump's @SurgeonGeneral flat out lied about the utility of masks. That is misinformation. And Trump's CDC has been slow, inept, and bumbling at every stage of this crisis – they cannot be considered a neutral authority. Here's some of the science:

Here's a template from the CDC from years ago (when we could trust them)

This last combines identification of an entity with a known reputation and of that entity's bias, integrating the two standards for assessing authoritativeness most common in the corpus.

17.2.3 *Epistemic Quality*

As argued above, epistemic evaluation of the RPs is relatively rare. But arguers do assert their right to do so, even as non-experts:

No medical degree required to read a study. [Canadian public health official] Tam is paid to know this. “Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population”.

Oh hey! Lookie what I found on PubMed as a layman! “Our findings suggest that a homemade mask should only be considered as a last resort to prevent droplet transmission from infected individuals, but it would be better than no protection.”

The corpus shows that a few of the arguers making epistemic assessments pay attention to study type, sample size, and study recency. More focus on—but struggle with—the control group in the one RP that had one (MacIntyre), and with interpreting the significance of statistical results.

As one arguer notes, randomized controlled/clinical trials (RCTs) are “the gold standard of evidence in Medicine.” The one RCT among the six target RPs—the MacIntyre RP—drew the most attention (close to 40% of the corpus; Table 17.1); this may be in part driven by arguers’ sense that this study was indeed the best of the lot. Certainly many arguers implicitly align with the value of RCTs by using variations on that term when discussing the RP (Table 17.2), although the RP had made that easier by including the term prominently in both title and abstract. The fact that other RPs were *not* RCTs is asserted as a limitation in several cases, with one arguer offering the excuse:

You won’t get a real RCT experiment with COVID-19 though—it’s ethically impossible to do.

Other arguers highlight study size as important. The MacIntyre sample is several times described as “a rather large sample” or a “large RCT with thousands of patients [actually, healthcare practitioners],” although another arguer opines that “it’s not a massive cohort.” Sample size in the four RPs focused on design and fabric testing draws only one comment:

I am not a bio researcher but i find it strange that such a study only consist of two relative short experiments with only 28 and 22 people

Finally, as we saw above, a few arguers take the recency of a RP as an indicator of its epistemic quality.

Two other foci for epistemic evaluation are more prominent, but also more vexed: the control group and the significance of the statistical results, both from the MacIntyre RP. That study compared infection rates of health care workers wearing supplied medical masks, supplied cloth masks, or (the control) ordinary practice (which self-reports showed also involved masking). Arguers indicate the importance of the control group sometimes by explicitly mentioning it, and more often by implying its existence when expressing study results as a comparison. But they frequently get the comparison wrong; for example:

2015 study—cloth masks shown to be less effective than “no mask” control for healthcare workers.

You mean medical or surgical masks correct? Study showing that homemade cloth masks are worse than no mask (3 groups: med mask, cloth mask and no mask compared) is circulating and I think many are confused.

In response, a few arguers try to remedy the “confusion”, explaining that the control group of medical personnel used usual practice, which meant they were indeed masked:

The first RCT (2014) that looks at cloth vs. medical masks says “moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection”. But they didn’t use a no-mask control, so no evidence if it’s better than nothing.

Deleted my tweet because I was wrong and no need to keep bad info around. This study compares cloth masks to medical masks more rigorously, but doesn’t compare to no-mask control.

Overall, it appears that arguers understand that the control group is important for evaluating the epistemic quality of this RP but have trouble actually identifying it. Some arguers do get it right, and as the second tweet suggests, are able to share their insight with their interlocutors.

The interpretation of statistical results demonstrates the same pattern of recognized importance but difficulties with implementation. Information from the MacIntyre RP about permeability of materials provides a good example. In addition to running an RCT, this study subjected N95, surgical, and cloth masks to a standard test in which filter materials are challenged with aerosolized salt particles of sizes typical in industry, driven at a speed equivalent to heavy breathing. The abstract reports the results in this way: “Penetration of cloth masks by particles was almost 97% and medical masks 44%.” These statistics are highlighted in 132 (7%) of tweets linking to the RP, suggesting that arguers find them significant. Close to half of these tweets only quote the sentence; arguers that go beyond this to restate the statistics in their own words show a poor grasp of its meaning. Many drop the key term “particles,” speaking generally of “penetration” or “penetration rate.” This could be an adaptation to the brevity required by Twitter, but it might also indicate a failure to focus on penetration *by what*. The loss or misunderstanding of vital contextual information is explicit in other arguers’ summaries:

We abandoned a project after discovering that the masks allowed penetration of 97% of virus particles

I worry because there’s a study with pretty convincing numbers that cloth masks (which is all we have access to here) are ~97% ineffective? I’m not really sure what to do about it? I hate all of this. There’s just so much info to parse.

We realize this is a unique situation, but disinformation is criminal and dangerous. Like this push to wear homemade masks. laboratory-confirmed infections were significantly higher (97%) in cloth masks compared with the medical masks. (44%) #COVIDIOTS

“Particles” becomes “virus particles” or “virus,” and “penetration” becomes “ineffectiveness,” “risk,” or even “infection.” Only one arguer correctly points out that “97% penetration rate does not mean efficiency rate.”

In sum, while epistemic evaluation of the RPs is not prominent, arguers do show themselves sensitive to the importance of study type, sample size, and recency. They are also aware that they should pay attention to the control group and the significance of statistical results when assessing a RP, but they do not consistently demonstrate the capacity to interpret those correctly.

17.3 Relevance

As noted above, arguers’ interest in the RPs is pragmatic: they want to know what they can learn that will be useful in deciding whether cloth masks work and if so, what materials work best. Thus it should be no surprise to find that arguers show substantial strength in assessing the *probative relevance* (Blair, 2012) of the RPs to their information needs. Adjectives signaling (ir)relevance are frequent in the corpus (Table 17.2). The most prominent are general (“interesting, of interest; (really) important”), while others signal the RP is worth the investment of attention (“relevant, (possibly) useful, worth the read/a look”), because it upends assumptions (“wow, striking, remarkable, surprising”) or engages interests (“worrisome, concerning, scary, discouraging”). In assessing RP relevance, arguers pay attention to a variety of factors; here we will feature two prominent ones: inferences from one disease to another, and from one context to another.

Several arguers recognize that RPs focused on testing the efficacy of masks for past epidemics are of uncertain relevance to this newly emerging one. The difference in disease is thus sometimes introduced as a concession:

While this is NOT the flu, logic would indicate any shield / filter is better than none.

While not specific to Covid-19, this suggests a need to [re]-think current guidelines: Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population

Other arguers defend relevance in less hesitant terms:

This is almost certainly a case of some PPE being better than none, and there is evidence to suggest efficacy from our experience with other viral illnesses:

The impact of wearing masks is known but no one seems to be aware. Even home made masks significantly reduce transmission. This peer-reviewed paper is not only applicable to SARS-CoV-1. It is also applicable to SARS-CoV-2/COVID-19.

Both these arguers propose similarities between the previous and present diseases: they are both “viral illnesses,” or even more closely, both variants of SARS-CoV.

There is also significant analysis of whether results obtained in labs or hospitals could be transferred to community settings. Some arguers think that study results are relevant despite differences in context:

One point I'll mention Need to be somewhat [wary] of cloth masks This RCT in @bmj_latest suggests higher infection rates in HC workers (granted this is a healthcare setting)

Study of cloth masks in a surgical setting—cloth masks damp from breath facilitate infection. Why would that be different on the streets?

Notice that the last tweet presumes relevance, and challenges objectors to identify a significant difference. Other arguers are more cautious:

Another study by NIOSH found that cloth masks provided marginal protection against 20–1000nm particles: However, it's important to note that none of these were conducted at a community level and examined community transmission.

These data in HCW prob should not be generalized to the public outside of hospitals, but they're the data we've got and not so good...

This last arguer makes an appeal to ignorance: while it is dangerous to “generalize” results from a high risk situation to a low risk situation, we also need to lean into “the data we've got;” it is relevant by default until better studies can be done.

Other factors arguers noted as affecting study relevance include: the size of particles tested in comparison with the (then uncertain) size of particles transmitting the virus; the design, material, and usage of the tested mask; and efficacy for inward (self) protection versus outward (other) protection. Complex analyses would even integrate several of these factors; for example:

Totally inappropriate to use the linked study to assess cloth masks. It compared cloth masks in clinical settings against N95 to prevent HC workers from catching disease. What we care about is cloth masks' ability to prevent people from spreading disease (+ limit virus in).

Overall, in contrast to arguers' tendency to simply take the RPs as given without significant assessment of their premise adequacy, we see here evident sophistication as arguers reason about whether those premises are relevant to their interests in forming correct beliefs and adopting successful behaviors.

17.4 Sufficiency

We come finally to the ways arguers assess whether the RPs provide sufficient support for the conclusions they want to draw. The corpus shows that arguers are aware of a need to accumulate evidence. Many arguers proceed by offering multiple items in support of their conclusions; one fifth of the tweets include more than one link, ranging up to eight. Adjectives characterizing evidence sufficiency are also relatively frequent, primarily expressing sheer quantity: from “vast volume, numerous, many” through “several, limited” to “sole, not enough.” Arguers also note strength of support, again ranging along a spectrum from “conclusive, overwhelming, strong” to “weakly suggestive, wooly.” Beyond this, arguers show themselves particularly sensitive to the way that conflict between authorities reduces certainty. But they are less adept at managing the epistemic limitations and qualifications that all RPs include.

In line with dominance of assessment of authoritativeness, arguers are quick to note—or construct—the presence or absence of agreement among experts. Arguers signal their interest in con/dissensus with adjectives such as “pretty much all, mixed, non-consistent, conflicting;” they also explicitly discuss the topic. Some assert the existence of consensus, generally among vaguely identified “scientists”:

Frankly, we all DON'T know this. Studies show they have at least some efficacy. The general consensus among the science types is that the biggest benefit from wearing a mask is to reduce the chance that YOU'RE going to spread disease to someone ELSE.

Seems that scientists have found homemade masks offer some protection against the spread if worn by people who have the virus. Haven't seen any academic saying they increase risks.. Here's a link to @Cambridge_Uni Press study on homemade masks:

Other arguers note that authorities disagree—a more accurate view of the science of masking in the early months of 2020:

but there is also evidence cotton masks don't protect on their own all that well. How do we figure this out?...legitimate experts say wildly different things.

everyone is like “listen to the experts” but which experts?? so many of them have different opinions.

For these arguers, the presence of disagreement among “legitimate experts” means that no conclusions can be justified—a troubling situation during a pandemic.

A very few arguers express careful assessments of sufficiency along more epistemic lines; for example:

The data is definitely limited, and yes suggest better than nothing (I suspect we've seen the same stuff) Eg: [four links]

AT BEST we can say that there's very low quality evidence that highly adherent mask use may modestly reduce the likelihood of infection for people wearing them, although this has not been demonstrated in the majority of trials [two links].

Both these arguers concede that the “evidence”/“data” on masking is inadequate, in quantity or quality, and that only limited conclusions can be drawn from it (“suggest”... “may”). The second tweet shows even more sophistication in adding specific qualifications about the nature of mask use required (“highly adherent”) and the possible effect size (“modestly”). This degree of caution is warranted, given the paucity of studies, the range of unknowns (e.g., about how the virus was transmitted), and the complexity of relevant factors (mask design, materials, compliance, care).

So a few arguers do take note of the limited nature of the evidence on masking. Many more, however, ignore or overlook the limitations, sliding down the slippery slope into hype. Assertions that “masks (don't) work” provide a convenient probe into the corpus. The Van Der Sande RP performed some standard tests of mask effectiveness with one style of homemade mask on a small number of volunteers: a study worthy of consideration, but hardly definitive. It is often reported, however, in unqualified terms:

There is a vast volume of science supporting case that masks work. Dutch scientists, PLoS One: “Any type of general mask use is likely to decrease viral exposure and infection risk on a population level, in spite of imperfect fit and imperfect adherence”

Research that’s shows general population mask use works. Most of it is ten years old and just waiting for some expert or official to “discover” it. I found it in 10 min.

As we saw above the MacIntyre RP focused on comparing the inward protection provided by cloth versus medical masks in hospital settings. But it is frequently presented as giving unqualified support to a conclusion about the ineffectiveness of masks in community settings, again expressed without reservations:

Cloth masks don’t work!!!!!!!!!! Stop Tweeting about the idiots making them! “Penetration of cloth masks by particles was almost 97%”

Cloth masks don’t work. That’s the tweet.

These arguments appear driven by confirmation bias; as one arguer noted, “U can find an article on the internet to repost for any position you have.” Thus while arguers show they understand the importance of seeking convergent lines of evidence, and are sensitive to (dis)agreements among authorities, they tend to assert unqualified conclusions, overemphasizing the amount of support the RPs in fact provide.

17.5 Discussion and Conclusion

This analysis has shown that Twitter arguers show significant skill in reasoning about research publications as *authoritative sources*, employing these critical questions:

- *Adequacy*: Is the item science/research/a study?
- *Adequacy*: Is the research publication associated with an entity with an established reputation for scientific legitimacy?
- *Adequacy*: Is the research publication biased due to financial support or political affiliation?
- *Sufficiency*: Do the experts agree about the conclusion?⁵

In addition, we found a strong level of competence in assessing the *relevance* of research publications to information needs, and the *quantitative sufficiency* of RPs. While the specific factors arguers use to assess relevance are local to this case, the evidence suggests they are using generalized background principles:

⁵ This list diverges somewhat from the standard account of the argument scheme *appeal to expert opinion* (e.g., Walton et al., 2008). Both lists include bias and expert consensus. The standard account, however, insists on what we have been calling epistemic assessment, inviting users of the scheme to examine the expert’s expertise and the evidence the expert relied on. Arguers in this corpus did not apply these epistemic factors. Of course, critical questions about a defeasible scheme can be multiplied indefinitely. But if we take seriously the need to ground empirically the “core” critical questions which constitute a scheme, our results suggest that the standard account should be updated.

- *Relevance*: Is the situation reported in the research publication relevantly similar to the situation of interest?
- *Sufficiency*: Are there enough research publications to support the conclusion?

By contrast arguers invest less attention in assessing the *epistemic quality* of research publications, and perform more poorly. When they did attend to epistemic quality, they were orienting to the following critical questions:

- *Adequacy*: What is the quality of the kind of study reported by the research publication? [E.g., “gold standard” randomized controlled trials are better than observational studies..]
- *Adequacy*: Is the sample size of the reported study enough to support its conclusion?
- *Adequacy*: Is the study recent?
- *Adequacy*: Does the comparison between treatment and control groups support the results reported by the study?
- *Adequacy*: Do the statistical results of the study support its results?
- *Sufficiency*: Does the study have significant limitations?

It might be tempting to jump from this poor performance to generalizations about public ignorance and vulnerability to misinformation during the “infodemic.” But before using these results about epistemic assessment to decry public scientific illiteracy, it is important to remember that assessing authority is a reasonable way to proceed in the face of significant epistemic asymmetry (Goodwin, 2010, 2011). Non-experts need to draw on expert knowledge. But their lack of expertise in a subject means that they also have limited abilities in applying the epistemic standards suitable for that subject. Not only do they not know much about a subject, they are not able to judge *on epistemic grounds* who is more expert in the subject, whether some procedures are good procedures in the subject and so on. By contrast, the ability to assess social standing is widespread. So nonexperts may be right to grant trust to entities with established reputations for scientific legitimacy, or even to a generalized “science” itself—provided those entities continue to deserve that trust.

It is also worth noting that our results represent a lower bound for the public’s capacity to assess research publications. Our corpus includes only the Twitter original posts mentioning the research publications. As work by Ye and Na (2018) suggests, reply threads are sometimes more sophisticated than the original posts, elaborating objections to and defenses of the research publications. Including this data would likely document a higher level of sophistication.

The areas of lower capacity revealed in this study have prescriptive implications, indicating the usefulness of specific interventions. Online reasoning support tools can emulate the excellent Understanding Health Research (n.d.) by implementing critical questions focused both on authoritative and epistemic assessment, supplemented by short explanations of the topics where additional scaffolding is most needed (here, control group and statistical results). At the institutional level, our results extend previous research showing that open access and relatively jargon-free research publications invite social media engagement (Ye & Na, 2018). In our corpus, over

a third of tweets were conspicuously dependent on study abstracts (ABSTRACT, TOPIC, BRIEF SUMMARY). This suggests that plain language summaries adapted to address prevalent misunderstandings would be effective in improving assessment; more academic journals should require them.

The importance of institutional change points to the fact that our interest here is not just in fostering individual skill, but rather in enhancing society's management of challenges like the pandemic. Success in addressing such complex, sociotechnical issues requires community-level science literacy (Roth & Barton, 2004; Snow & Dibner, 2016), including capacities to put scientific research to work through personal reasoning and interpersonal arguing. Previous studies have shown that publics do tweet about science (Didegah et al., 2018), and do draw from scientific research when participating in sociotechnical controversies (Endres, 2009; Kinsella, 2004). This study provides reason for further optimism. Despite the flaws in reasoning evident throughout the Twitter debate on masks, it is fair to say that the quality of attention was high. Previous studies of mentions of research publications on Twitter have found that rates of barebones tweets (LINK ONLY + TITLE) range from around 75% (for biomedicine) to 99% (for computer science; Kumar et al., 2019; Mejlgard & Sørensen, 2018). In this pandemic-spurred debate over masking, by contrast, we found only 20% of tweets circulated a link or title without further comment. Our results confirm the early pandemic survey by Fang and Costas (2020); arguers, impelled by the urgency of the moment, were highly engaged in reasoning with each other.

The results of this study also provide some direction for the task of assessing the quality of such reasoning, i.e., for building what Sally Jackson has called a macro-scope (Musi & Aakhus, 2018) for argument-focused community science literacy. Collective responses to the critical questions that emerged in the mask debate could be assessed by relatively “dumb” measures. For example, near collocation of the term “study” with named entities could establish what institutions are viewed as guaranteeing the trustworthiness of a research publication. The relative proportions of the terms “trial” (or similar), “study” and “science” could indicate more epistemic probing, the more they tilt towards the specific. Topic modelling could reveal the dimensions along which publication relevance is being assessed. And the critical questions identified in this study could be a starting point for a machine learning system—i.e., for “smarter” analyses.

But argument mining should aim to do more than just use Twitter as a convenient source of data about the argumentative capacities of a large number of individuals; automated analysis should characterize more than just the aggregate or average level of reasoning. Assessments of *community* science literacy should attend to the emergent properties of arguments at the system level (Goodwin, 2020), examining how and why the quality of public reasoning on a sociotechnical issue advances or decays through interactions among a large network of arguers (Howell & Brossard, 2021). That is, after all, the ultimate promise of deliberation as a privileged mode of democratic decision-making: deliberation produces something new (Manin, 1987). For example, although it would be easy to think of arguers on Twitter as “non-scientists,” that is not entirely accurate. Scientists are members of the tweeting public too. The

authors of two of the research publications have tweets in the corpus, and we also find posts like this:

Original paper under discussion: “A cluster randomised trial of cloth masks compared with medical masks in healthcare workers” by Wang et al. (2015) Lots of potential confounders, but worth adding to the scale of consideration.

This arguer signals their expertise by following citation conventions and using the technical term “confounder” accurately. And such expert tweets spread through the wider network, as Fang and Costas (2020) noted—in contrast to the limited circulation of research publications in less exigent circumstances (Alperin et al., 2019). This suggests that to assess a truly community-level science literacy we will need to *identify* such high-expertise arguers (e.g., by scraping profile data), assess the *connectedness* of such experts to those with less expertise, and determine how the experts’ arguments are *propagating* through the network. Another signal of community science literacy could be found in what could be called “commonplace-ification.” As noted above, arguers may have been borrowing references to specific passages in the research publications from each other. Instead of thinking of such imitation as representing a decline in critical thinking, we should recognize that crystallization of an argumentative commonplace (*topos*) adds a handy new tool to the collective repertoire, enabling improved reasoning by many (Goodwin, 2020; Musi & Aakhus, 2018). Finally, in several tweets in the corpus—one quoted above—arguers confess to changing their minds in the face of correction from others. Explicit or implicit shifts in standpoint are another expected emergent property of a system of people making arguments; we need to be able to detect them.

Our results justify ending on a hopeful note, tempering some of the moral panic surrounding the “infodemic.” There is no evidence of “anti-science” in the corpus—no global distrust of scientific research, as opposed to warranted distrust aimed at specific targets. Instead, there was strong interest in scientific research publications, ample and vigorous probing, and lots of enthusiasm for applying research publications to the issues the pandemic had opened. While there was plenty of misinterpretation, there was also plenty of good reasoning, and even occasionally some changing minds. Public argument seems to have been doing its job for personal and policy decision-making; the argumentation research community can do its job by building the macroscopes, theories, and interventions that will support even better practice the next time around.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology). We would also like to thank Altmetric (Digital Science), for providing us with access to the Altmetric Explorer tool for data collection.

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Chapter 18

On the Conditional Acceptance of Arguments from Expert Opinion



Jos Hornikx

Abstract During the COVID-19 pandemic, people around the world were bombarded by new information, often provided by experts, such as epidemiologists, virologists, or intensive care specialists. These experts have struggled at convincing the general public to behave in ways that make a way out of the pandemic possible. In this chapter, it is argued that audience acceptance of appeals to experts is conditional in two ways. First, acceptance of expert opinions is conditional upon the degree to which appeals to expert opinions respect critical questions regarding the evaluation of these appeals. Second, acceptance of expert opinions is conditional upon the audience's prior belief in the claims. It is argued that the most likely factor that has played a role in the lack of influence of experts is the weak consensus between experts when it comes to issues regarding the COVID-19 pandemic.

Keywords Argument quality · Expert opinion · Consensus · Prior belief · Motivated reasoning

18.1 Introduction

Every day, our judgments and opinions are formed and affected by new information. During the COVID-19 pandemic, people around the world were bombarded by new information: on the origins of the disease, contamination numbers, transmission modes, lockdown measures, vaccination policies, and health risks. This information is often provided by sources that are well-known to the public, such as the World Health Organization and national health organizations, such as the *NHS* (UK), the *HHS* (US), and the *Santé Publique France* (France). In addition, most information about COVID-19 on television, the radio, and Internet is given by specific competent people previously unknown to the public, such as people who work as epidemiologists, virologists, or intensive care specialists. During the COVID-19 pandemic, these sources, with their specific fields of expertise, have struggled at convincing

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the general public to behave in ways that make a way out of the pandemic possible. Although not new (see Johnson et al., 2020), people seem to have less confidence in scientific experts during the pandemic, as has been noted in various countries across the globe. In France, for instance, *Le Figaro*¹ reported on a survey carried out by Ipsos that demonstrated a sharp decline of trust of the French in researchers in the first six months of the pandemic. In a similar vein, *Hurriyet Daily News*² in Turkey wrote that members of the Science Board of the Health Ministry have asked their citizens to trust science. These examples underline that opinions of experts are not systematically seen as support for specific claims, such as about the desirability of wearing masks or working remotely. Why do experts sometimes fail to convince an audience? In this chapter, it will be argued that audience acceptance of appeals to experts, that is, the degree to which appeals to experts increase the audience beliefs in claims supported by experts, is conditionals in two ways.

First, acceptance of expert opinions is conditional upon the degree to which appeals to expert opinions respect critical questions regarding the evaluation of these appeals. Argumentation scholars have theorized what characteristics of an argument from expert opinion are in play when assessing the strength of such an argument. In Sect. 18.3, the critical questions will be discussed, and empirical research will be reviewed that addresses the question whether respecting critical questions from argumentation theory matters for actual acceptance of the appeal to expert opinion. For instance, studies have demonstrated that people are more likely to accept an argument from expert opinion when the expert is relatively more knowledgeable (e.g., Hornikx & Hoeken, 2007), and more reliable (e.g., Hoeken et al., 2014). The chapter's original approach is to review such empirical research from two different disciplines: persuasion studies and argumentation studies.

Second, acceptance of expert opinions is conditional upon the audience's prior belief in the claim that is supported by the expert. Social psychological work on motivated reasoning has argued that when people have an outspoken position towards a claim (i.e., strong belief or disbelief), arguments are evaluated not on the basis of their merits (cf. respect for critical questions) but on the basis of whether they are in line with the audience's prior opinion. Section 18.4 presents the notion of motivated reasoning, and discusses recent empirical work on the subjective evaluations of appeals to expert opinion. Section 18.5, finally, integrates the two types of conditions to better understand audience's reactions to experts in the COVID-19 pandemic. As an introduction to the topic, Sect. 18.2 below will first underline the relevance and importance of experts for everyday belief formation and change.

¹ <https://www.lefigaro.fr/sciences/fraude-complotisme-faux-experts-l-integrite-scientifique-mise-a-mal-par-la-crise-du-covid-20210215>.

² <https://www.hurriyetdailynews.com/experts-call-on-people-to-trust-science-as-anti-vaxxers-spread-suspicious-161813>.

18.2 The Relevance of Experts for people's Beliefs

Most of the information that people use to form opinions or take decisions comes from other people (Harris et al., 2015). These other people may be known, such as family members, friends, coworkers, and neighbours (see Sleeth-Keppler et al., 2015), but also unknown, such as people interviewed on television, or quoted in reports on websites. The characteristics of these other people, such as their competence or attractiveness, play a major role in the degree to which the audience accepts their information (Martin & Marks, 2019). When it comes to more complex issues and problems, such as energy consumption, economic progress, or COVID-19, people will want to rely on other people who are particularly knowledgeable. In such circumstances, people rely on “those experts who have deeper knowledge about a topic and may be able to provide information about the validity and veracity of information” (Hendriks et al., 2015, p. 1).

The question of whom to rely on has become more relevant in times when it is more difficult to assess a person's credibility (Hendriks et al., 2015; Metzger & Flanagin, 2013). As Hendriks et al. (2015) note, in the digital age, there are fewer cues on the basis of which expertise and credibility can be derived in comparison to a face-to-face interaction with a person. In addition, with fewer gatekeepers than in traditional media (e.g., newspapers, television), there is more misinformation in new media, which increases the need for people to find out what the source of the information is, and how credible the source is (Metzger & Flanagin, 2013).

When experts are used to underline specific claims, such as on vaccination risks, or the origins of the COVID-19 disease, they sometimes provide explanations, refer to scientific work, or present statistical information (Conrad, 1999). However, experts can also be used as a simple signal of credibility without providing additional information. In such circumstances, people expect experts to provide this additional information when asked to. As Facione and Scherer (1978, p. 315) put it, “Instead of the whole proof the reliable authorities give their word. They vouch for the conclusion's being true, but they could have given the proof. They should be able to supply an acceptable proof upon demand”. Empirical research supports the idea that people indeed expect experts to provide acceptable proof (Bohner et al., 2002; Wiener et al., 1990). In Bohner et al. (2002), for example, participants read a message that was attributed to a professor (high expertise) or a student (weak expertise) and that contained strong or weak arguments. The weak-arguments message was less persuasive when the source was the professor than when it was the student. This means that whereas weak arguments were accepted from students, they were not accepted from professors. From this finding, it can be inferred that people expect relatively strong arguments from experts (just as they appear to expect relatively weak arguments from students).

The role of expertise and experts for human communication has been a topic of interest for many years and in many areas of research, including judgment and decision-making, thinking and reasoning, social psychology, legal testimony, philosophy, and argumentation theory (for examples, see Harris, et al., 2015). For instance,

in lay epistemic theory (Kruglanski, 1989), the notion of ‘epistemic authority’ refers to sources that people rely on because of their seniority, education, or role (for an overview, see Kruglanski, et al., 2005). In the social psychology of persuasion, source credibility has been claimed to be most relevant for attitude change in circumstances where people are less motivated and less able to reflect on the content (e.g., arguments) of a message (e.g., Petty & Cacioppo, 1986). This multidisciplinary interest in experts and expertise for belief formation and change underlines the importance of experts in daily human communication.

18.3 Conditional Acceptance: Norms for Reasonable Argumentation

What kinds of experts are most successful in forming or changing people’s beliefs? What is a strong appeal to expert opinion? This section will discuss the first level of conditions that play a part in the acceptance or success of appeals to expert opinion. These conditions are the critical questions developed in argumentation theory to assess the quality of a given argument. First, these critical questions will be presented (Sect. 18.3.1). These critical questions for reasonable arguments present one angle to successful appeals to expert opinion. Another perspective to studying the conditional acceptance of arguments from expert opinion is to examine people’s responses to arguments that vary in the extent to which arguments comply with critical questions. This perspective is represented by two strands of research: persuasion studies and argumentation studies. Empirical studies in persuasion (Sect. 18.3.2) and argumentation (Sect. 18.3.3) will be reviewed to address the question as to whether what should be normatively persuasive is also persuasive in practice. This approach of the comparison between argumentative norms and successful persuasion (cf. O’Keefe, 2007) is paralleled by a growing body of research in argumentation, such as Van Eemeren et al. (2012) and Schumann et al. (2019).

18.3.1 Norms for Evaluating Appeals to Expert Opinion

In argumentation theory, the appeal to expert opinion (or ‘cognitive authority’, Walton, 1997) is considered an argument on the basis of which people accept a claim. The argument from expert opinion or the appeal to authority has been described by Walton (1997; Walton et al., 2008, p. 14) as follows:

Source E is an expert in subject domain S containing proposition A

E asserts that proposition A (in domain S) is true (false)

A may plausibly be taken to be true (false).

Argumentation schemes, such as this argument from expert opinion, have a normative component because of their inclusion of critical questions that serve as norms to assess the quality of any argument following that scheme. The argument's quality is believed to depend on the responses that can be given to the questions. Different classifications of argumentation schemes present partly different critical questions (e.g., Hastings, 1962; Van Eemeren & Grootendorst, 1992; Walton, et al., 2008). In this chapter, only the (often cited) questions that Walton (1997, p. 223) proposed for the argument from expert opinion are considered:

- How credible is E as an expert source?
- Is E an expert in the field that A is in?
- What did E assert that implies A?
- Is E personally reliable as a source?
- Is A consistent with what other experts assert?
- Is E's assertion based on evidence?

Imagine that a claim about positive trends in COVID-19 contamination numbers is underlined by a particular epidemiologist, Dr. Wilson. The reliance on this expert as support for the claim about the positive trends is more justified to the extent that she is highly credible, has a high level of expertise, is personally reliable, etc. Although there are debates in argumentation theory about what critical questions are relevant, and what their normative status is (e.g., Ciuirria & Altamimi, 2014; Godden & Walton, 2007; Hahn & Hornikx, 2016; Katzav & Reed, 2004), different classifications of argumentation schemes all agree on the notion of critical questions that are useful for evaluating a particular appeal to expert opinion.

18.3.2 Persuasion Studies on Persuasive Experts

Are appeals to expert opinion that comply with norms regarding the critical questions formulated in argumentation theory also more successful in convincing an audience than appeals that do not comply with these norms? This question has been addressed from the perspective of persuasion studies.

In persuasion studies, one of the central factors that is expected to determine the outcome of a persuasion process is source credibility (see, e.g., O'Keefe, 2016; Perloff, 2021). Theory and empirical research on source credibility ('How credible is E as an expert source?') distinguishes between source expertise ('Is E an expert in the field that A is in?') and source reliability ('Is E personally reliable as a source?'), and has also examined the presence of supporting arguments ('Is E's assertion based on evidence?') and consistency with other experts ('Is A consistent with what other experts assert?'). This means that, except for Walton's (1997) critical question 'What did E assert that implies A?', for all questions there is relevant empirical research in the social psychology of persuasion. This research is reviewed below.

There is a long tradition of persuasion research on the effects of *source credibility* (see, for a review, Pornpitakpan, 2004). Wilson and Sherrell (1993) conducted a meta-analysis of empirical studies investigating the effect of manipulating the source's credibility on persuasive outcomes. They report that, when all empirical evidence is taken together, high-credibility sources are generally found to be more persuasive than low-credibility sources. The largest effects were observed for studies that manipulated the source's expertise. This variable was manipulated in various ways, such as through the source's years of experience, study years, and field of expertise in relation to the claim. An example of a study on field of expertise (cf. Walton's 'Is E an expert in the field that A is in?') included in the meta-analysis is Maddux and Rogers (1980). In their experiment, the claim about the desirability of four hours sleep a night was supported by two different researchers. One researcher was an expert in sleep research; the other in music during the Baroque period. Field of expertise affected the persuasive outcome: the researcher with a relevant field of expertise was more persuasive than the expert with an irrelevant field of expertise.

Source reliability (cf. Walton's 'Is E personally reliable as a source?') has also been examined in empirical studies. A number of studies have examined the impact of whether or not a source argued for a position that is opposed to the source's self-interest. The idea is that a source arguing against his or her self-interest should be more reliable than a source who advocates a position that is beneficial to him or herself. Following O'Keefe's (2016) summary of some of the studies in this area, an effect of position against self-interest on reliability has been observed. This strand of research may be less informative about what makes experts persuasive, since the counterpart of an expert with self-interest is more likely to be an impartial expert than an expert with an interest against the position (as was manipulated in the studies reviewed). This is because we may expect experts to be neutral and objective. One way of expressing neutrality is by paying attention to both sides of a story—which is what was studied in Mayweg-Paus and Jucks (2018). In their study, participants read a discussion between two experts, who communicated a one-sided or a two-sided perspective on a certain issue. Experts who provided pro and contra arguments were found to be more reliable than when each of them provided only arguments from one position.

Next, there is also empirical research relating to Walton's (1997) question 'Is E's assertion based on evidence?'. O'Keefe (1998) presented a meta-analysis of empirical studies on the relationship between the explicitness of justification and persuasive effectiveness. One specific manipulation of justification explicitness is: "variation in the completeness of arguments, that is, whether the advocate explicitly spells out the underlying bases of message claims (provides explicit articulation of the premises, supporting information, and the like)." (O'Keefe, 1998, p. 62). Findings from the meta-analysis show that sources have more persuasive success when they provide more information underlying their claim. Although this research strand did not specifically examine the difference between *experts* with and without supportive information, the finding of this meta-analysis can be taken as some support for the idea that experts may be more persuasive when they do provide rather than do not provide supplementary information.

When it comes to Walton's (1997) question 'Is A consistent with what other experts assert?', recent work on climate change examining the effects of scientific consensus suggests that experts are more persuasive when their view is consistent with that of other experts. In Study 2 reported in Lewandowsky et al. (2013), only half of the participants were given consensus information, showing that 97% of the climate scientists agreed on anthropogenic global warming. Participants who received consensus information were more likely to accept anthropogenic global warming than those who did not receive that information. The authors conclude that "people may be particularly susceptible to perceived consensus among domain experts when forming their own beliefs about scientific issues" (p. 403). Similarly, Van der Linden et al. (2015) report on an empirical study demonstrating that higher estimations of scientific consensus were causally associated with higher levels of acceptance of climate change. Thus, there is emerging evidence for the idea that consensus plays a role in the impact that experts may have when their opinion is used in an argument from authority.

In summary, research results from persuasion studies can be considered as support for all critical questions that Walton (1997) formulated for the argument from expert opinion except for the question 'What did E assert that implies A?'. For some of these questions the support is stronger than for others, but—in a general way—there is reason to believe that the argument from expert opinion may indeed be more successful if the expert is more credible, has more relevant expertise, is reliable, is consistent with other experts, and provides more evidence for his/her position.

18.3.3 Argumentation Studies on Persuasive Experts

The question whether appeals to expert opinion that comply with norms regarding the critical questions are also more successful in convincing an audience will be answered from the perspective of argumentation studies. Whereas persuasion studies (see 18.3.2) were not particularly designed to examine variations in characteristics of experts, argumentation studies have focused on the question as to whether respecting critical questions regarding the argument from expert opinion matter for claim acceptance. Therefore, these studies are presented in the current section. A number of studies on the effectiveness of arguments have investigated the impact of critical questions associated with different arguments, including the argument from expert opinion. This section will review the outcomes of these studies. First, the general procedure of these studies is briefly introduced.

Typically, the studies presented participants with a number of claims that were pretested to score neither as probable nor as improbable. An example of such a claim is: "Obligatory driving lessons for people over 70 can reduce their fear in traffic" (Hoeken et al., 2014). These claims were each followed by an argument that varied in quality. The quality of argument was manipulated on the basis of critical questions associated with the appeal to expert opinion. Three of Walton's (1997) critical questions have been involved in the studies: the expert's general credibility

(‘How credible is E as an expert source?’), the expert’s field of expertise (‘Is E an expert in the field that A is in?’), and the expert’s reliability (‘Is E personally reliable as a source?’). Researchers have used these critical questions to construct high-quality and low-quality variants of the same argument from expert opinion. For the claim on obligatory driving lessons for people over 70, Hoeken et al. (2014) constructed different arguments from expert opinion, including a normatively strong one: “According to Dr Emiel Bentink, associate professor in Psychology at Utrecht University who did his Ph.D. on anxiety disorders among the elderly, people over 70 feel less anxious in traffic if they are required to take driving lessons” (p. 87). This control condition could be argued to fulfill all critical questions, whether directly (e.g., ‘associate professor’ hints at credibility) or indirectly (e.g., by not mentioning information about lack of consensus). The variant that did not respect the expert’s general credibility started with: “According to Emiel Bentink, a second-year undergraduate student who recently attended a course on anxiety disorders among the elderly” (p. 87). In the condition with an irrelevant field of expertise, the PhD subject was changed into: “who did his Ph.D. on anxiety disorders among adolescents” (p. 87). Finally, reliability was manipulated on the basis of the expert’s vested interest: the expert with self-interest in the claim was expected to be less reliable than the expert without such self-interest. The manipulation started with “According to Dr Emiel Bentink, staff member of the Organisation of Driving School Companies who did his Ph.D. on anxiety disorders among the elderly”. In the studies presented below, participants judged a series of different claims, each supported by arguments with varying quality, on a scale assessing the claim acceptance by asking them how probable they found each claim (e.g., on a 5-point scale from ‘very improbable’ to ‘very probable’).

Table 18.1 shows an overview of the studies regarding the relationship between claim acceptance and the manipulation of an argument from expert opinion on the basis of Walton’s (1997) critical questions. This table treats each research result in an equal way, although there are major differences in sample size of the underlying datasets—from 70 participants in Hornikx (2016) to 300 in Hornikx and Hoeken (2007). In a very general way, three conclusions may be drawn. First, claims are accepted to a lower degree when the supporting argument from expert opinion is based on an expert with a *vested interest* (low reliability) rather than without a vested interest (high reliability). This conclusion is based on the three studies mentioned in Table 18.1 for the critical question ‘E personally reliable as a source?’.

Second, in most studies, evidence was found in support of the relationship between *field of expertise* and claim acceptance. That is, in most of the six studies, experts that underlined a claim that was part of their own field of expertise were more successful than experts underlining a claim that did not fall under their expertise. In one of the two studies with an incongruent result (Hornikx & Hoeken, 2007), this result was actually consistent with a socio-cultural explanation. French participants not being sensitive to the expert’s field of expertise has been related to the role of experts (i.e., teachers, professors) in education in France, in which these experts are attributed a relatively wide field of expertise (see Hornikx, 2011).

Table 18.1 Is claim acceptance of the argument from expert opinion affected by a manipulation of Walton’s (1997) critical questions?

Study	Effect on claim acceptance
Reliability (‘Is E personally reliable as a source?’)	
Hoeken et al. (2012)	Yes
Hoeken et al. (2014)	Yes
Hornikx (2016)	Yes
Field of expertise (‘Is E an expert in the field that A is in?’)	
Hoeken et al. (2014)	No
Hornikx and De Best (2011)	Yes
Hornikx and Hoeken (2007, Study 2, Dutch)	Yes
Hornikx and Hoeken (2007, Study 2, French)	No
Hornikx & Ter Haar (2013, Study 1, Dutch)	Yes
Hornikx & Ter Haar (2013, Study 1, German)	Yes
General credibility (‘How credible is E as an expert source?’)	
Hoeken et al. (2012)	No
Hoeken et al. (2014)	No

Third, the *level of expertise* did not affect claim acceptance in the two studies that examined this relationship. This would mean that ‘How credible is E as an expert source?’ is not a relevant question for the assessment of the argument from expert opinion. For at least two reasons, this conclusion does not seem warranted. First, credibility has been proven to be the result of expertise and reliability (see O’Keefe, 2016); the positive results for field of expertise and vested interest (reliability) therefore strongly imply that credibility, as an overall qualification, matters for claim acceptance. Second, more than vested interest or field of expertise, level of credibility seems to be a perception on a continuum. The difference between a professor and a second-year undergraduate student who study the same discipline may be smaller than between an expert with and an expert without a vested interest. The manipulations in the two studies were therefore, perhaps, less successful in differentiating sharply between high credibility and low credibility.

In this section, results of recent studies on the persuasiveness of arguments were presented. Overall, the picture that emerges is that for field of expertise and reliability respecting critical questions matters for the impact of the argument from expert opinion on claim acceptance. There are, however, two limitations that characterize this set of studies. The first limitation is that the results only hold for situations in which people only view a claim with an argument. The impact of critical questions on claim acceptance is likely to be smaller in real-life settings where claims and arguments are part of longer texts or messages, and are not clearly marked as claims

and arguments. In fact, empirical research has shown that normatively strong arguments were not more persuasive than normatively weak arguments when presented in longer texts (e.g., Hoeken & Hustinx, 2007; Hornikx, 2016, 2018).

The second limitation is that the results are only relevant for situations in which people assess claims about which they have a neutral opinion. Although people are likely to have neutral opinions about dozens of claims, they also hold more extreme positive and negative opinions about other claims. For these kinds of claims, the quality of an argument (e.g., the quality of the expert in an argument from expert opinion) may not play a similar role as for neutral claims. This brings us to the second level of conditions for the acceptance of appeals to expert opinion: prior beliefs.

18.4 Conditional Acceptance: Prior Beliefs

In this section, it is argued that acceptance of expert opinions is also conditional upon the audience's prior belief in the claims. As an introduction, the notion of motivated reasoning will be discussed in 4.1. Subsequently, recent empirical work on the subjective evaluations of appeals to expert opinion is presented.

18.4.1 *Motivated Reasoning and Evaluation of Arguments*

The often implicit rationale behind the critical questions is that they provide a rational, golden standard against which argumentation schemes should be assessed, in a similar way as logic has for a long time been considered the standard for appropriate evaluation of formal arguments (for a discussion, see Hahn & Oaksford, 2006). This means that one could say that people reason in a correct way by taking into account the critical questions regarding the argumentation scheme that is associated with the concrete argument that people evaluate. According to the *Argumentative Theory of Reasoning* (Mercier, 2016; Mercier & Sperber, 2011), people are expected to be fairly good at evaluating arguments. Although their theory does not specify the use of critical questions as a tool for normatively good evaluation, this connection has been made by Hoeken et al. (2014, pp. 92–93): “Mercier and Sperber (2011) argue that people are skilled at evaluating arguments, which would imply that people are sensitive to norms for argument quality”.

However, Mercier and Sperber note that people sometimes also evaluate arguments less objectively, namely in the situations in which they agree or disagree with the claim that is supported by arguments. Reasoning in these circumstances has been labeled as ‘motivated reasoning’ (Kunda, 1990), which means that people are motivated to reach or hold a specific conclusion, and that they evaluate information in line with this conclusion (for recent discussions, see Hahn & Harris, 2014; Kruglanski et al., 2020).

There is ample research evidence supporting the idea that people evaluate information on the basis of their existing beliefs and attitudes (see, e.g., Ditto & Lopez, 1992; Edwards & Smith, 1996; Lord et al., 1979; Mojzisch et al., 2014; Taber & Lodge, 2006; but see Martire et al., 2020). The experiment that has a classic status in this domain is the study reported in Lord et al. (1979). Participants were American proponents or opponents of capital punishment. They were all asked to evaluate two studies on the deterrent effect of capital punishment; one study showed a deterrent effect, the other study an antideterrent effect. Participants were found to be more critical towards the study that found a result that was inconsistent with their position as proponent or opponent, and less critical towards the same study with a result supporting their initial position. This means that participants did not evaluate the study information on its objective merits but on its match with their own position.

In their summary of key readings in this area, Mercier and Sperber (2011, p. 67) conclude that “motivated reasoning leads to a biased assessment: Arguments with unfavored conclusions are rated as less sound and less persuasive than arguments with favored conclusions”. How does this apply to the argument from expert opinion? In the next section, recent research on subjective reasoning with expert opinions will be discussed.

18.4.2 Evaluation of Expert Opinions

In Sect. 18.3.2, an overview of persuasion studies on the role of expert opinions was presented. Early work in this area already observed that strong experts were not always more persuasive than weak experts. That is, under certain conditions, weak experts (low credibility) were more persuasive than strong experts (high credibility) when the position advocated was in line with the receiver’s attitude (see, for discussions, Pornpitakpan, 2004; O’Keefe, 2016). From the discussion that follows below, there seems to be a growing interest in the relationship between receivers’ prior position towards a standpoint (counter- or pro-attitudinal stance) and the impact of expert opinions.

Biased evaluation of experts was shown in empirical work reported in Zaleskiewicz and Gasiorowska (2018; cf. Zaleskiewicz et al., 2016, Study 3). In Study 1, they manipulated the position of participants (positive or negative) and the position of financial experts (positive or negative) on the desirability of two financial products: investments, and life insurance. The participants read about an advisor (expert) who was either positive or negative about the product, and a scenario followed that manipulated their own position towards the products. Finally, participants assessed the expertise of the advisor. Results showed that expertise was rated as higher under conditions of congruence (their position was similar to that of the advisor) than under conditions of incongruence (their position was dissimilar to that of the advisor). That is, participants who were instructed to be in favor of the financial product rated the advisor who was positive about the product as having more expertise than the advisor who was negative about the product. Similarly, participants

instructed to be against the financial product rated the advisor who was negative about the product as having more expertise than the advisor who was positive about the product.

Marks et al. (2019) examined what sources people prefer to inform them: people whose political view they share or people who are experts? Participants had to solve shape tasks, in which they were asked to indicate whether each new shape belonged to one or the other category. Prior to this task, they had learned about the political views of other participants ('sources'), and about their competency in solving the shape tasks. While solving the shape tasks, participants were asked which sources' response they wanted to see to be better informed. These sources were either politically like-minded as the participant or not, and they were either competent in the task (high expertise) or not. Results from this experiment were striking: participants preferred source similarity over source expertise. That is, they preferred viewing the response from people they agreed with (politically like-minded) but who did not have expertise in the task over people who did have expertise in the task but who were politically dissimilar to them. This means that people assess experts on the basis of the degree to which a source relates to their own point of view—even when that source is incompetent.

The strongest evidence to date on the biased evaluation of the argument from expert opinion comes from Hoeken and Van Vugt (2016). For a claim on the desirability of mixed schools, they constructed arguments supporting the desirability (e.g., better school results) or supporting the undesirability. For both kinds of arguments, some variants were normatively strong (e.g., for the argument from analogy, Sweden in the argument was comparable to the Netherlands in the claim) and other variants were normatively weak (e.g., for the argument from analogy, France in the argument was less comparable to the Netherlands in the claim). The experts in the argument from expert opinion had a vested interest (e.g., a director of a mixed school) or no vested interest (a child educator). Participants were instructed to defend either the desirability or the undesirability of mixed schools. They were asked to evaluate all arguments in a think-aloud protocol. After analyzing these evaluations, Hoeken and Van Vugt (2016) first concluded that participants used more criteria relevant to the arguments at hand (e.g., vested interest, representativeness, similarity) when evaluating arguments that ran counter to their own position than when evaluating arguments that were in line with their position. This means that people are, indeed, more critical about arguments that attack their own position, and that this criticism materializes through the use of critical questions. A second conclusion of the study was that people use these criteria in a biased way, that is, they use them to show the low quality of arguments that run counter to their view, and that they use them to show the high quality of arguments that are in line with their view. A concrete example of this second conclusion is the following. Participants appreciated the child educator (strong argument from expert opinion) for his expertise when they agreed, but disqualified his expertise (Is he an expert on mixed schools?) when they disagreed. In a similar way, opponents pointed towards the source's vested interest (weak argument from expert opinion), whereas proponents underlined the relevant field of expertise. Thus, the same experts were either qualified or disqualified on the

basis of the same set of criteria relevant to the argument from expert opinion. Rather than on the basis of an objective assessment of the quality of the expert, participants used the criteria in a biased, subjective way depending on their (dis)agreement with the position of the expert.

18.5 The Role of Experts in the COVID-19 Pandemic

Other people play a major role in shaping our opinions, beliefs, and decisions. People who can be expected to be reliable and competent—experts—can be particularly influential, but sometimes they are not, as examples from the COVID-19 pandemic showed. In this chapter, the acceptance of an appeal to expert opinion was argued to be conditional upon norms for reasonable argumentation, and upon the audience's prior beliefs in claims supported by experts. Empirical research in persuasion studies and argumentation underlines that experts are indeed influential to the degree that they are more credible, have more relevant expertise, are reliable, are consistent with other experts, and provide more additional evidence for their position (e.g., Hoeken, et al., 2014; Hornikx & Hoeken, 2007). This means that people's acceptance of an expert opinion is conditional on critical questions from argumentation theory. Moreover, this acceptance is also conditional on the receiver's prior beliefs. If people already have an explicit opinion or belief, they will judge the experts depending on the congruence between the expert views and their own view. This congruence leads to a subjective, biased evaluation of the criteria associated with the argument from expert opinion.

What do these results mean for understanding the acceptance and lack of acceptance of experts during the COVID-19 pandemic?

First, in the beginning of 2020, various sources emerged on internet and the television, and people were forming—partly on the basis of these sources—their own opinion on novel topics such as contaminations, risks, and vaccines. Many sources presented themselves at the same time, obscuring the distinction between true experts and other people with outspoken ideas. The most likely factor that has played a role in the lack of influence of experts is the weak consensus between experts.³ This lack of consensus was not surprising for at least two reasons. First, different sources communicated evidence and opinions on the basis of information that was constantly changing. Their opinions on how the virus is able to contaminate other people changed with new research evidence presented. Second, experts may view the same issue (e.g., the need for working remotely) differently according to their own discipline. For instance, epidemiologists may strongly advise to work remotely, while economists are more likely to point to drawbacks of working remotely for the economy. The consequence of this lack of scientific consensus is that people (as

³ See also Lewiński & Abreu (2022, this volume) for the challenges that scientific expertise has faced in defining what counts as a COVID-19 death.

shown in Sect. 18.3.2) had lower expertise ratings of experts and, similarly, were less inclined to accept the claims they supported.

Second, people are likely to have assessed the expertise and reliability of experts on the basis of their beliefs in COVID-related claims, such as on the usefulness of wearing masks or getting vaccinated. Experts can certainly be effective in the promotion of masks or vaccines (see, e.g., Chevallier et al., 2021), but they lose influence if people already have strong opinions, as shown in Sect. 18.4. Once people have formed beliefs regarding COVID-19 (e.g., about severity of the treat, usefulness of the measures, threats of the vaccine), these beliefs are hard to change (see Lao & Young, 2020; Mercier, 2020)—even by experts.

At the same time, beyond experts, people themselves spread their views, creating a cacophony of opinions and information about COVID-19. It is no surprise, then, that researchers are examining opinion formation and sharing, including misinformation and fake news, in the digital era (see Pennycook & Rand, 2021). For argumentation scholars, there is a clear part to play. They have catalogues of argumentation schemes and associated critical questions for reasonable argumentation, which can be used in examinations of real-life opinion sharing on topics regarding COVID-19. What arguments are exchanged? How reasonable are these arguments? On the basis of what do people dismiss another person's argument? These kinds of questions can be best addressed by also taking into account theory and research from the argumentation discipline.

Acknowledgements This publication is based upon work from COST Action CA-17132, *European Network for Argumentation and Public Policy Analysis* (<http://publicpolicyargument.eu>), supported by COST (European Cooperation in Science and Technology).

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