Chapter 1

Introduction: The Pandemic of Argumentation

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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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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.

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