

Michele Marzulli - Fabio Lucchini

Social media and delegitimisation of expert knowledge: a case study on a scientific communicator in the medical field

ABSTRACT

Una delle caratteristiche del processo di modernizzazione è stata l'affermarsi di un sapere specialistico sempre più complesso e per certi versi lontano dall'esperienza quotidiana. I saperi esperti, infatti, nel mondo globalizzato sono diventati sempre più pervasivi e indispensabili per il funzionamento di una società complessa: d'altra parte, la stessa caratteristica di complessità richiede che un'opinione pubblica sempre più vasta si affidi alla competenza degli esperti.

Il tema di per sé non è nuovo, ma la caduta delle barriere di classe e la pervasività della comunicazione, soprattutto via web, mettono in discussione qualsiasi approccio gerarchico o elitario, in favore di una circolazione del sapere sostanzialmente egualitaria. Succede quindi che uno dei pilastri della società globalizzata e post-moderna, la fiducia nei saperi esperti, sia messo continuamente in crisi. L'esperienza della pandemia di Covid-19 sembra aver acuito, almeno presso una parte dell'opinione pubblica, la crisi di fiducia nella scienza. Si pensi al dibattito, proliferato soprattutto online, relativo alle misure di contenimento della pandemia oppure in relazione alla vaccinazione.

Questo lavoro, di natura esplorativa, indaga un caso di studio, esemplare, a parere degli autori, di come il sapere medico sia anche in Italia messo in difficoltà da un'opinione pubblica spesso scettica o disillusa. Tuttavia, il sapere specialistico deve trovare strade nuove e diverse, che non rifuggano il confronto nello spazio digitale, assumendo invece quest'ultimo come campo di un dibattito destinato a durare nel tempo.

Parole chiave: Social media, esperienza digitale, saperi esperti, comunicazione scientifica, società post-Covid

The emergence of specialised knowledge - increasingly complex and in some ways remote from everyday experience - has been one of the characteristics of the modernisation process. Expert knowledge, in fact, in the globalised world has become increasingly pervasive and necessary for the functioning of a complex society. However, complexity itself drives public opinion to rely on expert knowledge.

The issue is not new, but the fall of class barriers and the pervasiveness of communication (online in particular) call into question any hierarchical approach in favour of an egalitarian circulation of knowledge. Therefore, trust in expert knowledge - a pillar of globalised and post-modern society - is constantly challenged. The experience of Covid-19 pandemic seems to have exacerbated, at least among part of the public, a trust crisis in science (consider the debate, proliferated mainly online, concerning measures to contain the pandemic or in relation to vaccines).

This exploratory work investigates a case study, exemplary, in the authors' opinion, of how medical knowledge is also in Italy challenged by an often sceptical or disillusioned public opinion. It also shows how specialist knowledge itself should find new and different approaches to not avoiding confrontation in the digital space but takes it on as a long-lasting field of debate.

Keywords: Social media, digital experience, expert knowledge, scientific communication, post-Covid society

MICHELE MARZULLI

Dottore di ricerca in Sociologia e metodologia della ricerca sociale e ricercatore (RTD/B) presso il Dipartimento di Economia dell'Università di Venezia Ca' Foscari, la sua attività di ricerca si concentra sulle tematiche generali della sociologia come scienza del mutamento sociale, sui sistemi di welfare nella loro evoluzione e nel loro sviluppo, sui sistemi e le professioni sanitarie nel nuovo scenario della salute e del benessere delle comunità e delle persone.

michele.marzulli@unive.it

FABIO LUCCHINI

Dottore di ricerca in Sociologia applicata e metodologia della ricerca sociale e ricercatore (RTD/A) presso la Facoltà di Giurisprudenza dell'Università eCampus, i suoi interessi di ricerca si concentrano sulle tematiche della sociologia della salute, con specifica attenzione alle dipendenze comportamentali e al ruolo delle disuguaglianze socioeconomiche, e sul dibattito pubblico intorno alla scienza.

fabio.lucchini@uniecampus.it

Background

The major economic and political crises and those caused by natural events - whether or not linked to human action - seem to call into question certain principles of collective action. In particular, the processes of planetary interdependence, the global value chain, and climate change are affecting certain cornerstones of Western affluent societies. It is an evolution of what was foreseen at the end of the Cold War, namely the emergence of a global «risk society».¹ In particular, the capacity of western democracies to respond with their traditional instruments to ever-increasing needs (crisis of welfare systems), to a demand that has changed profoundly over time (demographic crisis) and to an economic system reluctant to even elementary limitations is questioned.²

In such a context, alongside a crisis of confidence in traditional systems of political representation, a foundation of Western culture - trust in scientific and expert knowledge - appears undermined.³ If, during the glorious period of the “American Century”, some scholars showed how a direct link between liberal-democratic regimes and scientific progress could be assumed,⁴ the emergence of a critical cycle at the beginning of the 21st century provoked a radical change. In particular, the Global Financial Crisis of 2007-08, the return of armed conflict in Europe and the pandemic crisis have contributed to weakening public confidence in scientific knowledge and expert knowledge.

Historically, the mark of science is the willingness to admit failure trying a different track and it explains its success on the basis that: «when things really work, everybody adopts them.»⁵ Those who rely on science – e.g. by agreeing to be vaccinated against a disease - basically accept to trust (an act that is not immediately rational) a knowledge about which they understand almost nothing (expert knowledge). However, if in a given society the level of trust in authorities (political or health) is not high or is not fully shared, expert knowledge may not be sufficient to be the object of a necessary trust, as when one gets on an airplane without knowing exactly the laws of physics. In this regard, interesting aspects of the Covid-19 vaccine controversies are, on the one hand, the renewed reflection on science as knowledge in the making, contextual, critical. On the other hand, one can see the connections of such disputes to the new political cleavage that seems to be emerging in Europe, where the split between

1 Beck, U. (1992). *Risk society: Towards a new modernity* (Vol. 17). Sage.

2 Stiglitz, J.E. (2015), *The origins of inequality, and policies to contain it*. «National Tax Journal», 68:2, 425-448.

3 Alteri, L., Parks, L., Raffini, L., & Vitale, T. (2021). *Covid-19 and the structural crisis of liberal democracies*. «Partecipazione e Conflitto-Participation and Conflict», 14(1), 510; Safford, T.G., Whitmore, E.H., & Hamilton, L.C. (2021). *Follow the scientists? How beliefs about the practice of science shaped COVID-19 views*. «Journal of Science Communication», 2021, 20 (7): 1-19.

4 Kalleberg, R. (2010). *The Ethos of Science and the Ethos of Democracy*, in Robert K. Merton. *Sociology of Science and Sociology as Science*, pp. 182-213. Columbia University Press.

5 Harari Y.N. (2018). *21 Lessons for the 21st Century*, Spiegel & Grau, p. 54. ISBN 978-0-52551217-2.

technocrats/pro-Europeans (European Union) and populists/anti-EU overlaps the traditional one between left and right, progressives and conservatives.⁶ This rift is becoming evident in recent years in the debate on a variety of economic and social issues and, among them, in the polarization between pro-vax and anti-vax arguments.

We therefore live in a historical moment characterised by the questioning of science and all expert knowledge, as is typical of the postmodern reflexive society.⁷ Beyond the growing spread of conspiracy theories and fake news (who are known to use digital platforms, such as social media, as their preferred means of dissemination medium), indeed there is no shortage of critical issues related to the independence of research (in particular, medical research) from private funding sources that are likely to generate conditionings and conflicts of interest. In a context of growing disillusionment with the capacity of democratic institutions to represent and protect collective interests, it is increasingly complex to discern - within a myriad of easily accessible sources - those that are authoritative from those without empirical basis. Related to this is the role of social platforms in disseminating information: in particular, information on science, which are crucial during outbreak situations. Studies looking at how pandemic-related information spreads on Twitter found that while many users tend to prefer information sources generally considered reputable, other share information lacking in sound scientific evidence.⁸ Conflicting messages from multiple sources of information can generate confusion and anxiety, leading to misguided opinions and behaviours. All this may also increase the likelihood that individuals act driven by fear and prejudices, feeding scepticism in any information sources.⁹

The risk of being swayed by untrustworthy information and advice is particularly prominent in the contemporary, hyper-mediated environment, marked by the growing dominance of digital media. If this environment eases the diffusion of expert knowledge enabling public engagement with science, it also highlights new challenges in the form of misinformation and public controversies that can undermine trust in expertise.¹⁰ These challenges have a negative effect not only on public trust in experts but also on people's ability to identify trustworthy expert information.

6 Ford R., Jennings W. (2020). *The Changing Cleavage Politics of Western Europe*. «Annual Review of Political Science», 23 (1), 295-314.

7 Giddens, A. (1994). *Reflexive modernization*, Cambridge: Polity Press; Luhmann, N. (2017). *Trust and Power*. Cambridge: Polity Press.

8 Lucchini, F., Marzulli, M. (2022). *The scientific controversy on Covid-19 and the image of science as an expert system: comparing the debate in Italy and UK*. «Partecipazione e Conflitto», 2022, 15(3):530-548. DOI: 10.1285/i20356609v15i3p530.

9 Mele, V., De Toffoli, M., Luca, S., Campo, E. (2021). *La rappresentazione dell'universo "no-vax" nella sfera pubblica digitale: una riflessione sul caso del vaccino anti COVID*, in Pellizzoni, L., Biancheri, R. (Eds.), *Scienza in discussione? Dalla controversia sui vaccini all'emergenza Covid-19*, Franco Angeli, Milano: 91-114.

10 Van Dijk, J., Alinejad, D. (2020). *Social media and trust in scientific expertise: Debating the Covid-19 pandemic in the Netherlands*. «Social Media + Society», 6(1), 1–11. <https://doi.org/10.1177/2056305120981057>; Mihelj, S., Kondor, K., Štětka, V. (2022). *Establishing Trust in Experts During a Crisis: Expert Trustworthiness and Media Use During the COVID-19 Pandemic*. «Science Communication», 44(3), 292-319.



Existing research examining the factors that shape people's perceptions of experts' trustworthiness identifies several indicators that inform lay people's judgments on experts, including perceptions of competence, adherence to scientific standards, and good intentions.¹¹ Studies also show that perceptions of trustworthiness can be affected by the presence or absence of expert consensus on the topic, and by expert's choice of language and channel of communication.¹²

That considered, within the scientific community, much attention has focused on improving communications between scientists, policymakers, and the public. Distrust in science and misperceptions of scientific knowledge stem not just from problems of communication - content, accessibility, and delivery of scientific communications - but also from the widespread dissemination of misleading and biased information. The structural shifts in the media environment occurred in recent decades and their connection to public policy decisions and technological changes have enabled several actors, with the most varied reasons, to circulate increasingly fake news, misinformation, and disinformation with the help of trolls, bots, and algorithms: in a context marked by partisan animosity, implicit ideological bias and political polarisation, scientific conclusions can be systematically perverted through campaign of disinformation and misinformation.¹³

Aim, materials and methods

In this paper, by following the activity of a scientific populariser (MedBunker) on the Internet and social platforms and the interactions generated by his followers, an attempt has been made to frame the problematic nodes of knowledge communication, considering the criticalities related to the debate on science and the growing public's trust gap with scientific and expert knowledge. We can summarise the issue in these terms: whereas trust in science and expert knowledge appears to be questioned by a part of public opinion, do communication strategies emerge from scientists and expert knowledge to face the new scenario?

To address the question, this contribution focuses on a specific case study. This type of research has received growing interest since the 1980s, generating an interdisciplinary methodological debate, which has now produced dozens of monographic studies specifically dedicated to it, hundreds of scientific articles, and

11 Besley, J. C., Lee, N. M., Pressgrove, G. (2021). *Reassessing the variables used to measure public perceptions of scientists*. «Science Communication», 43(1), 3–32. <https://doi.org/10.1177/1075547020949547>.

12 Gustafson, A., Rice, R. E. (2019). *The effects of uncertainty frames in three science communication topics*. «Science Communication», 41(6), 679–706. <https://doi.org/10.1177/1075547019870811>; König, L., Jucks, R. (2019). *Hot topics in science communication: Aggressive language decreases trustworthiness and credibility in scientific debates*. «Public Understanding of Science», 28(4), 401–416. <https://doi.org/10.1177/0963662519833903>.

13 Iyengar, S., Massey, D. S. (2019). *Scientific communication in a post-truth society*. «Proceedings of the National Academy of Sciences», 116(16), 7656–7661.

some methodology handbooks that explicitly discuss it.¹⁴ Social scientists have indeed made wide use of this research method to examine contemporary real-life situations and provide the basis for the application of ideas and extension of methods.¹⁵ Case study research can help to understand a complex issue, extend experience and add strength to what is already known through previous research, emphasizing a detailed contextual analysis.¹⁶

In this work, the chosen case study is represented by @MedBunker, Twitter profile, from 23 July 2023 named 'X' (more than 45,000 followers), of Salvo Di Grazia, a medical doctor in the Italian National Health Service active in several online platforms. He also contributes to «Le Scienze» - magazine founded in 1968 as the Italian edition of «Scientific American» - and the blog of the daily Italian newspaper «Il Fatto Quotidiano». In his profile, Dr Di Grazia describes himself in these terms: «Surgeon, gynaecologist, I work in a public hospital. Passionate about the internet and coincidentally interested in alternative medicine (perhaps because I am curious), I study and investigate all pseudo-medical practices that are currently not scientifically proven or have proven to be ineffective (and yet continue to be successful). With this excuse I try to spread a little science, correct medical information and scientific curiosities».

In short, MedBunker can be presented as an exemplary case of an expert forged in the public debate. Even before the spread of Covid-19, he used social media as a battleground: he may reject the definition, but he can be called an “influencer” for medical science. This is why it is of added value to describe – through a netnographic observation - such a case in order to identify the different ways in which debates with experts can take place in the aftermath of Covid-19.

From all the tweets posted in MedBunker profile from 1st January to 30th June 2023, the 16 that had more than 50 replies were selected: others are excluded because they are irrelevant for the purpose stated by the Twitter/X profile administrator, i.e. dissemination and scientific debate. The material was categorised following a grounded theory approach.¹⁷ Within the tweets selected, it was possible to identify six topics of interest, as shown in Table 1.

14 Sena, B. (2023). *The Case Study in Social Research: History, Methods and Applications*. Taylor & Francis.

15 Yin, R. K. (2018). *Case study research and applications: Design and methods (6th ed.)*. Thousand Oaks, CA: Sage.

16 Crowe, S., Cresswell, K., Robertson, A. et al. (2011). *The case study approach*. «BMC Med Res Methodol» 11, 100. <https://doi.org/10.1186/1471-2288-11-100>; Grauer, K. (2012). *A case for case study research in education*, in *Action research methods: Plain and simple* (pp. 69-79). New York: Palgrave Macmillan US.

17 Moscatelli, M., Varini, M. (2023). *Animal care e nuovi media: Una ricerca esplorativa sugli immaginari*. «Media-scapes journal», 22(2), 198-216.

Table 1. Tweet and topics

Tweet - Topics	Date	Replies
Alleged health benefits	4th June 2023	89
	24th February 2023	68
Alternative treatments	9th May 2023	79
	26th January 2023	76
	9th March 2023	73
	21st January 2023	66
Covid-19 - pandemics	15th March 2023	57
	20th March 2023	165
	20th March 2023	93
Covid-19 vaccines - adverse reactions	29th May 2023	68
	7th June 2023	50
General controversies	3rd June 2023	617
	25th January 2023	128
	19th February 2023	59
Prevention	30th April 2023	104
	30th January 2023	60

In details:

Alleged health benefits - this topic refers to discussions arisen on whether or not certain devices, substances or foods are beneficial to health. Below are the tweets posted by Medbunker.

Tweet 1 (citing a news published in the Italian newspaper, «Corriere della Sera»): «A well-known sportsman (i.e. Novak Djokovic), who is very good but not very educated, was photographed with a plaster stuck on his chest, which he claims has a beneficial effect on his physique. It is mere advertising. That patch does not contain any active ingredient nor does it have any effect on health» (4th June 2023).

Replies: 89

Tweet 2 (commenting on the widespread belief in healthy effect of taking lemon and water in the morning): «If you like it or if it is a habit like coffee, that's fine, everyone does what they want; but if you do it for health reasons, for supposed benefits, explain to me what effect a glass of water and lemon should have on your body? And why in the morning? If you want, I will tell you» (24th February 2023).

Replies: 68

Alternative treatments: this topic refers to discussions arisen on the use of eccentric approaches compared to those proposed by the generality of the scientific community to treat diseases or improve health.

Tweet 3 (citing a news published in the Italian newspaper, «la Repubblica», reporting the judicial sentence against two parents for denying chemotherapy to their sick daughter): «They did not even repent. The father insisted that the girl be given high doses of vitamin C intravenously, which, according to him, doctors did not prescribe due to pressure from the pharmaceutical company lobby» (9th May 2023).

Replies: 79

Tweet 4 (citing an anonymised message posted on a social profile): «A charlatan who claimed to cure diseases with his potions and prayers falls ill. He refuses all treatments because he says he can heal himself. He then triumphantly announces his recovery, which he claims astounds the doctors. After a few days, his death is announced» (26th January 2023).

Replies: 76

Tweet 5 (citing an anonymised message posted on a social profile, in which a woman, a former cancer patient, complains of suffering from chemotherapy and praises the so-called “Di Bella Method”, i.e. an alternative therapy for the treatment of cancer, lacking scientific evidence of its efficacy): «What makes a person who is cured of a cancer, live after so many years - albeit with ailments and side effects - think that it would be better to commit suicide using a fake cure? The meanders of the human mind are unfathomable» (9th March 2023).

Replies: 73

Tweet 6 (reporting a commercial website advertising a homeopathic product, named *Tyrannosaurus rex*): «If I say that homeopathy is nonsense there are those who get angry. In this case I recommend ten granules of homeopathic *Tyrannosaurus*» (21st January 2023).

Replies: 66

Tweet 7 (citing data from *PharmaRetail*, a website dedicated to the pharmaceutical world): «And again this year, homeopathy continues the decline in sales and turnover that has been inexorably declining for years. In one year minus 11% in sales, and for a long time what is sold in pharmacies has been very scarce (1% of the total products on sale)» (15th March 2023).

Replies: 57

Covid-19 - pandemics: this topic refers to discussions arisen on considerations of the collective experience of the Covid-19 pandemic.

Tweet 8 (recalling the professional experience of the *MedBunker* profile manager at the beginning of the Covid-19 pandemics in Italy): «Now, three years ago. I arrived at the hospital on call. We knew of an epidemic, of a new disease, and we speculated on the days it would take for it to pass. One-two weeks, we waited for the peak, maybe it would have passed, we were hoping...» (20th March 2023).



Replies: 165

Tweet 9 (considerations of the *MedBunker* profile manager with regard to the different attitudes that emerged during the Covid-19 pandemics in Italy): «The bad part of us must be overwhelmed by the good part. That does not speak but works and helps as it can, builds. They have been there too. The selfish have always existed. But let us not forget that there are also the selfless ones. There are and there will be. Let us not forget them» (20th March 2023).

Replies: 93

Covid-19 vaccines - adverse reactions: this topic refers to discussions arisen on fears concerning adverse reactions to Covid-19 vaccines.

Tweet 10 (referring to a criminal event in the United States): «Naomi Johnson, an American no-vax, publishes a tearful message about the death of her poor son, an eight-month-old boy - she claims - was killed by the vaccinations he received. She is arrested time later for the murder of her son, who was abused and died with dozens of fractured bones» (29th May 2023).

Replies: 68

Tweet 11 (commenting on data from a scientific article published in the peer-reviewed journal «Pediatrics»): «A review of data from 245,000 doses of Covid vaccine in children aged 0-4 years showed no serious side effects and no cases of myocarditis. The study in Pediatrics» (7th June 2023).

Replies: 50

General controversies: this topic refers to the *MedBunker* profile manager's remarks on various issues related to health and the role of science.

Tweet 12 (proposing an online survey on edible insects): «Given the controversy over edible insects: would you ever eat food containing DNA?» (3th June 2023).

Replies: 617

Tweet 13 (discussing the practice of rooming-in, i.e. keeping one's baby in the room after childbirth, day and night, without time limits): «For those who think that leaving the baby with the mother is an invention of bad hospitals, I would like to point out one thing: there are Unicef and WHO guidelines on newborn health that the most modern departments have been following for years, making a boast of it. This is one of the points» (25th January 2023).

Replies: 128

Tweet 14 (considerations of the *MedBunker* profile manager on people who display a sceptical, if not hostile, approach to the evidence accepted by the generality of scientific community): «Do they do it on principle? Is there a personal discomfort? I have this doubt because I read really discouraging things: inability to do a primary school calculation. Please avoid controversy or anger. I would like to try to discuss this (I know it is difficult but I am trying). Thank you» (19th February 2023).



Replies: 59

Prevention: this topic refers to discussions to prevent opinions, attitudes, behaviors considered risky for health.

Tweet 15 (discussing the positions of those who express doubts about the effectiveness of helmets in protecting bikers): «Somebody writes: “They lied to us, doesn’t it save your life 100 per cent? What good is a helmet if you still fall off the bike?” It is proof of how difficult it is for humans to understand the concepts of risk, chance and efficiency» (30th April 2023).

Replies: 104

Tweet 16 (starting with a clinical case and citing the peer-reviewed journal «BMC infectious diseases», considerations on pet-transmissible diseases are proposed): «A patient arrives in the emergency room in a very serious condition. High rates of infection, low blood pressure, soporific state and shock. He shows signs of sepsis (generalised infection) and tests note the presence of *Pasteurella multocida*, a bacterium typical of domestic animals» (30th January 2023).

Replies: 60

Reflecting on the first empirical findings, from the *MedBunker* followers’ comments – whose analysis is not the primary aim of this paper – it seems to emerge a certain degree of skepticism towards science, its results, social role and independence. In this regard, just to exemplify, it is emblematic that in several interactions the *MedBunker* profile manager (e.g. Dr. Di Grazia) - despite describing himself as an advocate of the National Health Service in which he operates - is accused of defending vested and hidden interests (e.g. *Big Pharma*).

Discussion

In online interactions, as just suggested, happens that an advocate of the public welfare system (*MedBunker*) risk being accused of serving private interests; another paradox is that - using the categories of 20th century politics - such an accusation comes from those who embody conservative positions: it is the fading - in the debate on science - of the traditional political and cultural divisions that characterised recent past, e.g. conservatives vs. progressives.¹⁸ Rather, a more complex framework is outlined, opening up spaces for discussion on the issues of political participation and the plurality of ideas in a democratic society. In this respect, the observed evolution of the political conflict into a sharp contrast between populism and technocracy

18 Hutter, S., Kriesi, H., Vidal, G. (2018). *Old versus new politics: The political spaces in Southern Europe in times of crises*. «Party Politics», 24(1), 10-22. <https://doi.org/10.1177/1354068817694503>; Gingrich, J., Häusermann, S. (2015). *The decline of the working-class vote, the reconfiguration of the welfare support coalition and consequences for the welfare state*. «Journal of European Social Policy», 25(1), 50-75. <https://doi.org/10.1177/0958928714556970>.

ends up damaging any prospect of a constructive public debate.¹⁹ Against this background, it is important to emphasise that the concept of science communication for scientific argumentation has recently been rethought also due to the growing public demand for discussions on science and technology.²⁰ Science communication now goes beyond classic mediated communication processes, moving towards direct interaction between sender and audience and a new model that is articulated in specific strategies.²¹

Of particular interest for the purposes of this paper is the dialogic strategy that characterises discussions - often on social platforms - between experts and the public on scientific topics. The case study analysed shows that *MedBunker* - within a dialogic strategy mainly oriented towards the dissemination of science through the use of a social media - often adopts a provocative stance when presenting contents. It almost seems as if the expert, through a strong initial statement on a specific topic, wishes not only to clearly put in evidence his point of view, but also to orientate the debate related to his tweet. In essence, a sort of pre-emptive positioning towards both the supporters of his own position and the possibly dissenting or critical audience (e.g. Tweet 4: «A charlatan who claimed to cure diseases with his potions and prayers falls ill. He refuses all treatments (...) then triumphantly announces his recovery (...) after a few days, his death is announced»).

However, the use of provocation, more or less subtle, is not the only strategic communicative mode employed. In fact, one notes a tendency on the part of the scientific communicator to correct some of his statements, perhaps self-perceived as being too harsh. This may happen - as noted elsewhere²² - because of the concern that certain comments may trigger unproductive conflicts and verbal clashes that are scarcely functional to the debate, which he is in any case interested in provoking and fuelling. These attempts at mitigation occur both pre-emptively - in the text of the initial tweet - and to dampen conflict during the debate between followers and between followers and the science communicator himself (e.g. *Tweet 14*: (...) «Please avoid controversy or anger. I would like to try to discuss this - I know it is difficult but I am trying. Thank you»). Despite this, *MedBunker's* sarcasm remains in the background

19 Raffini, L. (2022). *Tra tecnocrazia e populismo. Crisi della comunicazione pubblica e spirale della delegittimazione nel contesto pandemico*, in Lello E., Bertuzzi N. (Eds.), *Dissenso Informato: Pandemia: il dibattito mancato e le alternative possibili*, Lit Edizioni, Roma: 133-148.

20 Bucchi, M., Trench, B. (2014). *Handbook of public communication of science and technology*. London: Routledge; Crescentini, N., Padricelli, G. M. (2023). *The relevance of scientific dissemination during the vaccine campaign: the Italian virologist communication on social media*. «Athens Journal of Mass Media and Communications».

21 Pellegrini, G., Rubin, A. (2019). *Il lungo percorso della comunicazione pubblica della scienza in Italia. (The long journey of the public and scientific communication in Italy)*, in G. Pellegrini, B. Saracino (eds.), *Annuario Scienza, Tecnologia e Società. Un Approfondimento sul Rapporto tra Scienziati e Pubblico*. Bologna: Il Mulino.

22 Marzulli, M., Lucchini, F. (2021). *La controversia sul metodo: un'interpretazione del dibattito online sui vaccini a partire dai saperi esperti*. «Rivista di Ricerca e Didattica Digitale», 2(2), 16-28. https://doi.org/10.53256/RRDD_210107



and is clearly perceivable by the audience; although effective at a rhetorical and polemical level, such a posture seems - judging by the reactions of a significant minority of followers - to partially harm *MedBunker's* communicative efficacy and the popularizing and dialogical intents he declares.

In conclusion, the limitations of the present study should be recognised. On the one hand, after having highlighted the potential of case study in social research, among the shortcomings of a research conducted through the analysis of a single case study there is the fact that any generalisability of findings should be considered as problematic. In addition, this contribution describes some elements of the communication strategy implemented by a science communicator on a social platform, but only mentions interactions with his followers and between followers among themselves. An issue, the latter, which can certainly be the subject of further research. Nevertheless, the authors of this paper believe that the case presented may be useful for exploratory purposes with a view to future studies on the communication strategies chosen by science and academic communicators to address an increasingly sceptical and interactive audience.

Although the paper - in particular the paragraph «Discussion» - is the result of a shared reflection between the two authors, the paragraph «Background» is attributable to Michele Marzulli, while the paragraph «Aim, materials and methods» is attributable to Fabio Lucchini.