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Epistemic and Ethical Risks Of Media Reporting in the Context of the Covid-19 Pandemic, as Challenges for the Development Of Journalistic Practice

ABSTRACT

In this article, the authors intend to analyse risks related to media information in the context of the COVID-19 pandemic and identify demands in terms of the nature and development of journalistic practice in the post-covid time. The first part focuses on journalists in terms of their fitness for professional performance, revealing particularly their epistemic, or cognitive and ethical insufficiency that may be caused also by (conscious and unethical) inadequate preparation for the profession. Here, the authors notice a general professional crisis in journalism, particularly the long-standing imminent crisis of its (epistemic and ethical) normativity, greatly influenced by digital technology in journalistic practice. The authors take these phenomena as signals for further development of journalism as a socially valuable profession, particularly in the long-neglected science journalism. The second part of this article is dedicated to the outline of journalistic expertise in terms of knowledge-based journalism. They describe some basic prerequisites, namely the journalist's ability to use knowledge in the process of their professional assessment and practice, and balanced journalistic competence that incorporates skills, expertise and ethos. Pursuing a better quality performance of journalism, they emphasize the need to accept the principle of a close link between epistemic and ethical professional excellence of journalists that includes epistemic and moral virtues. In the third part, they describe the development of journalistic expertise and training – epistemic, or cognitive and moral development, as well as the development of journalistic (communication and media) skills, especially digital competence in the context of scientific evidence. Finally, in terms of academic (or professional) training, they emphasise a combination of reflexive practice and applied theory.

KEY WORDS

COVID-19. Media Reporting. Journalistic Practice. Epistemic and Ethical Risks. Professional Development. Education. Knowledge Journalism.

1 Introduction

Media have always been and are still understood to be a significant source of important information, news and knowledge, especially during a time of social crisis. We may also state that during the health crisis that is caused by the COVID-19 pandemic, the public expects the media to provide information so that people have a chance to make certain arrangements and take measures in their lives. By information, we mean up-to-date, relevant and reliable media information, as this may mean a matter of life or death.

In the context of quality of media information, or media reporting, we see two important conditions – healthy media and the ability of the journalists to fulfil their role in society. These conditions are mutually related and dependent on each other. As P. Czarnecki, following S. Mocek, pointed out, the overall state of media depends on the fitness of journalists and the state of journalism depends on the world of media.¹ We can ask here about the actual condition or state of media and journalism (or journalists) in connection with media reporting during the COVID-19 pandemic.

Based on research, we can say that in the middle of the pandemic the performance of media organisations and journalists who share important information with the public is not flawless – but quite the contrary. Journalists themselves see the COVID-19 pandemic as a revelation of the very nature of journalism under threat.² We believe it is possible to identify the risks and problems, the nature of which varies in the performance of journalists themselves. These negative conditions are reflected in the quality of media reporting during this pandemic crisis.³

We think that reflection on these risks and problems in media reporting may be helpful, as it can raise questions about the development of journalism as a quality and socially valuable profession. This can constitute a certain prerequisite for the development of its theory and practice, or definition of specific demands on journalist education. In this article, the authors intend to analyse risks or challenges related to media informing in the context of the COVID-19 pandemic, namely in terms of journalists' fitness for professional performance, and identify demands in terms of the nature and development of journalistic practice in the post-covid time.

2 Epistemic and Ethical Risks of Media Reporting and Journalism in the Context of the COVID-19 Pandemic

The epistemic dimension of media reporting in the context of the COVID-19 pandemic is inevitably based on knowledge and opinions about this health and social problem and how to deal with it. In this context, those who find themselves affected are also in the position of (possible) relevant sources of information. It is their knowledge and experience that journalists inevitably rely on. Journalists must build their reports using these people's statements in order to succeed in their roles.⁴ We identify the risk of poor quality of information that journalists receive from their sources and also risks that relate to data and information sourcing. We may state, basing also on the conducted research, that journalists are not satisfied and criticise their own reporting during the COVID-19 pandemic, especially in its first half, and consider

¹ CZARNECKI, P.: Sloboda médií. In *Humanum*, 2018, Vol. 28, No. 1, p. 10.

² PERREAULT, F. M., PERREAULT, P. G.: Journalists on COVID-19 Journalism: Communication Ecology of Pandemic Reporting. In *American Behavioral Scientist*, 2021, Vol. 65, No. 7, p. 979, 983-985.

³ You can find a more comprehensive analysis of risks and problems in media reporting in the context of COVID-19 pandemic here: GÁLIK, S., GÁLIKOVÁ TOLNÁIOVÁ, S.: Media Information and Its Determinants in the Context of the COVID-19 Pandemic. In *Communication Today*, 2022, Vol. 13, No. 1. (In press)

⁴ These are scientists, doctors and other experts in the field of health. Also the government officials, public authorities, civil servants and politicians are irreplaceable sources of information for journalists.

their own reporting sketchy and insufficient.⁵ This surely suggests a problem in terms of the public demand for information, as journalists are expected to deliver up-to-date, relevant and reliable information.

Along with the already mentioned risks and challenges related to the quality of information and the very process of acquiring it from other relevant parties, we also identify risks and challenges in media reporting that are caused by journalists' state of fitness for professional tasks. There are still demands that concern journalists there, demands on their professional capability, without which reliability of information and media coverage is unthinkable in any social situation, not just during the pandemic. If journalists are to be able to collect, reflect, analyse and evaluate various data, knowledge and information using either human or technical sources and then verify, interpret and process it to turn it into information to be presented to the public, they need to have the necessary skills and competences. These demands that concern journalists and their professional fitness (which covers several areas and several levels) are of course also valid in the context of the COVID-19 pandemic and its management within society. Insufficient or inadequate professional performance may be the reason why journalists do not bring relevant and meaningful descriptions and up-to-date analyses of events or precise and truthful information to the public.

Let us talk first about the standard epistemic or cognitive fitness of journalists that guarantees the epistemic accuracy and reliability of media reporting.⁶ All of this we consider in terms of both knowledge and sufficient understanding of the source of information, or expert opinions and competent statements made by information sources, but also in terms of the very ability of their epistemically correct interpretation. These are relevant determinants or conditions for the correct construction of information. We can see a prerequisite for this fitness – a certain level of cognitive skill in journalists. In the context of the COVID-19 pandemic, the epistemic or cognitive condition is seen as particularly important, as this enables journalists to perform professional tasks related to scientific information (particularly in the field of medicine and health care) and its communication, i.e. fitness for science journalism. We are speaking about the competence to inform about scientifically-based issues, and also about understanding the scientific process and the process of academic publishing, but also the very ability to interpret scientific studies.

Sadly, we can say that during the public health crisis, there have been various communication problems in the context of the COVID-19 pandemic – problems related to the publishing process, press releases and general media coverage of science and research related to the pandemic. These problems also include issues associated with the interpretation of scientific results.⁷ Even though Sh. Dunwoody pointed out that the quality of science journalism had generally increased over the years and that the effort for dealing with a decline in revenue and competition on social media had resulted in an overall increase in the number of analytical articles that focus

⁵ See and compare: PANČOCHÁŘOVÁ, N., MACKOVÁ, V.: Metažurnalistický diskurz jako stabilizátor žurnalistiky v době pandemie COVID-19. Covid-19 Infomore.cz (Released on 11th October 2021). [online]. [2022-01-20]. Available at: <<https://www.infomore.cz/news-detail/cs/60-metazurnalisticky-diskurz-jako-stabilizator-zurnalistiky-v-dobe-pandemie-covid-19/>>; MACLEOD, H.: *COVID-19 and the Media: A Pandemic of Paradoxes*. Copenhagen : International Media Support, 2021; PERREAULT, F. M., PERREAULT, P. G., MAARES, Ph.: Metajournalistic Discourse as a Stabilizer within the Journalistic Field: Journalistic Practice in the Covid-19 Pandemic. In *Journalism Practice*, 2022, Vol. 16, No. 2-3, p. 365-383. [online]. [2022-01-20]. Available at: <<https://www.tandfonline.com/doi/full/10.1080/17512786.2021.1949630?scroll=top&needAccess=true>>.

⁶ It is necessary to understand the broad meaning of the “cognitive vs. affective.” More on this for example: MURRAY, T.: Toward Collaborative Technologies Supporting Cognitive Skills for Mutual Regard. In *Proceedings of Computer Supported Collaborative Learning*. Rutgers : ISLS, 2007, p. 1-13. [online]. [2022-01-20]. Available at: <<https://www.perspegrity.com/papers/ethicsTech.pdf>>.

⁷ These issues are not new in the time of the pandemic, but this one has emphasised the long-existing problem of communication science in the society. See: CAULFIELD, T. et al.: Let's Do Better: Public Representations of COVID-19 Science. In *Facets*, 2021, Vol. 6, No. 1, p. 409-410. [online]. [2022-1-01]. Available at: <<https://www.facetsjournal.com/doi/10.1139/facets-2021-0018>>.

on the context and promote understanding,⁸ we can note that (especially at the beginning of the pandemic) the majority of the communicated scientific messages were not ideal. The content of the news coverage was problematic.⁹ Besides various technical flaws and errors that were published in connection with the COVID-19 pandemic, we have also witnessed politicization of scientific issues.¹⁰ This all points to the weaknesses of science journalism and its current epistemic state. In this context, T. Caulfield et al. note that for the journalistic community it is important for those working in the (popular) media, whether it is television, radio, printed press or online media, to ensure that science and the result of scientific work is not misinterpreted. The news media (and more broadly the popular press media) should strive to represent science in the most accurate and informative way possible, without inappropriate extrapolation of its output beyond scientific studies.¹¹ As shown by research, journalists themselves also feel that science journalism has some weak points and, in this context, they criticise media companies for decades-long underfunding.¹²

On the other hand, to fully describe the performance of journalism at the time of the pandemic, we need to say that certain epistemic or cognitive inefficiency in media professionals in the context of media reporting of the COVID-19 pandemic appears to be the result of a weakening of cognitive abilities (for example concentration) caused by large quantities of information or cognitive overload, work stress or fatigue that they face at this time of crisis. It is quite obvious that this all influences everybody's professional performance, including that of journalists. This impairs their media and communication competence, their ability to understand and interpret knowledge, select, verify and assess information sources and consequently process the content for media reports. It turns out that all of this is also influenced by the time factor. Regarding the COVID-19 pandemic, journalists are to perform their professional duties quickly - they are under pressure because the public and media themselves request up-to-date and accurate information more than ever. Journalists are indeed trying to fulfil these demands. However, we do need to say that this high speed is only desirable when it does not impede with the communication of correct and reliable information to the public. We can add in this regard that it is exactly at the time of the pandemic when the risk associated with high speed or acceleration of media information is multiplied. Epistemic correctness and reliability are put at stake when we require high speed information and news, as the speed itself means a threat to the correct media messages and information provided to the public.

We further state that necessary and inevitable is not only a good epistemic, but also moral and ethical condition for journalists to perform their professional tasks. The challenges of media reporting during the COVID-19 pandemic in terms of ethical demands within the news media refer to the already occurring problems of information ethics of journalists. We are speaking about problems such as neglecting to verify information, concealing facts, covering up mistakes, or denying mistakes and so on. There is another problem – objectivity, balance, truthfulness

⁸ DUNWOODY, S.: Science Journalism and Pandemic Uncertainty. In *Media and Communication*, 2020, Vol. 8, No. 2, p. 473.

⁹ CAULFIELD, T. et al.: Let's Do Better: Public Representations of COVID-19 Science. In *Facets*, 2021, Vol. 6, No. 1, p. 409-410. [online]. [2022-1-01]. Available at: <<https://www.facetsjournal.com/doi/10.1139/facets-2021-0018>>.

¹⁰ See more: DUNWOODY, Sh.: Science Journalism and Pandemic Uncertainty. In *Media and Communication*, 2020, Vol. 8, No. 2, p. 473; CAULFIELD, T. et al.: Let's Do Better: Public Representations of COVID-19 Science. In *Facets*, 2021, Vol. 6, No. 1, p. 409-410. [online]. [2022-1-01]. Available at: <<https://www.facetsjournal.com/doi/10.1139/facets-2021-0018>>.

¹¹ CAULFIELD, T. et al.: Let's Do Better: Public Representations of COVID-19 Science. In *Facets*, 2021, Vol. 6, No. 1, p. 412. [online]. [2022-1-01]. Available at: <<https://www.facetsjournal.com/doi/10.1139/facets-2021-0018>>.

¹² PANČOCHÁŘOVÁ, N., MACKOVÁ, V.: Metažurnalistický diskurz jako stabilizátor žurnalistiky v době pandemie COVID-19. Covid-19 Infomore.cz (Released on 11th October 2021). [online]. [2022-01-20]. Available at: <<https://www.infomore.cz/news-detail/cs/60-metazurnalisticky-diskurz-jako-stabilizator-zurnalistiky-v-dobe-pandemie-covid-19/>>.

and in this context also conflict of interest, transparency, but also hidden advertisement in reporting.¹³ Unfortunately, it turns out that media reporting is extremely easily penetrable by not only ideology, but also political interests, financial, or ethically non-standard interests of media organisations, institutions, companies, authorities or media professionals themselves – namely journalists. This endangers media informing, undermining noetical and ethical correctness. It is very difficult for the media to maintain a high standard of objectivity and impartiality if they are sponsored by national governments, pharmaceutical companies or other parties.¹⁴ It is worth mentioning that research has shown that even journalists themselves talk negatively about the journalistic community not sufficiently criticising those in power.¹⁵ However, there are also ethical risks seen in the actions and communication of journalists, or problems in media reporting in terms of impact on those who serve as information sources and people who either voluntarily or involuntarily become involved in reporting. These relate to anonymity or sources, invasion of privacy and similar.¹⁶ We are now speaking of the sick, but also medical staff, scientists or politicians and other persons involved. We see a problem related to disregarding their privacy and even a bigger one in showing sick people without respecting their human dignity, and physical or psychological integrity.

We must not forget that the failure of journalists on the epistemic level can be of an ethical nature and vice-versa. The point is that it can be the result of more or less conscious neglect of professional epistemic or cognitive training in journalists. Similarly, this may also be the result of conscious neglect of one's own ethical preparedness, which can be said when we keep in mind the de-facto expected professional obligation of ethical self-reflection in journalists, as media professionals.¹⁷ This conscious neglect of professional training of journalists is seen in ethical failure. We may state here that this kind of journalistic failure – conscious neglect of professional training – means also betrayal in the sense of the professional ethical and social justice in the society, which is not compatible with the public demand for information during social crises at the time of the COVID-19 pandemic. We believe in this context that this may be a failure caused (also) by the immanent professional crisis in journalism.

Many authors and many research studies capture the conditions and circumstances, difficult position of journalists and the working class in the context of the COVID-19 pandemic, which indeed points to more or less persistent problems.¹⁸ As a specific example, we can mention the quite long imminent crisis of normativity that intervenes on the epistemic and ethical level in media reporting in the context of the COVID-19 pandemic. We see it here as a great crisis of the truth and objectivity in journalism, but also as a crisis of adherence to the traditional

¹³ POLÁKOVÁ, E., MASARYKOVÁ, Z.: *Etika mediálnej komunikácie v on-line prostredí*. Trnava : FMK UCM in Trnava, 2011, p. 88.

¹⁴ If the government pays the mainstream media for advertisement campaigns (COVID-19 tests, vaccination), it is more than obvious that the media will not speak against the vaccination or doubt the safety (e.g. negative side-effects) and so on. If organisations such as WHO and EMA are sponsored by big pharmaceutical companies (such as Pfizer, Moderna) or foundations (such as the Gates Foundation), we may expect to see decisions taken in conformity with these organisations and foundations.

¹⁵ PANČOCHÁŘOVÁ, N., MACKOVÁ, V.: *Metažurnalistický diskurz jako stabilizátor žurnalistiky v době pandemie COVID-19*. Covid-19 Infomore.cz (Released on 11th October 2021). [online]. [2022-01-20]. Available at: <<https://www.infomore.cz/news-detail/cs/60-metažurnalisticky-diskurz-jako-stabilizator-zurnalistiky-v-dobe-pandemie-covid-19/>>.

¹⁶ POLÁKOVÁ, E., MASARYKOVÁ, Z.: *Etika mediálnej komunikácie v on-line prostredí*. Trnava : FMK UCM in Trnava, 2011, p. 88.

¹⁷ See: REMIŠOVÁ, A.: *Etika médií*. Bratislava : Kaligram, 2010, p. 170-173.

¹⁸ See for example.: PERREAULT, F. M., PERREAULT, P. G.: *Journalists on COVID-19 Journalism: Communication Ecology of Pandemic Reporting*. In *American Behavioral Scientist*, 2021, Vol. 65, No. 7, p. 976–991.; MACLEOD, H.: *COVID-19 and the Media: A Pandemic of Paradoxes*. Copenhagen : International Media Support, 2021.; POSSETI, J., BELL, E., BROWN, P.: *Journalism and the Pandemic: A Global Snapshot of Impacts*. ICFJ Town Center for Digital Journalism, 2020. [online]. [2022-01-20]. Available at: <https://www.icfj.org/sites/default/files/2020-10/Journalism%20and%20the%20Pandemic%20Project%20Report%201%202020_FINAL.pdf>.

ethical codes of professional journalism in its practice or effectiveness of these traditional ethical codes. As also for example S. J. A. Ward pointed out in pre-pandemic times, in the recent journalistic or media practice the term such as “search for the truth”, or even such general notions of journalism as “freedom”, “serving the public” and “democracy” sometimes seem to be “hollowed out.” This author believes that quite often journalists see these notions as simplistic appeals.¹⁹ According to P. Czarneci, it is impossible not to notice that the majority of journalists do not take ethical reflection seriously and understand the codes of journalistic ethics to be empty sentences with no practical meaning.²⁰

Finally, we cannot fail to mention the changes that came into journalism with the development of digital technology in media²¹ and the associated epistemic and ethical risks and challenges that are currently seen in media reporting at the time of the COVID-19 pandemic. We are talking about the growing number of online media sources and co-existing media practices of various nature that have been developed with the Internet technology. For professional journalists, they bring some changes in terms of ethical standards in news production because this news is distributed via multiple channels, as also J. A. García Avilés points out.²² In particular, there are new socio-digital technological systems (search tools, recommendation systems, digital archives, social networks) that serve as important technological sources of knowledge or information for journalists. They have also brought some problems with algorithms and processing large volumes of data. They considerably change journalistic practices regarding generation or creation and consumption of information and also inevitably influence the valid (and traditional) norms – for example, they change the existing epistemic practices in the process of fact-finding or fact-checking, etc.²³ It is necessary to say here that at the time of the pandemic, they expose the weak spots in the reporting skill of journalists, especially in the advanced verification practice that could enable them to respond more efficiently to the actual disinformation threat and thus practice higher-quality journalism.²⁴

In the previous text, we outlined certain risks or problems in journalism and media reporting, especially from the epistemic and ethical perspectives. These refer to a long crisis of, in our opinion, epistemic and ethical normativity. As noted by M. F. Perreault and G. P. Perreault, this

¹⁹ WARD, A. J. S.: Journalism Ethics. In WAHL-JORGENSEN, K., HANITZSCH, T. (eds.): *The Handbook of Journalism Studies*. London : Taylor&Francis/Routledge, 2009, p. 303-304.

²⁰ CZARNECKI, P.: Sloboda médií. In *Humanum*, 2018, Vol. 28, No. 1, p. 15.

²¹ For more information, see: BIELIK, P., VIŠŇOVSKÝ, J.: Explanatory Journalism – A New Way How to Communicate in Digital Era. In *Media Literacy and Academic Research*, 2021, Vol. 4, No. 1. p. 24-37.; VRABEC, N., PRONER, J.: Data Journalism in the Context of Important Political Events: The Case of Slovakia. In *Medijske studije*, 2021, Vol. 12, No. 24, p. 40-54.

²² GARCÍA AVILÉS, J. A.: Online Newsrooms as Communities of Practice: Exploring Digital Journalists' Applied Ethics. In *Journal of Mass Media Ethics: Exploring Questions of Media Morality*, 2014, Vol. 29, No. 4, p. 258-260.; See also: SÁMELOVÁ, A.: Vplyv dežurnalizácie na profesionálnu žurnalistiku. In SÁMELOVÁ, A., STANKOVÁ, M., HACEK, J. (eds.): *Fenomén 2019: Súčasná profesionálna žurnalistika a jej reflexie*. Bratislava : UK, 2019, p. 23-36. [online]. [2022-01-20]. Available at: <https://fphil.uniba.sk/fileadmin/fif/katedry_pracoviska/kzur/FOTO_KZ/foto_k_clankom/2021/fenomen_2019.pdf>; MORAVČÍKOVÁ, E.: Metamorfózy mediálnej krajiny v ére postfaktuálnej (Kulturologická sondáž). In *Culturologica slovacica*, 2019, No. 4, p. 40-51. [online]. [2022-01-20]. Available at: <http://www.culturologicaslovaca.ff.ukf.sk/images/No4/Moravcikova_Metamorfozy.pdf>.

²³ Epistemic and also ethical norms and demands seen in journalism, such as neutrality, objectivity, verification of information and transparency have been changing. More on this for example here: GODLER, Y., REICH, Z., MILLER, B.: Social Epistemology as a New Paradigm for Journalism and Media Studies. In *New Media & Society*, 2020, Vol. 22, No. 2, p. 213-229.; EKSTRÖM, M., WESTLUND, O.: The Dislocation of News Journalism: A Conceptual Framework for the Study of Epistemologies of Digital Journalism. In *Media and Communication*, 2019, Vol. 7, No. 1, p. 259-270.

²⁴ Journalists themselves declared the need of training: POSSETI, J., BELL, E., BROWN, P.: *Journalism and the Pandemic: A Global Snapshot of Impacts*. ICFJ Town Center for Digital Journalism, 2020, p. 27. [online]. [2022-01-20]. Available at: <https://www.icfj.org/sites/default/files/2020-10/Journalism%20and%20the%20Pandemic%20Project%20Report%201%202020_FINAL.pdf>.

crisis has been drastically deepened by the COVID-19 pandemic.²⁵ We believe that in this crisis it is the reflection of experience with journalism and media reporting that may be seen as a needed presumption for the development of journalism as a high-quality and socially valuable profession that guarantees desirable performance of the media in terms of their social mission. We understand the risks and problems that we have identified here as challenges for journalism that may serve for professional development in a post-COVID society.

3 Epistemic and Ethical Risks of Media Reporting in the Context of the COVID-19 Pandemic and Crisis in Journalism as Challenges for Journalistic Expertise and Its Professional Development

Already in pre-pandemic times, there were calls for journalists to expand their basic social function – validating and sharing of reality. The desired (expanded) role can generally be described as a knowledge-based profession.²⁶ M. Ekström, O. Westlund note on this that professional journalism is one of the most influential knowledge-inciting institutions, with high demands for a daily provision of relevant, exact and verified information about current events. In terms of providing exclusive forms of information, i.e., valuable and relatively unique knowledge, journalism holds a special position of authority within society.²⁷ It is possible to agree with Y. Godler, Z. Reich and B. Miller that also today, in the digital era and right at the time of a pandemic, professional journalism remains as the most common and most used platform to create and merge knowledge from all walks of life.²⁸

Let us not forget that, as in the case of any broad field of expertise, there are sub-domains also in journalism. One of them is science journalism.²⁹ If we look at how the COVID-19 pandemic is covered, it is obvious that during this time the role of journalists as providers of scientific information has been emphasized. This is of course not a new role, but it has become the central point of discussion.³⁰ It is clear that it is scientific journalists that have accepted the desired role of mediators and distributors of information or information curators and it is exactly this role that differentiates them from other producers of information (for example bloggers, scientists and public relations professionals).³¹

²⁵ PERREAULT, F. M., PERREAULT, P. G.: Journalists on COVID-19 Journalism: Communication Ecology of Pandemic Reporting. In *American Behavioral Scientist*, 2021, Vol. 65, No. 7, p. 985.

²⁶ DONSBACH, W.: Journalism as the New Knowledge Profession and Consequences for Journalism Education. In *Journalism*, 2014, Vol. 15, No. 6, p. 666.

²⁷ Epistemology includes reporting and journalism as unique forms of knowledge. However, more recent (sociological) approaches have been developed exploring them. EKSTROÖM, M., WESTLUND, O.: Epistemology and Journalism. In *Oxford Encyclopedia of Journalism Studies*. Oxford : Oxford University Press, 2019. [online]. [2022-1-01]. Available at: <[https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20\(2019\)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20\(OA%20Author%20copy\).pdf?sequence=4](https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20(2019)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20(OA%20Author%20copy).pdf?sequence=4)>; See also: GODLER, Y., REICH, Z., MILLER, B.: Social Epistemology as a New Paradigm for Journalism and Media Studies. In *New Media & Society*, 2020, Vol. 22, No. 2, p. 214-225.

²⁸ GODLER, Y., REICH, Z., MILLER, B.: Social Epistemology as a New Paradigm for Journalism and Media Studies. In *New Media & Society*, 2020, Vol. 22, No. 2, p. 214.

²⁹ WAI, J., PERINA, K.: Expertise in Journalism: Factors Shaping a Cognitive and Culturally Elite Profession. In *Journal of Expertise*, 2018, Vol. 10, No. 10, p. 16. [online]. [2022-01-20]. Available at: <https://www.journalofexpertise.org/articles/JoE_2018_1_1_Wai_Perina_Mar3.pdf>.

³⁰ PERREAULT, F. M., PERREAULT, P. G.: Journalists on COVID-19 Journalism: Communication Ecology of Pandemic Reporting. In *American Behavioral Scientist*, 2021, Vol. 65, No. 7, p. 985.

³¹ TAKAHASHI, B., PARKS, P.: Journalists and Communicators' Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 2. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

Sh. Dunwoody notes that a large part of consumers of information regarding COVID-19 indeed rely on information that journalists gather and evaluate before it is sent to the public. This gives specialised journalists opportunities to stay in control of the COVID-19 narratives,³² even though there is a threat introduced by the currently ongoing (dis)infodemic.³³ It seems that the popular media have become a channel for important information, especially medical information for the public.³⁴ It is however necessary to note here that as long as we speak of the quality of journalistic information or verification of concrete fields of knowledge, it is sometimes epistemically questionable and unstable³⁵, which is also clearly seen in the context of media coverage of the COVID-19 pandemic.

Critical reflection on media reporting, or journalism during the time of a pandemic has revealed a fundamental problem – the problematic and relatively neglected quality of science journalism. We may note here that this field is very demanding, science reporting is a challenging discipline since it requires remarkable scientific endeavour. It seems that when some problems and negative experience with specialised journalists and reporters, or professional misconduct lead to publishing misinformation, it is the result of their inadequate epistemic, or cognitive preparation and education. This means a lack of knowledge, for example of scientifically-based problems, but also the inability to interpret the published scientific studies or scientific research. This all relates to a general misunderstanding of both the scientific process and the process of academic publishing. We believe in this context that better professional journalistic training is also important in the field of science journalism. As pointed also by B. Takahashi, P. Parks, but also Sh. Dunwoody, as long as we speak of better performance, it is necessary that science reporting applies the principles of evidence-based journalism. Scientists Nisbet and Fahy agree and add that evidence-based journalism could prevent such politicisation of scientific issues³⁶ as we see in the media reporting in the context of the COVID-19 pandemic.

If we accept knowledge-based journalism, or if we understand the concept of science journalism, then we can see that journalists should present themselves less as general experts and more as highly-qualified experts.³⁷ Professional journalists are expected to have wide intellectual insight that can steer their professional procedures and decision-making. This includes, for example, also understanding of politics and historical context when reporting on (scientific) issues. This requires something more than just general knowledge and this is

³² DUNWOODY, S.: Science Journalism and Pandemic Uncertainty. In *Media and Communication*, 2020, Vol. 8, No. 2, p. 473.

³³ In his statement on the nature of digital era, N. Newman states that journalists no more control access to information. It seems that greater addiction to social media and other platforms give people access to a wide range of resources and “alternative facts.” See: MACLEOD, H.: *COVID-19 and the Media: A Pandemic of Paradoxes*. Copenhagen : International Media Support, 2021, p. 34.

³⁴ CAULFIELD, T. et al.: Let’s Do Better: Public Representations of COVID-19 Science. In *Facets*, 2021, Vol. 6, No. 1, p. 410. [online]. [2022-1-01]. Available at: <<https://www.facetsjournal.com/doi/10.1139/facets-2021-0018>>.

³⁵ More on this: EKSTRÖM, M., WESTLUND, O.: Epistemology and Journalism. In *Oxford Encyclopedia of Journalism Studies*. Oxford : Oxford University Press, 2019. [online]. [2022-1-01]. Available at: <[https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20\(2019\)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20\(OA%20Author%20copy\).pdf?sequence=4](https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20(2019)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20(OA%20Author%20copy).pdf?sequence=4)>.

³⁶ See and compare: TAKAHASHI, B., PARKS, P.: Journalists and Communicators’ Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 4. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>; DUNWOODY, Sh.: Science Journalism and Pandemic Uncertainty. In *Media and Communication*, 2020, Vol. 8, No. 2, p. 473.

³⁷ TAKAHASHI, B., PARKS, P.: Journalists and Communicators’ Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 2. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

specialist professional knowledge.³⁸ The development of journalistic expertise should involve the development of a general, domain-specific knowledge base.³⁹ According to W. Donsbach, the need for higher quality performance requires following several basic and in fact not completely new areas of competence: A journalist should have a good awareness of the relevant history and current events in the field they are referring to. Furthermore, he or she should have a scientifically granted knowledge of the communication process and master journalistic practice. Last but not least, they should accept the norms of professional ethics.⁴⁰ More specifically, this development should include this: 1/ knowledge of the history and intellectual context in which events are taking place, 2/ educated understanding of the concrete topics, concrete subject of the involved, 3/Procedural knowledge of mass communication, social and psychological factors that steer decision-making about the news and communication process, 4/ professional skills in writing, interviewing and gathering of facts and 5/ commitment to professional values and roles. The key requirement for knowledge-based journalism is the balance between all five competences that include the already mentioned skills, expertise and values (i.e. shortly - journalistic skills, general knowledge, content-specific knowledge, understanding the theory of communication and journalistic values).⁴¹

It is obvious that epistemology is the central concern of journalism⁴² and that the epistemic, or cognitive fitness of journalists is indisputable and indeed important, especially in the field of science communication or science journalism, as has been proven by the reflection of experience with journalism in the context of the COVID-19 pandemic. As noted also by J. Wai and K. Perina, the expertise models generally suggest that cognitive skill plays an important role here. What they found in the field of journalism points to the fact that journalistic expertise and its development depends on general cognitive skills, education and networks. These are important expertise factors of elite journalism in particular.⁴³ We can generally state that, more than anything else, journalists need to develop various epistemic, or cognitive skills such as the ability to distinguish between opinion and knowledge, correctly assess the information value of events, apply journalistic scepticism (question the correctness), but also apply thought processes correctly (analytical thinking, logics), they need to be able to think critically when evaluating information sources and people's intentions, but also check their own conviction and prejudice.

³⁸ See and compare: DONSBACH, W.: Journalism as the New Knowledge Profession and Consequences for Journalism Education. In *Journalism*, 2014, Vol. 15, No. 6, p. 667-670; TAKAHASHI, B., PARKS, P.: Journalists and Communicators' Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 3. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

³⁹ WAI, J., PERINA, K.: Expertise in Journalism: Factors Shaping a Cognitive and Culturally Elite Profession. In *Journal of Expertise*, 2018, Vol. 10, No. 10, p. 17. [online]. [2022-01-20]. Available at: <https://www.journalofexpertise.org/articles/JoE_2018_1_1_Wai_Perina_Mar3.pdf>.

⁴⁰ DONSBACH, W.: Journalism as the New Knowledge Profession and Consequences for Journalism Education. In *Journalism*, 2014, Vol. 15, No. 6, p. 667.

⁴¹ TAKAHASHI, B., PARKS, P.: Journalists and Communicators' Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 2, 3, 5. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

⁴² EKSTRÖM, M., WESTLUND, O.: Epistemology and Journalism. In *Oxford Encyclopedia of Journalism Studies*. Oxford : Oxford University Press, 2019. [online]. [2022-1-01]. Available at: <[https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20\(2019\)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20\(OA%20Author%20copy\).pdf?sequence=4](https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20(2019)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20(OA%20Author%20copy).pdf?sequence=4)>.

⁴³ We may wonder in this context whether journalism at its top is the profession of the cultural elite only, or also the profession of the cognitive elite: WAI, J., PERINA, K.: Expertise in Journalism: Factors Shaping a Cognitive and Culturally Elite Profession. In *Journal of Expertise*, 2018, Vol. 10, No. 10, p. 2,19. [online]. [2022-01-20]. Available at: <https://www.journalofexpertise.org/articles/JoE_2018_1_1_Wai_Perina_Mar3.pdf>.

We can, from our perspective and in the context of demand for cognitive excellence in journalists, speak about the importance of the so-called epistemic virtues for the development of the desired epistemic competence in journalists. J. A. Greene and S. B. Yu speak of them as certain important dispositions which influence, either positively or negatively, other aspects of epistemic cognition.⁴⁴ V. Popescu, for example – noticing bloggers' criticism – points out that professional intelligence should, in modern journalists, include intellectualistic ethics, i.e. journalists-professionals should in fact stand as models for responsibility, accuracy and truthfulness. These virtues guarantee professional excellence in journalists. They contribute to their central intellectual virtue, i.e. epistemic responsibility. According to Popescu, this excellence is defined by the virtues of the printed press (good writing, thorough investigation, concern for the public interest) that combine the old and new dimensions of intellectual or epistemic virtues (accuracy, curiosity, perseverance, digital literacy or digital sufficiency, reliability, honesty, transparency, authenticity and trustworthiness). This all contributes to journalistic reliability and endeavour to research thorough investigation, focus on precision and reliability, brisk but still open mind for observation – the ability to accept that one's own hypothesis might be wrong, effort to check the data in detail, continually refreshing knowledge, but also tirelessly updating what is new, courage and loyalty to the public...⁴⁵

Also J. Wai and K. Perina speak similarly of important components of professional excellence in journalists – we can see them as virtues – they mention for example strong curiosity, open mind to accept experience, ability to think clearly, in the context of a deeper knowledge base and more general capacity – the ability to quickly understand a wide range of topics and the ability to convey information to the wider public (the ability to write well). They also remind us that cognitive fitness is not the only important component of the journalistic profession and that there are also a number of other factors.⁴⁶ We believe that it is important to notice the interaction of the cognitive factor and the moral factor. As T. Murray points out, our very cognitive dispositions and moral dispositions already interact with each other. The moral constructs are rooted deeply in our knowledge construction. And moral ways of being, behaving and acting, as well as communication and understanding, improve the quality of our cognition. It is obvious, on the other hand, that these moral ways include (though not exclusively) a set of cognitive skills – the ability to understand the position of other people (cognitive empathy), the ability to accept various perspectives, the ability to reflect our own prejudice and emotions (a type of metacognition), tolerance for uncertainty, ambiguity and change (a type of epistemological understanding) and the ability to reflect the quality of communication in which a person engages (metadialogue).⁴⁷ From this perspective, the morality and cognitive skills of journalists are interlinked.

⁴⁴ For instance, disposition to openness and willingness to think deeply predict epistemic cognitive skills and positive academic results. Similarly, tendency towards dogmatism and the need for closeness as the opposite of openness, i.e. the desire for the definite answers and the unwillingness to accept ambiguity relate to maladaptive epistemic cognitive skills and poor academic performance. In this case the authors speak about the so-called epistemic bad habits. GREENE, A. J., YU, B. S.: *Educating Critical Thinkers: The Role of Epistemic Cognition*, In *Policy Insights from the Behavioral and Brain Sciences*, 2016, Vol. 3, No. 1, p. 47.

⁴⁵ POPESCU, V.: *Bloggers, Journalists and Epistemic Responsibility. A Particular Type of Self-Regulation in the Romanian Online Media*. In *School of Communication*. Seville : University of Seville, 3rd-5th April 2013. [online]. [2022-01-20]. Available at: <https://idus.us.es/bitstream/handle/11441/42036/Pages%20from%20conference_proceeding_international_conference_on_media_ethics-6.pdf;jsessionid=3353F7097B3FF29407CC9DA501D3A94B?sequence=1>.

⁴⁶ WAI, J., PERINA, K.: *Expertise in Journalism: Factors Shaping a Cognitive and Culturally Elite Profession*. In *Journal of Expertise*, 2018, Vol. 10, No. 10, p. 16, 17, 19. [online]. [2022-01-20]. Available at: <https://www.journalofexpertise.org/articles/JoE_2018_1_1_Wai_Perina_Mar3.pdf>.

⁴⁷ MURRAY, T.: *Toward Collaborative Technologies Supporting Cognitive Skills for Mutual Regard*. In *Proceedings of Computer Supported Collaborative Learning*. Rutgers : ISLS, 2007, p. 1-3. [online]. [2022-01-20]. Available at: <<https://www.perspegrity.com/papers/ethicsTech.pdf>>.

In professional activity, the decision-making of media creators, or journalists, is a cognitive process that is related to morality.⁴⁸ As also M. Land points out, to overtrump moral values or principles actually means a risk⁴⁹ because these fundamentally help constitute the journalistic ethos that sets moral standards in the professional performance of journalists in terms of adhering to certain rules, or norms and duties (critical demands of the public, determination to provide free information and refutation, norms for truthful media coverage and so on.⁵⁰ As it turns out, these are frequently accepted voluntarily (or perhaps not)⁵¹, which depends on their own moral standards. Journalists, as professionals, are moral subjects acting in accordance with their moral characters. They are steered by their own moral beliefs, ideas, intentions, choices or decisions.⁵² As R. Kapuściński points out, the personal and moral attitude of a journalist is a basic indicator of journalistic professionalism. According to him, a journalist must firstly be a good person, only then he or she can become a good journalist. Bad people will not make good journalists, as only good people try to understand others, their intentions, beliefs, interests, problems and tragedies.⁵³ From this perspective, if the journalistic profession necessarily includes the aspect of ethos, then we can say that the moral character, or moral virtue, has an irreplaceable place here.⁵⁴ Journalistic expertise, or excellence, is determined by applying also other moral virtues, not just epistemic ones. For example, J. A. García-Avilés also directly states that professional journalistic practice, such as truthful transcription and verification of information, brought by sources, including image origins, has always had a moral dimension and must be accompanied by not only intellectual but also moral virtues.⁵⁵

It is obvious, in the context of the previous, that media informing during the COVID-19 pandemic, with associated risks, problems and starting crisis in journalism, poses challenges for journalistic theory and practice. We can state, following M. F. Perreault and G. P. Perreault, that they have opened a space for discussion in the changing journalistic paradigm. They have contributed to discussions on what is and what is not considered correct journalistic practice. This problem has become a primary concern for journalists, who are discussing what is - according to the consistent norms - actually future-proof.⁵⁶ They have also revealed the need for the very journalistic expertise and professionalism. We believe that when reflecting these phenomena, we actually also find the potential of knowledge journalism. The development of the journalistic profession and the actual professional training of journalists should be based on knowledge and science.

⁴⁸ See: REMIŠOVÁ, A.: *Etika médií*. Bratislava : Kaligram, 2010, p. 181-185.

⁴⁹ LAND, M.: Mass Media Ethics and the Point of Decision Pyramid. In LAND, M., HORNADAY, W. B. (eds.): *Contemporary Media Ethics. A Practical Guide for Students, Scholars and Professionals*. Washington : Marquette Books, 2006, p. 26.

⁵⁰ DONEV, D.: Determining Media Ethics in Traditional Media: Terminological Issues. In *Synthesis Philosophica*, 2017, Vol. 63, No. 1, p. 159. [online]. [2022-1-01]. Available at: <<https://hrcak.srce.hr/file/280650>>.

⁵¹ LASKOWSKA, M.: Ethics of Journalism as an Academic Discipline. Problems and Challenges Defined on the Basis of Research Conducted among Polish Students. In RANKOV, P. (ed.): *Staré a nové médiá – starí a mladí používatelia..* Bratislava : Stimul, 2013, p. 64.

⁵² DONEV, D.: Determining Media Ethics in Traditional Media: Terminological Issues. In *Synthesis Philosophica*, 2017, Vol. 63, No. 1, p. 159. [online]. [2022-1-01]. Available at: <<https://hrcak.srce.hr/file/280650>>.

⁵³ LASKOWSKA, M.: Ethics of Journalism as an Academic Discipline. Problems and Challenges Defined on the Basis of Research Conducted among Polish Students. In RANKOV, P. (ed.): *Staré a nové médiá – starí a mladí používatelia..* Bratislava : Stimul, 2013, p. 65.

⁵⁴ See: REMIŠOVÁ, A.: *Etika médií*. Bratislava : Kaligram, 2010, p. 164-170.

⁵⁵ GARCÍA AVILÉS, J. A.: Online Newsrooms as Communities of Practice: Exploring Digital Journalists' Applied Ethics. In *Journal of Mass Media Ethics: Exploring Questions of Media Morality*, 2014, Vol. 29, No. 4, p. 269-270.

⁵⁶ M. F. Perreault and G. P. Perreault point out that the essence of the crisis in journalism practice is in abolition of norms. PERREULT, F. M., PERREULT, P. G.: Journalists on COVID-19 Journalism: Communication Ecology of Pandemic Reporting. In *American Behavioral Scientist*, 2021, Vol. 65, No. 7, p. 979-980.

4 On Professional Development of Journalists in Education from the Perspective of Knowledge Journalism

Expertise development of journalists in education in terms of the knowledge journalism framework could result in better prepared and more focused experts, professionals who will produce journalistic products of higher quality. It should be focused on general, but also professional, specific knowledge that is one of the tools of journalistic ability applicable in their professional thinking and acting. W. Donsbach emphasises the importance of integrated teaching e.g. through interdisciplinary courses. He believes this way journalists-students will be able to integrate disciplines or expertise into the entire curriculum. The future journalist's training should lead to the state when they become seekers of the truth in the scientific sense of the word.⁵⁷ Today's students need to know more than just "what," they also need to learn the "why" and "how." It should teach them to think critically, analyse, assess and interpret. J. A. Greene and S. B. Yu point out that researchers have developed several successful epistemic or cognitive interventions that help them acquire efficient epistemic knowledge and the ability to think critically.⁵⁸ It seems that knowledge building and organisational learning should be, and is, more critical.⁵⁹ Logics should become a more important part of the curriculum for journalists. Even though the pure sense of logics cannot guarantee good thinking, its insight can push us toward it.

At the same time, learning to take a constructive and critical view of oneself, or self-reflection that leads to self-knowledge should be one of the essential components of journalistic training. This is basically a moral prerequisite of the desired ability to self-control one's own beliefs and prejudices,⁶⁰ which refers to the need for moral development. From this perspective we agree with T. Murray and his idea that humans and most groups or situations would benefit from more moral ways of being, communicating and acting.⁶¹ We think that this challenge is also relevant in the field of development in journalism and improving the professional performance of journalists. It is therefore important in education to support the close link between epistemic and ethical excellence in journalists. In this context, we can see the importance and role of ethics in journalist education.

⁵⁷ As also W. Donsbach states, according to Ph. Meyera, for example, journalists must utilise logics of scientific method in their actions: DONSBACH, W.: Journalism as the New Knowledge Profession and Consequences for Journalism Education. In *Journalism*, 2014, Vol. 15, No. 6, p. 666-667. P. M. Lings speaks similarly. In SEILEROVÁ, B., SEILER, V.: *Človek, masmédiá, realita. K filozofickému media turn*. Bratislava : Iris, 2008, p. 24. However, M. Ekström and O. Westlund note that although journalism is a form of knowledge associated with justification standards, it is different from how knowledge is constructed and reasoned in the scientific discourse. Also V. Semir warns that despite certain analogies with the world of science, "the world of reporting constructs its own norms, language and truth." See: SEMIR, V.: Scientific Journalism: Problems and Perspectives. In *International Microbiology*, 2000, Vol. 3, p. 125.; EKSTRÖM, M., WESTLUND, O.: Epistemology and Journalism. In *Oxford Encyclopedia of Journalism Studies*. Oxford : Oxford University Press, 2019. [online]. [2022-1-01]. Available at: <[https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20\(2019\)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20\(OA%20Author%20copy\).pdf?sequence=4](https://oda.oslomet.no/odaxmlui/bitstream/handle/20.500.12199/2870/Ekstr%C3%B6m_Westlund%20(2019)%20-%20OUP%20-%20Epistemology%20and%20Journalism%20(OA%20Author%20copy).pdf?sequence=4)>.

⁵⁸ GREENE, A. J., YU, B. S.: Educating Critical Thinkers: The Role of Epistemic Cognition, In *Policy Insights from the Behavioral and Brain Sciences*, 2016, Vol. 3, No. 1, p. 46, 49.

⁵⁹ MURRAY, T.: Toward Collaborative Technologies Supporting Cognitive Skills for Mutual Regard. In *Proceedings of Computer Supported Collaborative Learning*. Rutgers : ISLS, 2007, p. 3. [online]. [2022-01-20]. Available at: <<https://www.perspegrity.com/papers/ethicsTech.pdf>>.

⁶⁰ See more: REMIŠOVÁ, A.: *Etika médií*. Bratislava : Kaligram, 2010, p. 170-173.

⁶¹ MURRAY, T.: Toward Collaborative Technologies Supporting Cognitive Skills for Mutual Regard. In *Proceedings of Computer Supported Collaborative Learning*. Rutgers : ISLS, 2007, p. 2. [online]. [2022-01-20]. Available at: <<https://www.perspegrity.com/papers/ethicsTech.pdf>>.

In the majority of the cases, journalists, as professionals, study journalism, so ethics can be taught as a separate subject.⁶² As pointed out by A. Remišová, studying ethics, or journalistic ethics obviously does not guarantee more ethical behaviour in journalists. Ethical awareness does not turn one into an ethically sensitive professional. However, it does help the individual to avoid ethical failure. Remišová believes that it is important not to see knowledge of ethics as an end in itself, but as the foundations for ethical skills in journalists. In the case of acquiring knowledge of morality – the nature of moral sanctions or ethical principles such as the principle of responsibility, we are talking about a condition for the development of moral qualities in journalists, their ethical competences, improving the ability of ethical self-reflection, analysis of the consequence of one's professional actions. This cannot be developed without ethical theoretical knowledge, including the knowledge of one's own professional code of ethics. A journalist cannot rely purely on ethical intuition or routine in their professional conduct. Knowledge is one of the factors for their ability to apply in their thinking and acting or improvement of their moral character.⁶³

In our perspective development and professional training of journalists may be and is promoted by professional and scientific research both at the level of theoretical effort and at the empirical level. It is necessary to say first of all that the development of epistemic and ethical dimensions of journalistic expertise requires assessment of the actual quality of the epistemic, or cognitive and ethical capacity of journalists. Equally important is the evaluation of the educational training of journalists. This seems to be one of the important steps toward maintaining the role of journalism in society and its development.⁶⁴ As stated also by J. Wai and K. Perina, the role of education and cognitive skills in expertise development in various professions has been reviewed. However, when it comes to journalism, they believe that this still remains more or less untouched. To be more specific, little or no research has been conducted regarding various factors that may be significant for the development of journalistic expertise.⁶⁵ Unfortunately, when it comes to the morality of journalists, or its assessment, the experience shows that it is not approached too seriously. We believe this relates to the fact that T. Murray was speaking about: academic institutions, as well as the fields of business, politics and culture, have been quite willingly avoiding the topic of ethics or morality, although the situation with this “taboo subject” has been improving in the recent years. It seems that ethics has been pushed aside and kept in a remote and dark corner of the sociocultural domain.⁶⁶

⁶² Regarding media ethics, though implementing of its elements into experts training in various fields (journalists, as well as film directors, actors and similar) is possible, it is not possible to develop a unified system which could influence all the people. CZARNECKI, P.: Sloboda médií. In *Humanum*, 2018, Vol. 28, No. 1, p. 18.

⁶³ See: REMIŠOVÁ, A.: *Etika médií*. Bratislava : Kaligram, 2010, p. 158-161.

⁶⁴ For instance, basing on his own assessment, W. Donsbach points out that the emphasis on all (of those that he desired) competences is hardly ever (if at all) found in a single curriculum: DONSBACH, W.: Journalism as the New Knowledge Profession and Consequences for Journalism Education. In *Journalism*, 2014, Vol. 15, No. 6, p. 667. J. Wai and K. Perina note the importance of assessment of cognitive skills in journalists. See: WAI, J., PERINA, K.: Expertise in Journalism: Factors Shaping a Cognitive and Culturally Elite Profession. In *Journal of Expertise*, 2018, Vol. 10, No. 10, p. 2. [online]. [2022-01-20]. Available at: <https://www.journalofexpertise.org/articles/JoE_2018_1_1_Wai_Perina_Mar3.pdf>.

⁶⁵ There has been quite a long discussion about whether it is the general or specific skills that can help predict the performance in those who have finished their professional training. The extent to which the general cognitive skills may vary in individual expertise areas is, in their opinion, studied less. WAI, J., PERINA, K.: Expertise in Journalism: Factors Shaping a Cognitive and Culturally Elite Profession. In *Journal of Expertise*, 2018, Vol. 10, No. 10, p. 2, 19. [online]. [2022-01-20]. Available at: <https://www.journalofexpertise.org/articles/JoE_2018_1_1_Wai_Perina_Mar3.pdf>.

⁶⁶ MURRAY, T.: Toward Collaborative Technologies Supporting Cognitive Skills for Mutual Regard. In *Proceedings of Computer Supported Collaborative Learning*. Rutgers : ISLS, 2007, p. 2. [online]. [2022-01-20]. Available at: <<https://www.perspegrity.com/papers/ethicsTech.pdf>>.

Finally, it is particularly important to notice also the fast technological changes brought by digitalisation. These changes need to be reflected in journalistic education. We agree with the view that succeeding in journalistic training or acquiring technology-related skills does not guarantee that one becomes a good journalist.⁶⁷ As also pointed out by N. Nahida Begum, following G. Rodman, it is more related to the nature of human existence⁶⁸, which is of a moral dimension. However, when we are interested in performing quality journalism, digital literacy is an obvious requirement for actual journalistic expertise. It is natural that journalists need to learn how to work with the various media platforms to convey their messages to the public. The goal of journalist training should not be mere skill training in the latest technology. Such training may fail in the end because media technologies constantly change. It should be more about strengthening the student's own ability to adapt. In other words, this training should help journalists respond to changes in technology, platforms and perspective, as was noted by W. Donsbach before the pandemic struck.⁶⁹

We should not overlook the fact that journalists are often not acquainted with the details of how technologies are designed and what mechanisms they use when practising their profession. However, they are epistemically responsible for a general understanding of assumptions that must be met in order for technology to produce reliable outputs. Even with the lack of detailed technical information, thus being technical laypersons, they can evaluate the reliability of epistemic technologies to a certain degree, and more importantly, they can still try to better understand how the technology works. Therefore, they should raise questions about the technologies that they rely on.⁷⁰ As was suggested in an interview with N. Mazotte for example in the context of the ecosystem of disinformation that is growing and becoming more sophisticated, in the future it should not be satisfying for journalists to only develop, learn and master the advanced technology and procedures that reveal misinformation. They should also understand how this can actually be used to create such information.⁷¹

Journalists are very interested in training in new reporting skills and advanced verification techniques.⁷² In this respect, we can state that journalistic production, especially in the context of technologies that include advanced verification techniques that make it possible to respond more efficiently to the actual threat of disinformation, requires basic knowledge of scientific evidence. Journalists today need better basic theoretical knowledge as this could positively influence their production, or their digital-media (technological) skills for revealing facts, for fact-checking. Even though journalists themselves can try to understand how technologies work in their own production, as is already noted by Y. Godler, Z. Reich and B. Miller⁷³, we believe that it is organised training that would be beneficial for them. We believe that the educational proposal of knowledge-based journalism would be suitable, which would emphasize the necessary

⁶⁷ LASKOWSKA, M.: Ethics of Journalism as an Academic Discipline. Problems and Challenges Defined on the Basis of Research Conducted among Polish Students. In RANKOV, P. (ed.): *Staré a nové médiá – starí a mladí používatelia*. Bratislava : Stimul, 2013, p. 64.

⁶⁸ NAHIDA BEGUM, N.: Media Ethics: Different Perspectives. In *International Research Journal of Social Sciences*, 2014, Vol. 3, No. 1, p. 9. [online]. [2022-01-20]. Available at: <<http://www.isca.in/IJSS/Archive/v3/i1/2.ISCA-IRJSS-2013-197.pdf>>.

⁶⁹ DONSBACH, W.: Journalism as the New Knowledge Profession and Consequences for Journalism Education. In *Journalism*, 2014, Vol. 15, No. 6, p. 669.

⁷⁰ GODLER, Y., REICH, Z., MILLER, B.: Social Epistemology as a New Paradigm for Journalism and Media Studies. In *New Media & Society*, 2020, Vol. 22, No. 2, p. 222.

⁷¹ POSSETI, J., BONTCHEVA, K.: Infodemic: Disinformation and Media Literacy in the Context of COVID-19. In *Internet Sectoral Overview*, 2021, Vol. 13, No. 3, p. 12.

⁷² POSSETI, J., BELL, E., BROWN, P.: *Journalism and the Pandemic: A Global Snapshot of Impacts*. ICFJ Town Center for Digital Journalism, 2020, p. 27. [online]. [2022-01-20]. Available at: <https://www.icfj.org/sites/default/files/2020-10/Journalism%20and%20the%20Pandemic%20Project%20Report%201%202020_FINAL.pdf>.

⁷³ GODLER, Y., REICH, Z., MILLER, B.: Social Epistemology as a New Paradigm for Journalism and Media Studies. In *New Media & Society*, 2020, Vol. 22, No. 2, p. 222.

intellectual training. This could also help maintain the journalistic standards to propose real knowledge or information, opposing thus the overload of non-professional information available online.⁷⁴ This could also include epistemology, as it represents a new knowledge paradigm that is effective also in the journalistic fact-revealing process.⁷⁵ However, as B. Takahashi and P. Parks note, we have been facing unwillingness in practically-thinking students to accept theory and academically-oriented classes, or demands to emphasise skill practice and experiential training.⁷⁶ It is therefore questionable whether this method of emphasised intellectual preparation of journalists is applicable in our post-covid society.

We believe that the current coherent academic training programs are definitely good and functional for the professional preparation of journalists. As noted also by J. Wai and K. Perina, the model that deliberately promotes practice does show that practice can largely account for performance in a certain domain of expertise. However, there are also other factors that may be more important than deliberate practice. Deliberate practice does not seem to be the only explanation for the performance of journalism.⁷⁷ In this perspective, Y. Godler, Z. Reich and B. Miller point out that both practical and educational approaches are important for the current demands in journalism.⁷⁸ In journalistic education in the sense of knowledge-based journalism it seems there is also a place for experiential learning. With this kind of learning, students acquire their journalistic skills.⁷⁹ However, as W. Donsbach points out, it is necessary to combine training in (communications) competences with the training of practical (media) skills, definitely in line with and based on scientific evidence.⁸⁰ This can help improve the quality of journalism.

As N. Joseph and P. Boczkowski state, bridging the unfortunate gap between experts who work in the field and academics could help to combine theoretical reflection and practical insight and thus come up with suggestions that are conceptionally sound and usable in the real world. The above-mentioned authors believe that it is necessary – particularly in the field of ethics – to balance the practice-dominating theory against reality.⁸¹ However, the path could also lead in the opposite direction. From such a perspective, we see the actual challenge for the rather popular and preferred educational models of experiential journalism in balancing real-world learning

⁷⁴ TAKAHASHI, B., PARKS, P.: Journalists and Communicators' Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 3. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

⁷⁵ We as speaking of a philosophical and normative agenda that both scientists and journalists seem to agree on. See: GODLER, Y., REICH, Z., MILLER, B.: Social Epistemology as a New Paradigm for Journalism and Media Studies. In *New Media & Society*, 2020, Vol. 22, No. 2, p. 224.

⁷⁶ TAKAHASHI, B., PARKS, P.: Journalists and Communicators' Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 6, 8. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

⁷⁷ WAI, J., PERINA, K.: Expertise in Journalism: Factors Shaping a Cognitive and Culturally Elite Profession. In *Journal of Expertise*, 2018, Vol. 10, No. 10, p. 2. [online]. [2022-01-20]. Available at: <https://www.journalofexpertise.org/articles/JoE_2018_1_1_Wai_Perina_Mar3.pdf>.

⁷⁸ GODLER, Y., REICH, Z., MILLER, B.: Social Epistemology as a New Paradigm for Journalism and Media Studies. In *New Media & Society*, 2020, Vol. 22, No. 2, p. 215-216.

⁷⁹ TAKAHASHI, B., PARKS, P.: Journalists and Communicators' Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 3, 9. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

⁸⁰ DONSBACH, W.: Journalism as the New Knowledge Profession and Consequences for Journalism Education. In *Journalism*, 2014, Vol. 15, No. 6, p. 669.

⁸¹ As "from the opposite point of view" the authors speak also about the need to bring the world of academia and practice close together. In the media ethics they are interested in the practically based perspective of complementary approach to, as they see it, the dominating principle-oriented schooling. JOSEPH, N., BOCKOWSKI, P.: From Principle to Practice. Expanding the Scope of Scholarship on Media Ethics. In *Ethical Space: The International Journal of Communication Ethics*, 2012, Vol. 9, No. 4, p. 22-24. [online]. [2022-01-01]. Available at: <http://www.communicationethics.net/journal/v9n4/v9n4_feat1.pdf>.

against the theoretical and academic background.⁸² As De Burgh points out encouragingly, journalism has – at least potentially – a great advantage over many other humanities and social science subjects due to the fact that it can provide unparalleled opportunities for learning practical skills that are very close to the theory. It is the combination of reflexive practice and applied theory that makes journalism an academic discipline of great potential.⁸³

5 Conclusion

Even at the time of the COVID-19 pandemic, there are certain demands for the professional performance of journalists. Respecting these demands, we have identified some risks or challenges for journalism in the context of news media coverage of the pandemic. These are primarily epistemic, or cognitive and ethical challenges that reflect the weakness and inadequacy in the cognitive and ethical condition of journalists for their professional performance, primarily in the field of science journalism. As we have pointed out, this inadequacy may be the result of journalists neglecting their professional training, which can be either conscious or unconscious. This means their abdication of professional ethical and social responsibility and possible immanent professional crisis in journalism, especially with the more or less lingering crisis of (epistemic and ethical) normativity. This crisis has also been greatly contributed to by the changes associated with the use of digital technology in journalism. We believe that is the reflection of experience with journalism and media reporting, especially at the time of the COVID-19 pandemic, that can mean the required prerequisite for development of journalism as a quality and socially valuable profession at the time of the post-Covid society. In our opinion, the risk phenomena or challenges show imperfections and raise questions about journalistic expertise. From this perspective, we see it as a call for development of expertise and training of journalists for their professional duties. We believe that there are several factors, but regarding the identified phenomena, it requires strengthening that is based on knowledge and science – the application of so-called knowledge journalism. From the perspective of the knowledge-based journalism concept, journalistic expertise requires balanced competences that include skills, expertise and values. It is therefore necessary to ensure that the journalistic education system follows this principle and that all the currently and in the future required general competences and expertise, specific (communication and media) skills, and most importantly digital (technical) skills, are promoted and balanced. Journalists should not only know the what, but also the why, basing on scientific evidence. Even training journalistic skills, required by the newest technology, needs a scientific basis, theory knowledge. It is particularly important, from our perspective, to maintain and develop the closely linked epistemic and ethical excellence in journalists, in which epistemic and moral values play an important role. If we want to ensure better journalistic performance, it is important to promote not only the productive epistemic knowledge, but also moral values.

Finally, we point out that despite the fact that the importance of either theoretical or practical training in the professional preparation of journalists may be questioned, coherent academic programmes do have their place in this educational system, and that these programmes expect the application of combined reflexive practice and applied theory.

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⁸² TAKAHASHI, B., PARKS, P.: Journalists and Communicators’ Perceptions of Their Graduate Training in Environmental Reporting: An Application of Knowledge-Based Journalism Principles. In *Frontiers in Environmental Science*, 2018, Vol. 5, Art. 94, p. 3. [online]. [2022-01-20]. Available at: <<https://www.frontiersin.org/articles/10.3389/fenvs.2017.00094/full>>.

⁸³ Ibidem.

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