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New Journalism(s) in Theory and Practices Learning from Digital Transformations

edited by
Romana Andò

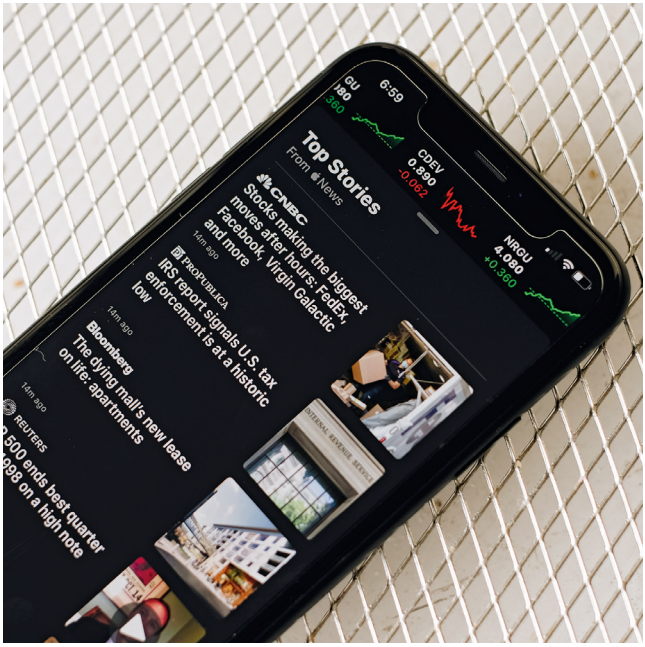

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Table of Content

Editorial Notes. About this Book and this Experience

Romana Andò

I would like to spend a few words introducing the aim of this edited collection of essays starting from its title *New Journalism(s) in Theory and Practices, Learning from Digital Transformations*. First of all we have decided to refer to the idea of journalism(s) to emphasize the plurality of aspects we have to take into account when talking about journalism. The plural here is devoted to telling the multiple transformations of journalism languages and content we have been faced with in the last decades, as well as the extraordinary and rapid innovations and challenges that have arisen within the new digital media eco-system. In order to address these challenges we need to confront theories and practices, enter the field of journalism and discover the inhabitants of this system and the way they are negotiating their positions and roles according to newcomers, new relations, and new environments.

As we perfectly know, as scholars in the field of media studies who are involved in the Erasmus+ PAgES Project, the challenges of this scenario constantly require new competences, new skills, and media literacies. On the one hand, the potentialities of digital media have redefined the very idea of writing and publishing in an unpredictable way. Nowadays, content creators, professionals or not, can count on a media system that is definitely characterized by low barriers of access wherein authors, publishers, and the audience of citizens/journalists are themselves engaged in producing content. Indeed, working in the field of journalism today is not the same as it was ten years ago.

On the other hand, the audiences and consumers of information are increasingly confronted with intrusive digital media and are developing (or have to do so) newer literacies and coping practices in order to deal with these intrusive media, namely the overflow of information,

the circulation of both official and unofficial content, the spreadability of fake news, the hidden power of algorithms and more.

Mirroring this complexity and these challenges, we have designed a learning journey made of training activities, both in person and online, and complementary content that are collected in this book as a result of the richness of diverse contributions we have had during the last four years, scripted and realized through different media channels and presented through multiple languages. The book is ideally divided into two parts: the first section focuses on the theoretical and epistemological *challenges* of contemporary journalism, while the second part deals with the *experiences* of journalism(s), evoking tools, technical skills, and practices that are required within the media industry.

In the first section we put into question the latest trend in journalism studies — the application of AI — with the help of two internationally credited scholars. Tiziana Catarci, from Sapienza University of Rome (*Artificial Intelligence: Myths and Prejudices*), provides a clear and disenchanted introduction to the science of Artificial Intelligence; whereas Charlie Beckett subsequently discusses the implementation of AI in news reporting based on the surveys carried out by the Polis Institute at the London School of Economics and Political Science (*Challenge of Artificial Intelligence for Journalism*). Anna Maria Lorusso (University of Bologna) and Bianca Terracciano (Sapienza University of Rome) analyze the foundations of the semiotic approach (*A Semiotic Perspective on Post-Truth Regime*), establishing a parallel between the main mythology of Western tradition — "truth as correspondence to reality and verification" — and the crisis of public debate triggered by the COVID-19 pandemic. From a similar starting point, Maria Romana Allegri and Christian Ruggiero (Sapienza University of Rome) reflect on the decreasing level of people's trust in media and news outlets as a result of both information overload and the effects of the pandemic, by insisting on the need of ethical standards and media accountability (*Journalism Ethics as a Tool to Survive Digital Transformation: An Overview*). By adopting a sociological framework, Isabella de Vivo (Sapienza University of Rome), in her essay on the *neo-intermediation* of journalism, discusses the twofold process of personalization and platformization (*Towards an Algorithmic Public Opinion?*).

The second part of the book is devoted to advanced models in news production and distribution. A bridge between the two sections is provided by Pedro Almeida and Luís Pedro, from the University of Aveiro,

who discuss a few cases of content co-creation and social media dissemination against the backdrop of such concepts as agency and engagement (*Participatory Strategies for Journalistic Content Production and Dissemination in a Trans/Cross-Media Perspective*). Luís Rodrigues, Vania Baldi, and Adelino Gala, from Aveiro University as well, focus on the field of mobile journalism, a new skill to which we dedicated a specific session of the PAgES training of trainers (*Mobile Journalism and New Skills in the Journalistic Field*). A very operational contribution is also provided by Alice Assunção de Melo, Adelino Gala, and Vania Baldi, who clarify the much-discussed issue of data-driven journalism (*Data-Driven Journalism: An Introductory Basis for the Practice of Journalism Guided by Data Analysis in Libya*). In her essay (*The Potential of Interactivity: Contributions of i-docs to Journalism*), Juliana Bez Kroeger (PhD candidate at Sapienza) explores the potentiality of interactive documentaries as a new model of interaction between content and audiences. The contribution also documents a specific part of the training conducted with Libyan students of journalism at Sapienza University and IULM in 2022.

Another relevant experience of cross-media information and communication is the one described by Javier Cantón Correa and Esteban Romero Frias, from the University of Granada, who propose some insights from the activity of the UGR MediaLab with a focus on the design of the ad-hoc tools from cross-media communication (*Cross-Media Communication in Social Labs: The Experience of Medialab UGR*).

Finally, Cristina Stefanelli who curated the online training within PAgES experience, explains the hybrid approach to online and on-site training for journalists, which has become ever more necessary in the years of COVID-related travel bans and restrictions (*Journalism Education: a High-Hybrid Approach to Online Training for Journalism Teachers*).

We did not initially have the ambition to produce a manual on journalism. Instead, this collection represents our attempt to spread the polyphony of the voices of this project among a plurality of audiences, from scholars to students to professionals, from people passionate about this content to engaged citizens… and to continue to nurture our dialogue.

The Endless Crises of Journalism: Insights from the PAgES Project

Andrea Miconi

1. The PAgES project

This book collects the most relevant scientific outputs of an EU-funded project, namely, the Erasmus+ Capacity Building in Higher Education Project *Post-Crisis Journalism in Post-Crisis Libya: A Bottom-up Approach to the Development of a Cross-Media Journalism Master Program* (PAgES). The project has been coordinated by IULM University between 2019 and 2023, with the goal of setting up a professional master course in cross-media journalism in four Libyan universities — those of Zawiya, Sirte, Misurata, and Tripoli.

As to the more general expectations, the PAgES project was meant to go hand in hand with the overall transition of Libyan Higher Education — hence the optimistic marking of the very title, *post-crisis* journalism in *post-crisis* Libya. We drew upon the previous experience of the eMEDia Tempus consortium — led by UNIMED-Union of Mediterranean Universities — which allowed us to pilot a cross-media Master program in the three Tunisian universities of Sfax, Tunis La Manouba, and Sousse. After the kick-off meeting, hosted by IULM University in Milan, in January 2019, *everything that could go wrong went wrong*: the outbreak of a new stage of the civil war; the internet shutdown and the electric power blackouts in Libya; the financial embargo and the international isolation of the country; and then the COVID-19 outbreak, and the following travel bans, restrictions, and lockdowns, in both the northern and the southern shores of the Mediterranean.

This notwithstanding, and due to the extraordinary commitment of all partners — Sapienza University, UNIMED, University of Aveiro, University of Granada, University of Tripoli, University of Zawia, Sirte

University, the and University of Misurata — the PAgES consortium eventually reached all the goals of the project. In this respect, we can mention: the drawing of the Master course, realized through a participatory approach, with the almost unheard-of implementation of the Bologna Process and the 120-ECTS formula; the approval of the Master at the Accreditation Centre of the Libyan Ministry of Education; the set-up and the opening of the four equipped labs; the offering of the course in the four universities; the online and offline training of Libyan trainers; and the two-week study visit of the Libyan students in Rome and Milan. In its small way, this book is also the celebration of an extraordinary result we achieved, despite the critical, if not *desperate* situation we have already mentioned.

2. Facing the crisis of journalism

A few years ago, Rasmus Kleis Nielsen put forward the idea of a multi-level crisis of Western journalism. Such crisis, the idea goes, would affect the economic viability of the news industry; the professional standards of reporting; and the confidence relationships between media outlets and their audiences[1]. As a matter of fact, working on journalism education has become a desperate attempt due to the rising unemployment rate; the speed at which technological innovation impacts the material conditions of the system; and last but not least, to dramatic lack of people's trust in the media in an ample majority of industrial countries.

That any crisis is also an opportunity is a well-known commonplace — and the academic debate is not exempt from commonplaces. The idea of a positive cross-fertilization between the journalistic field and digital innovation is indeed widely accepted, and has gone by several names throughout the last decades. In the beginning, it was simply about *online* journalism, based on the interpenetration, or remediation, between the old and the new media. Between the end of this century's first decade and the beginning of the 2010s, the spread of new social movements — and especially the so-called Arab Spring — brought with it the myth of *citizen* journalism, linking the material availability of new devices to the dawn of a new era of participation. Somehow, due to such unprecedented growth of uploaded contents, people's online activity has been mistaken for agency — which would

[1] Nielsen 2016, pp. 77–97.

rather require a given quantum of awareness and political will. One of the alternative interpretations — that we put to the test of the eMEDia project — is for instance Manuel Castells' idea of *networked* journalism, with attention shifted to the wholesale evolution of journalism towards an interconnected and flexible system fueled by the initiatives of both professionals and amateurs[2].

In this respect, *cross-media* journalism — to which the PAgES project is dedicated — is but the last of a long series of buzzwords. In this regard, we opted for cross-media, rather than trans-media, due the specific focus on journalism. Indeed, the first concept refers to the use of different tools for telling *the same story* — a news report, in our case — whereas the second embraces the possible multiplication of contents and levels of reality. In the meantime — and rather inevitably — a new discursive category reached its hype: that of news *platformization* with references constantly made to new means such as algorithms, Artificial Intelligence (AI), and blockchain[3]. This book seeks to investigate the various patterns of interaction between these economic, professional and technological forces, which have been shaping an incredibly unstable landscape.

All in all, as one can easily notice, our idea is that on-field practice and up-to-date technological skills are of pivotal importance in the contemporary cross-media market — and yet, *they are not enough*. Journalism has always required both professional competences and a wide set of knowledge related to social context, ethics obligations, contemporary history, accountability, and responsibility. This is the more so, we may argue, in such a critical area as Libya. We hope that the PAgES project may plant the seeds of a new culture of debate, cooperation, and public communication.

* * *

We want to remember here three friends and colleagues who tragically passed away during the lifetime of the project: Mohamed Abusbiah from the University of Sirte, Ali Farfar from the University of Tripoli, and Jordi Alberich Pascual from the University of Granada. Not only is this book dedicated to their memory, but the overall achievement of our Euro-Libyan cooperation — both at the human and professional level — is a testimony of their legacy.

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[2] Van Dijck et al. 2018.

[3] Ibid.

References

Nielsen, R.K. (2016), *The many crises of Western journalism: A comparative analysis of economic crises, professional crises, and crises of confidence*, in "The crisis of journalism reconsidered", pp. 77-97.

Van Dijck, J. et al. (2018), *The platform society: Public values in a connective world*, Oxford University Press.

Challenges

Artificial Intelligence: Myths and Prejudices[1]

Tiziana Catarci

To approach this contribution no computer science background is needed. As a matter of fact, I intend to address some myths and prejudices regarding Artificial Intelligence (AI) and Machine Learning (ML) that are very often considered synonyms and generate confusion within the public debate.

First of all, we should give a basic definition of Artificial Intelligence. Artificial Intelligence is a scientific discipline aimed at creating machines that show a behavior potentially considered intelligent when adopted by a human being. If this is the most common and traditional definition of AI, we then have to distinguish between two different types that are historically determined. The first one, which is called General AI (or Horizontal AI) can handle different problems and scenarios as the idea behind it is that it tries to replicate the way in which humans think and solve problems. It is "horizontal" in the sense that it can potentially be applied to any problem exactly like what humans can do. This is a very ambitious goal and we do not have a General AI yet.

Then, we can refer to a Narrow AI which is what we are dealing with at the moment. Narrow AI (or Vertical AI) is something that in a more or less intelligent way solves specific problems. Each algorithm is therefore designed to specifically solve one problem or a category of problems. Once you have an algorithm that deals with, for instance, problems related to specific image recognition — for example, in the case

[1] This contribution is the transcription (reviewed by the author) of Tiziana Catarci's speech at the webinar organized within PAgES Project on the relationship between Journalism and AI.

of the human face — that same algorithm cannot be used to recognize, for instance, images of cars.

AI is not a novel field of study but has been in development for many years. Let's then start by reading the *Introduction* to the proceedings of an English conference in 1953:

> It seems probable that we shall have a second Industrial Revolution on our hands before long. The first one replaced men's muscles by machines, and every worker in England now has an average of more than 3 horse power to help him. In the next revolution machines may replace men's brains and relieve them of much of the drudgery and boredom which is now the lot of so many white-collar workers. No one has yet proposed a unit in which to measure "brain power", so one cannot express in numerical terms the help which the next generation of clerks may expect to receive from machines.
>
> We are now, in this very moment, in the second revolution, the digital revolution. We are living it every day and indeed a lot of boring jobs have been already replaced by machines. You can see, for example, that in the banks there are much less clerks and more smart machines, similarly in other working contexts where mainly repetitive activities take place. Repetitive jobs will disappear in some years, but we will have a lot of new jobs, and we will never, at least in our temporal horizon, replace the creative abilities of humans.[2]

Starting from this very premise, what is the AI dream? From Turing onwards, the AI dream has been to build an intelligent machine. Thinking about Hal 9000, the supercomputer on board the spaceship Discovery in Stanley Kubrick's *2001: A Space Odyssey*, you might remember that it was an artifact with which to interact as if it were a human being. We do not have a Hal yet, and we do not know exactly when it will be possible to have a machine like that. This was Turing's dream, almost one hundred years ago, and we are still more or less in a very similar condition in terms of expectations.

During these years, many approaches and attempts to build AI systems have been experimented. To briefly summarize this evolutionary path, we can begin classifying them by starting from the system's objective: we have a Narrow AI, as previously mentioned, and a General AI. A Narrow AI consists in building systems capable of performing definite complex human functions tailored for specific purposes. Through

[2] Bowden 1953.

a General AI you can build a machine that is like a human, thinks like a human, and acts like a human.

Moreover, we can focus on the different approaches to knowledge representation in AI: all AI are, in fact, based on different ways of representing knowledge and of reasoning on such knowledge. We can roughly divide them into Symbolic AI and Connectionist AI. On the one hand, Symbolic AI means to conceptualize the entire world in terms of a symbolic structure that the system itself uses in order to know the world, reason about it and solve problems. In this sense we may refer to ontologies, or complex knowledge representation systems, to get an idea of Symbolic AI. On the other hand, Connectionist AI is the AI that is closer to Machine Learning where intelligent decisions are based on structures of interconnected nodes, the neural networks, whose interactions grow with all the new stimuli received during the system's life. Neural networks were originally introduced decades ago but nowadays, as we will discuss later, the technological context is ready to fully exploit them.

Finally, we can mention another classification based on how a system is built. In the model-driven approach, the idea is that one may specify a model through its classical activities of analysis, knowledge definition, rules definition, etc. Instead, in the data-driven approach, both the knowledge and the rules emerge from data that are collected from the phenomenon in question. This data-driven approach is typical of today's Machine Learning systems. Of course, the knowledge extracted from data is not a kind of general knowledge potentially related to the entire world, but it is strictly related to the specific phenomenon of interest.

As a consequence, today more than in the past, we have Narrow AIs in contrast with what is called cognitive computing. Maybe we can say that in the past ten years there has not been much progress as to General AI because research has focused more on Machine Learning and then on Narrow AI. In other words, our "poor" machine that will be able to talk and act like a human being, still has a long way to go. Another remarkable aspect is the importance attributed to creativity. No machine is creative and no researcher knows how to make it so.

Nevertheless, AI is everywhere. We experiment Artificial Intelligence in the form of Machine Learning whenever we order something and get suggestions, search for images, or translate a sentence in a foreign language. In particular, image recognition is the real killer application for machine learning, followed by natural language processing.

So what does Machine Learning exactly mean? While in logical reasoning, which once again can be considered similar to traditional AI, the way to solve a problem is to define a procedure and the individual steps that lead to its solution, the approach in ML is to start from examples of previous solutions and methods in order to generalize them. It is worth noting that this is also one of the reasons why Machine Learning algorithms are problem-specific. Moreover, since a devil is always somewhere, in our case the devil is exactly in the examples that come from the collected data. Even if neural networks were defined around 1947, back then the approach did not work due to the lack of huge amount of data and high computational power of the machines necessary to process data. In other words, the foundations of modern Machine Learning was placed decades ago but only in this century can we count on both powerful enough computers and Big Data.

"Data is the new oil" as Kiran Bhageshpur, CEO of Igneous, stated in 2019 on *Forbes*. This well-known and famous quote is particularly true and effective if we consider that the digital revolution is largely based on the availability of tons of data. In particular, all ML systems are based on the application of statistical methods applied to large amounts of data. In traditional ML, however, a considerable work is done by humans in processing data and extracting the features that will then be processed by the neural networks. In more recent approaches, based on the so-called "deep learning", the discovery of features as well as the representation mapping are made by the network itself, thus reducing human work in pre-processing the raw data. However, it is not easy to understand (if it is definitely understandable at all) how the representation and the overall final results have been generated. The problems related to process opacity and the lack of explainability for human users (including the designers and computer scientists) are probably the most critical issues of deep learning approaches[3].

[3] Du 2020.

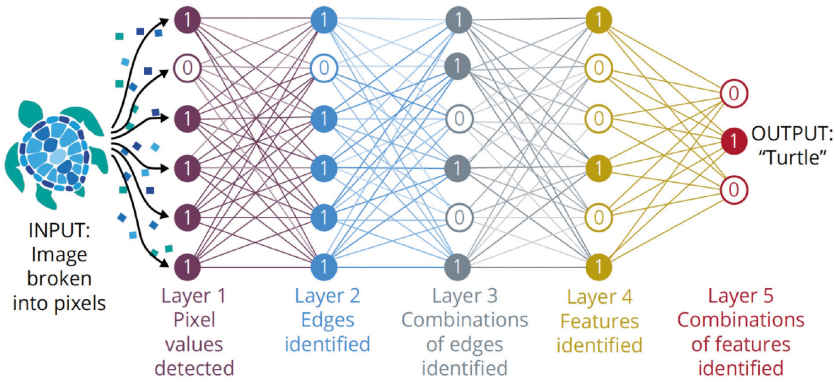

Fig. 1. Turtle. Source: New Theory Cracks Open the Black Box of Deep Neural Networks, in "Wired" (10 August 2017).

We can explain this point starting from a very simple example. Looking at the turtle in Figure 1, we can observe that the system gets an image and that this image is broken into pixels. Several layers will then be involved in figuring out that the image is a turtle. The problem is that humans do not know how these networks operate and they must blindly trust the system.

And, of course, deep learning requires huge quantities of data; it does not easily deal with the hierarchical structures — like the taxonomy of concepts —; it is not transparent; it does not easily integrate with other types of knowledge; it does not distinguish between correlation and causation; it presupposes a stable world because it does not adapt to changes; its answers are not always reliable; it is difficult to engineer, and, mainly, it is not understandable by humans and propagates biases and discrimination. Indeed, biases and prejudices are often reflected in the example data that come from partial views of the real world and are used to train the network. The system learns such biases and just poses them again, amplifying them in a never ending process.

Of course, we do not have to move from the idea that Machine Learning can do everything to the idea that it is totally useless. There are specific problems that can be solved very well by Machine Learning as well as limits that need to be better understood. In order to understand this consideration we can refer to one simple example about the difference between correlation and causation, i.e. correlation is not causation. Surfing the web, we can discover that there is a strict correlation between the US spending on space science and technology and suicides by hanging, strangulation and suffocation. Using common

sense, everybody understands that such aspects are not related, while ML algorithms could conclude that they actually are related.

In order to overcome some ML limitations, recent research directions are moving towards the idea of using AI to augment human intelligence. In this sense, the recommendation is not to substitute humans with machines, not even in simple tasks or in cases where these tasks have a social impact. Generally speaking, humans are much better at formulating questions and solving problems; at experiencing common sense reasoning every day in every moment of life, as they can also count on intuition and creativity.

So what is better for AI? To manage huge quantities of data, to carry on pattern recognition among these data, and to do statistical and probabilistic reasoning (that, of course, we cannot do quickly at least). With these premises in mind, the idea is that humans and machines could work better together. Another simple example can support our discussion: the error rate that has been found in the identification of metastatic breast cancer by top AI systems is 7.5; while in the case of the top pathologists, the error rate is 3.5 (as you can see, humans are also better at this). However, by combining top AI systems and pathologists, the risk of error is reduced to 0.5, so this is the right direction to follow in order to effectively use Machine Learning.

Another aspect that we need to take into account is how data is full of biases, sexism, and racism and, as a consequence, how (and if) we can trust it. Another example could be useful to clarify what I mean: a man who has been arrested because an algorithm recognized him from the image of a surveillance camera, but he is innocent. The comment he gave to the police officers illustrates the biases of data: "do you think all black men look alike?". In this case, the problem was the lack of diversity in the training image datasets that mainly contained images of white people, resulting in the difficulties in carefully distinguishing black people. Another similar case that has been experimented in the United States is that of the recognition of autism symptoms through facial analysis. As the training data contained chiefly images of Caucasian children, the algorithm could not recognize the same traits in children — girls and boys — who were not Caucasian, hence automatically excluding them from the care and support program.

A lot of damages can originate from the complete automation of decision-making in processes that have a strong social impact: for instance, a machine can decide whether to give a mortgage or credit to

someone, but human users are not able to understand why that decision happened and on which basis. Very often the decision is based on discriminatory and consolidated practices that are carved in the training data (e.g. men get more credit than women), even if they have nothing to do with the real parameters that should be taken into account within specific situations.

Considering gender biases, when Google Translate converts a sentence like "he is a nurse, she is a doctor" into another language without gender, for instance Turkish, in the translation the nurse becomes a "she" and the doctor becomes a "he" because there are more male doctors and female nurses in the collected data used in training the machine.

Gender biases are amplified by Machine Learning also because not many female designers are involved in this activity. Female computer scientists working in Machine Learning and artificial intelligence are less than 10% in the United States and in the rest of the world the situation is not better.

Biases and other critical aspects of AI are getting more and more attention from an ethical point of view, giving rise to what is called the ethics of AI. Addressing these ethical problems regarding AI is crucial because how humans can use the enormous power of new technologies depends on it, whether to contribute to create a better world for everybody or to amplify and propagate discrimination.

A large part of the research community, after the initial enthusiasm for the achievements of Machine Learning is now moving to what is called "AI for good", concentrating on AI ethics and on human-centered and value-oriented design of technology. Social-minded measures of the quality of data and algorithms have been introduced to verify that they both are fair and take into account diversity. Moreover, ML processes must be transparent and interpretable, understandable by both the expert and the final user. For example, someone who has been denied credit by a decision support system should be able to understand the reasons of this denial.

Finally, there is a new research line concentrating on AI and neurosciences in which the idea is that human intelligence may enrich ML and AI by introducing new learning mechanisms discovered through the study of the human brain. In turn, AI may produce prostheses or, in case of damages, even repair some human capabilities. Thus, the future is really towards "AI for good" or, at least, this is what we hope.

References

Bowden, B.V. (ed) (1953), *Faster than Thought*, Sir Isaac Pitman & Sons, London.

Du B.M. et al. (2020), *Techniques for Interpretable Machine Learning*, in "CACM", January.

Wolchover, N. (2017), *New Theory Cracks Open the Black Box of Deep Neural Networks*, in "Wired" (8 October), available at https://www.wired.com/story/new-theory-deep-learning/ (last accessed 8 March 2018).

Challenge of Artificial Intelligence for Journalism[1]

Charlie Beckett

I am not a technologies expert but I am an expert on how technologies impact on journalists and I am convinced that what we call "Artificial Intelligence" will be the latest wave of innovation to change the news media. Back in 2019, my think-tank Polis, the journalism institute at the LSE[2], carried out a global survey of news organizations about their use of AI (machine learning, automation, etc.) along with months spent talking to journalists in workshops from around the world. We asked them what they were doing with these technologies, also investigating how they thought it would change their business model and working practices. Moreover, we tried to understand those ethical and editorial issues around ideas of bias, for example, and accuracy.

What we discovered from our work is that Artificial Intelligence (AI from now on) is already having an impact and is very much present. You only have to think about how search, for example, has become such an important tool for journalists and, of course, that is algorithmically driven. So, we can see that AI is having an impact on news gathering, news production and, most importantly, perhaps news distribution. The idea of using these technologies to connect the content to the customer, the consumer, the citizen in ways that are more efficient and more effective.

We talk about robots creating stories but perhaps the most important role of these technologies is in connecting the journalists to the

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1 This contribution is the transcription (reviewed by the author) of Charlie Beckett's speech at the webinar organized within the PAgES Project on the relationship between Journalism and AI.

2 https://www.lse.ac.uk/media-and-communications/polis.

public. We are all very conscious that journalists from all around the world have all sorts of problems, some of them are political, some of them are social, but especially economic.

Algorithms are controversial. In 2021 in the UK the British government decided that students will not take exams physically during the pandemic and instead their grade will be decided by an algorithm which will look at what teachers recommended. It went disastrously wrong and everyone blamed the algorithm: Evil algorithm; Controversial algorithm; Unjust algorithm. But, of course, the point was that the algorithm had been designed by the exam authorities. They decided how it was going to behave and it was the politicians who made the choice to allow that. They said "we want the algorithm to do these things" and ignored the social justice element. So, this is a very good example on how we blame technology when in fact we should blame the people, the humans, the technologists or the politicians who actually control and design the technology.

So, when you talk to journalists, one of the first thing they talk about is robots: "Robots are coming to take our jobs, robots are going to replace journalists!". Now, this is untrue in the sense that, first of all, there are no real robots in the sense of automatons coming into your newsroom. There are, in fact, algorithms and there are computer programs and they may well be doing some of the work that journalists used to do. This fear-mongering is often fostered by journalism about AI. In 2021 *The Guardian* published an article written by a computer. They use the same language in the headline: "A robot wrote this entire article, human, are you scared yet, human?"[3].

The article was generated by GPT-3 which can be trained to write content about a topic. The finished article was very impressive and you could easily imagine that it was written by a human journalist. The so-called robot or the program did create content but, in fact, when you look to this, that it was not a robot acting autonomously. The program had been highly designed by a computer programmer who had designed what it was going to do once it had been given the data. And in fact, in this case, the program created ten different versions and then a human editor at *The Guardian* edited that material into the article that was then published.

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[3] https://www.theguardian.com/commentisfree/2020/sep/08/robot-wrote-this-article-gpt-3.

So, again, this is a very good example of the rhetoric around AI and how that could be misleading, but also about the reality that this technology is generally going to be used in very practical ways to augment, to be additional to what the humans do. It very rarely operates by itself.

When we talked to the newsrooms about why they wanted to use AI, it was not to replace journalists. It was first of all, above all, to make journalists work much more efficiently. It was the same with mobile phones. It is a technology which has been incredibly helpful at saving time of making journalists more effective and efficient. I think that most newsrooms are looking at AI technology in a similar way to make the journalists – the human work – more efficient to deliver better or more relevant content to users.

And that is because one of the biggest problems that the public talk about when they talk about journalism is that there's too much information out there. They do not know where to find articles that are relevant to them, that are useful to them, that are interesting to them, and machine learning can help with that. Then, finally, the news organizations told us that it could improve business efficiency and, again, I think there is a big warning mark over that. From the case studies we have looked at it is very unusual for the AI technology to suddenly save you millions of pounds or dollars. It can make your business more efficient, but it is also quite complicated. It takes time to design these programs, it takes time and effort to put them into practice and then you have to look after them. Therefore, it is not a silver bullet, it's not a magic solution that is suddenly going to solve all of journalism's problems.

If you visit our website, you will see there is a whole list of different case studies. If you go to a website that will tell you how journalists are using AI, as you can see, just from the titles there, that it is not just about creating content. It is about, for example, investigations, or story discovery. It is about the personalization of content, trying to give individual users the material that they are interested in. It might be that it's used for fact checking or a way of trying to counter misinformation.

So, there are loads and loads of different uses and it is really important to remember that AI is not just there for one purpose. It is going to have an impact throughout the journalism process, throughout the systems in all sorts of different areas. So, it is no good if you just say: "well, I work in marketing, I don't need to pay attention to this," or "I'm an investigative journalist, I don't need to pay attention to this".

From our survey, most news organizations still don't have a strategic approach to this. We built a training course which helps news organizations to think about how AI might help them, or it might be the AI isn't the solution to your problems, but you need to think about it strategically. One of the problems that it might solve: who in your organization knows about it, who in your organization should start to work with this technology? There are loads and loads of challenges to AI adoption. It is incredible when you look at the case studies to see what it can do, that it can handle data at scale, it can operate very quickly.

It can do all sorts of things that humans would find difficult to do, but there are a lot of problems in adapting to it and there are some very obvious ones like the lack of resources. Journalism does not have much money at the moment. Another obvious problem is that if you are a data scientist, you have got a choice. So, you are going to go and work for Google or Facebook, or perhaps a pharmaceutical company or a retail company, or are you going to go and work for a news organization and a news organization does not pay very well. So, there is a real problem in finding the people who know about this technology and can apply it to journalism.

Besides there are these other problems, which I would sum up as kind of lack of knowledge and understanding of AI. This is a complex technology, but what we argue is that everyone should know a little bit about it, that you should at least have an understanding of the potential of the basic concepts. If your organization is going to use it, which I think it is. Again, as you'll see later, we created some training courses to help journalists or anybody in a journalism organization to at least start to understand the basics of this technology.

I would add, I think it's important for journalists to understand AI not just because they might use it, but because they will be reporting in a world where AI is going to become increasingly important in government, in education, in pharmaceutical in business and in so many areas of life. So, it is really important that journalists understand it so they can write stories about it. So they can act as a kind of watchdog about this technology.

There are lots of strategic challenges for AI and one of the ways that we, in our project, are trying to deal with this, as we set up something called the journalism AI Collab challenge, where we've got about 40 journalists from different news organizations around the world who are working on five challenges that they think AI might help their organizations deal with.

The first Collab team was really interested in how you might use machine learning to counter some of the newsroom biases that we have. They looked at ways that you can use machine learning to counter those biases. Now we have heard a lot about the bias in data sets and so on, and that is all very true but they are looking at ways that you might actually build tools, for example, to try and monitor the gender representations of your sources and your content. So, if you are aware of that, you might be able to use this technology to find more diverse sources. So that is what that the first challenge was.

The second challenge was much more related to actual journalism. So here they were looking at trying to use machine learning that would help a journalist. If you imagine a journalist starts on a story, they start examining a story. Now there is going to be a lot of material practice from their own news organization, in the past, in the archive that is relevant to their research and this team we are looking at how you might be able to find automated ways to help those journalists to gather the material that would make them create a better article, perhaps with, you know, related links to other articles that might give more context. So again, a very practical way to improve the journalism assets happening content creation.

The third team was kind of similar in that they were looking, but they were focused on the audience. So, they were thinking of ways of using machine learning in this case to automate stories, summaries, using what is called evergreen content. When you think about journalists were so focused on the day-to-day but of course you have in your archive a huge amount of material that can be useful for the public, but instead of expecting the journalist to go and research all that material and put it together, it might be very useful to have that done automatically through machine learning. They were thinking a lot of practical ways that this could be done to improve the context and relevance of content for audience. So again, a very practical application which is a great idea but in practice it is obviously much harder to make it work efficiently.

The fourth Collab team was looking at the idea of content recommendation for engagement so they were thinking about ways that you could use machine learning to recommend content to readers as a way of building their engagement with your new service. In the end, this goal is partly about money. It was about the idea that if you can optimize the service that you are providing to people, they are more likely to subscribe to your news organization and are more likely to

sign up to your newsletter. Again, they have been doing some very practical work in newsrooms, looking at which systems work best, and really interestingly, they are comparing different newsrooms in different countries, with different languages. For example, to see what kind of difference that makes to programming the machine learning. So, they are kind of doing research as well as trying to build practical tools.

The final Collab team was looking at how can you increase audience retention, which is very much about the business model. How can you keep people loyal? How can you use machine learning, first of all, to understand the consumer better? What do they, how do they behave? What content do they appreciate the most and then thinking about how you can improve the service of that content? But also, how you could use the idea of gamification that you try to build, you use machine learning to build in a kind of reward system. If somebody shared an article, they might earn points. If they comment on an article, you would tell them that they have commented on 20 articles this month. So, you are building that relationship with them. And of course, this would be almost impossible to do with humans, it's too labor intensive. But by using machine learning you can automate that to a degree, to make the process of being a reader or use a more enjoyable, and you're recognizing the engagement better. So again, a very practical and quite creative idea that they're hoping to put into practice.

The AI journalism Collab is a fantastic process where people from different news organizations, different countries and cultures are working together trying to adapt this technology. And partly, the process of engaging has been as interesting as whatever tool or system that they might produce in the end. One of the biggest problems has been that there just isn't enough general knowledge amongst journalists, amongst journalism students, amongst people involved in journalism about things AI.

We created some free online courses. For example, you can visit our website and find a one-hour course that is an introduction to machine learning. It was designed by journalists for other journalists or people interested in journalism. It is a very practical course and it has had about 50,000 downloads. So, it seems to work. It seems to meet a real need. There is a lot of very high-level complex, almost philosophical discussions about machine learning or algorithms, but there's also just a need for quite basic knowledge.

One of the really interesting things about this new set of technologies is that it is encouraging journalists to think more about what they are doing and also to talk to each other much more and that has been a really positive outcome. These technologies could change the way that journalism works, but also the nature of news. I think AI is going to accelerate other trends in journalism and so it is really important that we work together to inform ourselves better.

If you look at the case studies on our website, there is tremendous potential for this technology, but there are also very severe constraints on what you can do with it. When you come to implementing this in your own news organization, there are some real practical and ethical limits. I think that it is important to recognize that. I think it is really important to think more about how this is going to change what journalists do, what are the skills that they need to have, but also how it might change the news agenda and this could be in good and bad ways. AI can be used to remove biases, to try and help journalists to come up with new stories and new topics. But of course, it can just as easily be used to narrow the agenda, to just chase after clickbait or to give people the same things that they've always enjoyed.

It is going to have a big impact on audiences because it is important here to remind ourselves that the news industry is not just in competition with other news organizations, it is in competition with the whole internet. There is a whole information infrastructure out there, and machine learning algorithms, data are increasingly going to be the way that that works. So, it is really important that journalists understand the audiences are now operating in a different environment, they will get their information from. They could be bad sources that produce disinformation or propaganda. So, it is important to see how these technologies have an impact on audiences.

I think it will have a big impact on the news industry. Other sectors, such as law, retail, banking, for example, are being changed by these technologies and this is going to happen to journalism too. Some news organizations can adapt better, they have got the resources to do this. Others who have structural obstacles such as a lack of resources, lack of money, or it might be issues around language, for example that would restrict their ability. Most of this technology is written in English and so it is really important that we look at those inequalities. There is also a huge inequality problem between Western journalism and the rest of the world.

AI raises really interesting questions. I think this is a good thing. I think it is very easy to say: "journalists are wonderful, human journalists are much better than a robot", but are they always? We know that journalists have often been biased. They have been inaccurate, they could been fallible, they could have been subject to control by powerful people, for example. So, I think it is a really interesting moment to use these technologies, to think about what is good information, what is good journalism, what is the best journalism that people need and then how these technologies can help to deliver that.

A Semiotic Perspective on Post-Truth Regime: Angst and Anxiety During the Time of COVID-19

Anna Maria Lorusso, Bianca Terracciano

1. Introduction: post-truth and infodemic

From a semiotic perspective, each statement expresses a point of view, a voice, an implicit set of values. In short, any statement is never a pure description of a state of affairs but always the expression of models of values or knowledge that shape our way of seeing the world and interacting with others. Therefore, every statement and utterance reflects actions, narrations, visions, and passions.

If there is no clear separation between facts and emotions, between objectivity and a subjective framing of the world, then the semiotic approach would seem to "neutralize" some current positions in the media discourse. For example, if it is generally acknowledged that informational discourse is almost "polluted" by the emotional component, from a semiotic point of view, it is impossible to have informative discourses without *pathemic* elements.

However, these theoretical positions are not as radically opposed as they seem. Even from a semiotic point of view, in fact, current information has a specificity at the pathemic level. And a specific role of emotions indeed characterizes the post-truth regime of our contemporary times.

In general, we can state that post-truth is an informational-discursive regime in which emotions play a predominant and specific role. The definition proposed by Oxford Dictionaries in 2016 when the word post-truth was selected as the word of the year is well known: "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief". Moreover, during the COVID-19 pandemic, we witnessed the rise of

another significant word, "infodemic", namely an informative-discursive modality that generates a viral overproduction of discourses under the pressure of fear (therefore of a specific emotional element), losing accuracy.

These two contemporary forms of informational discourse — post-truth and infodemic — have two specificities:

- one has to do with the role of emotions;
- the other with the driving force that moves the informative discourses.

If it is true that in every speech there is an emotional component and that our speeches always feature emotional components (which have to do with an euphoric or dysphoric reaction towards the world), we must nevertheless recognize that in those discourses ascribable to post-truth, emotions are no longer a component, but rather the criterion of truth itself, and this aspect puts into question the idea of truth itself.

The Western tradition has accustomed us to the idea of truth as correspondent to reality and verification. However, from a semiotic point of view, this idea is totally illusory as it is impossible to access reality and, therefore, a "pure" state of facts is never verifiable as each state of facts is framed and so partially already subjectivized. Furthermore, the concept of truth comprises an idea of commitment, of duty in terms of accuracy. Moreover, it implies reliable discourses even if not all discourses are the same because they report reality at varying degrees of precision.

Introducing the idea of post-truth, this interpretation is in crisis: as a matter of fact, within the definition of public opinion processes (as Oxford Dictionaries reports), emotions matter more than the relation to the facts and the duty of accuracy. Trust, that is, is given starting from an involvement, not from an influence, and the central regulation seems to become that of projection: identifying oneself with the speaker, identifying oneself in the emotion expressed. A discourse is true to the extent that it expresses what I feel[1].

Within this frame, starting from these assumptions, we can deeply understand the recent cases of fake news related to COVID-19 vaccines — and how millions of people believed them. In this case, we are going to deal with the second aspect of novelty mentioned earlier, namely the driving role of fear within the information discourse. Firstly, we can state that the viral overproduction of information during the pandemic had a cause: fear. We have all been overwhelmed by an unex-

[1] See Lorusso 2018; Lorusso 2021.

pected and unknown pathology which has naturally displaced all our mental and behavioral habits. In facing this controversial situation, one of the reactions (perhaps the most rational) should have been to rely on experts: doctors, scientists, experts in epidemics. However, the combination of the main components of contemporaneity — i.e. emotionality as a criterion and fear as a driving force — has resulted in relying on one's emotions and perceptions. Thus negationists appeared, like the ones who say "I am fine, so the problem is not as serious as they say; it does not seem to be anything other than a normal flu", despite all the data that instead spoke of a phenomenon of different gravity. Or the so-called do-it-yourself therapists emerged ("in my opinion, it is good to rinse with hydrogen peroxide, or take a lot of vitamin D"). On the other side, we can find people who took the new disease very seriously giving into panic and beginning to overcrowd social networks with comments, questions, and stories of their own experiences.

The issue here is that social media make us all "publishers" of information: there are no longer few and regulated sources. Any citizen can express theories within the (digital) public square with an enormous possibility of circulation which would not have been conceivable two or three decades ago. There is no upstream filter in this self-determination of speeches that selects skills, but everyone can democratically give their own opinion.

The filter is made by people's reactions: a negative one can immediately make a statement end or vice-versa, a positive one is able to give it worldwide and viral circulation. Such reactions — as we mentioned before — in the post-truth regime are primarily based on the criterion of emotions, creating a vicious emotional circle: the personal expression of any user who speaks online is filtered only by the pathemic reactions of millions of users.

Of course, this is not to say that the internet and social networks are solely responsible. As a matter of fact, all these dynamics have also been crucially amplified by traditional media, especially by television that has given space to experts (doctors, virologists) subjecting them to the logic of entertainment and spectacularization, which means controversy, personalization, delay on the emotional aspects.

Finally, we would like to mention one more crucial aspect in giving space to emotions in the pandemic discourse: the role of uncertainty. As we already know, on an individual psychological level uncertainty generates anxiety and amplifies emotional reactions. During the pandemic

phase, uncertainty was sovereign and it could not be otherwise: everyone — experts and non-experts — found themselves facing an entirely new disease which required unusual solutions. Then people began to expect indisputable answers from science (and television has fueled this expectation), while scientists and experts had only a few certainties available at that time, which were also bound to be revised in a short time. Uncertainty until further confirmation is the normal way science usually works: knowledge is definitely characterized by fallibility and no problem or embarrassment is raised in correcting one's previous positions as new data emerge. But the fallibilism of science, the inevitable uncertainty of the scientific discourse when facing a new disease has turned into untrustworthiness within the media circulation processes, even when we should trust science precisely because it is fallibilist. Once again, media logic has overwhelmed scientific logic and the emotional circuit has become more and more amplified.

Then, starting from these very premises about the characteristics of information discourse in the pandemic era and on the specific role of emotions in the contemporary world, it can be appropriate to take a closer look at the semiotic tools of analysis that are available to us in observing emotions.

2. Semiotics of passions

Algirdas Julien Greimas devoted special attention to the emotive, pathemic dimension of discourses, both from a narrative point of view and from a lexical point of view[2]. In the conceptual framework of the general theory of narrativity, the semiotic analysis of passions focuses on how culturally-constructed emotions inhabit our discourses through the cultural models we have at our disposal. Emotions are studied through those features that make them recognizable, very often starting from a lexical analysis. According to Greimas we have to focus not only on the idea that passions influence actions, but on the consideration that they constitute an ever-present dimension in our semiotic life that shapes it in our making sense of the world. We are beyond the traditional view that we can do something, experience something, with or without passions (as if passions were an ingredient) because the emotional dimension permanently defines us, even before action,

[2] Greimas 1966.

even in our cognitive activities, even when we are not aware of them. Semiotics, therefore, helps to understand the grammar, syntax, specificity, and memory of passions.

Even if, in the beginning, the study of passions would have seemed more pertinent to other disciplines such as philosophy, psychology, and sociology, however, semiotics did not conflict with them because it investigates the syntagmatic organization of feelings, that is, their narrative concatenation and logic through the actions and volitions of narrative subjects. A semiotic subject articulates both wanting and sensing, direct filiation of the profound values placed within the emotional universes of different cultures. As Isabella Pezzini, who established the semiotics of passions in Italy, pointed out, Greimas uses terms related to the philosophical tradition and declines them in the semiotic metalanguage[3]. In this way, the word passion takes on a narrative meaning aimed at reconstructing the transformation process of subjects and objects, their junction or disjunction relations (S∩O; S∪O) which reflect different ways of doing and being[4]. In semiotics, passions are considered an effect of meaning produced by specific text structures, generated to manifest its deepest level. Here is the thymic category, namely the opposition between euphoria and dysphoria, a direct reference to the phenomenology of Maurice Merleau-Ponty in which every living being is attracted or repelled by something, and this invests its system of values[5]. The abstracted opposition between being and doing of a subject is converted on a practical plan, at a discursive level, into the concrete narrative chains that the subject assumes, in the themes and figures that are communicated[6].

How can a feeling be narrated and converted into action? The starting point, according to Greimas, is generally accepted and it is also found in the theorizations of Friedrich Nietzsche and Sigmund Freud: passions have a first lexical and taxonomic dimension; they are configured as lexematic classifications[7]. So, narrating a feeling and transforming it into action lies in natural languages and, consequently, in the

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3 Pezzini 1991.

4 Ibid, pp. 8-9.

5 Greimas 1966.

6 Greimas et al. 1979, p. 236.

7 Greimas 1983, p. 13.

metalinguistic aspect of the discourse where we can find the semantic level, i.e. the first step of the semiotic analysis of passions.

This peculiar methodology introduces the taxonomy of passions in the language lexicon and its narrative construction based on cultural and shared patterns[8]. The problem arises when something unknown and indeterminate must be communicated without having reference models regarding actions or passions, something like the COVID-19 emergency — an unspeakable, out of the ordinary event that nobody knows how to narrate.

In general, the communication of exceptional circumstances is linked to pathemic stereotypes, often culturalized, such as war rhetoric or positive thinking, but dealing with something completely new can provoke disorientation because the reference categories are blurred and overlap each other. Trying to organize in different phases the mediatic discourse about the Coronavirus, we have identified the first one in the initial spreading of the virus, when many denied the actual threat because it seemed more natural to apply an avoidance strategy rather than to deal with the unknown, especially if linked to a culture considered distant or to a significant otherness.

After a short time, it became clear that time and space represent undervalued categories on the globalized earth and the media started raising awareness of the threat, talking, or writing about countermeasures. However, when the solutions were about to be found, it was already too late: the COVID-19 pandemic had exploded and from a punctual phenomenon — linked to a single space and single time — it had turned into a durative and pervasive one.

It seemed impossible that a microscopic and invisible enemy could subjugate the whole globe in such an advanced era. Therefore, continuing to ignore and avoid the situation, many explained the pandemic with conspiracy theories, for example, that of viruses created in the laboratory. From 2020 to February 2022, that is, until the Russia-Ukraine war, the media landscape was entirely overwhelmed by COVID-19; its topics have been repeated obsessively, bringing out only a facet of the problem at once, the most effective one in manipulating a particular passion of the public.

The manipulation of passions consists in guiding the audience's feelings through texts, relying on the construction of the discourse.

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[8] Pezzini 1991, pp. 12-13.

In essence, it is not only a matter of aesthetic contagion, namely the transmission of a sensibility, but the authoritativeness of those who produce or share the text is also at stake in a proportional way related to the intensity of the passions. The more one suffers, the more felt empathy for the country's fate and its citizens. Social and traditional media provoke media shocks by merely spreading the news and syncretic texts endowed with the power, in order to foment and mitigate the anxiety of new and old threats against humanity[9]. In this way, actions, reactions, and passions of the public are channeled in frames of experience, through which their behavior is premediated, foreseen, scripted, as well as the meanings of daily events and circumstances.

In order to address these issues from an empirical perspective, this paper reports data from a qualitative textual analysis. It aims to describe, by selecting and analyzing institutional and journalistic texts collected between February 25 and March 20, 2022, how common sense feelings towards Coronavirus have been constructed within the media frame.

Different typologies of media discourse have been addressed considering how the verbal components, the visual, and the marks of the enunciative contract have been modified, responding to the rhetorical characteristics of post-truth and its aim of exaggerating the reality of facts in order to impress the audience.

3. Angst and anxiety during the pandemic

What is the passion associated with COVID-19? According to the semiotician Gianfranco Marrone, one of the dominant passions that emerged during the pandemic is angst because it is produced by the uncertainty, the unknown, and by an enemy without physiognomy[10]. Therefore, this passion is different compared to the fear linked to something already known. In this sense, applying the semiotic method helps in understanding how an invisible and unknown enemy which nobody was expecting, is narrated; moreover, as it is manifested mainly through language or, indeed, languages, it provides people with a significant level of angst.

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9 Grusin 2015.

10 *La Repubblica*, 11 April 2020.

It can be useful to mention here the first definition of angst given by the *Oxford English Dictionary Online*: it defines angst as "a feeling of anxiety, dread, or unease.[11]" The definition refers to intense non-specific anxiety or fear about the human condition or the state of the world in general; more specifically, the word angst is also very often used to describe a persistent anxiety or apprehension about a particular thing. The definition clarifies, from the outset, that angst is felt when one is anxious about issues of utmost importance which concern well-being and public order, also expressing a durative feeling, a form of persistent apprehension.

According to Massimo Recalcati,[12] one of the most distinguished Italian psychoanalysts, we can notice a curve of angst in the case of COVID-19 which can be articulated into three phases: the first perceived angst was of a persecutory type, and it was clearly linked to contagion and to the risks of the disease which led to social distancing. The second one is the apocalyptic angst related to the "loss of the world". Finally, the third typology of angst is related to the awareness of having to live with the virus for a long time. The main concern is to indulge the awareness of the immanence of the unknown without being able to return to normality, thus living in the anxiety that the latter normality is now just a beautiful memory.

At this point, we should introduce the definition of anxiety, focusing on the first meaning indicated by the *OED Online*: "Worry over the future or about something with an uncertain outcome; uneasy concern about a person, situation, etc.; a troubled state of mind arising from such worry or concern"[13].

It is worth noting that this is the seme of uncertainty, which in COVID-19 case is related primarily to quarantine, therefore to the separation from both other people and personal daily routines. As nothing can be controlled anymore through direct experience, a state of disjunction from the truth also occurs, which means being separated from the information that could be a source of reassurance. The problem is that the future does not seem to exist because nobody can do mid and long-term planning without certainties.

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11 *OED Online*.

12 Recalcati 2020.

13 *OED Online*.

The other two crucial meanings of anxiety come from medical and psychological metalanguage. The first is rare nowadays but, as described in *OED* as "tightness in the chest or epigastric region", it creates the idea of physical discomfort which recalls its etymology from the Latin verb *ango* (to constrict) and the noun *angustus* (narrow), that also originated the word angst in modern German. In psychiatry and psychology, anxiety describes a somatized feeling:

> a pathological state characterized by inappropriate or excessive apprehension or fear, which may be generalized or attached to particular situations, and may be accompanied by physical symptoms such as tachycardia, increased muscle tension, and shortness of breath.[14]

These signals of alarm are experienced physically, demonstrating that anxiety is a pragmatic and somatic passion. Coronavirus anxiety derives from dysphoric inhibitions that articulate the modality of not-being-able-to-do imperatively: not-being-able-to-stay with people, not-being-able-to leave the house, not-being-able-to-assist a sick family member or mourn her/his death. Above all, the not-being-able-to generates a sense of powerlessness because it is the counterpart of lost freedom as it was recalled in a persistent and pervasive way through bulletins, graphs, and contagion maps, which are the figures of the discursive configuration of anxiety.

The discursive context of these lexemes is linked to meaning paths like the one of the great emergencies — environmental disasters and wars — plus the rhetoric of uncertainty and the unpredictable.

How are these words used in the media discourse on COVID-19 to construct and direct the audience's feelings? First of all, it is worth noting that there is a difference in the use of these words: angst about Coronavirus is a global feeling because the virus is its cause; as we can read in the *Financial Times*, "The figure at the root of so much global angst about Coronavirus is currently 4.7 per cent"[15]. Anxiety has to be fixed, so the "uneasy concern" of the definition can be eased with tips like washing hands, media diet, mindfulness, and maintaining a routine. Feeling anxiety is considered "normal" by the World Health Organization (WHO) or "healthy" by the *New York Times*[16], but there

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14 Ibid.

15 Hodgson 2020.

16 Sethi 2020.

are ways to stay calm, controlling anxiety by sharing thoughts in order to decrease the distress. The latter is another keyword of the COVID-19 narrative, which, as reported in the *OED* dictionary, manifests the sensible side of the events, "relating to the exertion of pressure or strain". It can be found in compounds such as psychological distress, respiratory distress, economic distress, or distressed business, highlighting the figurative pressure, physic, mental, or work-related.

The informative actions of media and institutions provoke

> "anxiety" on the part of the enunciatee, which is left in ignorance regarding the veridictory status of the received knowledge' because in their relationship, there is a deviation between the utterance and truth, a rhetoric figure called suspension[17].

Communications about COVID-19 do not meet the expectations of the enunciation since the promise of solving the lack of knowledge remains unkept. The real cause is not appearing, even if it does exist; then its secretive form of veridiction is the cause of anxiety. Hence, the semiotic implication of angst is its pathemic status of alarm signal, of warning. Also, from a Freudian point of view we can highlight the symbolization of the internal conflict between a signifier that is the subjective representation of angst and a signified which is the connotation generated by it; in other words, the affective axiologization. What can trigger the contagion angst? Hence, a cough, a pulled-down mask, images of field hospitals, empty streets, or coffins piled up in military trucks can work in triggering the angst. Media discourses affect the perception of danger through associations between causes and effects.

Institutional and media narratives exploit frames and structures of previous experiences allowing for the scripting of a specific situation according to conceptual schemes that regulate uses and meanings. The narration of the unknown, in order to be understood, must recall well-known forms of experience, forecasting different scenarios[18].

For instance, the frame semantics can explain the intertextual references to disaster movies used to simplify and clarify the climax of the COVID-19 crisis, also through ironic interpretations — as demonstrated by the massive amount of memes on pandemics and lockdowns: the goal was to defuse the issue in order to survive.

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17 Greimas at al. 1979, p. 324.

18 See Eco 1979.

Uncertainty makes expectations impossible even if they are valid coping strategies against hardships. In this way the individual is modalized, at the same time, by wanting and not-wanting-to-know about COVID-19, experiencing an internal conflict between angst and calm. Individuals want to know what could happen and the risks related to it, but simultaneously they try to avoid knowing too much with the aim of limiting the damage of harsh reality. An example of the coexistence of these two modalities can be found in the way of getting informed: we can distinguish between people who every day want to know the exact number of infected, healed, and deceased, while others prefer not to go into too much detail. There are strategies of avoidance vs. information overload where, even in the latter case, the subject is separated from "the knowledge" conceived as an object of value, because of the uncertainty of news content, often deceptive and sentiment-driven.

The angst is proportional to the amount of information contained in the indistinct magma of media and institutional narratives about COVID-19: the actual knowledge that was circulating has changed periodically depending on new variants. So, a very high degree of entropy emerges, as well as much noise, and few certain notions in a continuous tension towards discovery.

The aspectualization of angst — the point of view on its configuration — is durative, *in fieri* and imperfective because it does not find realization due to the absence of knowledge. The angst persists in the individual, reflecting this passion in every action and volition. It is a virtualization realized and dramatized through discursive procedures which symbolize the object of angst: a mask, a flag, a signal of danger, a hazmat suit. Anxiety resides in an aleatory condition which has to be rationalized in elaborating the expectance of the unexpected.

This change has profound implications since one enters the domain of symbolization processes: these are characterized by the signifier/signified relationships in which the first is the subjective representation and the second is the connotation generated, the so-called affective axiologization.

COVID-19 seems to belong to the phenomena in which, according to Martin Heidegger, humans are overcome by anguish, primarily if related to the question of dwelling, a characteristic trait of mortality. Periods of enforced isolation such as lockdowns or precautionary confinement during the manifestation of the symptoms exacerbate the effect of meaning of forced stasis, redefining the categories of space and time.

In other words, those categories result in causing distress for being the only ones with the power to fight the virus and suspend death. Staying home keeps the virus out of space and time, even if the virus itself continues to exist in the meantime, being-towards-death and generating spatial and temporal affections. Living the space in a certain way, keeping distance, holds the focus on the virus, making it transcendental and causing anguish to persist. On the other hand, time is counted, marked by the lockdown days, the number of victims, and the number of days needed to escape the infection. Space and time then enclose the possibilities of being and not being of the virus-being-towards-death, testifying in this way the authenticity of something that cannot be seen with the naked eye, thus founding its existence.

The angst grows because indeterminacy increases: the virus is everywhere and nowhere. COVID-19 is placed in every possible proximity, in all spatial directions: it is nothing as it is an absence of determination and recognizability; it is everything because it can be near, in humans, in things, in droplets. Everything that was "before" loses its meaning and acquires a new one in a very rapid process based on the labile balance between resemantization and desemantization.

The spatiality of COVID-19 differs from the objective physical space due to the simultaneity of presence and absence, where angst is felt by the subject who

> does not "see" a defined "there" and "over here" from which what is threatening approaches. The threat is "nowhere" in the sense that it is everywhere, for its "spatial being-in", that is, directional and proximal indefiniteness, "so near" that it is oppressive and stifles one's breath- and yet it is nowhere[19].

Paraphrasing Heidegger, the "possibility" of contagion, of the immanence of the virus in everyday life, is afflicting individual lives because it becomes impossible to program and manage life as usual. COVID-19 reveals the world, strips it of its rhetorical superstructures and deprives it of its worldliness, isolating humans from their habits and throwing them in angst. Consequently, the narrative structures of the world are reformulated and a new way of being-in-the-world is sought, identifying new possibilities through the digital and metaverse.

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[19] Heidegger 1927, p. 174.

Video chat or live streaming are making everything public, and everything becomes a piece of news, an event to narrate, to reveal. The "unconditionally private" mentioned by Jacques Derrida[20] cannot exist during the time of COVID-19, where proof of social bond is no longer an act of faith but rather a produced news, a "live transmission" where an argumentative strategy lies, i.e. the one that makes humans feel angst.

References

Bolter, J.D. et al. (1999), *Remediation: Understanding New Media*, MIT Press.

Derrida, J. (2001), *Above All, No Journalists!*, in H. de Vries et al. (eds), "Religion and Media", Stanford University Press, pp. 56-93.

Eco, U. (1979), *Lector in fabula. La cooperazione interpretativa nei testi narrativi*, Bompiani, Milano.

Greimas, A.J. (1966), *Sémantique structurale. Recherche de méthode*, Larousse, Paris.

Greimas, A.J. et al. (1979), *Sémiotique. Dictionnaire raisonné de la théorie du langage*, Hachette, Paris.

Greimas, A.J. (1983), *Du sens II. Essais sémiotiques*, Seuil, Paris.

Grusin, R. (2015), *Mediashock*, in Sharma, D. et al. (eds), "Structures of Feeling: Affectivity and the Study of Culture", De Gruyter, Berlin-Munich-Boston, pp. 29-39.

Heidegger, M. (1927), *Being and Time*, trans. J. Stambaugh, SUNY Press, Albany.

Hogdson, C. (2020), *The mystery of the true coronavirus death rate*, in "Financial Times", 30 March, available at https://www.ft.com/content/f3796baf-e4f0-4862-8887-d09c7f706553 (last accessed 27 April 2020).

Lorusso, A.M. (2018), *Post-verità. Fra reality tv, social media e storytelling*, Laterza, Roma-Bari.

Lorusso, A.M. (2021), *Déclinaisons de la confiance à l'ère de la post-vérité*, in "(DÉS) ACCORDS. À la recherche de la différence propice", AFS Éditions, Paris, pp. 215-224.

Oxford English Dictionary (2020), s.v. «angst, n.», in *OED Online*, Oxford University Press. available at https://www.oed.com/view/Entry/7626?rskey=GIvrFV&result=1&isAdvanced=false (last accessed 27 April 2020).

Oxford English Dictionary (2020), s.v. «anxiety, n.», in *OED Online*, Oxford University Press, available at https://www.oed.com/view/Entry/8968?redirectedFrom=anxiety& (last accessed 27 April 2020).

Oxford English Dictionary (2020), s.v. «distress, n.», in *OED Online*, Oxford University Press. available at https://www.oed.com/view/Entry/55762?rskey=1RHlpx&result=1&isAdvanced=false (last accessed 27 April 2020).

[20] Derrida 2001.

Pezzini, I. (1991), *Semiotica delle passioni. Saggi di analisi semantica e testuale*, Esculapio, Bologna.

Recalcati, M. (2020), *La curva dell'angoscia*, in "La Repubblica", 11 April.

Sethi, S. (2020), *10 Ways to Ease Your Coronavirus Anxiety*, in "The New York Times", 18 March, available at https://www.nytimes.com/2020/03/18/smarter-living/coronavirus-anxiety-tips.html (last accessed 27 March 2020).

Journalism Ethics as a Tool To Survive Digital Transformation: An Overview[1]

Maria Romana Allegri[2], *Christian Ruggiero*[3]

1. A stronger demand for a reliable and trustworthy journalism in the digital era

The current global health pandemic is unprecedented in modern times and its economic, political, and social consequences are still unfolding. The seriousness of this crisis has substantially increased the amount and frequency of news consumption and influenced attitudes towards the news media: it has reinforced the need for reliable, accurate journalism that can inform and educate people, but it has also reminded us how open to conspiracies and misinformation we have become. Journalists no longer control access to information, while greater reliance on social media and other platforms expose people to a wider range of sources and "alternative facts", some of which are at odds with official advice, misleading, or simply false. Many see social media as the biggest source of concern about misinformation, well ahead of news sites, messaging apps like WhatsApp, and search engines such as Google. Indeed, the COVID-19 crisis has demonstrated the value of reliable trusted news to the public but also to policymakers, technology companies, and others who could potentially act to support independent news media[4].

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1 This chapter is the result of a shared process of reflection and writing. Maria Romana Allegri wrote paragraphs 1-3, while Christian Ruggiero wrote paragraphs 4-6.

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4 Reuters Institute 2020.

Within a networked society such as the one we are living in, journalists and journalistic brands are just single nodes among a constellation of voices and sources, all moving in a "shared" information space. The speed, ease and ubiquity of digital media provide new ways of interacting with audience members and the subject of the stories while, obviously, traditional ethical concepts remain the same also with respect to information delivered online. The immediacy provided by media technology has enabled journalists to increase their relevance and value and to foster new forms of interaction with audiences. It could also encourage broad collaborative efforts with non-journalists whose perspectives and information can contribute to the search for truth. At the same time, however, journalists are tempted to post, share, and verify afterwards, putting their long-term credibility at risk[5].

This risk of a compromised integrity is a serious concern that is reflected in the social media policies of most news organizations and it raises many new questions journalists shall try to answer: Who do you link to? How do you distinguish between activist bloggers and more dispassionate collaborators? Do these distinctions matter anymore? And in this new "network journalism", how should journalists act responsibly[6]?

Before the Internet, only professional journalists accessed the technology and organizational infrastructure to publish their work for a large audience. Nowadays, instead, private individuals, who are normally the consumers of journalism, can produce their own news content, while social media plays a major role in disseminating news and promoting citizen journalism content. Of course, this could represent an opportunity to improve journalism, making it more transparent and democratic: for example, citizen journalism initiatives can fill a void in regions where mainstream media do not or cannot fully cover the news; furthermore, in repressive countries, eyewitness reports and images taken by ordinary citizens are often the only testimony available and can have a fundamental role in influencing international politics. However, citizen journalism may endanger the reliability of news, including fact-checking and the risk of incorrect information being disseminated.

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5 Plaisance 2016.

6 Ibid.

In fact, since in general citizen journalists are not professionally trained, not all contributions from citizen journalists adhere to ethical standards that can be expected by professional journalists. Moreover, many citizen contributors do not see themselves as journalists but rather as activists and do not believe they should adhere to media ethics. Therefore, if their work is published in the media it can have damaging effects, especially on sites where the editorial gatekeeping is left completely to the audience[7]. For all these reasons, the definition and respect of ethical standards in the age of the digital circulation of news have to be taken very seriously.

2. Towards a broader definition of "journalism"

At an international level, there is currently no consensus around the definition of "journalism" or "media" in the digital age. As early as 2000 the Committee of Ministers of the Council of Europe adopted a broad definition of the term "journalist", according to which: "The term journalist means any natural or legal person who is regularly or professionally engaged in the collection and dissemination of information to the public via any means of mass communication"[8]. The UN Human Rights Committee expressed the same opinion in 2011: "Journalism is a function shared by a wide range of actors, including professional full-time reporters and analysts, as well as bloggers and others who engage in forms of self-publication in print, on the internet or elsewhere"[9].

Both definitions are of course not legally binding. However, given the relevant role that citizen journalists and social media users play in the gathering and dissemination of information, they assume a functional conception of journalism that takes all new media actors

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7 Jurrat 2019. About citizen journalism, see also Miller S. (2019), *Citizen Journalism*, in "The Oxford Research Encyclopedia of Communication", available ate https://www.academia.edu/38920324/Citizen_Journalism.

8 Committee of Ministers of the Council of Europe, Recommendation No. R 7, on the right of journalists not to disclose their sources of information, 8 March 2000, available at https://rm.coe.int/16805e2fd2.

9 UN Human Rights Committee (102nd sess., Geneva, 2011), General comment no. 34, Article 19. Freedoms of opinion and expression: International Covenant on Civil and Political Rights, available at https://digitallibrary.un.org/record/715606 (the quoted definition of journalism can be read at par. 44).

into account, provided that they fulfill certain criteria[10] among which truth-telling, accuracy, factualness, objectivity, credibility, balance, verification, independence, fairness, accountability, honesty, and respect. In short, journalism can be defined as such — regardless of its origin and forms — only when it honors the fundamental duty to report accurate, fair, substantive, and indispensable information while surviving in the marketplace[11]. In fact, the journalistic practice, formalized or not, plays a timeless and irreplaceable role in societies, serving the public good and supporting the democratic processes.

In addition to the above-mentioned definition of journalism, in 2011 the Committee of Ministers of the Council of Europe released a very significant recommendation (still not legally binding) on a new notion of media[12]. In this document the Committee called on Member States to adopt a broad concept of media encompassing all actors involved in the production and dissemination of content and set out a number of criteria that ought to be considered when trying to determine whether a particular activity or actors should be considered as media, namely: (i) intent to act as media; (ii) purpose and underlying objectives of media; (iii) editorial control; (iv) professional standards; (v) outreach and dissemination; and (vi) public expectation. Therefore, in this perspective the function of disseminating information in the public interest does not necessarily require membership of a professional body, or adherence to an established code of conduct. However, the Committee highlighted how social media publishers (such as bloggers) should only be considered media if they meet certain professional standards to a sufficient degree.

The broadening of the notion of "journalist" implies that those who fall into this category, regardless of their professional status, must both enjoy the protection normally accorded by law to professional journalists and respect ethical standards in the same way as the latter. Hence, the need of rethinking not only the category of journalistic professionalism, but also that of news-making ethics is evident, since the expressive opportunities for those who intend to report the news are changing so rapidly that the updating of rules often cannot keep up with that speed.

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10 ARTICLE 19 2015.

11 Steele 2013.

12 Committee of Ministers of the Council of Europe, Recommendation CM/Rec 7 on a new notion of media, 21 September 2011, available at https://search.coe.int/cm/Pages/result_details.aspx?ObjectID=09000016805cc2c0.

3. New global ethical challenges: the example of the protection of journalistic sources

The debate about who or what type of content should be subjected to journalism ethics standards has obviously involved media technology platforms that have served to democratize and decentralize the dissemination of news. The effort to articulate the features of a "global" journalism ethics framework is particularly challenging given that the very idea of "freedom of press" has not yet taken hold in many countries of the world and only a few national Constitutions explicitly mention it. However, media ethics scholars, most of whom are from Western democracies, are struggling to reconcile broad internationalist ideals with cultural pluralism. As a matter of fact, American and European scholars and journalistic organizations continue to dominate journalism ethics discourse, focusing on protecting journalistic functions with the rule of law and insulating them from power and identity politics. Nevertheless, researches conducted worldwide have identified several key areas and concepts that concern journalists across cultures. Actually, the global trend toward recognizing and promoting the freedom of press is clear, though it is occurring at different rates in different countries[13].

An example of a globally established ethical obligation upon journalists is the prohibition of revealing the identity of their confidential sources. In some cases, it is also a legal right, or even a legal requirement. In fact, there is a strong international tradition of legal source protection, in recognition of the vital function that confidential sources play in facilitating "watchdog" or "accountability" journalism. The need to protect the confidentiality of sources is largely justified in terms of ensuring a free flow of information. However, in many cases, the legal situation does not grant such confidentiality and journalists can still be legally compelled to identify their sources or face penalties, prosecution, and imprisonment[14].

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[13] Plaisance 2016.

[14] Posetti 2017. A summary of this report is also available at http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/protecting_journalism_sources_in_digital_age.pdf. See also: International Legal Research Group of the European Law Students' Association (ELSA) (2016), *Final Report on Freedom of Expression and Protection of Journalistic Sources*, available at https://files.elsa.org/AA/LRG_FoE_Final_Report.pdf; Stratilatis, C. (2018), *The Right of Journalists Not To Disclose Their Sources and the New Media*, in Synodinou, T.E. et al. (eds), "EU Internet Law: Regulation and Enforcement", Springer, Berlin, available at https://www.researchgate.net/publication/320983751_The_Right_of_Journalists_Not_to_Disclose_Their_Sources_and_the_New_Media.

On many occasions in recent years European journalists have been subjected to disclosure orders imposed by national public authorities, massive searches of their homes and places of works, seizures of their documents, computers, data storage devices and other materials, aimed at identifying their sources of information. The European Court of Human Rights (ECHR) has always strongly condemned such practices, reiterating that Article 10 of the European Convention on Human Rights[15], dedicated to the freedom of expression, safeguards not only the substance and contents of information and ideas, but also the means of transmitting it. According to the ECHR case-law[16], the right of journalists not to disclose their sources is not a mere privilege but is part and parcel of the right to information, to be treated with the utmost caution. In fact, without an effective protection, sources may be deterred from assisting the press in informing the audience on matters of public interest. As a result, the vital "public watchdog" role of the press may be undermined.

The current digital environment represents a challenge for the traditional legal protections for journalists' sources. While in the past the identity of sources was shielded by protective laws journalists' self-commitment, in the age of digital reporting this traditional shield can be penetrated, due to mass surveillance, mandatory data

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[15] Article 10 – Freedom of expression: 1. Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers. This Article shall not prevent States from requiring the licensing of broadcasting, television or cinema enterprises. 2. The exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions or penalties as are prescribed by law and are necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for preventing the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary.

[16] A summary of the ECHR jurisprudence on the protection of sources can be found in the Council of Europe Factsheet: *The Protection of Journalistic Sources, a Cornerstone of The Freedom of The Press, June 2018*, available at https://rm.coe.int/factsheet-on-protection-of-sources-june2018-docx/16808b3dd9; European Court of Human Rights Factsheet: *Protection of journalistic sources, February 2019*, available at https://echr.coe.int/Documents/FS_Journalistic_sources_ENG.pdf. More generally, a lot of material concerning media freedom, protection of journalism, and the safety of journalists can be found in the dedicated platform established by the Council of Europe in 2015 available at https://www.rcmediafreedom.eu/Tools/Monitoring-tools/Council-of-Europe-Platform-protection-of-journalism-and-safety-of-journalists2.

retention, and disclosure by third party intermediaries. Moreover, in the recent past the enactment of increasingly restrictive anti-terrorism and national security legislation has overridden existing legal protections, including "shield laws". Therefore, there's a need to extend the legal protection of source confidentiality to all acts of journalism and, additionally, to debate which journalistic actors qualify for source protection in the digital era, given that citizens and other social communicators have the capacity to publish directly to their own audiences, and those sharing information in the public interest are growingly recognized as legitimate journalistic actors[17]. Many believe that the protections provided by national legislations should apply to all people involved in a process carried out with the intent of providing information to the public, including editors, commentators, freelance, part-time and new authors, regardless of the format or medium including print, broadcast, electronic, the internet, and books. The protections should even apply to all those with a professional relationship to journalists, including media companies and organizations, editors, printers, distributors, couriers, and telecommunications providers[18].

Ethical issues in journalism, such as that concerning the protection of journalistic sources, are deeply linked with the good functioning of democratic States: a functioning democracy is founded on a communications sector that adequately allows informed public opinion to develop freely, while respecting dissenting opinions and promoting a culture of dialogue. As a matter of fact, in many places of the world journalists are often deprived of any critical function and treated as instruments for the establishment, reinforcement and effectiveness of authoritarian governments. However, even among modern democratic societies there might be different perceptions of the way ethical standards for journalism should be conceived and implemented. Therefore, a comparison among different national context may help in better understanding which challenges journalism ethics are facing in the modern world, as the following pages will demonstrate.

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17 Posetti 2017.

18 ARTICLE 19 2015.

4. Notes from cross-national research: The Media for Democracy Monitor

One of the most important challenges facing journalism in the context of digital transformation is to reclaim the founding characteristics of the profession and reshape them to the new media ecosystem in which they apply.

Ethics is one of these characteristics, a fundamental part of the work of a journalist — meaning both professionals and citizen journalists, up to and including the vast galaxy of content creators who are oriented towards information. A "moral compass" that nevertheless runs the risk of not fulfilling its function in the best possible way in a context where the cardinal points of the journalistic profession are being questioned. This refers both to the implications of the new hybrid information ecosystem[19] and to the emergence in the public space of issues that are not new in absolute terms, but to which the traditional approach has paid too little attention[20].

This is a particularly sensitive element in the field of sociology of journalism, and one that perhaps less than others lends itself to being "measured" in terms of comparison among different contexts. Nevertheless, cross-national research is undoubtedly an important starting point for an empirical assessment of the cornerstones and challenges facing journalistic ethics in the contemporary world. And, however forced it may be, an attempt to trace back to indicators the state of regulatory developments in terms of deontology and the application of ethics in journalism has undoubted advantages in terms of the readability of the data and thus the possibility of identifying trends and challenges for the future.

An attempt to do so comes from The Media for Democracy Monitor (MDM), which is a cross-national research project on the performance

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19 Ward 2018.

20 This is the case with issues related, for example, to gender inequalities rather than the journalistic treatment of the topic of diversity, first and foremost in relation to migration. On the first side, we highlight the important work of the UniTWIN Network on Gender Media and ICT, for the UNESCO series of journalism education available at https://unesdoc.unesco.org/ark:/48223/pf0000368963.locale=en?fbclid=IwAR3XkE1chBmM5SQzFX-1oFhPgGuzj23VmXjuOWpd_oJhEVsLHJjkqsNSxpk). On journalistic representation concerning asylum seekers, refugees, victims of trafficking and migrants, we point out the work carried out over the years by the Associazione Carta di Roma available ate https://www.cartadiroma.org/.

of the leading media with respect to democratic exercise and has been part of the activities of the Euromedia Research Group for more than 20 years. Since 2006[21], scholars from the field of public and political communication have been monitoring the state of the media on the basis of a series of relevant indicators. Between 2019 and 2020, experts from 18 countries[22] applied the MDM indicators to their respective national contexts, providing insights into the development of the performance of key information outlets during a crucial decade in which the shift to digitalization drove a profound transformation. Initiated under the leadership of Denis McQuail, the project is now coordinated and managed by Josef Trappel, professor of media policy and economics at the University of Salzburg.

The set of indicators chosen for MDM2021 is broad and complex and has produced a very articulate first comparative report. Here we are going to report only data relating specifically to professional journalism. Implementing the original structure, the following three macro-dimensions have been deepened and studied: the first deals with the right and freedom of information ("Freedom/Information"); the second is related to the propensity to defend egalitarianism inside and outside the media system ("Equality/Interest mediation"); and finally, the third dimension focuses on the control and monitoring activities of the media action ("Control/Watchdog"). Each of these dimensions was deepened through 26 specific indicators that all together made it possible to compose the overall picture[23]. For each indicator, country research teams have to give a score between 0 (minimum) and 3 (maximum) based on a mix of desk research and results of interviews with information professionals (working in each country's "leading media", the publications most capable of forming opinions in any national context) and trade union representatives. The scores are discussed

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21 The first edition, called "Democracy in the 21st Century", was the result of a research project at the University of Zurich. The results of this first experiment led to the first Media for Democracy Monitor, which was conducted in 2009 and whose findings were published in 2011. See Nord, L. et al. (2011), *The Media for Democracy Monitor. A Cross National Study of Leading News Media*, Nordicom, Gothenburg, available at https://www.nordicom.gu.se/en/publikationer/media-democracy-monitor.

22 Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, Germany, Greece, Hong Kong, Iceland, Italy, the Netherlands, Portugal, Sweden, Switzerland, South Korea, and the United Kingdom.

23 For a more in-depth look at the theoretical framework and description of the indicators, they are available at http://euromediagroup.org/mdm/indicators/.

internally and externally within the country team to ensure, as far as possible, uniformity of judgement and comparability of data.

There are two indicators specifically devoted to ethics, both included in the "Equality/Interest mediation" dimension. The first (E7. Code of ethics at the national level) is intended to capture the more institutionalized dimension, linked to the presence of a code of ethics valid at a national level. The research question further articulates the topic introducing alongside this first normative dimension ("Does a code of ethics at the national level exist, requiring news media to provide fair, balanced and impartial reporting?") a second dimension that we could define as pragmatic ("Is it known and used?"). The applicable grades range from a minimum that identifies a condition in which a national code of ethics does not exist, or is not in use, to a maximum in which a "code is implemented and frequently used by all leading news media". The variables at stake concern the presence of commissions of press complaints, independent journalist associations who disseminate good practices, provisions regarding the accountability of the media to civil society. The second (E8. Level of self-regulation) focuses on the existence of internal self-regulation systems in the identified leading news media, "requiring the provision of fair, balanced and impartial reporting", and its effectiveness. The applicable grades range from a minimum of "no such instruments" to a maximum of "highly sophisticated self-regulation instruments in every relevant newsroom, and used regularly, e.g. during newsroom conferences". The variables in play concern, among others, the existence of a mission statement/code of ethics/code of conduct, which refers to democratic values and contains journalistic obligations to report politically balanced news, as well as the existence of the figure of the "ombudsman"[24].

5. A complex but all in all stable picture

The research carried out between 2019 and 2020 followed the same framework as that of ten years earlier allowing a possibility of comparison for the nine countries involved on both occasions (Australia, Austria, Finland, Germany, Netherlands, Portugal, Sweden, Switzerland, United Kingdom). This is evident from the structure of the two

[24] Inverted commas refer to the description of the indicators within the Research Manual "MDM edition 2020" (version 4 from 25 October 2019).

volumes reporting the outputs of the MDM2021 research: the first[25] includes the countries mentioned above, the second[26] those which took part in the survey for the first time only in its second edition (Belgium, Canada, Chile, Denmark, Greece, Hong Kong, Iceland, Italy, South Korea). The enlargement of the geographical areas involved in the research on the one hand represents a great opportunity to apply the MDM model to different national contexts, on the other hand it clearly makes it more complicated to trace the results obtained back to homogeneous "models" according to geographical, historical, or political characteristics, such as the most important ones in the literature[27]. This does not prevent us from trying to use and, where possible, test these established models when reading the data.

From the comparison between the first and the second edition of the research, the first element that clearly emerges is a certain stability of the indicator, over time and with reference to the different geographical areas covered by the analysis. In fact, the average for both indicators related to journalistic ethics is 2 points in both editions of the research, with a very slight case from an average of 2.1 points for the 2011 edition to 2 points for the 2021 edition. The highest score is reached for the E7 indicator in Finland, Germany, and Sweden in 2011, to which Norway is added in 2021; this data confirms a more strictly regulated situation linked to a higher degree of professionalism and a lower "compromise" with politics of the Northern European countries. The lowest score is recorded in only one case, in the 2020 edition, for Canada, which does not have a code of ethics at the national level. The situation is very similar for the E8 indicator, which records the highest score for Denmark, Finland, Germany, Norway, Sweden, and the United Kingdom. It should be noted that Germany, Norway, and Sweden score lower in 2021 than in 2011 due to the lower effectiveness of the available self-regulatory tools.

Almost all the countries considered in the two editions have a code of ethics at national level. The first difference, which emerges from the mix of desk surveys and interviews, is the degree of knowledge and effectiveness of this code. Among the countries that are part of the pro-

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25 Trappel 2021a.

26 Trappel 2021b.

27 Reference is to Hallin, D.C. et al. (2004), *Comparing Media Systems: Three Models of Media and Politics*, Cambridge University Press.

ject in the 2021 edition, only in six cases (Austria, Finland, Germany, Netherlands, Sweden, United Kingdom) were the researchers able to state that the national codes are well known and applied in the editorial offices. Researchers from five other countries (Chile, Greece, Hong Kong, Portugal, and South Korea) explicitly stated that the national codes are either little known, or little applied, or both. This result once again follows the dichotomy between a "northern European" and a "southern European" model of journalism, but it is interesting, and not very encouraging, that the characteristics of the "southern European" model extend to so many non-European realities.

One element of interest, which emerges from the 2011 edition of the research and is confirmed by the 2021 edition, is that only in half or slightly less of the cases, the "grade" that is assigned to the two indicators is equivalent. Therefore, a high or low level of codification of ethical standards at national level does not necessarily correspond to an equally high or low level of use of self-regulation strategies within the media world.

Let us see some examples. Two theoretically quite similar contexts, which belong to the same "model" of journalism, such as Germany and the Netherlands, confirm in both editions of the research an opposite balance of the two indicators. In Germany, the self-regulation tools of the various newspapers are present but rarely used, due to a national code of ethics that is widely known and used — starting with the absence of the Ombudsman. In the Netherlands, on the contrary, full compliance with a national ethical standard is hampered by the choice of some important media outlets not to recognize the authority of the Press Council; conversely, innovative forms of self-regulation have been developed, including reference to various guarantee agencies and the investment of an open and participatory debate on fairness, balance and impartiality.

Some more cross-cutting elements emerge from a specific investigation conducted by some of the members of the national research groups in view of a further publication aimed at identifying trends and challenges related to individual aspects of the MDM research framework. With reference to the ethical dimension[28], it is interesting to note that first of all a rising trend in all the MDM2021 countries is the proliferation of specific codes of conduct for a single company or a single medium.

[28] Fidalgo, in press.

Such codes or internal guidelines exist in Finland and in Portugal, in Denmark and in Australia, in Italy and in South Korea, in the Netherlands and in Hong Kong, in Belgium or in Switzerland. Most of them are included in stylebooks that serve as guides for newsroom work and they explain in more detail the principles that journalists (and the medium) are expected to respect.

Another piece of evidence of some interest concerns the area of self-regulation. What emerges from the country reports is a sort of co-existence between the political/legal and ethical approach, with different spheres of influence. The first one refers to the macro-level of the profession and, specifically, to the government laws and self-regulatory organizations rules that characterize journalism. At the same time, the ethical approach invests the profession in the micro-level of the media company or newsroom, with a difference between written codes and oral tradition — but rooted in journalistic professionalism. Finally, these two approaches do not experience a formal conflict, but depend on the journalistic culture of each country.

One certainly positive element is the fact that in almost all the MDM2021 countries, there is a widespread awareness of the existence of codes of ethics; however in many cases the debate is still open regarding their relevance and their actual normative capacity beyond formal compliance with the rules. On the other hand, the work to be done so that ethical codes, though present and known, have an "active role" in journalistic practice is far from over. Two elements deserve particular attention: on the one hand, the mechanisms of self-regulation, which, linked to the newsroom as the environment where journalists' professionalism and identity are formed, can have greater effectiveness in their daily work. On the other hand, attention should be paid to what, in the study of Fengler et al[29], is the extramedia level: the transition of journalistic work, and of the ethical norms intended to guide it, in the digital age, remains extremely topical. The journalists interviewed maintain a position, well summarized by García-Avilés's study[30], according to which journalistic ethics as such should not have an offline and an online ethic. However, the scarcity of tools provided by the media outlets of reference to enact an ethics truly applied to online environments calls into question, again, the need for a more convinced investment in the tools of self-regulation.

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[29] Fengler et al. 2015.

[30] García-Avilés 2014.

6. Concluding remarks

At the end of this overview, it is necessary to answer the question with which we started discussing journalistic ethics, namely whether it can be the key to surviving the digital transformation. It is not just a matter of confirming that the answer is yes, but of arguing, on the basis of the data we have presented, why ethics is so central to the journalistic profession.

What emerged from the MDM2021 research leads us to two considerations in this regard. The first concerns the importance of self-regulation mechanisms. Our question, therefore, comes close to the research question posed by Fengler et al. in their 2015 international comparative study: "does the traditional model of media self-regulation dating back to post-war times, with press councils as its core institution, still suffice for today's converging media world — which is so much more competitive?"[31].

Starting from Puppis' definition[32], which views self-regulation as a process where rules are set, implemented and sanctioned by members of the profession themselves, the authors reason on the applicability of such mechanisms in a context where media accountability "goes online", and its nature is broadening to include subjects who are not only information professionals.

Among the conclusions reached by Fengler et al.[33], media accountability initiatives are more likely to be promoted at the organizational level, where newsroom-level activities are more closely tied to those at the professional level. This seems to be a setback from the framework in which their thinking moves, as well as the one we have tried to develop in these pages. But it also proves to be a functional strategy in pursuit of the objective of claiming the centrality of ethics in journalistic professionalism.

Above all, and we come to the second consideration, these conclusions best fit a context such as that of the MDM2021 research, which involves the "leading media" of the 18 countries. To a large degree, the ground on which we are advancing is that of the mainstream, of information "certified" by its origin in one of the major media. In these

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31 Fengler et al. 2015, p. 250.

32 Puppis 2009.

33 Fengler et al. 2015.

times of uncertainty to which the pandemic has forced us, this certification has regained its strength, and has prompted the same media to rethink their public role as a whole. Indeed, this may be an initial step towards surviving the digital transformation.

References

ARTICLE 19 (2015), *Response to the UN Special Rapporteur Consultation on Protection of Journalists' Sources and Whistleblowers*, available at https://www.ohchr.org/Documents/Issues/Opinion/Protection/Article19.pdf (last accessed 19 February 2023).

Fengler, S. et al. (2015), How effective is media self-regulation? Results from a comparative survey of European journalists, in "European Journal of Communication", 30 (3), pp. 249-266, available at https://doi.org/10.1177/0267323114561009

Fidalgo, J. et al. (in press), *Journalists' codes of ethics: new demands for a new mediascape*, in Trappel, J. (eds), "Success and Failure in News Media Performance: Comparative Analysis in The Media for Democracy Monitor 2021", Nordicom, Gothenburg.

García-Avilés, J.A. (2014), Online Newsrooms as Communities of Practice: Exploring Digital Journalists' Applied Ethics, in "Journal of Mass Media Ethic", 29 (4), pp. 258-272, available at https://doi.org/10.1080/08900523.2014.946600.

Jurrat, N. (2011), *Citizen Journalism and the Internet. An Overview, Open Society Foundations*, available at https://www.opensocietyfoundations.org/publications/mapping-digital-media-citizen-journalism-and-internet (last accessed 19 February 2023).

Plaisance, P.L. (2016), *Journalism Ethics*, in "The Oxford Research Encyclopedia of Communication", available at https://doi.org/10.1093/acrefore/9780190228613.013.89.

Posetti, J. (2017), *Protecting Journalism Sources in the Digital Age*, in "Unesco" available ate https://unesdoc.unesco.org/ark:/48223/pf0000248054 (last accessed 19 February 2023).

Puppis, M. (2009), *Organisationen der Medienselbstregulierung. Europäische Presseräte im Vergleich*, Herbert von Halem Verlag, Köln.

Reuters Institute (2020), *Digital News Report*, available at https://www.digitalnewsreport.org/survey/2020/ (last accessed 19 February 2023).

Steele, B. (2013), *Journalism Ethics Then And Now*, in McBride K. et al. (eds), "The New Ethics of Journalism. Principles for the 21st Century", Sage, New York.

Trappel, J. et al. (2021a), *The Media for Democracy Monitor 2021: How Leading News Media Survive Digital Transformation*, vol. 1, Nordicom, Gothenburg, available at http://norden.diva-portal.org/smash/record.jsf?pid=diva2%3A1557246&dswid=-7719 (last accessed 19 February 2023).

Trappel, J. et al. (2021b), The Media for Democracy Monitor 2021: How Leading News Media Survive Digital Transformation, vol. 2, Nordicom, Gothenburg, available at http://norden.diva-portal.org/smash/record.jsf?pid=diva2%3A1559277&dswid=-6494 (last accessed 19 February 2023).

Ward, S.J.A. (2018), *Disrupting Journalism Ethics: Radical Change on the Frontier of Digital Media*, Routledge, London.

Towards an Algorithmic Public Opinion?

Isabella de Vivo

1. Introduction

Problems relating to data processing and the "infodemic" that accompanied the health emergency[1], with the consequent worsening of polarization dynamics, the spread of misinformation and the media-manipulation, are all aspects that, due to their urgency, need to be investigated through a longitudinal and interdisciplinary study. Indeed, conscious and creative thinking capable of guiding governance operations is now paramount.

Even though the need for revisionist theories and founding concepts in the field of communication research has already been at the center of the scholarly debate due to the emergence of hyper-personalized forms of communication based on "datafication", the research about the detrimental effects of personalization is often inconsistent. However, there is no doubt that in the long run the algorithmic capacity to govern our lives in increasingly sophisticated ways will dramatically expand. During the digital metamorphosis process of the "structural power" of systemic constraints, the activation of communication processes and the attention to the forms of rationality of understanding can be antidotes to the sophistication of the center.

A close investigation of the new communication dynamics is, therefore, considered necessary to outline the real possibilities of the resistance of spaces "from below", as well as to measure the effectiveness of the regulatory strategies put in place by public actors to protect an

[1] See World Health Organization 2020.

"autonomous public sphere" which, according to Habermas[2], is able to communicatively exert a critical influence over the institutions of the center, while legitimizing their power.

The key role played by on-line platforms in the neo-intermediation of the public debate, together with the digital metamorphosis of the structural power of the new systemic constraints, require a fundamental review of the current tools for investigation and ask for a map of the information eco-system, highlighting the political nature of such analysis. As a matter of fact, these aspects of innovation are rebuilding the authority relations, are creating new political entities, and are establishing new interpretative frameworks. A cross-disciplinary approach is needed in order to develop adequate regulatory proposals and draw the researchers attention on the ethical challenges that underly the functioning of datafication, commodification, and selection algorithms. Indeed, the latter are analytical prisms that help us understand the way in which the ecosystem modifies power relations.

Online platforms and algorithms of personalization play a fundamental role in knowledge management. They limit information overload, reduce complexity, and satisfy users by acting in all respects as "neo-intermediaries" of information and knowledge on a global scale. The personalization of multimedia contents based on datafication as well as the engine of the current digital information economy, however, is not free from new risks and threats. Such threats are able to alter the delicate balance between the right to inform and to be informed and other fundamental rights protected by European constitutional traditions. In addition to the crucial problems related to the protection of privacy as an inviolable individual right, the use of "algorithmic reason" together with the so-called *microtargeting* also produce the amplification of perceptual distortions such as *filter bubbles*, *eco chambers,* and *groupthink*. All these phenomena can limit the exposure to diverse, balanced, and plural information and they are fundamental issues within the field of media law and ethics, which both seek to preserve autonomy of choice, diversity, and pluralism in democratic societies. Information empowerment can, in fact, be seriously compromised with the increase of pathological phenomena of polarization, public fragmentation, conspiratorial thinking and other forms of manipulation that can result in undermining individual and collective

[2] Habermas 2006.

decision-making autonomy, thus putting at risk the resilience of the democratic debate. It is about protecting what Eskens[3] calls the sphere of personal information and which resembles the broader concept of intellectual privacy: "a protection zone that guards our ability to decide freely"[4].

While the causes and dynamics of personalization have been extensively researched[5], there is a lack of empirical studies about the consequences of using personalization algorithms with respect to the quality of the information ecosystem. Researches on the social, political, and economic effects of personalization have not yet developed into a coherent frame of reference, but there is no doubt that in the long term the algorithmic capacity to shape individuals and societies in increasingly sophisticated ways will expand considerably. It is quite clear, then, that we need to review current tools of investigation of what we will term digital "neo-intermediation".

Indeed, we may start by discussing some key issues and formulating crucial questions to enlarge the scientific debate. What are the main values and parameters that inform or should inform designers in the algorithmic arbitration of information dissemination? What is the effective impact of personalization on misperception and what is the correlation between this and the circulation of disinformation? To what extent can information personalization be considered legitimate? What are or must be the theoretical presuppositions needed to think about a rebalancing of the information asymmetry between audiences and gatekeepers? To what extent are users of online platforms legally responsible for such practices and to what extent should they be?

Starting from these brief considerations, the need for a dynamic and interdisciplinary approach to the digital information ecosystem emerges. Such an approach should be able to closely map through new hermeneutical tools, the pliable and adaptive nature of the ecosystem that goes beyond stereotypes and simplifications.

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3 Eskens 2020.

4 Richards 2015.

5 Tucker et al. 2018.

2. Exploring the relationship between platforms, information dissemination and public opinion

Online platforms have established themselves thanks to their ability to self-represent as neutral intermediaries able to allow the storage, navigation, and delivery of digital content: this supposed invisibility has allowed them to establish a lasting position in economic and cultural domains, both in practice and at the imaginaries level[6]. Through rhetorical and celebrative descriptions, platform services are presented as universal: wherever in the world you are, it should potentially be possible to access the same content. This universality, however, is utopian. As we already know, platforms are intrinsically regional[7]: different techno-cultural visions and socio-economic influences and the pervasiveness of the platforms means that distinctive forms of social organization are created, where the redefinition of public spaces and values takes place. In digital information ecosystems (determined by economic regimes and by complex domestic attitudes regarding multiple aspects such as surveillance, freedom of expression, and rights), the mechanisms of platforms interact until they converge in the architecture of social institutions. Furthermore, they are driven by the need to obtain profits within a scale economy and they are characterized by *selection, datafication and commodification*[8]. Referring to the effective metaphor proposed by Gillespie, platforms are "the new guardians of the internet"[9]: they preside over the entire socio-technical horizon within which all the actors move. Moreover, they perform a "neo-intermediation" function which structures the information flow through an algorithmic logic — unnoticed on an experiential level and not transparent to all stakeholders — that supports users in their customized searches. In their desire to engage with content and disseminate it without intermediaries, users have entrusted themselves to additional intermediaries: the platforms themselves. The latter do not create the content but are able to shape it in their image and likeness. Moderation activities, therefore, model platforms as institutions, tools, and cultural phenomena: the technical and institutional tools that come into play

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6 Gillespie 2018.

7 Steinberg et al. 2017.

8 van Dijck et al. 2018.

9 Gillespie 2018.

when choices are made that affect the selection of content reveal the cultural power of the platforms[10].

To analyze the transition from digitization to platformization in the face of a general decline in research into information and international journalism, we have to evaluate the power of platforms in intermediation and the progressive personalization of information productions. In this way, we intend to integrate and clarify concepts typically associated with the public expression of political instances such as mediatization and digitization, adding a new frame, the platformization and exploring the processes of adapting forms of information to the structural constraints imposed by platforms.

It is precisely this analytical approach that opens up the possibility of advancing the cognitive link in which the issues in question are resolved. Indeed, there is no doubt that the analysis of the forms (and algorithmic dissemination strategies) of public discourse, which take place and are structured around the constraints imposed by the platforms, emphasizes the systematization of the findings regarding the responsibility of the platforms in addressing public values (and of the debate around them), precisely because it is endorsed by systematic comparison. Indeed, the negotiation of conflicting values will have a significant impact on global innovation policy, national security, freedom of expression, and social cohesion.

2.1. The platformization of the web

> «Taken together, the technological, economic and socio-legal elements of the architecture of a platform shape the dynamics of a platform-driven sociality"[11].

The term "platformization" has been widely theorized by various scholars. Anne Helmond defines platformization as the transformation of the web with interconnected application programming interfaces (APIs) to allow platforms to collect external online data[12]. Subsequent studies take the definition to a different conceptual level, interpreting the platformization as the transformation of an industry in which the operators of

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10 Ibid.

11 van Dijck et al. 2018.

12 Helmond 2015.

the connective platforms and their underlying logics are able to reshape social dispositions[13]. Infrastructure platforms are supranational entities, founded not on the ratification of a social contract, but on "terms and conditions of service", social media policies and technical design choices. Moreover, business models effectively serve as a form of privatized governance that directly promulgates rights and regulates the flow of online information and, in doing so, promotes or limits civil liberties[14].

The operating syntax of the platforms can be summarized as the processes of:

1. *Datafication*

"The transformation of social action into online quantified data, thus allowing for real-time tracking and predictive analysis"[15]. Platforms translate the data, characteristics, and aspects of reality. User behaviors and choices, which were not previously quantifiable or constituted informal or ephemeral activities are now the "bargaining chip" in the "attention market".

2. *Commodification*

The platforms transform data associated with content and emotions into commodities that can be traded inside and outside the platforms. To access the online platforms, users usually give up those data they generate in exchange for the "free" service. The core-business that generates profit is the sale of meta-data, a bargaining chip in the multi-sided market of platforms. In turn, the so-called prosumers act as secondary gatekeepers, producing unpaid content and generating economic value for the platforms through their "digital work"[16]. This is the status quo of the current data-driven society in which sociality is transformed into economic value.

3. *Selection and curation*

The platforms direct users to specific content and objects. The selection process guided by the traditional editorial logic is replaced by a data-directed selection process based on the logic of click-baiting and fed by

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13 van Dijck et al. 2018.

14 DeNardis et al. 2015.

15 Mayer-Schönberger et al. 2013.

16 Scholz 2012.

information flows — consciously or more often unconsciously — originating from users through feedback mechanisms.

Datafication, commodification, and selection are therefore the analytical prisms for understanding the way in which the ecosystem re-articulates power relations. Much of the economic and public value of datafication lies in the possibility of capturing information flows in real time: the individual behavior of groups is tracked, aggregated, and analyzed. Subsequently, the results are transmitted to other users in charge of marketing, advertising, public institutions, organizations, and companies. The circulation and extension of the platform economic policy online takes place through a process of *decentralization* and *re-centralization* of data.

The so-called Big Five, or GAFAM (Google, Apple, Facebook, Amazon, Microsoft), infrastructure platforms, control the circulation of data to and from the industry platforms, sites, apps, and the multitude of users. The devices people use to access platform services often incorporate software and apps that can automatically collect "platform ready" data. External online data become readable by the platforms and exploitable according to the logic of their own economic model. The policy of the platforms thus extends beyond them (e.g. the use of the Facebook "like" button on other web content). Through APIs, third parties can remix and transform the proprietary data of companies such as Google, Facebook, and Twitter into new applications and programs (e.g. Google maps) following the so-called double logic of platformization[17].

2.2. Centrality of data

The term "Big Data" refers, as a first approximation (in the absence of legally binding definitions), to the collection, analysis, and accumulation of large amounts of data which may include personal data and data from other sources[18].

The immense nature of the processing operations brings with it the need for such sets of information (both stored and streaming) to

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17 Helmond 2015.

18 In the sense provided by Art. 4 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, concerning the protection of individuals with regard to the processing of personal data, as well as the free circulation of such data and which repeals Directive 95/46/EC, hereinafter also "RGPD".

be subjected to automated processing, using algorithms and other advanced techniques, in order to identify correlations of a (mostly) probabilistic nature, trends and/or models. The creation of data is growing exponentially: in 2018 the total volume of data created in the world was 28 zettabytes (ZB), recording an increase of more than ten times compared to 2011. As shown in Figure 1, the total volume of data is expected to reach 163 ZB by 2025.

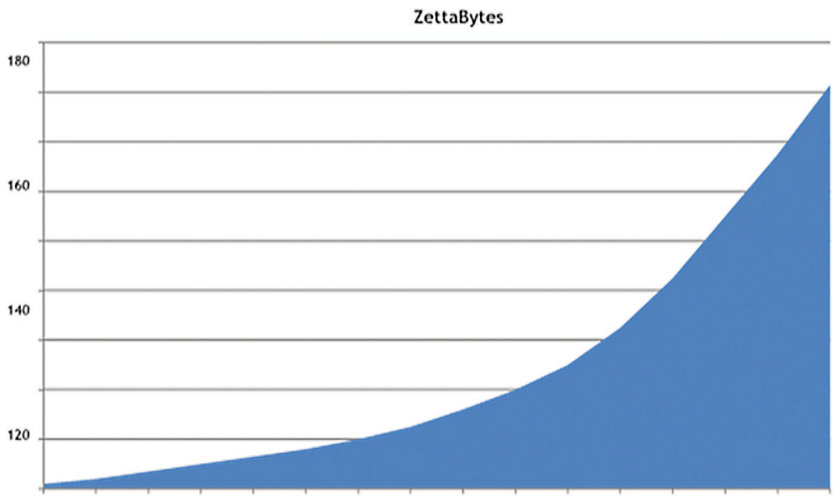

Fig. 1. Data Growth in ZettaBytes. Source: AGCM processing based on the data provided in the IDC technical report AGCOM AG joint fact-finding survey, AGCM 2018-2020.

In the physiognomy of the Big Data economy, therefore, the process of "knowledge extraction" is crucial and it could be possible to identify, on a logical level (with possible repercussions also on the legal level), three main orders of activity within it:

i. collection, which in turn is divided into generation, acquisition, and storage;
ii. processing, which involves extraction, integration, and analysis;
iii. interpretation (profiling) and use (See Figure 2).

2.3. Data driven customization

In the publishing sector, Big Data, the driving force of information "neo-intermediation", makes it possible to achieve a high level of personalization in the use of editorial content.

1. Raccolta
- Generazione
- Acquisizione
- Memorizzazione

2. Elaborazione
- Estrazione
- Integrazione
- Analisi

3. Interpretazione
- Interpretazione
- Decisione

Fig. 2. The Big Data Supply Chain. Source: AGCM processing, merged into the joint fact-finding survey conducted by AGCOM, AGCM, AG on Big Data (2020).

Algorithmic personalization, despite being at the basis of the new information filtering and ranking mechanisms, remains an ambiguous and little explored concept, without consensus on its essential characteristics and on the effects on the equilibrium of the digital information system.

Profiling is the basis of the personalization mechanisms. In art. 24, GDPR (679/2016) defines profiling as "any form of automated processing of personal data consisting in the use of such personal data to evaluate certain personal aspects relating to a natural person, in particular to analyze or predict aspects concerning professional performance, economic situation, health, personal preferences, the interests, reliability, behavior, location or travel of said natural person". It is therefore a processing of personal data for evaluative, predictive, manipulative purposes, intended to have repercussions on the user's legal sphere. Of course, profiling can take place in a variety of contexts and for a variety of purposes. In the case of news personalization, profiling makes or informs the decisions (presumed preferences) that personalize a user's media environment (for example the selection and ordering of contents). With large media providers no longer performing a gatekeeping function, the consumption of information is based on the more or less conscious delegation of selective choice to profiling algorithms.

Clearly, these complex predictive decision-driving and selection processes raise serious theoretical questions, offering limitless benign opportunities as well as dystopian realities.

2.4. The neo-intermediation phenomena

An in-depth analysis of both the online information system and the role played by the platforms is clearly needed. It has to highlight the characteristics of the information offer from the point of view of the quantity, quality and variety of the content generated, as well as to examine the methods of dissemination of news, allowing light to be shed on both the criticalities of the information offer and on the distinctive characteristics of the production of disinformation content. These are themes brought to the center of political and academic debate due to the "infodemic" that accompanied the health emergency with the consequent exasperation of the dynamics of polarization, misinformation, and media-manipulation[19].

The gatekeeping process is extensively studied by multiple disciplines, including media studies, sociology and management, in order to address traditional media bias, i.e. how certain events are deemed more newsworthy than others and how influential institutions or individuals determine what information they pass on to recipients, i.e. what are the values or moral perspective with which to select news. In the digital ecosystem, some important changes have occurred: a. the editorial role delegated to the algorithms; b. the growing role of audiences as secondary gatekeepers for which users co-determine what makes the news (popularity algorithm = relevance); and c. the change in the position of the journalist from gatekeeper to gate-watcher.

From the moment it is born to when it reaches the widest audience, information is modeled, filtered, and hidden within a dense mixture of elements that come together in the algorithmic infrastructure of social media and digital platforms[20]. From a theoretical point of view, the identification of the phenomenon of "neo-intermediation"[21] and the limits of the concept of disintermediation, lead us to pay attention to the distinctive characteristics of algorithmic publishing/platform press and to the metamorphosis of the processes of information content selection and dissemination, in order to analyze the impact on the balance and on the information system.

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19 See World Health Organization 2020.

20 Moeller et al. 2018.

21 Giacomini 2018b & 2020.

Within the scientific literature, the concept of "neo-intermediation" has appeared before under the name "re-intermediation"[22]. However, the term "re-intermediation" runs the risk of suggesting the occurrence of a reiteration of the old intermediation (through the prefix re-, which mostly expresses the repetition of an action in the same sense), while that of "neo-intermediation" suggests (through the prefix neo-, the first element of compound words in which it generally has the meaning of new, modern or recent) that it is a form of intermediation that presents itself through digital and not analogical forms, that is algorithmic and not heuristic and, therefore, not simply repeated, but unpublished.

With the concept of "neo-intermediation" we therefore intend to focus on the central role of recommendation and personalization of algorithms such as new gatekeeping infrastructures, together with the combined role — played by third-party mediators — also known as data brokers. From the interaction between all these elements, what has been defined as "algorithmic public opinion"[23] is inevitably influenced by the governance of online platforms and by the emergent possibilities that have emerged[24].

The power of neo-intermediation entrusted to the new "Custodians of the internet" is twofold:

Firstly we have to refer to the *filtering* process: the platforms act as filters or gatekeepers. Therefore, in the flow of information, they select news deemed relevant enough to reach users. In light of the current European governance models, they do not limit themselves to providing an apparently neutral publication space, but they assume the role of censors. Thus, on the basis of criteria hither to not legally defined and, therefore, acting in accordance with an "editorial and/or information line", they remove content viewed as "potentially harmful to the public interest" of users.

The second aspect to consider is the *ranking*: like traditional media, digital media indirectly determine the public agenda by placing news in a certain order (ranking) so that their consumption can be influenced.

Part of the impalpability of these moderation mechanisms is due to the procedural opacity of what surrounds them: the algorithms are flanked by a variable army of human fixers who often do not have the time, skills, and above all the democratic legitimacy in the operations of curatorship, control, and censorship of the flow of information.

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22 Jones 2002; Bentivegna 2015; Cepernich, 2017.

23 Airoldi 2020.

24 Friedman et al. 2006.

The randomness of the rules and the human component that intervenes in both the decision-making processes and the planning of the algorithms should contribute to questioning the generable potentiality of the platform services as well as their neutrality.

2.5. Anatomy of AI-based information filtering

Machine learning is a means to create artificial intelligence by discovering patterns in existing data. Machines can learn word associations from written texts and these associations mirror those learned by humans as measured by the Implicit Association Test (IAT). Of course, semantics derived automatically from language corpora contain human-like biases. The IAT has predictive value in uncovering the association between concepts such as pleasantness and flowers, or unpleasantness and insects. It can also tease out attitudes and beliefs. For example, it can uncover associations between female names and family, or male names and careers. Such biases may not be expressed explicitly, yet they can prove influential in behavior[25]. Any remedy for bias, therefore, must start with awareness that bias exists.

Consequently, using the criteria defined by the designers (input) and beyond: the algorithmic filtering of data takes place. Through inductive machine learning processes, the algorithms are circularly trained by user activities, in a sort of feedback loop[26], where feedback refers to "the property of being able to adjust future conduct with past performance"(Figure 3)[27].

Thus, in practice, artificial intelligence systems also learn from cultural "propensities"[28]; from data models extracted from online audiences, which reflect specific positions in the "social space"[29] as well as relative "prejudices" or biases, including implicit biases[30]. The results proposed by the algorithm will, therefore, reflect the practices of production and consumption of content of internet audiences as well as the relative implicit biases resulting from them.

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25 Caliskan et al. 2017.

26 Sumpter 2018; Airoldi 2021.

27 Wiener 1989, p. 33.

28 Mackenzie 2019.

29 Bourdieu 1989.

30 Baeza-Yates 2018.

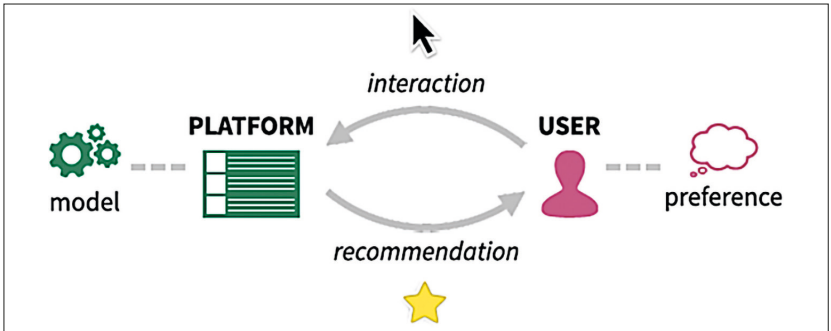

Figure 1: The feedback loop between user behavior and algorithmic recommendation systems. Confounding occurs when the model attempts to capture user preferences without accounting for recommendations. User preferences then influence both recommendations and interactions, obfuscating the casual impact of recommendations on behavior.

Fig. 3. The Feedback Loop. Source: Chaney-Lippold 2018.

As shown in Figure 3, if the outputs of a technical system are redirected as inputs, the system powers itself. Platform-based user interactions with machine learning systems produce feedback loops [31].

If on the one hand the mechanism allows each user to have easy access to the content of greatest interest, on the other hand, it intensifies phenomena of *self-confirmation bias*. Through the described circular causality mechanism (feedback loop) the user, through the choices they make, reveals the information that interests them and, in turn, the selection of information made by the algorithm influences the user's choices. The natural tendency to avoid cognitive dissonance is, therefore, amplified, with the effect of closing the user in an invisible bubble (filter bubble), thus confirming their own vision of the world[32].

The combined action of several cognitive distortions, in particular, the *confirmation bias* (see above), the *disconfirmation bias* that refutes information that contradicts preferences, and the *prior attitude effect* on the basis of which individuals attribute greater credibility to information more in line with their mentality[33], seem to be amplified by the algorithmic economy of the platforms. Such distortions, as demonstrated by the most recent empirical research[34], underpin strategies for the

31 Airoldi 2021.

32 Pariser 2011; Cheney-Lippold 2011.

33 Epley 2016.

34 See AGCOM 2020.

propagation of disinformation which are developed in order to exploit the cognitive biases and the functioning mechanisms of the mind by emphasizing the emotional reactions and automatic cognitive processes (but not only these)[35].

Individuals will also tend to remain within the contexts that enforce their acquired beliefs, amplified by the phenomena of eco-chambers[36], or message amplification (groupthink), which are capable, with varying degrees of success[37], of jeopardizing pluralism, transparency, and information diversity. Indeed, it is clear that the availability of a plurality of sources does not necessarily impact on the actual experience of users. Moreover, a specific content and/or editorial product will not (tendentially) be proposed outside a user group which, according to the profile to which they belong, can be considered *a priori* interested. The natural tendency for homophily and, therefore, the interaction between groups of homogeneous individuals tends to trigger a further effect: individuals are inclined to believe that what is claimed by groups of people is reliable (*bandwagon effect)* simply by virtue of it being repeated and thus more familiar to the mind (illusory truth effect). In addition to the impact of algorithms, some studies have observed how online interaction through social networks also creates a favorable environment for the spread of disinformation through mechanisms that are entirely similar to contagion phenomena thus favoring news viralization processes.

As for newspapers, the need to propose content that generates interactions often leads them to select information on the basis of the "virality principle" whereby what can be rewarded by algorithms is considered newsworthy. The massive transfer of journalistic material to social networks implies the adaptation of the language to the codes of the hosting platform. From this phenomenon also derives the simplification of journalistic content — according to the principles of gamification and "emotionalization"[38] which helps to further inflate the ideological bubbles of the network, aggravating the problem of incommunicability between highly polarized groups[39]. The content with the highest virality rate tends to be the most able in acting on the emotional sphere

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35 Pennycook 2019.

36 Sunstein 2007.

37 See Bruns 2019; Sumpter 2018.

38 Sorice 2019.

39 Mele et al. 2020.

and generating strong reactions such as anger, indignation, excitement, and enthusiasm, which then can be translated into interactions, clicks and shares. Therefore, it is a matter of content, which is already simplified, being made immediately understandable and emotionalized, thus reaching users in a personalized way and on the basis of the conformation of their social networks.

2.6. Personalization and individual autonomy

Personalization can be explicit or, as more often happens, implicit[40]. It can depend on user requests and/or user behavioral data (created unknowingly): digital traces or behavioral surplus that fuels surveillance capitalism[41] may include data on digital behavior and physical travel as well as sensitive health, banking, or professional information[42]. According to a recent study by eMarketer[43], online communication strategies are based on the possibility of capturing the unconscious motivation of individuals, till the point that 57% of the major marketing companies make use of "non-conscious market research" techniques. Such techniques include behavioral economics models, eye tracking, facial analysis, applied neuroscience models and biometric responses. An example comes from the smart recruiting sector: one of the leading artificial intelligence systems in the sector, developed by the American company HireVue, was able to analyze the data of up to 25,000 candidates, taking into account vocabulary, tone, cadence, facial expressions and posture. This at least until a complaint was presented to the federal trade commission by the research and public interest group "Electronic privacy information center", in 2021, following which HV decided to exclude facial expressions from the evaluation. Personalization can therefore be based on the autonomy of individual choice or on algorithmic delegation (essentially conscious) to the platform to deduce one's personal preferences.

The consequent asymmetry of information (and, therefore, of power) between companies/institutions and consumers/citizens as well as being considered a threat to individual privacy, especially in the case of facial

40 Thurman et al. 2013.

41 Zuboff 2019.

42 Cheney-Lippold 2018.

43 Biometric Marketing 2019.

recognition techniques and in poorly regulated regulatory contexts such as in China and the United States[44], is able to impact the very resilience of democratic institutions.

For example, the so-called psychographic profiling and "hypernudging" techniques (configuring the context of the user's information choice in a way intentionally designed to influence their decisions[45]) are believed to have been used by the Cambridge Analytica company to influence the 2016 US presidential election campaign, and in "Brexit", by taking an enormous amount of data from the Facebook profiles of completely unsuspecting users. Manipulation and deception become easier thanks to affective computing (or "emotional AI") captology — the study of computers as persuasive technologies[46] — and the emergence of psychographic techniques focused on demographic characteristics and "affect detection techniques", along with different types of data such as location-based tracking, real-time data, or keyboard use.

Recommendation systems (RS) represent the most important personalization engines. By RS we mean data-driven computer-based software tools and techniques that provide suggestions for elements that may be useful to a user[47]. These systems emerged in the early 1990s and in 2006 were made famous by the Netflix award for the enhancement of hybrid RS movie recommendations. The spread of social media and smartphones that provide much contextual information such as the time, place, emotion of people and groups has subsequently opened a new recommendation path known as contextual RS. "As in a self-fulfilling prophecy, real audiences replicate the behaviors prescribed by algorithmic audiences generated as output by Big Data and disguised as suggestions and recommendations"[48].

RS can be divided into three main types:

1. *content-based* (also called "semantic filtering");
2. *collaborative* (also called "social filtering");
3. *hybrid* (most RS)[49].

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44 Pasquale 2015.

45 See Yeung 2018.

46 Fogg et al. 2002.

47 Ricci et al. 2015.

48 Andò 2018, p. 135.

49 Ricci et al. 2015.

Content-based filtering (semantic filtering) refers to recommendations that are made by analyzing the associations between a user's past choices and the descriptions of the new objects.

Social filtering (collaborative filtering) automates the "word of mouth" recommendation process: articles are recommended to a user based on values assigned by other people with similar tastes. The system determines which users have similar tastes using standard formulas to calculate statistical correlations (a paradigmatic example is the collaborative RS of Facebook Edgerank). In this case, it is worth noting the concise definition given by Hildebrandt and Gutwirth in *Profiling the European Citizen*: "Profiling is a matter of pattern recognition, which is comparable to categorization, generalization and stereotyping"[50].

Finally, hybrid filtering is the most common form of RS today and uses a hybrid of recommendation techniques which combine characteristics of both systems and other elements such as demographics, communities, or editorial selections.

3. The contribution of cognitive sciences: the vicious circle between misperception and disinformation

As we have tried to underline so far, both the complexity and fluidity of the information environment require an innovative and cross-disciplinary approach to analysis. The aim is to identify tools to create a deterrent ecosystem to misperception (false perception), prevent the spread of disinformation and, therefore, limit the use of censor remedies. The most recent empirical research is aimed precisely at exploring the possible correlation between misperception phenomena and the propagation of disinformation.

In this regard, the cognitive mechanisms that govern the ability to recognize true and false news, as well as the problem of distinguishing between the two, represent a much-debated topic in even recent scientific research. Indeed, there is still no single answer or consolidation of theories. However, many empirical studies, even those of a multi and interdisciplinary nature, have focused on the investigation of these phenomena, focusing on the use of online information, its framing and sharing, induced polarization, and the role of algorithmic filters.

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[50] Hildebrandt 2008.

The results of the research into the cognitive origins of misperception, although not directly related to the world of information, can be usefully taken into consideration. Many of the psychological mechanisms that underlie misperception and many of the characteristics of the environment from which it emerges, in fact, are found in the online information system. It has been observed that not only are misperceptions able to exacerbate the impact of false information, but that they are themselves fueled by disinformation, the contents of which, stimulate emotional reactions. Examples include negative feelings towards ideologically opposed individuals or social groups; or situations that threaten the identity of individuals or their vision of the world; and even social pressure exerted by members of the same group.

"Misperception" can be defined as a belief that contradicts the available evidence concerning a particular phenomenon; individuals, in particular, can believe in something and feel that they are well informed on related issues. This trend has been the object of increasing study (see for example the Ipsos ones). In many countries, among them Italy, there has been a significant (and growing) gap between the perception of social and economic phenomena and the reality of the facts. Of particular interest is the study conducted in Italy by AGCOM in 2021. Here, as part of a project entitled "Digital platforms and information system", a fact-finding survey conducted on a sample of 1,358 individuals was carried out, aimed at studying public resistance to online disinformation. The report highlights how cognitive distortions and false perceptions can be used strategically to influence public debate and direct support or aversion to public policy alternatives. The novelty of the AGCOM report is precisely its use of the interpretative contribution of behavioral analysis and the experimental method to reconstruct the cognitive process underlying the decisions of users in the "attention markets".

To take into account the scientific debate on the issues mentioned before, the report adopts a non-traditional method of analysis which is based on a "survey-experiment". The originality lies in the administration of a questionnaire structured in a similar way to a typical cognitive psychology experiment which combines the main components of the surveys with real tests on the knowledge of phenomena and on the ability to discern the different quality of news. In this way, the advantages of the survey, linked to the size of the sample and the representativeness of the same, are combined with those of an experimental design with

which to try to retrace the individual decision-making processes in the consumption of information through a path with successive phases. In doing so, the report investigated the correlations and influences of two interpretations of the impact of disinformation on individuals[51]:

- Intuitive System (S1): the effectiveness of disinformation content in deceiving individuals are linked to fast, intuitive, "automatic" mental processes of an emotional nature, based on analog-associative mechanisms, on cognitive routines and, therefore, on the "laziness" of the mind in activating "controlled" processes. Also typical of system 1 is the *anchoring effect:* the order in which we receive information about a certain event influences our understanding of the event and acts as a filter and "resistance" to receiving further information that contradicts what we already know or read as a cognitive challenge.
- Analytical system (S2): believes that the propagation of disinformation is facilitated by a cognitive strategy, defined as "motivated directional reasoning". This consists in the activation of the described convergent analytical mental processes which, even when generated by an initial false perception, lead to the selection of only those elements that confirm the original perceptual biases. Rational motivation would be the basis of the system of protection from cognitive dissonance.

It emerged that both systems, amplified by the described algorithmic cognitive distortions, are involved in misconception phenomena. Therefore, it is not certain that distorting cognitive mechanisms (bias) occur only due to the activation of the cognitive mechanism of simplification and routine (*intuitive system or system 1*) or merely to the mechanisms of speculative study (*analytical system or system 2*). This means that it is not only the modalities of the information on the supply side (i.e. the fragmented-repetitive nature of the same) that generate the phenomena of false perception, but also the attitudes on the side of the algorithmically oriented demand.

The correlation and reciprocal influence between online misperception and disinformation have been evident and have a high impact: misconceptions make disinformation phenomena less recognizable. Furthermore, disinformation strategies can exploit the false perceptions of social and economic phenomena and address them, feeding them in a vicious circle. The choices and decisions, but also

[51] Kahneman 2017.

the learning process and the formation of opinions are, therefore, clearly influenced by the context thus defined.

The report, through a completely innovative investigation tool, empirically analyzes how the methods of information distribution through online platforms, including algorithmic personalization and framing, intervene in the perception of the reality of the world. Understanding these phenomena is also decisive for the evaluation of self-regulation and co-regulation processes in progress in relation to the information conveyed through online platforms.

In my opinion, AGCOM's research, in addition to the "European action plan against disinformation" is moving in the right direction. Indeed, I believe that the targeted study of media literacy interventions aimed at implementing skills is fundamental, even before "curative monitoring and control interventions such as fact checking, and debunking" and account closure. Encouraging a natural resistance of the public to online disinformation and *borderline content* guaranteeing decision-making autonomy is the first step for the resilience of democratic institutions.

4. Personalization and public communication

In many cases, as we have already seen, personalization is based on the comparability or even on the similarity (for some simplified categories) of the user with others (e.g. collaborative filtering). Thus, personalization paradoxically denies individual uniqueness through "intelligent" homogenization that negotiates the diversity of humankind. By constructing, manipulating, and strengthening these homogenizing categories, data-driven personalization, therefore, works on the premise of "divide and rule". In this case, the audience of the platforms, selected through algorithms whose control is not possible, pass from being networked individuals to calculated individuals, an aggregate whose boundaries are established and known only to the platform managers.

Taking up the well-known Habermasian hermeneutic paradigm[52], "data driven neo-intermediation" seems to add to the strategic and potentially manipulative action of peer to peer communication and thus the verticality of the dual communication emission/reception typical of traditional mass media. Indeed, the presentation of aspects of strong

[52] Habermas 1981.

verticality (think of the asymmetry of power between a neo-intermediary like Google and a single user) simultaneously allows forms of strategic (and therefore manipulative) actions that are no longer tempered by a universalistic validation constraint "imposed by heterogeneity and the unknowability of the mass audience"[53].

As highlighted above, it is clear, therefore, that it is not only privacy as an inviolable individual right that is put at risk, but the "sphere of personal information", or intellectual privacy, which constitutes the prerequisite of cognitive self-sovereignty[54]. Through the so-called psychographic data collection techniques, which allow platforms/institutions to act on the totality of information and not only on statistical samples, the actor has a targeted and profound knowledge of the "citizen-user". The latter discards the guise of an abstract and unknowable entity and is easily manipulated by targeted and sectoral communication no longer covered by the "claim to validity" and universalization of the political message imposed by the vastness of traditional public mass media[55]. The effect is the segmentation of audiences capable of breaking up the control traditionally exercised by the "autonomous public sphere" which, according to the Habermasian ideal, is able to communicate generating a critical power towards the institutions of the center while legitimizing their power. On the other hand, the ranking and personalization mechanisms, the absence of transparency in the targeting of information, and the logics of click-baiting constitute the environment that has allowed, or at least facilitated, the explosion of disinformation and polarization[56]. In the process of digital metamorphosis of the "structural power" of systemic constraints, however, the activation of communication processes and attention to the forms of rationality of understanding can be antidotes to the sophistication of the center. Therefore, a close investigation of the new communicative dynamics of the power nodes of the new subjects of the center is necessary to outline the real possibilities and resistance of spaces "from below" as well as the effectiveness of the regulatory strategies put in place by public actors to protect what, in Habermasian terms, we have defined the "autonomous public sphere", the only legitimizer of democratic institutions.

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53 Ibid.

54 Yeung 2016.

55 Privitera 2001, pp. 44-45; Giacomini 2018a; Giacomini 2020, pp. 31-50.

56 Del Vicario et al. 2016.

5. The contribution of sociology — Towards a sociology of algorithms?

As we have briefly tried to illustrate, with the global spread of digital platforms that make the accumulation and analysis of user-generated data their main business model, the canonical research objects of the social sciences are profoundly transformed. From power to identity, from everyday life to culture, from forms of sociality to memory, almost everything has become, at least in part, "algorithmic"[57].

The engineering and automation of social processes has characterized the recent transition to what has been defined an "algorithmic culture"[58]. This carries with it enormous social and cultural implications which require researchers to intensify their efforts to expand the existing understanding of algorithmic processes and the cultural conceptions that surround them without stopping at the "unknowability" of the black-boxed codes underlying economics.

A sociology of algorithms, in the true sense of the term, does not yet exist. Or rather, there are many research experiences which are mostly divided between the study of digital media, the economic-political critique of platforms, and the Science and Technology Studies approach to code. Few authors — including Beer, Bucher, and MacKenzie[59] — have tried to outline a social theory, centered on culturally and socially structured relationships between automatic systems and individuals[60].

However, despite the mainstream "dataist" discourse that tends to mythologize the positive consequences of artificial intelligence and predictive technologies for the economy and society[61], a large multidisciplinary critical literature has flourished in recent years, partly known as *critical algorithm studies*. The focus of this academic debate is the different components of algorithmic "Big Data assemblages", that is, the complex socio-technical systems of data production and processing embedded in digital technologies and platforms[62]. In critical algorithm studies it is the social and political consequences of the

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57 Airoldi 2020; Beer 2017; Cheney-Lippold 2018, Hallinan et al. 2016.

58 Hallinan et al. 2016.

59 Beer 2017; Bucher 2018; MacKenzie 2019.

60 Airoldi 2021.

61 Gambetta 2018.

62 Aragona et al. 2018.

output that are the subject of theoretical speculation and — more rarely — empirical research, starting from questions such as: How does the algorithmic circulation of content affect cultural consumption?[63], or what impact does it have on the polarization of public opinion?[64], and to what extent do racial and gender biases present in predictive systems contribute to reproducing social inequalities and forms of discrimination[65]?

The fallout resulting from the aforementioned Cambridge Analytica scandal, and the publication of a series of documentaries that presented an exposition of the inner workings of social media platforms in relation to data management, content moderation and ethics, has indeed given new space for the debate on reducing the opacity of algorithmic recommendation systems and improving their transparency. The latter is a crucial factor in distinguishing between the legitimate influence on public opinion and the coercion of opinions.

In the wake of the tradition of Science and Technology Studies[66], many authors have highlighted the need to open the "black box" of algorithmic models applied to the social world[67]. Above all, they have shed light on: 1. the not very visible but central role of human work in developing, calibrating, and training — even if only as simple, unsuspecting users — AI algorithms and systems[68]; and 2. the cultural assumptions, political-economic interests and biases inscribed in the design of algorithms and platforms that are only seemingly neutral[69].

Beyond the lack of public knowledge of the functioning of profiling algorithms underlying the filtering of information content (think only of Pagerank, the Google search algorithm), in order to understand their relevance in the processes of creating public opinion, there is a need to firstly recognize them as social and cultural objects. Therefore, to discuss the possible research directions of a sociology of algorithms, beyond the demystification of the code, it is necessary to: 1. contextualize the algorithm, starting from the study of the social worlds hidden

63 Beer 2017.

64 Bruns 2019.

65 O'Neil 2016.

66 Wajcman et al. 1999.

67 Pasquale 2015.

68 Casilli 2019; Crawford et al. 2018.

69 Pedreschi et al. 2018; Gillespie 2014.

behind the machine[70]; 2. historicize technology; and 3. investigate human-machine interaction.

"Society […] also includes all those objects to which purely human functions have been delegated. Human subjects are social beings, but also those "non-human" subjects who are objects, as well as, if not above all, those "hybrid" subjects, human and non-human together, born from more or less casual, more or less lasting encounters, between human and non-human actors"[71]. "Objects are not means but rather mediators, in the same way as all other actants; they do not faithfully transmit our strength — at least no more than we ourselves are the faithful messengers of theirs […] In order to finally be able to deal with the social body as a body it is necessary to consider things as social facts"[72].

Indeed, it is crucial to understand algorithms as "a socio-economic construct, that is, as technologies that are incorporated into organizations with their own objectives, values and fundamental freedoms, capable of modifying interactions with the human/economic/environment in which they operate. "The criteria that inform the algorithm as in the case of human publishing, necessarily express 'human values', that is, they wear what has been defined as a 'machine habitus'"[73].

As previously illustrated, even in practice artificial intelligence systems learn from the cultural "propensities"[74] of the data models extracted by users — secondary gatekeepers — reproducing and amplifying stereotypes, perceptual and cultural biases, and prejudices inherent in their choices. Machine learning systems must, therefore, be studied as "socialized" actors within human-generated data that bear the cultural imprint of specific social contexts[75]. When we consider the mechanisms of selection of a platform that involve algorithms, human editors, or a combination of both, we will znecessarily question the key values that inform these mechanisms, in other words the "habitus" they wear.

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70 Casilli 2019; Aragona et al. 2018.

71 Marrone 2002.

72 Latour 2002, p. 227.

73 Airoldi 2021.

74 Mackenzie 2018.

75 Mühlhoff 2020; Fourcade et al. 2020; Završnik 2019; Nobile 2018.

6. Datafication and dataism: "a new paradigm in science and society"

Just as relevant within this debate is the study of man-machine relations. The perceptions, opinions, and understandings of algorithmic interventions in the daily consumption of information and in the filtering of content for users count, in fact, as much as the knowledge of the code and mathematical formulations of these algorithms[76]. Indeed, it is in this direction that the most recent research in this field seems to be moving. It aims to investigate awareness and perception of the role of algorithms, investigating the possible reaction between acceptance, exit and coping strategies.

Users can ignore the profiling and personalization mechanisms underlying their news feed on the media[77] or, on the contrary, they can accept the phenomenon according to what the literature defines as the sociology of "digital resignation"[78]. In other words, despite growing awareness of surveillance, as well as unease concerning the implications of these systems, people may feel they lack the power to cope with the nature of data collection[79], hence the acceptance of massive data collection in their social life.

From the already mentioned 2018 survey conducted by AGCM in Italy concerning the degree of awareness of users of digital platforms in relation to the transfer and use of their personal data, it emerged that about 6 out of 10 users are not only aware of generating data with their online activities that can be used for profiling activities, but also appear informed of the high degree of pervasiveness of the collection systems (e.g. geolocation, access to functions such as address book, microphone and video camera) and the possibility of data exploitation by companies. It also emerged that 4 out of 10 users are aware of the close relationship between the granting of consent and a "free" service. On the one hand, therefore, there seems to be a limited sensitivity to the relevance of such data (36.1%); on the other, there is a perception of the complexity of technological tools (30.4%).

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76 Bucher 2017.

77 Eslami et al. 2015.

78 Draper et al. 2017.

79 Dencik et al. 2017.

The survey confirms the trend, already noted in the scientific literature, of accepting the collection of personal information as a pragmatic response in negotiations with digital infrastructures. There has been a normalization of the trade-off between metadata and the provision of free communication services and security, which has found its way into the comfort zone of many people. This has been driven, at least in part, by the ideology defined by Van Dijck as "dataism".

Research on public attitudes, starting with the revelations of Snowden[80] who pointed out that, despite there being a greater awareness of the problem of *datafication*, the justification for surveillance has been largely internalized, particularly when concerning security. Hence, there has been an acceptance of the massive collection of data in social life and the active marginalization of possible alternatives[81]. The so-called "Limited Government Regulation" model, inspired by "technological solutionism», and by current Western governance models, has in fact concentrated on trying to mitigate the excessive damage of *data* leading to the *discursive* depoliticization[82] of the problem of surveillance. This response has not been able to transform the social imagination into a force capable of tackling the so-called "realism of surveillance". This concept was developed in the context of communication research in reference to the "pervasive atmosphere" similar to that described by Fischer in relation to "capitalist realism"[83], which dominated the political and media debate in the post-Snowden era. This era was characterized by an atmosphere capable of both directing thought and action and normalizing the operation of surveillance infrastructures to the point of limiting the possibility of imagining possible alternatives[84]. The concept can, therefore, prove to be a useful hermeneutic paradigm for *social research* in the transversal study of policy interventions *and* their impact on the public. This will pave the way for the formulation of possible alternatives for the future of the communication and, ultimately, democracies themselves.

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80 Snowden 2013.

81 Dencik et al. 2017.

82 D'Albergo et al. 2020.

83 Fischer 2018, p. 26.

84 Dencik 2018.

7. Concluding remarks

In the new definition of the cascade activation model[85], government information fluctuates through hierarchical but not irreversible processes, from actors with official power to the public. It is necessary, therefore, to redefine the rigidity of framing processes in the face of platforms that on the one hand allow disintermediation, and on the other hand introduce a series of diversions that risk confirming and exacerbating ideological affiliations and partiality of information, which can be summarized in techno-infrastructural elements and socio-political variables. The cross-disciplinary study of the ways in which that we have defined neo-intermediation processes are structured, through the production of content and the dissemination of the same through the platforms, allows us to understand self-representation strategies, dominant and public frames perceived in order to develop regulatory perspectives and governance.

Despite the apparent inevitability of standard setting and ideological influence, the mutual shaping of platforms and society is neither irrevocable nor irreversible. Currently, the business platforms of the Big Five determine the basic technological infrastructure, the dominant economic models, and the ideological orientation of the entire system. In addition, they direct the interaction between industry platforms, social institutions, companies, and billions of users. In this context, the ability of governance to guarantee the citizen-user control of themselves in the network is to be evaluated as a meta-requisite to think about a rebalancing of the position of the user-producer (prosumer) and information mediators. In fact, it is believed that the degree of success/failure of governance models is proportional to the degree of awareness, control, and transparency of the profiling mechanisms.

In other words, the restitution of the domain to the private sphere is decisive — understood as control of "inbound" and "outbound" user information traffic[86] — as an indispensable condition for the protection of the principle of self-determination and cognitive self-sovereignty. Moreover, it is a condition of the very existence and resistance of an autonomous public sphere and, therefore, democratic debate.

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85 Entman 2018.

86 Rodotà 2014.

References

Airoldi, M. (2020), *The Ghost of the Algorithm and the Social Sciences. Critical Perspectives on Intelligent Machines and the Automation of Inequalities*, in "Polis", XXXIV (1), pp. 111-128.

Airoldi, M. (2021), *The Machine Habitus. Towards a Sociology of Algorithms*, Wiley, New Jersey.

Airoldi, M. et al. (2018), *On the myth of algorithmic neutrality*, in "The Lab's Quarterly", vol. 20, n. 3, pp. 25-46.

Aragona, B. et al. (2018), *The Politics of Big Data Assemblages*, in "Participation and conflict", vol. 11, n. 3, pp. 448-471.

Baeza-Yates, R. (2018), *Bias on the web*, in "Communications of the ACM", n. 61, pp. 54-61.

Bakshy, E. et al. (2015), *Exposure to ideologically diverse news and opinion on Facebook*, in "Science", vol. 348, issue 6239, pp. 1130-1132.

Bentivegna, S. (2015), *A strokes of tweets. persona*, Il Mulino, Bologna.

Beer, D. (2017), *The Social Power of Algorithms*, in "Information, Communication & Society", vol. 20, n. 1, pp. 1-3.

Bodó, B. et al. (2019), *Interested in Diversity*, in "Digital Journalism", 7: 2, pp. 206-229, available at doi: 10.1080/21670811.2018.1521292.

Bourdieu, P. (1989), *Social Space and Symbolic Power*, in "Sociological Theory", vol. 7, n. 1 (Spring), pp. 14-25.

Bracelet, R. et al. (2020), *The public sphere and the mass media. A reconstruction of the Habermasian model in communication research*, in "Quaderni di teoria sociale", n. 1-2, pp. 375-402.

Bruns, A. (2019), *Are Filter Bubbles Real?*, Polity Press, Cambridge.

Bruns, A. (2019), *It's not the technology, stupid: How the 'Echo Chamber' and 'Filter Bubble' metaphors have failed us*, paper presented at the IAMCR, Madrid, Spain.

Bucher, T. (2017), *The Algorithmic Imaginary: Exploring the Ordinary Affects of Facebook's Algorithms*, in "Information, Communication & Society", 20 (1), pp. 30-44.

Bucher, T. (2018), *If … then: Algorithmic power and politics*, Oxford University Press.

Caliskan, A. et al. (2017), *Semantics derived automatically from language corpora contain human-like biases*, in "Science", vol. 356, issue 6334, pp. 183-186.

Campo, E. et al. (2018), *Algorithms as a social construction. Neutrality, Power and Opacity*, in "The Lab's Quarterly", vol. 20, n. 3, pp. 47-72.

Casilli, A.A. (2019), *En attendant les robots – Enquête sur le travail du clic*, Le Seuil, Paris.

Cepernich, C . (2016), *Electoral campaigns at the time of networked politics*, Laterza, Rome - Bari, Laterza.

Cheney-Lippold, J. (2018), *We are data: Algorithms and the making of Our digital selves*, NYU Press.

Crawford, K. et al. (2018), *Anatomy of an AI System*, in "AI NOW Institute and Share Lab", available at http://anatomyof.ai (last accessed 20 December 2019).

D'Albergo, E. et al. (2020), *Institutions and COVID-19 crisis in Italy: Agendas and depoliticization in the governance of Artificial Intelligence*, in "Quarterly journal of administration science, theory and social research studies", n. 2.

Dencik, L. (2018), *Surveillance realism and the politics of imagination: Is there no alternative?*, in "Krisis. Journal for Contemporary Philosophy", available at https://krisis.eu/surveillance-realism-and-the-politics-of-imagination-is-there-no-alternative (last accessed 20 December 2019).

Dencik, L. et al. (2016), *Towards data justice? The ambivalence of anti- surveillance resistance in political activism*, in "Big Data & Society", n. 3 (2), pp. 1-12.

Dencik, L. et al. (2017), *Civil society in an age of surveillance: beyond techno-legal solutionism?*, in "Civil Society Futures", available at https://civilsocietyfutures.org/civil-society-in-anage-of-surveillance-beyondtechno-legalsolutionism (last accessed 20 December 2019).

De Nardis, L. et al. (2015), *Internet governance by social media platforms*, in "Telecommunications Policy", vol. 39, issue 9.

Del Vicario, M. et al. (2016), *The spreading of misinformation online*, in "Proc. Natl. Acad. Sci." n. 113 (3), pp. 554-559.

Draper, N. et al. (2017), *Toward a sociology of digital resignation. Paper to Data Power,* Ottawa.

Epley, N. et al. (2016), *The Mechanics of Motivated Reasoning*, in "Journal of Economic Perspectives", vol. 30, issue 3, pp. 133-140.

Fisher, M. (2009), *Capitalist realism: Is there no alternative?*, Zero Books, Hants, UK.

Gambetta, D. (ed) (2018), *Datacracy, Political algorithmic culture and conflicts in the time of big data,* Ladispoli, D Editore.

Garrett, K. (2019), *Social media's contribution to political misperceptions in US Presidential elections*, in "PLOS ONE", 14, 3.

Geshke, J. et al. (2018), *The triple-filter bubble: Using agent-based modeling to test a meta-theoretical framework for the emergence of filter bubbles and echo chambers*, in "British Journal of Social Psychology", 58, pp. 129-149.

Giacomini, G. (2017), *Habermas and experimental studies on collective reasoning. On the social and political practicability of the principle of discourse*, in "Politics & Society", issue 2, available at http://doi.org/10.4476/87878.

Giacomini, G. (2018), *Digital power. How the Internet is changing the public sphere and democracy,* Meltemi, Milano.

Giacomini, G. (2018a), *Towards neointermediation. The power of large digital platforms and the public sphere*, in "Iride", n. 3.

Giacomini, G. (2018b), *The chronic crisis of democracy. Limited rationality as a pre-political condition of democratic unease*, in "Notizie di Politeia", 34, 131, pp. 105-124.

Giacomini, G. (2020), *Habermas 2.0: A philosophical approach to neo-intermediation and to the (enhanced) return of strategic action,* in "Reasoning practice, Six-monthly magazine", 1/2020, pp. 31-50.

Gillespie, T. (2014), *The relevance of algorithms*, in "Media Technologies: Essays on Communication, Materiality, and Society", MIT Press, pp. 167-193.

Gillespie, T. (2018), *Custodians of the Internet: Platforms, content moderation, and the hidden decisions that shape social media*, Yale University Press, New Haven.

Gone, R. et al. (2018), *Television(s). How the television experience changes between converging technologies and social practices*, Guerini and Associates, Milan.

Gorwa, R. et al. (2020), *Algorithmic content moderation: Technical and political challenges in the automation of platform governance*, in "Big Data & Society", available at http://doi.org/10.1177/2053951719897945.

Habermas, J. (1986 [1981]), *Theory of Communicative Action*, il Mulino, Bologna.

Habermas, J. (2006 [1962]), *History and Criticism of Public Opinion*, Laterza, Bari.

Habermas, J. (2020), *Moral Universalism and Political Regression*, Nuova Trauben, Turin.

Hallinan, B. et al. (2016), *Recommended for you: The Netflix Prize and the production of algorithmic culture*, in "new media & society", vol. 18 (1), pp. 117-137.

Haggart, B. et al. (2021), *Democratic legitimacy in global platform governance*, in "Telecommunications Policy", vol. 45, issue 6.

Helberger, N. (2020), *The Political Power of Platforms: How Current Attempts to Regulate Misinformation Amplify Opinion Power*, in "Digital Journalism", available at http://doi.org/10.1080/21670811.2020.1773888.

Helberger, N. et al. (2018), *Governing online platforms: From contested to cooperative responsibility*, in "The Information Society", 34:1, pp. 1-14, available at http://doi.org/10.1080/01972243.2017.1391913.

Helmond, A. (2015), *The Platformization of the Web: Making Web Data Platform Ready*, in "Sage Journals", available at https://doi.org/10.1177/20563051156030.

Hildebrandt, M. et al. (2008), *Profiling the European citizen: cross-disciplinary perspectives*, Springer, New York.

Jones, S. (2002), *Music that Moves: Popular Music, Distribution and Network Technologies*, in "Cultural Studies", 16, n. 2, pp. 213-232.

Kahneman, D. (2017), *Thinking, Fast and Slow*, Mondadori, Milano.

Lerman, K. at al. (2016), *The Majority Illusion in Social Networks*, in "PLOS ONE", 11, 2.

Lovari, A. (2021), *Blurred Shots: Investigating the Information Crisis Around Vaccination in Italy*, in "America Behavioral Scientist", vol. 65 (2), pp. 351-370.

MacKenzie, D. (2019), *How algorithms interact: Goffman's interaction order in automated trading,* in "Theory, Culture & Society", vol. 36, n. 2, pp. 39-59.

Marinelli, A. (2015), *L'interattività della televisione. Da innovazione mai realizzata a pratica quotidiana nel networked media space,* in Arcagni, S. (ed), "I media digitali e l'interazione uomo-macchina" Aracne, Roma, pp. 275-304.

Mayer-Schönberger, V. et al. (2013), *Big Data*, John Murray, UK.

Mele, V. et al. (2021), *La rappresentazione dell'universo "no-vax" nella sfera pubblica digitale: una riflessione sul caso del vaccino anti COVID*, in "Scienza in discus-

sione? Dalla controversia sui vaccini all'emergenza Covid-19", Pellizzoni, L. et al. (eds), Franco Angeli, Milano, pp. 91-114.

Moeller, J. et al. (2018), *Beyond the filter bubble: concepts, myths, evidence and issues for future debates*, University of Amsterdam.

Mostacci, E. (2020), *Critique of algorithmic reason*, Mühlhoff.

Naples, P.M. (2019), *Social Media and the Public Interest: Media Regulation in the Disinformation Age*, Columbia University Press, New York.

O'Neil, C. (2016), *Weapons of math destruction: How big data increases inequality and threatens democracy,* Crown, New York.

Pariser, E. (2011), *The filter bubble: What the internet is hiding from you*, Viking, London.

Pasquale, F. (2015), *The Black Box Society,* Harvard University Press.

Pedreschi, D. et al. (2018), *Open the Black Box Data-Driven Explanation of Black Box Decision Systems*, pp. 1-15.

Pennycook, D.G. (2019), *Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning*, in "Cognition", 188.

Privitera, W. (2001), *Public sphere and democratization*, Rome-Bari, Laterza.

Rahwan, I. et al. (2019), *Machine behavior,* in "Nature", vol. 568 (7753), pp. 477-486.

Rao, J.M. (2016), *Filter Bubbles, Echo Chambers, and Online News Consumption*, in "Public Opinion Quarterly", 80, pp. 298-320.

Ricci, F. et al. (2015), *Recommender systems: introduction and challenges*, in "Recommender systems handbook", Springer, Boston, pp. 1-34.

Rodotà, S. (2014), *Il mondo nella rete. Quali i diritti, quali i vincoli*, Laterza, Rome-Bari.

Scholz, T. (ed) (2012), *Digital Labor: The Internet as Playground and Factory,* Routledge.

Sorice, M. (2019), *Democratic participation,* Mondadori, Milano.

Sumpter, D. (2018), *Outnumbered: From Facebook and Google to Fake News and Filter-Bubbles - the Algorithms that Control Our Lives,* Bloomsbury Publishing, London.

Sunstein, C.R. (2009), *Republic.com 2.0*, Princeton University Press, New York.

Vaccari, C. et al. (2016), *Of Echo Chambers and Contrarian Clubs: Exposure to Political Disagreement Among German and Italian Users of Twitter*, in "Social Media + Society", available at https://doi.org/10.1177/2056305116664221.

van Dijck, J. et al. (2018*), The Platform Society: Public Values in a Connective World*, Oxford University Press.

Wajcman, J. et al. (eds) (1999), *The social shaping of technology,* Open University Press, Buckingham, UK.

Yeung, K. (2016), *"Hypernudge": Big Data as a mode of regulation by design*, in "Information, Communication and Society", 20 (1), pp. 118-136.

Zuboff, S. (2019), *The age of surveillance capitalism: The fight for a human future at the new frontier of power,* Public Affairs, New York.

Experiences

Participatory Strategies for Journalistic Content Production and Dissemination in a Trans/Cross-Media Perspective

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Participation — What is in the term?

Participation is not an easy term to define. The polysemy of the term is a result of its use in several disciplines and of the daily actions of individuals. As a common word, participation is defined as the act of participating, of taking part or a share in something. In the field of digital media, however, participation has been analyzed mainly in terms of the effects of new media and, in particular, the internet, in the ways every individual can participate in the global discourse. That resulted in a myriad of designations that Kelty summarized:

> "Scholarship of the last decade has proliferated terms and concepts to explain the effects of the Internet and new media on participation: terms such as 'peer production' (Benkler, 2006), 'produ-sage' (Bruns, 2008), 'the wisdom of crowds' (Surowiecki, 2004), "prosumers/prosumption" (Toffler, 1980; Ritzer & Jurgenson, 2010), the 'network society' (Castells, 1996; 2001), 'user-led innovation' (von Hippel, 2005), 'recursive publics' (Kelty, 2008), 'creation capitalism' (Boellstorff, 2008), 'convergence culture' (Jenkins, 2006), 'organized networks' (Rossiter, 2006; Lovink and Rossiter, 2005), 'wikinomics' (Tapscott and Williams, 2006), or 'networked publics' (Varnelis, 2008; boyd, 2008)"[1].

Perhaps the most consensual and accepted definition of participation in the field of new media is the one proposed by Jenkins[2]. Moving from the background of cultural studies, the research work conducted by Jenkins is focused on the way fans appropriated original narratives

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1 Kelty 2013.

2 Jenkins 2017.

and use digital technologies, while collectively participate in the remix and creation of new narrative structures that expanded the original ones. Jenkins coined this collective endeavour as "participatory cultures", characterized by "relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of information mentorship whereby what is known by the most experienced is passed along to novices"[3].

But how has this participation action evolve in the past forty years? How did individuals express themselves when the digital tools did not have the features they have today?

Delwiche and Henderson propose a chronology of participation in digital media suggesting a four phases approach that includes the following[4]:

- Phase one: Emergence (1985-1993);
- Phase two: Waking up to the Web (1994-1998);
- Phase three: Push-button publishing (1999-2004);
- Phase four: Ubiquitous connections (2005-2011).

As useful as this taxonomy may be, these stages contain too much information regarding the evolution of the digital media field than we can address within the scope of this chapter. To briefly summarize this, phase one depicts the arrival of the personal computer in the media landscape and epitomizes the beginning of the transformation of the audience, i.e. the growing idea that the former audience, as Gillmor called it[5], had the tools to be less passive and more creative. This evolution in the perspective through which we observe the audience was largely influenced by the easier access to technology and information and the appearance of new tv formats and the explosion of cable tv.

Phase two represents the rise of the World Wide Web as an Internet service that paved the way for the information landscape we live in today. In this relatively small period several new services and technologies were born, most notably the Google search engine.

In phase three, publishing became easier thanks to the arrival of blog services such as Blogger and LiveJournal, photo-sharing services such as Flickr and the emergence of a new media type of services loosely called social media with the appearance of MySpace and Facebook.

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[3] Jenkins 2006, p. 7.

[4] Delwiche et al. 2013.

[5] Gillmor 2004.

Finally, phase four is characterized by the rising of broadband connections and the appearance of YouTube as a video-sharing platform that users adopted as a platform for creative expression and experimentation. In terms of technologies, this period is characterized by media convergence but, more than that, by "the intersection of media convergence, participatory culture and collective intelligence"[6].

What does this intersection mean for individuals? How did this historical coincidence of tools, technologies and societal evolution shape the media landscape we have today? How does the nature of new digital media — rhizomatic and ecologic — support this new participation culture? Which are the tensions that still exist?

One rather obvious answer to these questions relates to the fading tension between access and participation. The proliferation of devices with Internet access, the ecology of applications that allows collective participation and expression and the ubiquitous nature of communication tools has contributed to the adoption of new info-communicational behaviors by society. As Shirky puts it "[…] these tools don't get socially interesting until they are technologically boring. It isn't when the shiny new tools show up that they are used to start permeating society, it's when everyone is able to take them for granted […]".[7] But can participation in new (digital) media be considered as real participation?

The public sphere(s) of participation

The public sphere concept was introduced by the German philosopher J. Habermas (1964) and was defined as "a realm of our social life in which something approaching public opinion can be formed"[8].

This concept has evolved since his introduction and now captures multiple public spheres — including social media — that are not determined by expert discourses and that are accessible to the ordinary individual.

According to Mahlouly, "[t]he application of ICTs (in the political discourse) can be interpreted as a manifestation of a social habitus which reflects individuals' belonging to (a) socio-economic environ-

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6 Delwiche et al. 2013.

7 Shirky 2009.

8 Habermas 1964.

ment and leads to the reproduction of power relationships through generations"[9].

Admitting this new scenario in which social media guarantees the seamless and egalitarian possibility of participation in the social discourse could bring us to a new analytical requirement: the differentiation between the (social) technology and the (social) practice, i.e. between the social affordances of technology and the individual motivations to participation[10].

But these social affordances of technology present other layers of analysis. One of these is related to the idea of affection as a form of engagement, an idea proposed by McGuigan that states that the exclusion of everyday life, affects, and pleasure from our understanding of democratic participation is a serious misrecognition of some of the most powerful modes of citizen engagement[11].

This results in a platformization of society, as claimed by van Dijck et al.:

> The wealth of online social networks enables connectedness, while bypassing existing social institutions; following this line of argument, connectivity automatically leads to collectivity or connectedness.[12]

We agree that online platforms are at the core of an important development but we refer to them neither as an exclusive economic phenomenon nor as a technological construct with social corollaries. Rather, we prefer a comprehensive view of a connective world where platforms have penetrated the heart of societies — affecting institutions, economic transactions, and social and cultural practices — hence forcing governments and states to adjust their legal and democratic structures[13]. Platforms, in our view, do not cause a revolution; instead, they are gradually infiltrating in, and converging with, the (offline, legacy) institutions and practices through which democratic societies are organized. That is why we prefer the term "platform society" — a term that emphasizes the inextricable relation between online platforms and

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9 Mahlouly 2013, p. 4.

10 Ibid.

11 McGuigan 2005.

12 van Dijck et al. 2018, p. 2.

13 Chadwick 2013; Van Dijck 2013.

societal structures. Platforms do not reflect the social: they produce the social structures we live in"[14].

As with any social production, gaps are in there. Rheingold mentions an important one, tagging it as an activation gap[15]. What is, exactly, this gap? According to Rheingold, the disparity that exists between interest and involvement in social causes can be aggravated by the growing importance of online social participation. This gap has other designations, such as slacktivism that is defined as "as low-risk, low-cost activity via social media, whose purpose is to raise awareness, produce change, or grant satisfaction to the person engaged in the activity," and that is opposed to practical activism, defined as "the use of a direct, proactive and often confrontational action towards attaining a societal change"[16].

How can we analyze these practices in the field of journalism and of news production and consumption? We know for a fact that the terms citizen journalism and iReporter are now commonly used inside and outside news outlets. But which strategies have been used in terms of promoting participation and engagement with the information world? We will explore this in the following sections of this chapter.

Content consumption and user engagement

Recent years have shown a shift in the information consumption habits. The migration to digital sources has accelerated also in the information area. A Nielsen report regarding TV and Digital News consumption confirms that digital sources are the main source of news for younger adults[17]. The same report shows a higher engagement with the content in digital sources. These changes in the distribution are also enabling content to become ubiquitous, being available in different platforms: the official ones from media corporations, but also through social networks, and accessible through multiple devices, including mobile ones. These platforms and devices provide easy means to engage with the content, reacting, commenting, sharing and also contributing.

In the COVID-19 period, while the population was largely working from home, the US news consumption increased and became the most

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14 Couldry et al. 2016.

15 Rheingold 2008.

16 Rotman et al. 2011, p. 821.

17 Nielsen 2018.

consumed type of content streamed during work times, with US participants preferring local news. They justify their preference with the need to be updated with local information but also with the relevance of stories built for them, trusting the content or connecting to the community[18]. This highlights the importance of feeling connected with the content which creates conditions for higher engagement with it.

Media creators and journalists have the opportunity to explore the users' willingness to participate exploring cross-media and trans-media strategies for their stories and its dissemination. The term cross-media refers to the dissemination of content in multiple platforms to reach a wider audience. This 360º content strategy requires that stories adapt to each medium. As an example, a tweet can provide the headlines and invite the user to know more about a story that can be fully read in the website. But content creators can do more than distributing the content on multiple platforms.

According to Jenkins, trans-media storytelling represents a process "where integral elements of a fiction get dispersed systematically across multiple delivery channels to create a unified and coordinated entertainment experience. Ideally, each medium makes its unique contribution to the unfolding of the story"[19]. The trans-media approach, when applied to news production, allows for the creation of content experiences that are spread within multiple platforms, demanding the user to go through different platforms to get to know the whole story. This provides the opportunity to create engaging experiences, bringing the content exactly where the users are and promoting the engagement with participation strategies.

In the next section we will look at how to include the reader, to make him a participant in cross/tran-smedia journalism practises.

Participatory strategies in cross/trans-media journalism

As mentioned earlier, the audience engagement is a key goal in cross/trans-media journalism. The news audience, especially in phase 3, as coined by Delwiche et al.[20], has been invited to participate by different means including reactions and comments, but also according to

[18] Nielsen 2020.

[19] Jenkins 2017.

[20] Delwiche et al. 2013.

a deeper engagement approach through iReporter initiatives. Many news corporations introduced iReport strategies inviting the audiences to participate in the news construction by simply sharing photos or videos of main events or assuming assignments in reporter teams managed through dedicated online sites like the initiatives of CNN[21]. These iReport initiatives, with the wide dissemination of social networks and media platforms like You Tube, have evolved into more flexible means of participation and tracking participation. The use of hashtags is an example. But making the audience participate does not only mean asking them to be content creators; it can mean making the audience be more aware and engaged with the stories. And for that, content creators need to take into consideration the consumption habits, the platforms and devices used, and even the increasing immediatism of that consumption.

However, all these aspects rely on a good story and journalists are realizing that the universe of stories may be too large to be presented at once and therefore there is the need to deliver it in small blocks of information to captivate and guide the audience. This can be achieved by adopting a strategy of progressive growth in density and amount of content for the audience to follow. For this adaptation to new audience habits and the new technology ecosystem, the principles of transmedia storytelling may reveal to be useful.

One must take in consideration that the means to get the audience related with a story can be explored in different ways and the strategies to promote such engagement may differ according to the moment of unfolding the story. According to Pratten, transmedia narratives go through three stages in audience engagement[22]:

1. Discovery;
2. Experience;
3. Exploration.

Each stage in the audience engagement may demand different strategies for content dissemination. We will go through the 3 stages proposed by Pratten and analyze examples of its use in the media landscape.

The discovery stage (1) relates to how the audience firstly connects with the content, its expectations and social mindset. Content creators

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[21] http://edition.cnn.com/CNNI/Programs/ireport/

[22] Pratten 2015.

need to provide hints on the content that reflect quality and reliability and call for the audience engagement. At this stage it is not expected to provide the full content, but the amount needed to gather the audience's attention. This can be achieved with the publication of teasers, quotes or headlines.

And in today's media landscape journalists can use different strategies, types of content and platforms to achieve the goals of this stage. Some examples include: Instagram stories or tweets (photos, infographics or videos) as teasers for news reports; newsletters integrating news headlines to invite readers for longer reads.

At this stage it is relevant to highlight the power of images as a way to communicate to audiences. Journalists are increasingly perceiving that images have a central role in journalism, as the mission for *The New York Times* states, "we also need to become more comfortable with our photographers, videographers and graphics editors playing the primary role covering some stories, rather than a secondary role"[23].

Journalists can provide additional information on their stories to grab the audience. It is important to prove that the story is worth spending time or money. For this a part of the main content may be revealed.

If the goals of the discovery stage are achieved, the audience engages and follows to the second stage of engagement, the experience stage (2). In this stage the contact with the main content is provided and content creators need to ensure that it complies with the audience expectations.

Figg. 1-3. In Fig. 1, Instagram stories can act as an incentive to read; in Fig. 2, images and videos are taking a central role; in Fig. 3, previews of the news invite for longer readings.

[23] García 2020.

For that, journalists need to develop more engaging ways to present their stories. Online stories can be provided in multimedia formats, making use of the possibilities of the video, animations, infographics and interactivity. Some examples of this practice can be found in special reports from *The New York Times*.

In the case of the "Tomato Can Blues"[24] special report, a multimedia website provides a compelling way to read the story enriched it with animated illustrations. It provides the depth of a regular journalistic story but it adds visual animations that can motivate the audience to go through the story.

Other strategies include the extensive use of images and videos to provide a complete coverage of a story. This demands from traditional online newspapers an ability to merge traditional text centric journalism with video coverages, more common on TV reports.

However having an engaged audience doesn't mean that the content experience ends with the main content. In fact, the experience that follows is also crucial in achieving the desired engagement. In the exploration stage (3), the audience may be invited to participate. This is particularly relevant within online platforms that promote participation through comments, content dissemination and sharing, and event audience participation, by providing, for example, additional media for a story (photos of the event, additional information…). Collaboration strategies may not fit to every content and every audience, but journalists may develop strategies to mobilize the audiences to create additional content.

This can be made in different ways, some examples include:

- structured platforms such as the iReporter sections in some media corporations: allowing the audience to assume the role of local journalists collecting information on local stories and sharing it in the news website;
- social network based participation: engaging users to comment or share their own content. This can be enriched with the use of #hashtags for easier tracking on the audience engagement with the content.
- co-creating strategies: engaging users to be co-creators, for example appealing to remix practices that allow for users to provide their own analysis of a story.

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[24] https://www.nytimes.com/projects/2013/tomato-can-blues/index.html

Final remarks

Journalists have at their disposal a variety of tools and types of content that demand from them new approaches to online journalism. First, images and videos are now an essential part of online stories. In order to engage the audiences, one needs to make the content attractive and adapt it to the characteristics of each platform. It is also necessary to consider the audience as part of the story, creating means that allow and promote their participation either by simple reactions like commenting or sharing, but also through more engaging strategies, exploring the remix practices in cross or trans-media approaches.

In order to do that, journalists must be aware of the platforms where their audiences are, the contents with which they are engaged with, and the creative ways to push news contents to them. This implies that journalists adopt an all-around approach that makes content attractive and engaging without compromising credibility and accuracy.

Finally, journalists must be able to balance news publishing in platforms that are characterized by either immediacy or by long-reads and careful reflection. The emergence of social media as the site for primary contact with the news coexists with platforms such as Medium, Pocket, or LongReads, where users want a more comprehensive and engaging story. This may lead to business models that explore freemium approaches in which awareness and completeness juggle for the audience's attention.

In the context of a new ecosystem for news consumption, journalists need to understand the possibilities brought by new tools, platforms and behaviors and integrate it in their daily creative practices.

References

Chadwick, A. (2013), *The Hybrid Media System: Politics and Power*, Oxford University Press.

Couldry, N. et al. (2016), *Media Consumption and Public Engagement*, Palgrave Macmillan, London.

Delwiche, A. et al. (2013), *What is Participatory Culture?*, in "The Participatory Cultures Handbook", Taylor & Francis, New York.

García, M. (2020), *The role of WED in creating a rich palette of visual storytelling for mobile*, available at https://garciamedia.com/blog/the_role_of_wed_in_creating_a_rich_palette_of_visual_storytelling_for_mobil/ (last accessed 20 December 2022).

Gillmor, D. (2004), *We the media: Grassroots Journalism By the People, For the People. Sebastopol*, O'Reilly, CA.

Habermas, J. (1964), *The Public Sphere: An Encyclopedia Article*, in "New German Critique", Autumn, 1974, n. 3 (Autumn), pp. 49-55.

Kelty, C. (2013), *From participation to power*, in "The Participatory Cultures Handbook", Taylor & Francis, New York.

Jenkins, H. et al. (2009), *Confronting the challenges of participatory culture: Media education for the 21st century*, in "The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning", The MIT Press, Cambridge, MA.

Jenkins, H. (2017), *Transmedia Storytelling 101*, available at http://henryjenkins.org/blog/2007/03/transmedia_storytelling_101.html (last accessed 20 December 2022).

Mahlouly, D. (2013), *Rethinking the Public Sphere in a Digital Environment: Similarities between the Eighteenth and the Twenty-First Centuries*, in "eSharp", vol. 20, 6, pp. 1-21.

McGuigan, J. (2005), *The Cultural Public Sphere*, in "European Journal of Cultural Studies", 8 (4), pp. 427-443, available at https://doi.org/10.1177/1367549405057827.

Nielsen (2018), *Nielsen Media Impact, Total Media Fusion*, in "Nielsen", available at https://www.nielsen.com/us/en/insights/report/2018/millennials-on-millennials-tv-digital-news-consumption (last accessed 20 December 2022).

Nielsen (2020), *The Nielsen Total Audience Report*, in "Nielsen", available at https://www.nielsen.com/us/en/insights/report/2018/millennials-on-millennials-tv-digital-news-consumption (last accessed 20 December 2022).

Pratten, R. (2015), *Getting Started with Transmedia Storytelling: A Practical Guide for Beginners*, CreateSpace Independent Publishing Platform, South Carolina.

Rheingold, H. (2008), *Using Participatory Media and Public Voice to Encourage Civic Engagement. Civic Life Online: Learning How Digital Media Can Engage Youth*, in Lance, W. (ed), "The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning", The MIT Press, Cambridge, MA, pp. 97-118.

Rotman, D. et al. (2011), *From Slacktivism to Activism: Participatory Culture in the Age of Social Media*, in "Proceedings of the International Conference on Human Factors in Computing Systems, CHI 2011", May 7-12, Vancouver, BC, Canada.

Shirky, C. (2009), *How social media can make history*, available at https://www.ted.com/talks/clay_shirky_how_social_media_can_make_history (last accessed 20 December 2022).

van Dijck, J. et al. (2018), *The Platform Society: public values in a connective world*, Oxford University Press.

Mobile Journalism and New Skills in the Journalistic Field

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Introduction

In the early 21st century, the technological evolution of mobile digital devices, such as smartphones, laptops, and tablets, and the expansion of mobile internet networks (3G, 4G and, more recently, 5G) have boosted the development of mobile journalism (mojo), the journalistic technique that uses these tools to produce news content[1]. Nowadays, all it takes is a smartphone with internet access to do the same revolutionary work that mobile journalists began doing at the turn of the century. What looked like a scene from science fiction, as defined by Stephen Quinn[2], has today become a common practice. As a matter of fact, the possibility of doing a live broadcast using only a smartphone with a live streaming app installed, thus dispensing with expensive satellite cars, tripods, broadcast cameras, and cables, is a concrete and effective reality.

The field of journalism also experienced other changes at the turn of the century: newsrooms changed format by prioritizing digital, the speed of news production has intensified, and individualized work became the norm[3]. The restrictions caused by the COVID-19 pandemic crisis have intensified these movements of change[4]. With the imposition of social distance, tools that enable remote and individual work such as smartphones and laptops have gained more importance in the stages of news production, from production, to editing and distribution[5].

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1 Canavilhas 2021; López-García et al. 2019; Westlund 2019.

2 Quinn 2009, p. 8.

3 Blankenship et al. 2019; Marshall 2008; Moretzsohn 2017.

4 Green 2020; Wang 2021.

5 Newman 2021.

In some cases, reporters have carried out fieldwork using only mobile devices. Al Jazeera's senior correspondent, Natasha Ghoneim, worked alone with her mojo kit, instead of having a team of photographers and producers. According to her, this was the solution to protect herself and the interviewees — although this did not totally eliminate the risk of infection, it certainly minimized it. "Shooting alone was often welcomed by the people I interviewed, many of whom were adamant about limiting exposure to other people, due to fears of the spread of the virus", affirmed Ghoneim[6].

The central argument of this article is that mobile journalism meets some of the demands of the journalism labour market in the 21st century and has therefore experienced an improvement of skills and tools[7]. Some of these demands are: the individualized work and the accumulation of functions[8], remote work[9], web-oriented news production[10], speed in news production and consumption, and the requirement for professionals to be up to date with digital technologies and their constant innovations[11]. In terms of new skills in the field of journalism, this study will focus on three of them: the agility in news production, the flexibility in working with different formats of news content, as well as faster and easier access to interviewees and remote or crisis locations. These elements will be analyzed more in depth in the following paragraphs.

Agility

Journalists have become "24/7 journalists" as they process the intense flow of news on the Internet. It means that they are required to produce news at any time of the day or week. In 2007, Mark Briggs said that the principal goal of mobile journalists was to "constantly update the stream of intensely local, fresh Web content"[12]. Today, all stages of the news production cycle (production, editing, and distribution) can be done with more agility using mobile digital devices, therefore further

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6 Ghoneim 2021, par. 3.

7 Rodrigues et al. 2021.

8 Blankenship et al. 2019.

9 Newman 2021.

10 Steensen et al. 2020.

11 Marshall 2008; Perreault et al. 2018.

12 Briggs 2007, p. 39.

intensifying this strategy of promoting a constant flow of news on the web. The facts or events that used to be investigated in the field and then edited and published in a newsroom can now be edited and published, entirely or in part, in video, text, photo, or audio formats, even before the reporter reaches the newsroom. This advantage is used, for example, in the headline of an advertisement by Shoulderpod, a cell phone accessory company: "Be the first to broadcast a breaking news or event"[13].

However, the intense flow of news focused on the web and the demand for ever more agility in news production are also targets of criticism in journalism. According to Sylvia Moretzsohn, the "fetishization of speed" means the total surrender of the journalist profession to the "logic of capital in the current times"[14]. Although she recognizes that the conditions of news production have always been tied to the rules of the market and the value of its main commodity (news), her critique is about the radicalization of the current flow of news production as well as the consumption and damaging consequences for the quality of this commodity. According to Moretzsohn, the ideals of communicating news to the public instantaneously ("giving the news first hand") and "the priority commitment to truth — truthful, reliable information" are contradictory values[15].

On the other hand, mobile journalists take the agility of mojo as an advantage over other more traditional methods. In addition, smartphones allow people to record or transmit events anytime and anywhere (if they have internet access), including unexpected events, without relying on a field team. Sky News reporter Harriet Hadfield takes advantage of this in delivering live broadcasts on her own by just using her mojo kit. She stresses that it takes "practice and skill"[16] to prepare the smartphones, led light, microphone, and the tripod she uses, and to connect the cables — and prides herself on the fact that she organizes the whole setup in a few minutes. Hadfield's working dynamics are described as follows:

> "After arriving at the location, the first thing she does is to check for signal and data. Without these, there is no broadcast. Next, she has to open the Dejero+ app and, shortly after, calls the Sky team to make sure

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13 *What Is Mobile Journalism?*, 2018.

14 Moretzsohn 2017, par. 301.

15 Ibid.

16 Fairweather 2016, par. 6.

> the link is working. She then sets up her kit, assembling the tripod and making any attachments that need to be made. The sound team are called next, ensuring her earpiece works. After doing a speedy sound and framing check, Hadfield is then ready to go live"[17].

Just like Hadfield, mobile journalists have a range of accessories and software that optimize the functionality of their smartphones, and each professional makes up their mojo kit according to their needs. The main items are a stabilizer, microphone, light, and external battery[18]. As far as software is concerned, there are many options both to improve the manual control of the device's camera and to edit and finalize the material[19]. However, mobile journalists highlight that the number of accessories that make up the mojo kit directly affects their agility when it comes to moving around in the field or recording an unexpected event. In fact, one of the main advantages of working with the mojo kit is that you are faster and more flexible than professionals who carry bulky and heavy equipment. So much so that Tomas Rumes said: "If you waste half an hour putting all the equipment together you lose the advantage of the smartphone"[20].

News production has not only become more agile with small, lightweight devices that have easy internet access and a range of functionalities, but it has also become more flexible. Mobile journalists tend to specialize in more than one news format. Let's take a closer look at this feature of mojo.

Flexibility

Today, the "idea that teaching someone how to write a story and conduct an interview is not enough [to train journalists]"[21] is definitely concrete. New professionals must master a range of expertise and have a new mindset to handle tasks on their own that were previously divided among a team. According to Justin C. Blankenship and Daniel Riffe, this new category of professionals is familiar with multimedia production and "they are regularly expected to gather information,

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17 Ibid.

18 *What Equipment Do You Need?* 2018; *What Is Mobile Journalism?* 2018.

19 *APPS for Mobile Photography, Video and Social Media* 2018.

20 Rodrigues et al. 2021, p. 294.

21 Blankenship et al. 2019, p. 14.

conduct interviews, write stories, record audio and video elements, and edit it all together into a narrative news story, all by themselves"[22].

To do this, mobile journalists rely on a range of functionalities available on the same mobile device that allows them to work with different news formats at once. In Dougal Shaw's description of his "mojo diet" experience, we can note how the smartphone enables both individual and flexible work[23]. It is also apparent that the journalist performed, at the very least, the role of reporter, video journalist, and editor:

"My way of doing a story is I go there, and I record everything on my mobile phone. I record it as a video, but I am also getting audio that way. Then I decide what different platforms I can put that story on, because I am a multi-platform journalist. How is it best going to work? I usually do a radio version from the interview that I have done. Then I'll do video and if the subject is only worth two minutes, it's going to work on Facebook. And I make a TV report as well because that can just be two minutes. But if it's a bit more in-depth, it can be a five- or six-minute YouTube video. Maybe there's another TV format at the BBC News where they take longer videos. It depends completely on the story"[24].

This individualized and multitasking way of working has provoked conflicting views in the journalism field. In an investigation of individualized work on US local television developed by Blankenship et al., some participants have accepted that these changes are "the next step in a rapidly changing technological environment that allows for more flexibility and eliminates unnecessary positions"[25]. In contrast, others "have argued that, by asking a single person to take on the responsibilities of multiple people, the quality of the journalism produced will inevitably suffer"[26].

In one way or another, professionals have sought to update themselves on these new mobile technologies as a "form of job security"[27] since the ability to work with these tools and produce news content in different formats has become a recurring requirement in hiring new

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22 Ibid, p. 1.

23 Shaw 2018; Urlbauer 2019.

24 Urlbauer 2019, par. 3.

25 Blankenship et al. 2019, p. 2.

26 Ibid.

27 Perreault et al. 2018, par. 13.

professionals. But journalists are developing these skills for other reasons as well. According to Perreault e Stanfield, the "audience factored in heavily in the integration of mobile journalism skills — in that the use of mobile tools is often in response to audience interest"[28]. In other words, reaching a wider audience is also a motivation for journalists to keep up with these new technologies and be active on online platforms, producing diverse news content on podcasts and social media such as Facebook, TikTok, Instagram, and YouTube.

Not surprisingly, in a survey with 53 mobile journalists from 24 different nationalities[29], 46 of them answered that they work with more than one type of news format, video being the main one, followed respectively by photo, audio, live broadcast, text, podcast, and 360° videos. Furthermore, the most popular answer that was given 12 times was the one that combined all format options[30]. The results of this research indicate that mobile journalists have the experience of working with diverse news formats.

Therefore, mobile digital devices do in fact increase the flexibility in the journalists' daily routine producing different news content and enabling online and individualized work. The following chapter discusses the third characteristic of mojo: a different approach to interviews using these devices and news reporting in remote locations or crisis contexts.

Accessibility

Interviews recorded by a single journalist using the mojo kit are different to those where the interviewee is faced with a journalism crew and professional filming and lighting equipment. Mobile journalists have noted that interviewees generally feel more comfortable with them and that there is greater emotional accessibility towards interviewees and the added advantage of getting better stories[31]. According to Panu Karhunen, people tend to be more willing to be interviewed with a smartphone because it is a technology that has become very popular and familiar to people. Consequently, mojo interviews are also more

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28 Ibid.

29 Rodrigues et al. 2021.

30 Ibid.

31 Ghoneim 2021; Karhunen 2017; Shaw 2018.

intimate[32]. Moreover, this approach could also be preferable when journalist have to conduct interviews that may embarrass the interviewee. For example, in stories involving homeless people[33] or victims of domestic violence, smartphones facilitated the news report because interviewees "often forgot that there was a camera recording"[34] and so felt more comfortable telling their stories.

However, the simplicity and low cost of mojo equipment could also have the opposite effect of discomfort or distrust in the interviewees, especially when these are authorities or celebrities used to big productions. As mentioned by photographer Luisa Dörr, after photographing US personalities such as Hillary Clinton, Oprah Winfrey, and Serena Williams for the Times magazine using only an iPhone, "photographing people on the street and my friends with the iPhone is one thing. Photographing powerful, famous women is quite another"[35]. Certainly, mojo does not have the same prestige that other journalistic approaches have with the public. However, experts have argued that the more professionals use digital mobile devices in their work routine, the more this negative effect tends to diminish[36].

In the scheme proposed by Panu Karhunen[37], the mojo accessibility is also geographical and physical, in the sense of extending the mobile journalist's access to the most remote locations. The reduced volume and lightweight nature of mobile digital devices, especially smartphones, make them easier to carry and, therefore, easier to work in areas where a crew that carries heavy and bulky equipment would find it difficult to operate. For example, mobile journalist Leonor Suarez did some news reporting inside the silver mines of Potosi in Bolivia and in the caves of Pozu'l Fresno in Spain for RTPA, the public radio and TV company of Asturias[38]. In these two extreme cases of work in remote locations, a team with two or more members using larger filming equipment would make it difficult for Suárez to get in — whereas, with her mojo kit, she was allowed access by security forces. This fea-

32 Karhunen 2017.

33 Shaw 2018.

34 Ghoneim 2021, par. 5.

35 Pollack 2017, par. 10.

36 Rodrigues et al. 2021.

37 Karhunen 2017.

38 Suárez 2016.

ture of mojo increases the autonomy of mobile journalists because they can work alone and independently.

According to Diana Maccise and Montaser Marai, working with digital mobile devices also "allows them [mobile journalists] to be less noticeable and better able to blend in with the crowd"[39]. An Al Jazeera journalist used this feature to record the documentary "Syria: Songs of Defiance" with a smartphone. At the time, the government of Bashar al-Assad had banned journalists from the Qatari media company from working in the country. As Maccise and Marai point out: "By using a smartphone, the undercover journalist was able to gather images the world otherwise wouldn´t have been able to see"[40].

However, the safety of journalists is an urgent issue. The number of journalists' deaths motivated by retaliation for their work, according to the Committee to Protect Journalists (CPJ), more than doubled from 2019 to 2020[41]. Even though mobile journalists can be less noticeable within social manifestations, according to Stephen Quinn, the condition of mobile journalists is one of vulnerability because they almost always work alone and do not have the help of co-workers[42]. Therefore, media companies must make the safety of journalists a priority.

Conclusion

News production in the 21st century requires new skills from journalists making the profession more challenging. In a way, the ever-increasing adoption of mobile digital devices in their daily work routine is a reaction to the labour market's demands for individualized and multitasking work. On the other hand, these technological tools give journalists some advantages such as agility, flexibility, mobility, and autonomy. The growing importance of digital mobile devices is reflected not only in the development of mojo as a journalistic technique but also in the increase of news consumption through these devices[43].

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39 Maccise et al. 2017, p. 4.

40 Ibid, p. 9.

41 Dunham 2020.

42 Rodrigues et al. 2021.

43 Newman et al. 2020.

Not surprisingly, traditional media companies such as the BBC and Al Jazeera have encouraged their staff to work with mojo[44].

It is evident that mobile digital devices allow journalists to work the news production cycle in a much more agile way, so that they can maintain the constant flow of publication and updates on the web, even when on fieldwork: the so-called "24/7 journalist". The combination of functions within smartphones has also enabled the same mobile journalists to produce a range of diverse news formats. In addition, the reduced size and mobility of these devices and their popularity make it easier to work in more remote locations and make mojo interviews more comfortable for interviewees — which can be an advantage in getting better stories.

Finally, this study understands that the changes in journalism in the 21st century are structural and in-depth and that they respond to the new impositions of the neoliberal labour market. Therefore, they are not the only consequences of the implementation of new technologies in the journalists' routine. But it understands that some aspects of contemporary journalism, such as individualized and multitasking work, remote work, web-oriented news production, and agility and flexibility in news production, have influenced how journalists have used these tools and led newsrooms to increasingly adopt mojo.

References

APPS for mobile photography, video and social media (2018), in "Mobile Journalism Manual", available at http://www.mojo-manual.org/mojo-manual-apps/.

Blankenship, J.C. et al. (2019), *Follow the Leader?: Optimism and Efficacy on Solo Journalism of Local Television Journalists and News Directors*, in "Journalism Practice", 15 (1), pp. 41-62, available at doi: 10.1080/17512786.2019.1695535.

Briggs, M. (2007), *Journalism 2.0: How to Survive and Thrive*, available at https://digitalcommons.usf.edu/oa_textbooks/2.

Canavilhas, J. (2021), *Epistemology of mobile journalism. A review*, in "Profesional de La Información", 30 (1), pp. 1-21, doi: 10.3145/epi.2021.ene.03.

Dunham, J. (2020), *Murders of journalists more than double worldwide*, available at https://cpj.org/reports/2020/12/murders-journalists-more-than-doubled-killed/.

Fairweather, T. (2016), *How a Sky News reporter uses her mobile phone to 'go live' in 90 seconds*, in "News Rewired", 16 March, available at https://www.newsrewired.com/2016/03/16/how-a-sky-news-reporter-uses-her-mobile-phone-to-go-live-in-90-seconds/.

[44] Maccise et al. 2017; Shaw 2018.

Ghoneim, N. (2021), *How the Pandemic Introduced Me to Mobile Journalism*, in "Al Jazeera Media Institute", 23 August, available at https://institute.aljazeera.net/en/ajr/article/1557.

Green, D. (2020), *Lessons from Italy: best practices for field reporting during the coronavirus lockdown*, in "Journalism.Co.Uk.", 24 March, available at https://www.journalism.co.uk/news/reporting-in-the-field-during-coronavirus-lockdown/s2/a753551/.

Karhunen, P. (2017), *Closer to the Story? Accessibility and Mobile Journalism*, Reuters Institute, University of Oxford, available at https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-09/Karhunen%2C Accessibility and Mobile Journalism.pdf.

López-García, X., et al. (2019), *Mobile journalism: Systematic literature review*, in "Comunicar", 27 (59), pp. 9-18, doi: 10.3916/C59-2019-01.

Maccise, D.L. et al. (2017), *Mobile Journalism*, in "Al Jazeera Media Training and Development Centre", available at https://institute.aljazeera.net/sites/default/files/2018/mobile journalisn english.pdf.

Marshall, T. (2008), *The Changing Newsroom*, in "Pew Research Center", 21 July, available at https://www.journalism.org/2008/07/21/the-changing-newsroom-2/.

Moretzsohn, S.D. (2017), *"Uma legião de imbecis": hiperinformação, alienação e o fetichismo da tecnologia libertária*, in "Liinc Em Revista", 13 (2), pp. 294-306, doi: 10.18617/liinc.v13i2.4088.

Newman, N. (2021), *Journalism, Media, and Technology Trends and Predictions 2021*, available at https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2019-01/Newman_Predictions_2019_FINAL_2.pdf.

Newman, N. et al. (2020), *Digital News Report 2020*, in "Reuters Institute", University of Oxford, available at https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-06/DNR_2020_FINAL.pdf.

Perreault, G. et al. (2018), *Mobile Journalism as Lifestyle Journalism?*, in "Journalism Practice", 13 (3), pp. 331-348, doi: 10.1080/17512786.2018.1424021.

Pollack, K. (2017), *Behind the FIRSTS Project: How Luisa Dörr Shot 12 TIME Covers On Her iPhone*, in "Time", 7 September, available at https://time.com/4921227/time-magazine-covers-shot-on-iphone/

Quinn, S. (2009), *MoJo – Mobile Journalism in the Asian Region*, in "Konrad-Adenauer-Stiftung", available at https://www.kas.de/c/document_library/get_file?uuid=2ebb1384-171b-62a5-ec97-839b69978b97&groupId=252038

Rodrigues, L.P.R. et al. (2021), *MOBILE JOURNALISM: the emergence of a new field of journalism*, in "Brazilian Journalism Research", 17 (2), pp. 280-305, doi: 10.25200/BJR.v17n2.2021.1368.

Shaw, D. (2018), *My Mojo Diet: Two years on*, in BBC Academy Blog, 31 August, available at https://www.bbc.co.uk/blogs/academy/entries/7bd621af-5e57-47a5-a809-5463baa4f53b

Steensen, S. et al. (2020), *What is Digital Journalism Studies?*, in Routledge, London, doi: 10.4324/978042925955.

Suárez, L. (2016), *Inside Potosi Mines*, in "RTPA", 3 March, available at https://www.youtube.com/watch?v=XgfwfmzcjAU.

Suárez, L. (2018), *Exploring the underground world. Pozu'l Fresno*, in "RTPA", 29 April, available at https://www.youtube.com/watch?v=ydj6Rhk6C-U

Urlbauer, L. (2019), *How Solutions Journalism gave BBC's Dougal Shaw a beat*, in "The Whole Story", 13 April, available at https://thewholestory.solutionsjournalism.org/how-solutions-journalism-gave-dougal-shaw-a-beat-e696906da63e.

Wang, Z. (2021), *No newsroom, no problem: tips and tricks for working through lockdown*, in "Journalism.Co.Uk.", 14 January, available at https://www.journalism.co.uk/news/no-newsroom-no-problem-tips-and-tricks-from-the-field/s2/a786873/

Westlund, O. (2019), *Mobile Journalism*, in T.P. Vos et al. (eds), "The International Encyclopedia of Journalism Studies", Wiley-Blackwell, Oxford, pp. 1-8, doi: 10.1002/9781118841570.iejs0191.

What equipment do you need? (2018), in "Mobile Journalism Manual", available at http://www.mojo-manual.org/mojo-equipment/.

What is mobile journalism? (2018), in "Shoulderpod", available at www.shoulderpod.com/mobile-journalism

Data-Driven Journalism: An Introductory Basis for the Practice of Journalism Guided by Data Analysis in Libya

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Introduction

The practice of data journalism is most referred to as pieces with visualizations[1] or other narratives based on data analysis[2]. Yet, the pivotal argument is that it is about a practice that merges news sensitivity to statistical analysis skills and computing knowledge[3]. Felle would later conclude that data journalism is a practice that integrates investigative reporting with new storytelling resources[4].

Clearly, data journalism has been developing as an answer to the increasingly wide information environment that requires professional help to make sense of it[5]. Yet, there are some weaknesses in the practice. As Appelgren states, there is certain paternalistic behavior from the data journalist because the professional is still in charge of making the decisions related to the data-driven project[6]. This has the propensity to give the audience a false sense of control over the data.

Another negative issue related to data journalism, particularly in the United States, is the lack of a clear concept towards the practice which has a negative impact on the work itself, especially inside media organizations with limited resources[7].

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1 Knight 2015.

2 Rogers 2013.

3 Gray et al. 2012.

4 Felle 2016.

5 Van der Haak 2012; Gray et al. 2012; Hammond 2017; Boyd et al. 2012.

6 Appelgren 2017.

7 Fink 2015.

As part of the discussion about what characterizes data journalism, there is one particular issue about the proper skills set needed to work as a data journalist. It is common knowledge that modern journalists now need to improve their statistical analysis and computing skills to be able to deliver data-driven content with new narrative resources[8]. However, the turning-point is when the new technical skills support the idea that even data can follow a bias and can still be produced through human consciousness[9]. In this scenario, the data journalist must consider the structure within which the data were created rather than the number itself[10].

The debate about data journalism literacy tends to focus on the technical and critical skills involved, however something has been left out according to Van Der Haak et al.[11], namely the necessary knowledge about the fields related to the data created. Besides the skills to retrieve, interpret and create visualizations from datasets, there is the obvious need to master the subject areas, such as economy, health, politics and education.

In this literature review, the concepts of data journalism, digital literacy and data visualization will be discussed with the aim of addressing the need of expanding the debates about the data journalism practice itself, as well as the new narratives that come with it, particularly the realities beyond the field of journalism in European and North American countries.

Our references were organized according to the structure in *The Data Journalism Handbook*[12] which is a pivotal publication in the field and goes on to discuss some important references that came after that.

Through this work of reviewing the main data journalism concepts, we realized the need to broaden these discussions to the realities that exist outside developed economies. This perception was encouraged by our experience within the PAgES project, an initiative co-financed by the European Commission that aims to organize a Master's degree course on digital journalism skills for Libyan journalism students. This would be our contribution to the modernization of higher education in Libya.

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8 Boyd et al. 2012; Nguyen et al. 2016; Heravi 2019.

9 Godler et al. 2020.

10 Gray et al. 2018.

11 Van Der Haak et al. 2012.

12 Gray et al. 2012.

The theoretical references merged with the hands-on reality of trainee Libyan journalists who will be in charge of the education of other professionals in Libya led us to realize that a lot more needs to be done when it comes to data-driven journalism and data-driven narratives respectively. This is especially true when it comes to countries outside Europe and North America that also need access to qualified information so that they can make decisions on how to become more organized.

Methods

This literature review on data journalism and digital literacy is based on a revision of the main theories and common patterns related to the practice. It is organized along the lines of the publication we have already mentioned, *The Data Journalism Handbook*, which plays a central role as the main source of information for the practice. Moreover, our review is articulated with other references that reinforce and broaden the Handbook theories. Our arguments are presented following a logic of the most common theories, concepts and likely conflicts. The conclusion summarizes the most relevant gaps in data journalism and the object of this work is to highlight the necessity to boost digital journalism skills, as well as data journalism itself in less developed realities. The very fact that we are identifying gaps in this field could pave the way for opportunities to broaden studies and research in different areas of data journalism.

In this work, we intend to highlight various interpretations of the same phenomenon, as well as authors that not only describe, but also analyze the problematic situations[13].

Discussing data journalism main concepts

This chapter will present some of the main theories related to the practice of data journalism over the last two decades. In this section we are going to address the strengths and weaknesses of the theories and concepts surrounding data journalism and digital literacy required to practice it, as well as an overview of the main conflicts that have emerged in the field according to some key authors.

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[13] Quivy et al. 1995.

First of all, we would like to outline some concepts related to data journalism. The publication of *The Data Journalism Handbook*[14] has become an important reference in the field of data journalism because it sets out some important definitions about the practices that emerged and were developed in the late 2000s with more organizations and governments, especially the Obama administration, allowing wider access to its databases[15].

While this may be seen as an evolution from other practices in the field, such as Computer-Assisted Reporting (CAR)[16], the main concept of data journalism is focused on stories based on the analysis of a large amount of data, which involves statistical analysis skills, computing knowledge, and most importantly, the news[17]. From this perspective, more specific ideas are emerged aiming at defining the nature of a data-driven journalism, focused on the aspects of visualization and new narratives. Rogers[18] states that something that is data-driven could vary from interactive charts to articles, while Knight[19] defends that the main feature of data journalism are the items of journalism with visualizations. Still on subject of format, Felle[20] affirms that data journalism is different to more recent practices such as Computer-Assisted Reporting, because investigative journalism is merged with new storytelling resources.

As data journalism directly relates to a substantial volume of information that needs to be analyzed, interpreted and presented, it is necessary to briefly address the implications of data to the literacy process in general. The sheer quantity of available data has definitely changed the knowledge-acquisition process[21] and led to a new understanding of knowledge mediation, as digital systems have transformed epistemic standards[22]. It means that the processing of knowledge occurs not only through natural or physical processes, but also via technological

14 Gray et al. 2012.

15 Rogers 2013.

16 Howard 2014.

17 Gray et al. 2012.

18 Rogers 2013.

19 Knight 2015.

20 Felle 2016.

21 Hammond 2017.

22 Godler et al. 2020.

agents[23] and this assumption applies to different epistemic areas, especially journalism, which historically has been a means of creating knowledge through information.

These ideas about data are well represented in the concept of Boyd et al.[24] about what constitutes a Big Data reality. According to their precise definition, Big Data is a cultural, technological and scholarly phenomenon which encompasses technology to maximize computational reach through algorithmic precision in order to classify, analyze and combine large datasets; the analysis of large databases focuses on identifying patterns that help to clarify economic, social, technical and legal demands; and the mythical element is due to the belief that large datasets and their consequential analysis provide a more evolved form of intelligence and knowledge. Furthermore, they can provide unattainable insights based upon the ideals of truth, objectivity and accuracy.

However, it is perfectly reasonable to assume that data journalism occurs in a reality with plenty of data and an increasing necessity to make sense of it, either for knowledge-acquisition, decision-making or enhancing debate on everyday matters. This sense-making aspect reinforces the importance of journalistic work when it comes to delivering information and context to the audience in an age dominated by all kinds of data, be that good or bad. Nevertheless, a major claim remains as a solid truth when it comes to the field of journalism: as traditional journalism depends on the critical checking of facts and on good quotes to effectively communicate, so data-driven journalistic content must result from good, clean, accurate, and significant information[25].

Consequently, the necessity for good analysis to produce significant information means that updated concepts are needed as far as the transparency of information is concerned. In a digital reality flooded by data, journalism becomes more transparent by giving the audience access to a portion of the data. "In the first scenario, the data is vague and confusing, requiring special expertise to interpret it and turn it into meaningful knowledge; in the second, data is transparent, and the only requirement is that we are given access to it"[26].

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23 Ibid.

24 Boyd et al. 2012.

25 Gray et al. 2012.

26 Hammond 2017, p. 412.

The narrative has also been transformed by the fact that there are significantly more items with visual support and in several cases, this is a central feature in the coverage of local and world events. Yet, the definition of what constitutes narratives supported by visualizations in journalism seems vague when compared to well established definitions, which are mostly linked to scholarly approaches. Manovich[27] defines visualization as a situation in which non-visual quantitative data — such as meteorological signals captured by sensors, the behavior of stock markets, the compilation of addresses following the track of a message through a computational network — are turned into visual descriptions. Meanwhile, Bedö[28] explains that visualizations have always supported the scholar's work.

Certainly, data journalism has been developing into a practice that requires technical expertise when it comes to data analysis and visualization. Moreover, it has been changing journalistic narratives and ways of consuming information and turning into knowledge. As a consequence of this reconfiguration of sources and purposes, some debates and conflicts related to the practice have been emerging in the last decade. Some of them relate to the autonomy of data journalists in relation to its source and the data involved, while others refer to the autonomy of the audience or readers, towards the data-driven contents and narratives. Obviously, there is some conflict in reference to the concept of data journalism, especially among companies with limited resources to deploy this kind of journalism.

The conflicts and debates surrounding the practice of data journalism will be addressed in the next section.

Conflicts concerning the perception and reach of data journalism

It is an inherent part of journalism to make regulations about the information involved. Usually this occurs when the journalist must choose what goes into the content and what can be left out or added in further updates. As is the case in most journalistic productions, the journalist is still in charge of making the decisions about the data-driven project.

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27 Manovich 2002.

28 Bedö 2005.

Certainly, this is not a new face of journalism and part of the job is indeed to act as a gatekeeper[29].

However, in data journalism this procedure seems to be even more common. Since data journalism is a networked practice[30], professionals from different fields are working together on a pre-defined angle and various functionalities, which might give the audience a false sense of control over the data. In fact, the readers are being guided through a technological set previously designed to developed expected actions, not necessarily approved of by them[31]. Appelgren calls this behavior the paternalistic side of data journalism, which is exactly how much use the journalists make of their authority to deprive the audience of getting in touch with the data[32].

Another conflict that surrounds journalistic practice also concerns the behavior of the journalist towards its main source: the data. However, in this case, it refers to the autonomy that the professional has while dealing with the various databases at his disposal. Obviously, in times of extensive but unreliable information, data journalism could be a trusted source of information by collating, synthesizing, and presenting diverse and difficult sources of information in a way that gives the audience real insights into complex issues[33]. Data journalism could therefore help, by opposing the dissemination of fake news through fact-checking using database analysis skills. However, data journalists must be assured of certain editorial autonomy to not only make sense of data, but also question the data itself[34].

Besides the concerns related to how journalists deal with data, there is also some conflict about the definition of the work scope of data journalism. Fink et al.[35] found some vague concept of data journalism in their work comparing the practice between European countries such as Sweden, Norway and Belgium with the United States. There is a certain lack of clarity towards the nature of data journalism work. This can affect the work of data journalists, leading them to carry out tasks

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29 Shoemaker et al. 2009.

30 Van Der Haak et al. 2012.

31 Appelgren 2017.

32 Ibid.

33 Gray et al. 2012.

34 Cushion et al. 2017.

35 Fink et al. 2015.

that are not related to data analysis. Instead, they work as helpers for other situations involving technology and media, especially in newsrooms with limited resources.

As far as resources are concerned, there are noticeable discrepancies between media organizations when it comes to establishing data-driven journalism practice. Some large media outlets thrive to establish data journalism teams, while local and smaller news organizations face shrinking resources, namely time, manpower and financial means[36]. In fact, the struggles of smaller news companies to establish a data journalism practice can be seen by their absence in the major studies about this subject which tend to focus their attention on large organizations.[37]

Conclusion: gaps that suggest the need for wider study

Certainly, there are some well-established pivotal theories and concepts about data journalism, albeit as a practice that started to define itself in the late 2000s. However, the main literature on the matter presents some gaps in terms of how data journalism is perceived in realities outside Europe and North American nations.

Nevertheless, there is still a need to encourage further research about the practice of data journalism and how it works in modern day realities. Besides the differences in the social, financial and political arrangements, data journalism also relies on the analysis of databases, both as content producers and content consumers. Due to the widespread availability of information and the subsequent growing interest in visualization, data journalism has become[38] a reality not only in developed countries, but further afield. Therefore, opportunities are increasing to give more support to a literacy movement that specializes in data analysis and visualization in other regions besides Europe and the United States[39].

Evidently, the datafication[40] is a reality in most parts of the globe. It has become more important than ever to understand how to make sense of large datasets and then to know how this data should be

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36 Ibid.

37 Young et al. 2018.

38 Gray et al. 2012.

39 Young et al. 2018.

40 Gray et al. 2018.

delivered by journalists. This has been pointed out by many authors, such as Gray et al., Van Der Haak et al., Boyd et al., and Hammond[41].

However, there are realities in our modern societies that still need help in becoming contextualized. Relevant information must be filtered and then turned into knowledge that will enable them to evolve. Furthermore, journalists need to be qualified to deal with data, in order to promote a qualified debate, decision-making and awareness in those realities.

The arguments and theories about data journalism and visualizations need to extend to lesser known societies. Once more is known about these circumstances, it will become possible to address the challenges and promote specialization that at once matches the datafication scenario[42] and the local realities in question, in terms of culture, politics, Internet access and digital literacy.

Clearly, there has been a definite shift in the pattern of news production in the plethora of data available. Therefore, as a result of this high volume of information, new narrative resources are needed[43] as well as skills to help journalists to analyze the data and so enhance news coverage and journalistic storytelling through news items that contain visualizations[44]. The collaboration element in data journalism[45] must be also applied in the digital literacy field in terms of how this new knowledge can be shared with other journalists that are from different social, financial and political realities. These journalists must also be able to deal with the same kind of sources because they have also been put into the same datafication arrangements[46].

References

Appelgren, E. (2017), *An Illusion of Interactivity: The paternalistic side of data journalism*, in "Journal-ism Practice", 12 (3), pp. 308-325.

Bedö, V. (2005), *MMS of all knowledge (MMSAK). Mobiles and scientific visualization*, in Nyíri, K. (ed), "A sense of place. The global and the local in mobile communication", Passagen Verlag, Vienna, pp. 383-393.

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41 Gray et al. 2012; Van Der Haak et al. 2012; Boyd et al. 2012; and Hammond 2017.

42 Gray et al. 2018.

43 Felle 2016.

44 Knight 2015.

45 Van Der Haak et al. 2012; Gray et al. 2012; Young et al. 2018.

46 Gray et al. 2018.

Boyd, D. et al. (2012), *Critical questions for big data: Provocations for a cultural, technological, and scholarly phenomenon*, in "Information, Communication and Society", 15 (5), pp. 662-679.

Cushion, S. et al. (2017), *Data Journalism, Impartiality and Statistical Claims Towards more independent scrutiny in news reporting*, in "Journalism Practice", 11 (10), pp. 1198-1215.

Felle, T. (2016), *Digital watchdogs? Data reporting and the news media's traditional "fourth estate" function*, in "Journalism", 17 (1), pp. 85-96.

Fink, K. et al. (2015), *Data Journalism in the United States*, in "Journalism Studies", 16: 4, pp. 467-481.

Godler, Y. et al. (2020), *Social epistemology as a new paradigm for journalism and media studies*, in "New Media and Society", 22 (2), pp. 213-229.

Gray, J. et al. (2012), *The Data Journalism Handbook*, O'Reilly Media Inc., California.

Gray, J. et al. (2018), *Data infrastructure literacy*, in "Big Data & Society", 5 (2), pp. 1-13.

Hammond, P. (2017), *From computer-assisted to data-driven*, in "Journalism and Big Data. Journalism", 18 (4), pp. 408-422.

Heravi, B.R. (2019), *3Ws of Data Journalism Education: What, where, and who?*, in "Journalism Practice", 13 (3), pp. 349-366.

Howard, A. (2014), *The Art and Science of Data-Driven Journalism*, Tow Center for Digital Journalism, Columbia University, New York.

Knight, M. (2015), *Data journalism in the UK: a preliminary analysis of form and content*, in "Journal of Media Practice", 16 (1), pp. 55-72.

Manovich, L. (2002), *The anti-sublime ideal in data art*, available at www.manovich.net/DOCS/data_art.doc. 2002 (last accessed 20 January 2010).

Nguyen, A. et al. (2016), *The state of data and statistics in journalism and journalism education: Issues and debates*, in "Journalism", 17 (1), pp. 3-17.

Quivy, R. et al. (1995), *Manual de Investigação em Ciências Sociais*, Gradiva Publicações, Lisboa.

Rogers, S. (2013), *Facts are Sacred*, Guardian Books, England.

Shoemaker, P. et al. (2009), *Gatekeeping Theory*, Routledge, New York.

Van der Haak, B. et al. (2012), *The Future of Journalism: Networked Journalism*, in "International Journal of Communication", Vol. 6, pp. 2923-2938.

Young, M. et al. (2018), *What Makes for Great Data Journalism?*, in "Journalism Practice", 12: 1, pp. 115-135.

The Potential of Interactivity: Contributions of i-docs to Journalism

Juliana Bez Kroeger [1]

Introduction

Journalism is changing: this is a fact. The profusion of interactive digital technologies has led to enormous transformations in how stories are told. Digital disruption also affects the news and the work of journalists, modifying how content is created and distributed. If journalism once relied primarily on the written word, online journalism is now permeated by sound, image, and motion. Furthermore, journalists today must create content that is appealing on various channels and devices and thus strive to produce more engaging content.

Today, cross-media journalism is both a goal and a reality, with the production of news destined to simultaneously spread through different platforms. If years ago public feedback would come the morning after, or maybe a week later by mail, now it arrives immediately — it is tweeted, posted on Facebook, left as a comment on an Instagram video, and so on. The public and the multiplicity of audiences has grown in importance.

This search for engagement and the centrality of the audience of the present moment bring online journalism closer to the field of interactive documentaries, or *i-docs*. For documentaries conceived for a computer or smartphone screen, as well as recent projects created in augmented reality (AR) and virtual reality (VR), users are the driving force and thus become part of the narrative. Some studies, including one I conducted for my doctorate, show that viewers' levels of connection and

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empathy with the subject increase with new documentary forms that expose viewers to new topics, people, and perspectives.

In this essay, I attempt to create points of connections between journalism and *i-docs* using theory from both fields, interactivity studies and practical examples. In the first part I address the borders and approximations between the fields. Secondly, I address the issue of interactivity and the potentialities that can be explored by journalism. In the third and final section, I report on the practice of conceiving an interactive documentary by Libyan journalists participating in the PAgES training course in Italy in November 2022.

1. Journalism, documentary, and its borders

Does journalism matter? I'd say it does, now more than ever, even though the frontiers' of journalism are less clear. Although formats, approaches, and mediums have changed, journalism's core remains the same. As Michael Schudson affirms, "journalism is among the institutions necessary for sustaining democracy, specifically, journalism empowered by legally protected freedom of the press and enabled by sufficient economic support to pursue the news coverage that matters to democracy"[2]. There are many different forms of journalism. In this paper we consider "professional journalists", using the concept of media scholar Daniel Hallin in which journalists are those "committed more strongly to the norms of the profession than to political ideas"[3].

Especially in our "liquid modernity", to use Zygmunt Bauman's term[4], the worlds of journalism and documentary are closely intertwined. The late documentary maker Peter Wintonick[5] claims that documentaries are the "the art of information, the art of reality considered", that "can shed light into the dark corners of these dark times" and "can fill a people with the inspiration and the means to see its way forward". Kate Nash draws attention to the ability of documentaries to provide citizens with the informational resources required for informed decision-making[6].

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[2] Schudson 2018.

[3] Hallin 1994.

[4] Bauman 2000.

[5] Wintonick 2012.

[6] Nash 2017, p. 9.

As Bill Nichols explains[7], documentary production is engaged in telling stories about our world, but as a concept or a practice, it does not occupy a well-defined territory. In any case, documentaries, along with other "representations of reality" with various forms of expression, are stimulating growing interest around the globe. We live in times of intense production of media forms that can be traced back to the documentary genre. This is a global phenomenon linked to technological advances that have reduced production costs and to the rise of financing policies that have increased the resources available for productions in many countries. The growth of streaming platforms has also contributed greatly to the increase in documentary production.

In 2021, the Center for Media and Social Impact (CMSI) at American University's School of Communication published the report *The State of Journalism on the Documentary Filmmaking Scene*, produced from interviews with over 60 documentary professionals. According to the authors of the publication, Patricia Aufderheide and Marissa Woods, one issue is that the growing field of documentary filmmaking does not have norms and policies for accuracy, representational justice, or other ethical factors. The field is ungoverned by ethical standards. "Without such standards, filmmakers not only lack norms but an ability to point to standards when working with networks and streamers. Corporate executives can simply claim, as does Netflix's Reed Hastings, that they are merely providing entertainment. Journalistic scrutiny might bring attention to the lack of standards, but it will never compensate for it"[8].

Aufderheide et al. also point to the fact that (looking at U.S. data) traditional journalistic outlets, especially local journalism, have declined in the last decade, while documentaries have become a medium in which people have strong trust. They suggest the contribution journalism can bring to documentary filmmaking is "critique, visibility and transparency"[9], which should be practiced in both the art and the business of documentary filmmaking.

This is an essential subject, but for now I will focus on the contributions of interactive documentaries to journalism, not the reverse process. Mainly in the last 15 years, documentaries that offer opportunities for viewer interaction and participation via the internet have become a new

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7 Nichols 1997, p. 45.

8 Aufderheide et al. 2021, p. 12.

9 Ibid.

field of action for former newspaper reporters, and I am one of them. Of course, documentary began centuries after the printed press and, despite the differences between the fields, many documentarists have been learning from the principles of journalism. As that of journalism, the history of documentaries is also a history of change, and documentary makers have learned to create and adapt their work as new technologies appear.

It is important to recognize that interactive documentaries differ from traditional linear documentaries. Firstly, because i-docs are not necessarily designed for a screen. Since they are developed for a digital platform, any combination of existing media can be used. Secondly, *i-docs* in general can be viewed or explored while viewers are on the go via mobile phones, tablets or laptops.

Interactive documentaries exist in many forms, and their definitions are quite broad. Judith Aston, Sandra Gaudenzi and Mandy Rose, scholars specialized in interactive and immersive factual narratives, use an open-ended definition that considers an i-doc to be any project that is initiated with the intention of engaging with reality and does so using digital technologies[10]. Both documentaries created for online diffusion with little possibility for interaction (such as those that only offer viewers the possibility to choose and change the narrative path using a computer browser) as well as more complex documentaries that allow greater user/participant engagement in the story, like 360 degree immersive docs or those made in virtual reality, are labeled as an "interactive documentary".

"The Internet is plural by default", according to Sandra Gaudenzi[11], who affirms that the web offers us multiple ways to present our co-existence in the world, and digital media speaks of a shared world considerably more effectively than linear media does. "For me, this is why telling stories with digital media is a way to speak of the world through a medium that respects the way we understand and create the world: through interactivity, constant feed-back and context-learning. It is a way to avoid the trap of single causality that dominates the linear world"[12].

Gaudenzi emphasizes another advantage of digital media: its capacity to move from "listeners" to "doers". In conventional linear story-

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10 Aston et al. 2017, p. 1.

11 Gaudenzi 2017.

12 Ibid.

telling, there is an unspoken understanding between the author (or the journalist) and the audience: one speaks while the other listens and then acts consequently. Traditional education follows the same process: first, students pay attention to the teacher, then apply what they learned by performing an exercise. Receiving comes first, then acting. However, this is a result of media influence and social structure. We automatically sense the world and respond while doing so. It is through a constant cycle of action, reaction, and perception that we learn to walk. "The chance, the opportunity in interactive storytelling is merging the doing/learning/thinking in the same space. It is about building places that resemble the way we exist in the world every day: through embodied interaction — through reacting, changing, elaborating as we go along. This is true in web-based docs, but even more in VR, AR and locative stories"[13].

2. Interactivity and docmedia

Traditional linear documentaries are time-based. Those produced for the cinema, for instance, typically consist of 24 frames (or images) per second, which are presented in a sequential order up to 120 minutes. Interactive documentaries are different: i-docs are a new audiovisual form with their own specific characteristics. Arnau Gifreu says that, in this emerging context, interactive documentaries create a new logic for the representation of reality. "The emphasis of this new logic lies in the relationship between the text and the user, when navigating and interacting, rather than how the author constructs a specific discourse on reality for traditional viewers"[14].

i-docs allow the audience to be involved in an active way. Depending on the type of interactivity of the project, users can have different roles: they may become viewers, users, participants, players or actors. Not by chance, Wintonick proposed using the term "docmedia" rather than "documentary", "interactive documentary", "mobile docs" or any other name[15]. Brian Winston highlights how an interactive documentary can radically rewrite the tripartite division between what is filmed, the *filmer* and the viewer, and thus appear as a hybrid figure.[16]

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13 Ibid.

14 Gifreu 2013.

15 Wintonick 2012.

16 Winston 2017, p. xvi.

Furthermore, an interactive documentary not only dissolves the boundaries between filmmakers and audiences, but also between filmmakers and their subjects.

According to Florian Thalhofer, an engineer who invented the Korsakow software for creating interactive documentaries, we are all creators of reality when we tell stories. The way we tell stories now, which he calls the "contemporary story format", is the result of a hyperlinear form of storytelling, which only became possible with the invention of celluloid film. "Watching and making films was and is a constant exercise that forms the brain. The way we make sense of the world today became very linear and we now live in a time of highly linear thinking", according to the Korsakov website[17]. Thalhofer says we now have new ways of storytelling, made possible by computers, which allow us to create narratives that are not fixed. For Thalhofer, computers and the internet help us to collaborate with others and in this way better explore "the edge of reality"[18].

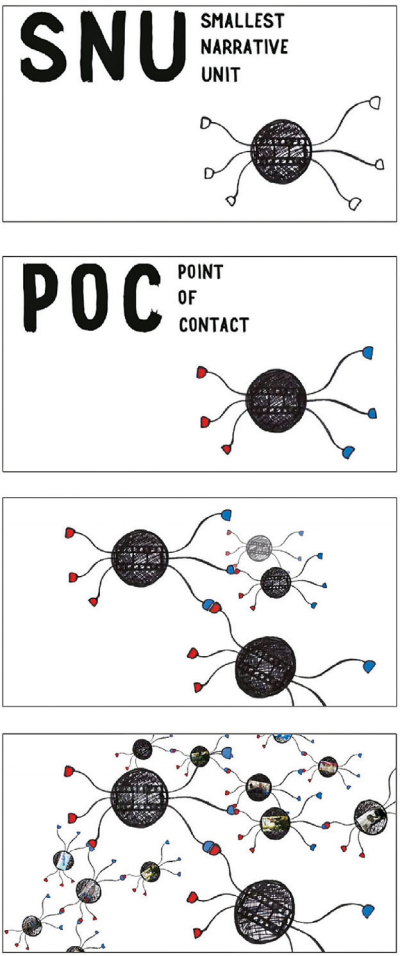

Fig. 1. SNU and POC of an i-doc made with Korsakow.

Each interactive documentary project is conceived, produced, and programmed in a different way, but I would like to exemplify one type, among the simplest, using Korsakow. i-doc projects created with this application are formed by what is known as the smallest narrative unit (SNUs). An SNU is usually a video sequence and each SNU has its own point of contact (POC), which connects one SNU to other SNUs.

[17] http://korsakow.tv/

[18] Thalhofer 2018.

An interactive project made with Korsakow is the union of several interconnected SNUs. While a linear and traditional film is based on scenes, a Korsakow film is composed of SNUs.

This is a new storytelling model, which recalls the database logic described by Lev Manovich who affirmed that databases are at the heart of cultural creation and expression in the computer age[19]. In computer science, the term database refers to a structured collection of data. The data stored in a database is organized in a way that allows for quick searching and, therefore, is nothing more than a simple collection of entries. From a user's point of view, however, databases are configured only as collections of items on which users can perform various operations: view, navigate, search. The experience is therefore quite different from reading a novel or watching a traditional film.

Manovich states that a "database and the narrative are natural enemies"[20]. A database represents the world as a messy list of entries, as opposed to traditional linear storytelling that creates a cause-and-effect trajectory of entries (or events). The author argues, however, that endless attempts to create interactive narratives testify to our dissatisfaction with computers that serve as mere encyclopedias or catalogs of effects[21].

In a fast-moving field, the *definition* of an *i-doc* is still "open" and "fluid. The "i", however, denotes interactivity. In general, interactivity describes an active relationship between at least two entities, people, or objects. "Interactivity refers to the fact that an activity involves interaction and hence to its property of being interactive"[22]. For Alberto Marinelli, interactivity identifies a particular mode of dialogue with a machine that allows direct intervention by users through an interface in order to activate control procedures and thus address operations that are performed codified through a specific "machine language"[23]. For Marie-Laure Ryan, in her 1994 definition, interactivity is not simply the ability to navigate in the virtual world, it is the user's power to modify the environment. For Ryan, in a truly interactive system, the virtual world must respond to the user's actions[24].

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19 Manovich 2002, pp. 273-274.

20 Ibid, p. 281.

21 Ibid, p. 294.

22 Mechant et al. p. 302.

23 Marinelli 2015, p. 278.

24 Ryan 1994, p. 9.

Therefore, the concept of interactivity is still controversial. In 1998, Jens J. Jensen, a professor of communication and psychology at Aalborg University in Denmark, wrote a twenty-page article to examine the concept of interactivity, which he affirmed still did not have a definitive meaning. For Jensen, interactivity is a buzzword, although his concept of it has mostly positive connotations. Yet he argues that it seems unclear to the scientific community what "interactivity" and "interactive media" mean. The positive understanding of the concepts and the frequency of their use seemed to him to be inversely proportional to their accuracy and actual meaning[25].

At the time, Jensen's definition of interactivity was "a measure of the media's potential ability to let the user exert influence over the content and/or forms of mediated communication"[26]. Jensen pays particular attention to characteristics that make media interactive and, according to him, the concept of interactivity presupposes four dimensions, four different models of communication that must be interpreted differently.

The first dimension is *Transmissional interactivity*, a measure of the media's potential ability to allow a user to choose from a continuous flow of information in a one-way multimedia system, with no return channel and therefore no possibility to respond to requests (for example the RAI

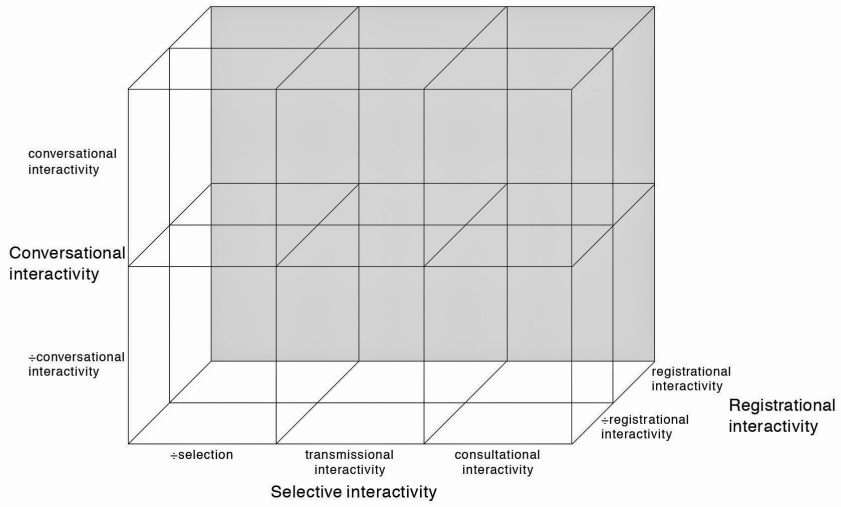

Fig. 2. The Cube of Interactivity. Source: Jensen 1998, p. 201.

[25] Jensen 1998, p. 185.

[26] Ibid, p. 201.

Teletext born in 1984). The second would be *Consultational interactivity*, which is a measure of the media's potential ability to let a user choose, upon request, from an existing selection in a two-way multimedia system with a return channel (for example: encyclopedias on CD-ROMs and video-on-demand). Jensen calls the third dimension *Conversational interactivity*, which is a measure of the media's potential ability to let users produce their own information in a two-way media system (such as video-conferencing systems or e-mail groups). The last dimension is *Registrational interactivity*, which is a measure of the media's potential ability to register information and to adapt or respond to users needs and actions (such as video surveillance systems)[27]. Jensen designed an exemplificative cube to portray the dimensions of interactivity.

Ten years later, in 2008, Jensen revised his categories, concluding that the ecosystem of the media is constantly changing and, consequently, interactivity as well[28]. As Simone Arcagni observes, interactivity is a concept that has been noticed by all of the most important theorists, but a new problem has arisen in recent years. The term risks getting bogged down in a thousand currents and specializations, losing the integrity it had by focusing on machine interface systems[29].

Returning to the interactivity of documentaries, Dayna Galloway, Kenneth B. McAlpine e Paul Harris state that, unlike traditional documentaries, which are passive, with one-way communication channels, such as a monologue between the producer and the audience, i-docs offer four possibilities for interaction: passive adaptive, active adaptive, immersive, and expansive[30]. In projects that fall into the first category, passive adaptive, documentary narratives are modified according to viewers' unconscious reactions. According to these authors, the passive-adaptive form can be defined as a "reactive monologue" due to the absence of awareness on the part of users. For example, this first subdivision includes projects that use systems to track viewers' eye movements towards the screen. If a viewer is distracted, the system would attempt to draw their attention through audiovisual stimulation. In the second category, active adaptive, the viewer is in control of the progression of the documentary and there is an incentive for the

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27 Ibid.

28 Jensen 2008, p. 129.

29 Arcagni 2015, p. 12.

30 Galloway et al. 2007, p. 331.

user to physically interact with the system. For example, this second subdivision includes projects that offer users the opportunity to act on the narration using voice commands, hand gestures or facial expressions. In the third category, immersive, users can explore a documentary through virtual reality (VR) or augmented reality (AR); and in the last category, expansive, viewers can contribute and add content to the documentary itself, making it an organic and ever-growing creation[31].

Since this is an ever-expanding field, new interactive models continue to be conceived and developed. Other authors have created classifications for various types of i-docs, based on the possible types of interaction in the projects. The division into four categories is a constant. Sandra Gaudenzi, for instance, proposes four possibilities for interactive documentaries: *hypertexts*, projects based on the exploration of "closed" video archives in which users have the role of exploring these projects; *conversational*, which simulate a fluid conversation with the computer; *participatory*, based on the participation and collaboration of users; and, lastly, *experiential*, which are i-docs that place user interaction off the screen and in physical space[32].

However, according to Paolo Noto, the concept of interactivity does not capture all the peculiarities of i-docs, just as the technological approach overlooks the fact that many of these projects have a traditional narrative component. For Noto, many interactive documentaries are more a continuity with the past than a step towards innovation and more dynamic forms of interactivity. They mostly highlight the centrality of the interface and the gratuitousness of the interaction[33]. While that was true a few years ago, technology is evolving very quickly and a dozen brand new i-docs have avoided Noto's concerns. For instance, in 2022 artificial intelligence has been applied to interactive documentary projects.

According to Judith Aston and Ella Harris, as the field of i-docs (interactive and immersive documentaries) has grown it has become obvious that important components of this constantly expanding field have a particular purchase on shedding light on and intervening in crises.

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31 Galloway et al. 2007, pp. 331-334.

32 Gaudenzi 2019, p. 283.

33 Noto 2018, pp. 138-139.

"Our position is that interactive documentaries lend themselves to expressing and developing a 'metamodern' and 'polyphonic' ideology which gives parity to multiple systems of meaning rather than insisting on one or the other. This is not to suggest that there aren't better or worse ways of doing things, but that there is no one truth about how we should live"[34].

Returning to journalism and the contribution that i-docs can offer, Gaudenzi proposes that to learn through interaction, we must escape the notion that digital interactivity simply involves "clicking and linking". She suggests that we must switch our authorial model and move from being narrators to becoming "architects", creating spaces for others to explore, and be transformed by. In Gaudenzi's opinion, this is where "most institutions are getting cold feet. Legacy media (traditional newspapers and broadcasters) are scared to make radical digital decisions and move towards new paradigms of journalism and storytelling"[35].

3. Learning from practice: conceiving interactive news documentaries

I had the opportunity to be a mentor in a two-week training program in Italy for master's students in journalism from three Libyan universities that are partners in the PAgES project, from 14-25 November 2022. There were 29 students from universities in Tripoli, Sirte, and Zawiya. In addition to lectures, over these two weeks spent at Sapienza University in Rome and IULM in Milan, we proposed a workshop in which students would produce interactive news documentaries.

i-doc making is as much about process as about a product, as Aston et al. affirm[36], and the intention from the beginning of the program was to create an environment for co-creation among the students, without an intention to direct or present a group of theoretical classes before they could engage in a practice. The first step, which was taken collectively, was to provide a first contact with a series of interactive documentary projects, from i-docs in augmented reality to more traditional web-docs designed for computer screens.

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34 Aston et al. 2022.

35 Gaudenzi 2017.

36 Aston et al. 2018, p. 2.

For the entire class, which had never experienced a project like this before, the i-docs were a completely new subject. The initial and general concern was "we cannot make anything like this in Libya", not referring to the format but the content, after we had watched together a dozen i-docs about human rights, war, and surveillance. The "Mapa dos Conflitos" project (Figure 3), for instance, created in 2022 by the Brazilian investigative journalism agency *Pública*, coordinated by Thiago Domenici, attracted the attention of the participants, even if it is "not practical" to execute something like that in Libya today.

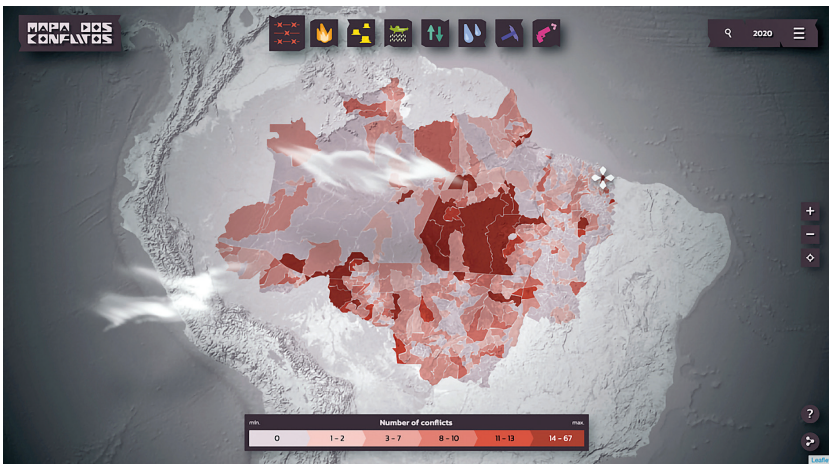

Fig. 3. *Map of conflict* is an interactive project made by the Brazilian investigative journalism agency *Pública*, coordinated by Thiago Domenici. Using original data analysis, it investigates instances of rural conflict in Brazil's Legal Amazon region in the decade 2011-2020.

The class was divided into teams and the first step was to discuss the theme of the project. The groups chose to deal with "light" themes, which could be conceived and carried out during the two weeks of training, and which would not cause problems on their return to Libya. The ideas included: transportation systems in Italy, cuisine and spices, Italy's absence from the World Cup in Football, and sights in Italy and Libya. Only one group decided to conceive an i-doc about a social issue, the insertion of people with special needs in the labor market, having as a starting point the life-story of a waiter with Down syndrome, whom they had met at the hotel where they were staying in Rome.

To develop the concept of the projects, groups were stimulated to use the WHAT IF IT Process methodology (Figure 4)[37], which has been designed to facilitate the ideation of digital interactive narratives and combines current design, agile and narrative methodologies. Students conducted a brainstorming process, while they also began to capture media for their projects. Of course, this is a brief and partial account of the process, but it was interesting to observe that, in general, linear thinking is very ingrained, and that it is not easy to maintain a focus on users.

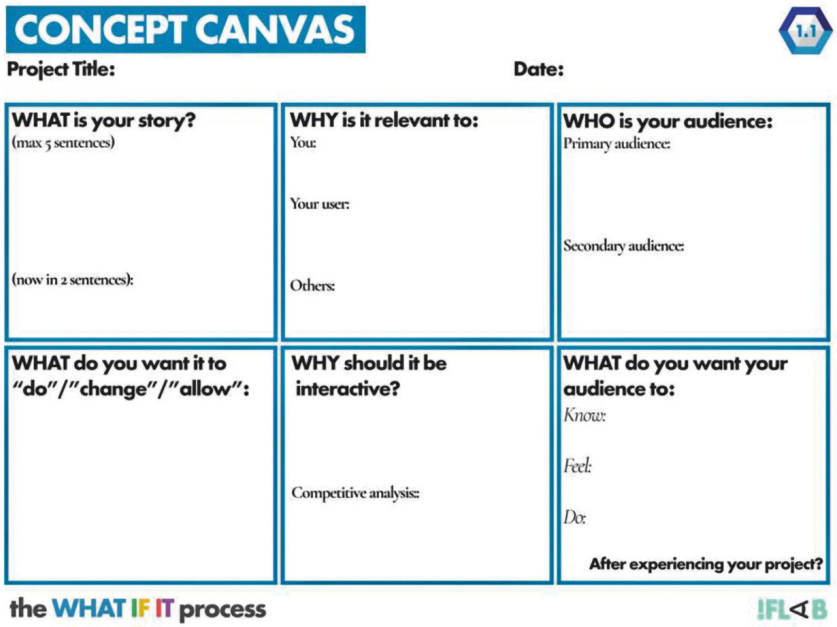

Fig. 4. Concept Canvas from the WHAT IF IT Process methodology. Source: Gaudenzi 2019.

After developing their concepts, the groups used the *Stornaway* application to make their interactive projects. Stornaway is web-based software (with a free trial period) with simple commands and does not require any programming ability to work with. With few major difficulties, the groups were able to co-create and work together to design an interactive documentary interface. The projects had various levels of interaction and audience participation, while the students clearly developed more "interactive perceptions" with greater concern for their audience. The results of these two-weeks of work can be found on the

[37] Gaudenzi 2019.

website below, but are still in progress as at the time of this writing (at least two groups are still working on their projects, giving feedback and sharing their progress).

https://tinyurl.com/pages-training

As Judith Aston and Ella Harris recall, the process of co-creating an i-doc engages ways of thinking that allow participants "to examine the multiple perspectival dimensions of any given topic, the relationships between those perspectives and the ways in which users might engage with them"[38]. When enacted through design and production processes, interactive documentary methods and processes can be useful 'tools for thought'. In this training, the final project is important, but the process is the key aspect, and it has not been concluded. The objective is not only to give audiences the chance to participate in an i-doc, but to have the opportunity, as co-creators, to experiment with new narrative forms and various perspectives.

References

Arcagni, S. (2015), *I media digitali e l'interazione uomo-macchina,* Aracne, Roma, pp. 11-21.

Aston, J. et al. (2022), *Thinking with i-docs: cognitive tools for uncertain times*, in "I-Docs", available at http://i-docs.org/thinking-with-i-docs-cognitive-tools-for-uncertain-times (last accessed 25 November 2022).

Aston, J. et al. (2017), *I-Docs: The Evolving Practices of Interactive Documentary*, Columbia University Press, New York.

Aufderheide, P. et al. (2021), *The State of Journalism on the Documentary Filmmaking Scene*, in "Center for Media & Social Impact", (September), available at https://cmsimpact.org/report/the-state-of-journalism-on-the-documentary-filmmaking-scene/ (last accessed 25 November 2022).

Bauman, Z. (2000), *Liquid modernity*, Polity Press, Cambridge.

Galloway, D. et al. (2007), *From Michael Moore to JFK Reloaded: Towards a working model of interactive documentary*, in "Journal of Media Practice", 8 (3), pp. 325-339, https://doi:10.1386/jmpr.8.3.325_1.

Gaudenzi, S. (2017), *Why do i-docs matter?*, in "Immerse", N° 10, available at https://immerse.news/why-do-i-docs-matter-9602322fcd67 (last accessed 23 November 2022).

[38] Aston et al. 2022.

Gaudenzi, S. (2019), *The WHAT IF IT Process: Moving from Story-Telling to Story-Experiencing*, in "Alphaville: Journal of Film and Screen Media", no. 17, 2019, pp. 111-127, https://doi.org/10.33178/alpha.17.07.

Gifreu, A. (2013), *20 projects curated by Arnau Gifreu*, in "MIT Open Documentary Lab", available at https://docubase.mit.edu/playlist/the-interactive-documentary-my-life-my-passion-my-playlist (last accessed 5 December 2022).

Hallin, D.C. (1992), *The Passing of the "High Modernism" of American Journalism*, in "Journal of Communication", vol. 42, issue 3, September, pp. 14-25, https://doi.org/10.1111/j.1460-2466.1992.tb00794.x.

Jensen, J.F. (1998), *"Interactivity": Tracking a New Concept in Media and Communication Studies*, in "Nordicom Review", 19, n. 1, June, pp. 185-204, available at http://bit.ly/2wy6rj8 (last accessed 5 December 2022).

Jensen, J.F. (2008), *The Concept of Interactivity - revisited: Four New Typologies for a New Media Landscape*, in Masthoff, J. et al (eds), "Proceeding of the 1st international conference on Designing interactive user experiences for TV and video", pp. 129-132.

Manovich, L. (2002), *Il linguaggio dei nuovi media*, The MIT Press, Olivares.

Marinelli, A. (2015), *L'interattività della televisione. Da innovazione mai realizzata a pratica quotidiana nel networked media space*, in Arcagni, S. (ed), "I media digitali e l'interazione uomo-macchina" Aracne, Roma, pp. 275-304.

Mechant, P. et al. (2014), *Interactivity*, in "The Johns Hopkins Guide to Digital Media", Johns Hopkins University Press, pp. 302-304.

Nash, K. (2017), *i-Docs and the documentary tradition: exploring questions of citizenship*, in Aston, J. et al. (eds), "I-Doc: The Evolving Practices of Interactive Documentary", Columbia University Press, New York.

Nichols, B. (1997), *La representación de la realidad: cuestiones y conceptos sobre el documental*, Paidós, Barcelona.

Noto, P. (2018), *Ecosistemi mancanti? Il documentario interattivo sul web*, in Pescatore, G. (ed). "Ecosistemi narrativi: dal fumetto alle serie TV", Carocci, Roma, pp. 129-143.

Ryan, M.-L. (1994), *Immersion vs. Interactivity: Virtual Reality and Literary Theory*, in "Postmodern Culture", 5 (1), http://doi:10.1353/pmc.1994.0058.

Schudson, M. (2018), *Why Journalism Still Matters*, Polity Press, London.

Thalhofer, F. (2018), *How to create reality*, Opening talk on "Docmedia Seminary. Postdam: Filmuniversität Babelsberg Konrad Wolf", June, available at https://vimeo.com/279860080 (last accessed 5 December 2022).

Winston, B. (2017), *Foreword*, in Aston, J. et al. (eds), "I-Docs: The Evolving Practices of Interactive Documentary", Columbia University Press, New York.

Wintonick, P. (2012), *The Docmedia Manifesto*, in "POV Point of view magazine: Canada's documentary magazine", November, available at https://povmagazine.com/the-docmedia-manifesto, (last accessed 5 December 2022).

Map of Conflict, available at https://mapadosconflitos.apublica.org/en/ (last accessed 1 December 2022).

Korsakow Institut — To get a better understanding of reality, available at http://korsakow.tv/ (last accessed 1 December 2022).

Stornaway Creative Storytelling Tools for Interactive Video, available at https://www.stornaway.io/ (last accessed 1 December 2022).

Cross-Media Communication in Social Labs, The Experience of Medialab UGR

Javier Cantón Correa, Esteban Romero Frías

We live in a world characterized by an increasing uncertainty, with ever more accelerated transformations, hyperconnected societies, and more abrupt breakdowns of our known order. The COVID-19 pandemic has been a clear example of this, generating a global crisis that has accelerated processes that were already underway, anticipating future climate crises and social inequalities due to the economic gap and the rise of populism.

All this multiplicity of knowledge and tasks makes us think of ourselves as a network with multiple connections in various dimensions, from the face-to-face to the digital, in the configuration of power relations vertically and horizontally, among others. Challenges are formulated in both a local and global dimension, perhaps one of the best expressions of which is the 2030 Agenda and the Sustainable Development Goals which establish a common framework to be localized in the immediate future. All this is done, moreover, from the cultivation of a shared ethic of care, of the community, as social movements have shown over the last decade.

For us, social laboratories are the answer to a series of questions and challenges facing our society. It is the space where basic research is combined, sometimes very close to the typical humanistic research, with other applied, practical and inclusive knowledge, using co-creation and experimentation to connect processes and results of research with citizenship, with the territory.

A social laboratory can be understood as a radical opportunity to disrupt the knowledge we currently develop by seeking more transversal, interdisciplinary approaches, breaking down the artificial barriers of disciplines, and seeking new knowledge in these academic borders.

A laboratory of this type can only have one object: the diverse social realities that surround us and an unconventional approach that combines values such as digital culture, openness, collaboration, interdisciplinarity, creativity, prototyping, and transmediality, among others.

Labs are one response that we give within universities to these challenges. However, they can be conceived on at least three levels: at the institutional level, at the project level, or the philosophical one. From the institutional point of view, we find organizations that, with an aspiration of permanence, are designed under the above parameters. In the case of Spain, they can arise in national, regional (LAAAB in Aragon) or local (Medialab Prado in Madrid) governmental spheres, as well as in universities (as is the case of Medialab UGR).

1. What is Medialab UGR?

The Directorate of Participation and Social Innovation, as part of the Vice Rector's Office for Institutional Policy and Planning at Universidad de Granada, seeks to promote participation in a transversal way among all university groups and with citizens themselves, developing specific tools and processes or providing support to the rest of the units and services of the University of Granada.

Participatory approaches are at the base of the development of social innovation as a key policy of the University to seek the design of innovative proposals to social challenges that involve mobilizing transversal efforts through knowledge and the intervention of the university community as an active part of the citizenship as a whole.

In this sense, the Directorate seeks the design and experimentation of a systemic model of knowledge transfer toward public institutions and towards citizens as a whole, aligning efforts in research, teaching, and management to enhance the transformative role of the university in our society.

Medialab UGR[1] is the main instrument to develop the actions of the Directorate of Participation and Social Innovation, as well as other policies and actions focused on culture and digital society. In its conception of an open social laboratory for learning, research and experimentation

[1] https://medialab.ugr.es/

around the impact that digital technologies have on culture and society as a whole, it will serve as a center for the generation of proposals for the University and society adopting a culture of prototyping and open knowledge.

Medialab UGR is therefore a research and experimentation laboratory focused on culture and digital society and was created within the Vice-Rector's Office for Research and Transfer of the University of Granada. Born from a community of teachers and researchers interested in the digital world and its implications, it is conceived as a meeting space for analysis, research and dissemination of the possibilities that digital technologies generate for culture and society in general. For this reason, it is a laboratory open for the generation of proposals oriented to both the University and society, as well as a meeting point for research, experimentation, creativity, and the exploration of new forms of knowledge in the digital society, assuming the basis of the culture of prototyping and open knowledge.

Medialab UGR is conceived as a citizen laboratory focused on mediation through the media of our time. It focuses on a new approach to the connection between University and society, between citizenship and technology, through new formulas for citizen participation that are based on social innovation and digital technologies. It works on three strategic lines: Digital Society, Digital Humanities, and Digital Science.

These are some of the characteristics that make it possible to identify innovation laboratories:

- *Productive role*: from the consumer to the prosumer from a citizen perspective.
- Culture of *participation* and *care*.
- *Diversity and accessibility*.
- *Digital culture*.
- *Open source* projects.
- *Local action* and *global connection*: scalability.
- *Mix of knowledge and intelligence*: each type of laboratory integrates different types intelligences (social, political, expert, and algorithmic).
- *Co-responsibility from various roles*: degrees of commitment and the possibility of involvement (ways to manage uncertainty, to deliberate, to create, to agree).
- *Experimentation and prototyping*: action orientation.
- *Flexibility* to develop in various fields: both institutional and not.
- Way of *learning*: process and results go hand in hand.

- *Documentation* of the process as part of the learning.
- *Cooperation* versus competition.

The key values that are at the very basis of the Medialab project are:

- *Openness*: the whole process is open to participation by anyone interested in contributing. All the content generated (such as this document, for example), will be published, as far as possible, under open Creative Commons license that allow its reuse under the attribution and non-profit principles.
- *Transparency*: publicize and disseminate all the content generated throughout the entire process. Make the calls, phases, and results obtained visible, as well as the work carried out during the development of the laboratories.
- *Communication*: open and continuous, using strategies in both physical and digital media.
- *Clarity*: all content produced must be clear and understandable to anyone, paying special attention to the help provided by visual aids and, whenever possible, through easy-to-read methods. The starting point is to try to put yourself in the shoes of someone else who does not know this type of participatory methodologies or tools. The aim is to facilitate their comprehensibility to the public and their free access thus facilitating their escalation and transfer to other institutions.
- *Autonomy*: it also implies that a laboratory is an autonomous unit of work, capable of making decisions. If there is an institution convening the process, its job is to guide and mediate, not direct.
- *Digital Culture*: based on collaborative work described here it is digital, in that leverages the capabilities of digital tools to develop collaborative intelligence processes. However, despite living in fully digital culture, this should not imply the replacement of face-to-face interaction or the art of conversation. The ideal, whenever possible, is to develop hybrid, digital and face-to-face models.
- *Equality:* working from a gender perspective, with intersectional approaches that take into account the diversity of the people who participate. It implies the vindication of groups that are socially disadvantaged in the public sphere, such as women and young people, promoting their empowerment, as well as accessibility and inclusion.
- *Ethics of care* in the relationships that are promoted.
- *Horizontality, collaboration, and co-creation* from multilevel and multi-actor approaches that recognize the plurality of existing knowledge while claiming the irreplaceable value of scientific knowledge.

- *Complexity* of the processes and problems, as well as the responses to these problems. In a complex world, the answers must also be complex.
- *Learning and documentation*: laboratories must be instruments for lifelong learning, for which the documentation of work processes and work is essential.
- Deepening of democratic values and school *citizenship*.

2. Cross-media Communication and Dissemination at Medialab UGR

Since its birth in 2015, Medialab UGR has implemented a cross-media communication model for the communication and dissemination of its events and contents. The cross-media communication, understood as "communication or production where two or more media platforms are involved in an integrated way"[2], has been applied in Medialab UGR as something opposed to transmedia communication. Our interest is not so much to build an expanded narrative universe but to take advantage of current technological possibilities to carry out communication at the same level as digital communication media: through web pages and publications, social media, and quality audiovisual content, using minimal but optimized technological resources. Within this approach to communication, guerrilla communication methods are applied in which the use of the necessary hardware is simple and technically accessible to any citizen thus being able to carry out the integration and use of the different communication channels and techniques available, as well as the possibility of transmitting information in a nomadic way. For this, the use of both hardware and software open tools is also key.

Medialab UGR started as a community of people interested in digital culture, its consequences, and disruptions, ware called GrinUGR[3]. Medialab UGR was the evolution of that group that started at the University of Granada, with an experimental focus and values like openness, hacker ethics, transparency, equality, or horizontality. We were able to organize events, workshops, courses, meetings, congresses, and all

[2] Erdal 2009.

[3] https://grinugr.org/es/

kinds of projects as in the case of Digital Territories Conference 2017[4], an international event focused on the emerging field of digital humanities, as a sign of interest and development of a field currently on the rise.

In these activities, a series of key values, as referenced before, were always on the central axis directing the actions and projects created. Maybe, apart from co-creation and collaboration, as a horizontal value, the most important value in the communication activity that Medialab does is hacker ethics. We are not journalists, but we communicate as if we were, in some cases, better than some local journalists, because we have a more global vision and expert knowledge of digitalism. So the starting point is a hacker ethic, which understands that we are all prosumers, a mix of producers and consumers of information and communication, producing what we would like to consume, and consuming what we would like to produce.

We live in the age of the algorithm, of customized consumption of information and communication, but it is not so much about having customization of our offer at Medialab UGR; rather the goal is to address all the audiences so that each one finds their field of interest, within the digital culture. That's the starting point and the origin of our communication: a communication strategy that works in an environment of fragmented audiences, where we are trying to reach the audience through multiple channels.

For this reason we have decided to use all possible channels at our disposal, free software whenever possible, that we could learn and implement through our work, trying to gain the maximum possible diffusion to everything we organized. As we're explaining below, we use platforms and software like Mailchimp for mailings and newsletters, Telegram channels for public conversation in messaging apps, web pages and blogs as primary sources of information (built in WordPress), and social media for dissemination through Social Media (Twitter for each project, Facebook and YouTube for the main account as centralized).

The Medialab UGR website has received almost a million visits, from 616,171 different people, with a bounce rate of 85% and a high interest in certain topics, especially concerning culture and digital society, technology, computing, and similar. We have reached a young public, but also older people with specific interests not only in the digital cul-

[4] https://medialab.ugr.es/i-congreso-internacional-territorios-digitales-2017/programa/

ture but also in sports, technology, food, a healthy life. Visitors from all over the world, but especially from America and all of Latin America. People mainly visit the pages dedicated to news and events, but also those articulated on particular topics (through the use of internal tags), on communications, and on the attractive or attention-grabbing aspects of it, such as design or visual thinking or apps for scientists. Visitors usually reach the website directly, but also through Google searches, where Medialab is positioned organically, without paying, prioritizing our own and quality content.

This happens not only with respect to the main website, but also in relation to each project: for example, we can mention Lab717[5], which generates constant interest over time, with peaks of activity when events are organized, and that also has to do with the proximity and the territorial environment. Or we can cite Cooperanda[6], which has been generating interest little by little until reaching its peak in the presentation on December 2020. Other projects, with greater international openness, achieve greater impact and interaction with the audience. This is the case of UnInPùblica[7], which is about public innovation from universities. From the first event that generated high expectations, an international community on this topic was created and has remained constant over time, also thanks to the use of other tools like Telegram. The interactions and networks generated during these types of events help to consolidate these projects based on a community of stakeholders that makes the project develop.

A common tool of all these projects that also shows the growth of this digital community in these five years is the YouTube Channel of Medialab UGR[8]. Since its creation in 2016, videos of live-event broadcasts, interviews, workshops, popularization documentaries, scientific information, or recordings of radio programs have been added, totalizing more than 127,800 views, more than 15,800 hours of video, for a community of nearly 2000 subscribers. The web traffic that reaches YouTube is directed from our own sources, which redirect to the original video. Again, it is not about web positioning, but about specific

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5 https://laboratorio717.org/en/home/

6 https://cooperanda.org/

7 https://uninpublica.net/en/home/

8 https://www.youtube.com/c/medialabugr

and continuous communication to the community diffused, mainly, by the websites, social networks, the university's pages. The pandemic has accelerated this evolution. The reinforcement of virtuality in our work has meant an increase in our presence and impact on the audiovisual, visible on YouTube and in radio content, as in the case of RadioLab UGR[9], a project of digital radio that establishes a good example of cross-media communication and social impact.

2.1. RadioLab UGR as an example of cross-media communication

RadioLab UGR was born as a new communication channel, due to personal interests in radio as a language, but also when people from all over the university and from Granada society became interested in the project. For this reason it was opened up to the participation of anyone interested, offering a public space for experimentation in radio languages. We can define RadioLab UGR as a digital university radio for a connected citizenry, open to the participation of any interested person, with many active programs, on a variety of themes: culture, music, feminism, outreach, cooperation, cinema, theater, fiction…

Its programs have received more than 46,000 downloads. Some programs have achieved a great impact thanks to their quality and the topics covered. And even more important is the social impact: for the purpose of a musical program we have visited the most important bars, clubs, and concert halls in Granada, through interviews and live performance recordings, reaching a large part of the Granada music scene. Another interesting work is that focused on social inclusion: collaborating with association, making radio programs with people with functional diversity, for example, mental patients, who use radio as a therapy and social intervention methodology for inclusion, are other important goals of the university radio. In order to innovate, for example, we have hosted the broadcast for the first thesis defended on radio[10]. Spreaker[11] is the platform through which RadioLab UGR works, allows us to distribute our entire radio offer on the main podcasting platforms: Spotify, Google Podcasts, Apple Podcasts…

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[9] https://medialab.ugr.es/radiolab/

[10] https://medialab.ugr.es/2019/07/05/novedades-radiolab-ugr-la-primera-tesis-radiada-en-directo/

[11] https://www.spreaker.com/

3. Digital tools used in cross-media communication

To make all this communication possible, through coordinated and collaborative work, a multitude of specific tools — most of them open source — are used on a daily basis and the need to learn how to use them is part of a continuous training process.

3.1. Communication tools

We can start from cloud storage services that allow us to save files, photos, and videos. The term cloud means that we do not really have these files stored on our computers, but they are servers belonging to these companies that we access through the internet. There are several options, but the most used are Google Drive, Dropbox, and OneDrive.

In order to maintain and implement the communication among the groups Medialab UGR use various tools, beyond email, such as Slack, which groups communication into different thematic channels that allow you to channel and organize conversations. There is also an Open Source alternative, Mattermost. Another option can be to use Telegram as the main communication channel and create different group chats and/or communication channels.

For the collection of tasks, we can use Trello, a project management software which can be seen as a blackboard divided by phases (vertical columns) where we add annotations as if they were post-its. There are many other options on the market.

For the elaboration of shared texts, Google Docs, Office Online, or similar collaborative text editing programs can be used, but you can also take notes and collect links in applications such as Evernote, Notion, Google Keep. In a more complex way, for the documentation of participatory projects and processes, we highlight the tool docART.gs, developed by Ibero-American experts.

3.2. Design tools

To make fast, visual designs adapted to the formats of the different social platforms, we recommend the use of web applications such as Canva, Infogram, or Genially, which do not require prior knowledge or install any software, in addition to working in any web browser. For a more advanced level, specific software for design such as Inkscape

or Adobe Illustrator can be used, as they are capable of more complex and professional results, but they require a higher level of knowledge from the designer side.

3.3. Video-calls

To hold meetings with the work team, we can use video call services that allow communication by voice or video call with other people in a virtual way. There are many applications for video calls such as Zoom, Skype, and Google Meet. The main free alternative is Jitsi.

3.4. Dissemination

For the creation of web pages, we recommend the use of Google Sites and WordPress because they are intuitive and do not require previous programming knowledge. WordPress, in addition to free software, is the main content manager for websites globally.

For the dissemination of results and communications about the projects we can use social networks such as Twitter, Instagram, and Facebook. Particularly on Twitter, we can interact with our users through hashtags so that they can send us questions or suggestions; while Instagram is interesting for uploading infographics, graphic explanations, or any kind of visual content.

Another means of dissemination is the email: through the mailing list we can send information with an attractive design using tools such as Mailchimp that allows us to organize both the mailing list and design and schedule different information campaigns.

3.5. Events streaming

For the retransmission of events, the most widespread platform is YouTube, where you can schedule and broadcast the events both live and by uploading the recording afterwards.

To broadcast through YouTube, Facebook, Twitch, or similar platforms, we recommend the use of Open Broadcaster Software (OBS), an essential software if we want to broadcast or record videos that include changes of plans, present the background of the slides with our presenter figure integrated into the plane (for this we need a chroma) or manually distribute different video inputs.

The workflow may seem complex, but it is simple: we enter the administration keys of the channel in which we are going to broadcast in OBS, where we will create the different screens or scenes, combining different video sources (USB camera, capture of screen, video call software…) and/or audio which will make up the transmission. When everything is ready, we press the record or transmit button (it can be recorded instead of being broadcast live) and the live video will begin on the platform we have chosen. OBS allows you to control the transitions between videos, select only a part of the screen (very useful, for example, to take close-ups of one of the attendees of the video call on split screen), play external video or audio files to incorporate them into the broadcast or show pictures. When we reach sufficient fluency in handling the program, it is possible, for example, to combine the slides of the speaker's presentation with an image of the same in the same plane. The use of this type of software through two screens on the same computer is also recommended, especially if the same computer is in charge of managing the virtual room (permits, tickets, chat, etc.).

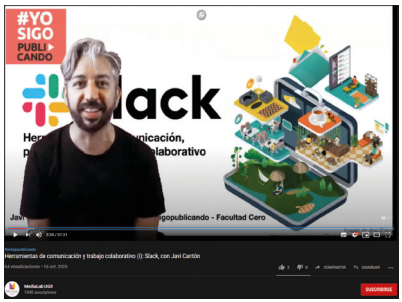

Fig. 1. Example of live broadcast via OBS.

Fig. 2. Example of YouTube broadcast.

Below are two links on how to use these tools in event streaming.

Workshop via OBS with background chroma for slide projection and web browsing: https://www.youtube.com/watch?v=YKZkaN4Rk7c

Encounter broadcast via OBS through group videoconferences: https://www.youtube.com/watch?v=EbuxMAg9Klk&t=175s

References

Erdal, I. (2009), *Cross-media (re) production cultures*, in "Convergence", 15, (2), pp. 215-231.

Journalism Education: a High-Hybrid Approach to Online Training for Journalism Teachers

Cristina Stefanelli

The COVID-19 pandemic has interrupted many dimensions of our lives, particularly education. It has resulted in a significant increase in the demand for online learning opportunities, in an abrupt stop of university student and staff mobility. Most universities moved to emergency remote solutions for teaching and learning, rushing into it incredibly quickly. The long-term effects of this crisis and its massive impact on education, mobility, and international cooperation are undeniable.

In a crisis, inequalities are likely to widen. The pandemic has revealed the fragility of the education systems, and what has become evident is the gap between education systems that already have robust strategies, competencies and solutions to deliver remote learning, and those that do not.

In Libya, the country's political instability and civil war widely affected the access to online education during the pandemic, and the universities' daily life and infrastructures. Coupled with random electricity cuts, and the economic crisis, the whole higher education system in Libya and all parties involved are suffering a profound crisis, and not the least are experiencing trauma, psychological pressure, and anxiety to various degrees. In terms of educational processes, the interruption of education highlights issues that should be taken into consideration such as rethinking how educational contents are designed and delivered, using alternative assessment and evaluation methods, as well as concerns about surveillance, ethics, and data privacy resulting from dependency on online solutions.

This shift to emergency online education has also highlighted the severe digital divide between those who have access to electricity, internet infrastructure, data, and devices, and those that lag behind.

Beyond disparities in access to the internet and devices, a whole set of additional gaps become evident, even when the basic infrastructure is available. Social injustice, inequity, and the digital divide have been exacerbated during the pandemic and need to be addressed with unique and targeted measures.

In the case of Libyan educators, there is indeed a need to enhance their capacities in dealing with digitalization and online education as well as overcome widespread cultural resistance to adopting innovative pedagogies.

Well before the COVID-19 crisis, evidence was clear on the need to support digital competence development of teachers in HE in the country. Today more than ever, being digitally competent is both a necessity and a right. However, digital skill levels across the country remain unsatisfactorily low. Although no cross-country data are available, there are clear indications that teachers in Libya are not prepared to support effective online learning for long. Teacher practices are largely traditional and centered around the teacher (e.g. delivering a lecture to the whole class), with less emphasis on individualized, adaptive instruction (which is associated with higher student outcomes) compared to international benchmarks.

As new norms in online teaching and learning are gaining momentum, the risks are that quick fixes and fragmented emergency solutions adopted by universities and teachers (in many cases improvised overnight) become the new norms. Less effective forms of remote teaching will invariably lead to learning loss and widen equity gaps.

Just because the sector knows that universities should be making the move to digital, it does not mean they know what to do, or how to do it from a long-term perspective. Innovation in education is an incremental change and it does not always have to involve high-tech solutions or devices. Although expanding access to technology is necessary, technology alone will not transform education. Digital transformation is indeed less about technology and more about vision and planning, more about people, interactions, mindsets, and a culture of openness.

The training course on Cross-Media journalism

In this framework, we think it is worthwhile to present the experience of the training course on Cross-Media journalism organized in the frame of the PAgES project.

The training course aimed to build capacity for cross-media journalism education among universities in Libya and to support them in developing online teaching capacities. It was targeted at Libyan teaching staff who will teach in the newly established Master course on Cross-Media Journalism at the Universities of Misurata, Sirte, Tripoli, and Zawia.

Initially, the course was designed for a face-to-face mode of delivery. The pandemic outbreak however made it impossible to proceed with the initial plans. A strategic decision had to be taken on how to proceed, ensuring alignment to the work plan and at the same time engagement by participants, who had initially committed to attend a face-to-face course including study visits and hands-on sessions abroad, in Europe. It was therefore decided to restructure the course with a blended approach aimed to ensure that the planned learning objectives would be achieved despite the challenges and setbacks triggered by the COVID-19 pandemic.

In terms of learning outcomes, the course was designed to enable trainees to 1) develop advanced expertise in cross-media journalism with a focus on cross-media, journalism analysis, mobile journalism, and data journalism; 2) update their knowledge according to current models and paradigms in the field of Cross-media Journalism and Internet Studies; 3) share and productively discuss current teaching methodologies, through a systematic debate with European colleagues; 4) Learn how to design their courses by making meaningful use of educational technology. As part of the course, participants were encouraged to reflect upon their teaching practices and progressively began designing their online teaching materials with the support of the trainers.

The course program initially consisted of four phases to be delivered between September 2020 and January 2021. In phase one, "Preliminary phase: Learning to Teach Online", which comprised a workload of approximately 12 hours, participants were taught how to design, develop and deliver their own fully online or blended learning courses. Phase two, "Online training on Cross-media Journalism", comprising 4 modules related to theoretical knowledge:

1. Module, New languages and formats of journalism;
2. Module, Cross-media audiences, publics, and communities;
3. Module, Ethical standards and digital circulation of news;
4. Module, Misinformation.

The modules were mainly delivered asynchronously so that participants could access the content at any time. Concurrently, every week synchronous online events were held, including 4 expert webinars on topics related to the course modules and 4 online meetup sessions to exchange opinions on the themes of the course, through online debates (both of which were also recorded for asynchronous viewing).

In the "Project Work" part of the course, participants had to submit a lesson or draft of a lecture series on one of the course subjects, with a view to incorporate these digital learning materials into the Master's Program curriculum.

The "Local Learning Circles" were established at the participating Libyan universities as part of the online training and took place in-person at each Libyan university, involving small groups of learners who met online to collaboratively carry out the course activities. Local facilitators were in charge of organizing these local meetings, supporting learners, monitoring the training progress, and reporting back to the community.

Phase three, "On-site training", was tentatively scheduled as a one or two-week hands-on training session at Sapienza University in Rome for February 2021, but due to the COVID-19 pandemic and the resulting travel restrictions, this onsite training was rescheduled to June 2022.

In Phase four, the "Deployment Phase", which will be implemented once the Master's Degree is up and running, trainees will transform the theoretical and practical knowledge acquired from the training into real-life use during the actual delivery of the Master's Program at each university. Due to these reasons, neither of these latter phases was included in the evaluation questionnaires and so, logically, they will be excluded from the analysis that follows.

All in all, despite the difficulties encountered, participants have so far expressed a high degree of satisfaction with the course. A total of 44 trainees took part in the course evenly distributed among the Libyan partner universities involved.

As evident in Figure 1, participants were already familiar with the theme of the course, less so with the experience in distance learning and the command of the English language (formally, the language of the course).

The overall result for course participation/completion rates is very positive, with 82.8% of respondents indicating they had participated in

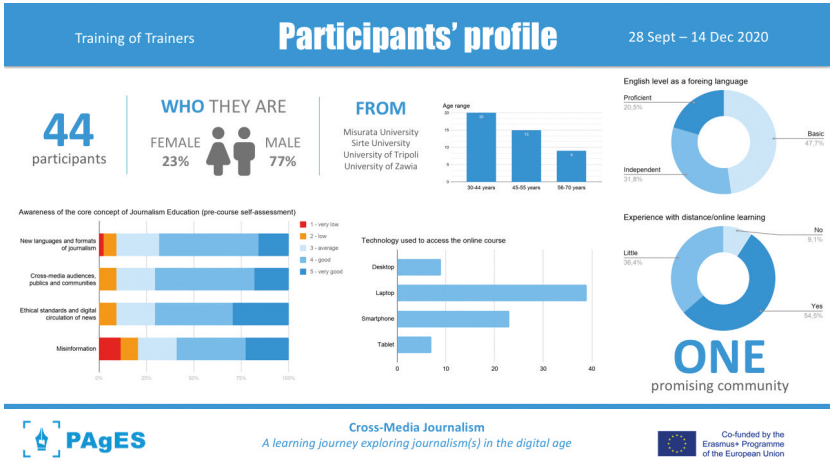

Fig. 1. PAgES Training Course on Cross-Media Journalism — Participants' Profile.

all the course activities, 17.2% indicating that they participated in some of the activities, and none of the respondents indicating that they had dropped out of the course.

Considering the initial difficulties generated by the outbreak of the pandemic and the need to dramatically revise the approach initially planned, and considering also the initial perplexity of trainees in moving from a face-to-face delivery (with a learning focus on the content of the course) to an online delivery (implying the need to acquire/improve one's digital skills and the need to face serious infrastructure and organizational challenges), we consider this experience a success that is worthwhile to be shared for future replications.

Flexibility and Hybrid approach are the "magic words" behind the effectiveness of the course which for sure started with many challenging elements to be considered: the pandemic, the travel and contact restrictions, the initial resistance of teachers to distant learning.

The main dimensions covered by the PAgES hybrid training strategy include:

- delivery (from face-to-face to blended, i.e. online and when possible, face-to-face);
- content (articles, webinars, podcasts, pre-recorded videos used to reinforce the concepts of the training modules and to meet the requirements of learners);
- language (English and Arabic were used interchangeably as the main languages throughout the online learning provision).

The shift from face-to-face to online delivery implied the need to: reinforce participants' digital skills and digital self-confidence; flexibility in measuring participation (attendance was often not possible due to power cuts or low speed internet connections). The choice to record the sessions and allow asynchronous provision was, in such a context, a winning choice.

Last but not least, a crucial element in boosting participants' engagement in the course was the shift from English to Arabic, requested by participants, discussed within the training team and implemented by the trainer. This allowed, according to the evaluation report of the Training, an incredible rise in the level of proactivity of participants during the course.

The effectiveness of the course is confirmed by the feedback received by participants as an evaluation of Phases 1 and 2: 97% of respondents stated that, as a result of having undertaken the course, they would feel confident about being able to include elements related to cross-media, journalism analysis, mobile journalism, and data-journalism in their teaching practices. Moreover, 93% indicated that they would feel confident about updating their teaching according to current models and paradigms in the field of Cross-media Journalism and Internet Studies; and 97% would feel confident about being able to make meaningful use of educational technology in their teaching practice; while 90% would feel confident about being able to teach via a blended learning format.

Many respondents claimed the need for more hands-on sessions (practical sessions on data journalism and multimedia use) and hopefully, the onsite experience in Rome will help in this direction. All in all, however, participants appreciated the course, its content, and its "hybrid" delivery style. In their own words:

- "[the training] opened a big gate for e-learning, filled all the gaps of CMJ [cross-media journalism] that I was missing";
- "This is my first experience participating in the distance education program, and I think that the benefit was great without any compliments, and I will apply what I benefited from in this training in order to teach students, especially in this situation of spreading of Corona epidemic."

Conclusions

The experience of the PAgES project and in particular its Training Course demonstrates the importance of flexibility and immediate response to learners' needs in ensuring the success of learning provision. When exogenous, unexpected, and unforeseen factors such as the pandemic outbreak caused the shift from face-to-face to online learning delivery, the capacity of the consortium to re-design the course and to meet the emerging needs of learners were key to ensure its success.

Adaptation to the context was the winning strategy: adapting to the new online context (and quickly re-designing a course); adapting to the infrastructural challenges of the geographic context (slow internet speed and frequent power cuts); adapting to the cultural context, i.e. the needs of learners (asynchronous learning to guarantee participation; use of a variety of content and materials to align to different learning style).

At the same time, this experience has confirmed that, although learners have been sensitized on the use and advantages of online learning and will probably transfer this takeaway in their teaching experience when learning new skills, a face-to-face moment when skills are jointly put into practice remains a crucial need for learners.

Transitioning to digital learning at scale is highly complex even in the best of circumstances. However, if universities really want to find more resources to invest in better teaching and research, and to engage on an international scale, it is essential that digital learning is encouraged at the system level as a catalyst for change to explore sustainable and inclusive approaches to complement and reinforce traditional forms of teaching and learning.

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Over the last decade, journalism has undergone radical changes: new languages, actors and methods have risen especially due to the digital transformation, revolutionizing this field in unpredictable ways.

This book collects the most relevant scientific outputs of the Erasmus+ Capacity Building in Higher Education *Post-Crisis Journalism in Post-Crisis Libya: A Bottom-up Approach to the Development of a Cross-Media Journalism Master Program (PAgES)*, co-funded by the European Commission in the Erasmus+ Capacity Building in Higher Education framework.

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Addressing topics concerning artificial intelligence, the role of algorithms, citizen journalism, the impact of Covid-19 and its challenges, social media dissemination, and many more, it gives a comprehensive and plural overview of what journalism is, or can be, today.

Romana Andò is an Associate Professor of 'Sociology of Communication' and 'Audience Research' at Sapienza University of Rome, where she is the Head of the international Master Programme in Fashion Studies. Her research interests concern audience studies: media consumption practices, fandom practices, TV engagement and social television, fashion consumption; fashion sustainability, girlhood and gender studies. She authored several articles, book chapters and books: among the others *Audience for Fashion. Consumare moda nei media e con i media* (2020) and *Television(s). Come cambia l'esperienza televisiva tra tecnologie convergenti e pratiche social* (2018).

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