

Central European Journal of Communication

Scientific Journal of the Polish Communication Association

Volume 17 Number 1 (35) Special Issue 2024

CENTRAL EUROPEAN JOURNAL OF COMMUNICATION (ISSN 1899-5101)
WWW.CEJC.PTKS.PL

EDITORS

Editor-in-Chief:
Michał Głowacki, University of Warsaw, Poland
Executive Editor:
Agnieszka Stępińska, Adam Mickiewicz University of Poznań, Poland
Guest Editor:
Nico Carpentier, Charles University, Czech Republic
and Tallinn University, Estonia

EDITORIAL TEAM

Kinga Adamczewska, Adam Mickiewicz University of Poznań, Poland
Jacek Mikucki, University of Warsaw, Poland
Róża Norström, University of Wrocław, Poland
Dagmara Sidyk-Furman, University of Warsaw, Poland
Agnieszka Węglińska, University of Lower Silesia in Wrocław, Poland

ASSOCIATE EDITORS

Dren Gërguri, University of Prishtina "Hasan Prishtina", Kosovo
Catherine Johnson, University of Leeds, United Kingdom
Kristina Juraitė, Vytautas Magnus University, Lithuania
Marcus Kreuttler, Erich Brost Institute for International Journalism, Germany
Päivi Maijanen, LUT University, Business School, Finland
Marco Mazzoni, University of Perugia, Italy
Dariya Orlova, The National University of Kyiv – Mohyla Academy, Ukraine
Gabriella Szabó, HUN-REN Centre for Social Sciences, Hungary
Dina Vozab, University of Zagreb, Croatia
Bissera Zankova, Media 21 Foundation, Bulgaria

SCIENTIFIC NETWORK

List of members of Scientific Network is available on cejc.ptks.pl

Central European Journal of Communication
Volume 17 | No 1 (35) | Special Issue 2024
Scientific Journal of the Polish Communication Association

Table of Contents

2 *Introduction: The Construction of the Future of Platforms*
Nico Carpentier, Miloš Hroch

17 *Techno-pessimistic and techno-optimistic visions of surveillance and resistance in Europe*
Vaia Doudaki et al.

38 *Futures of algorithms and choices: Structuration of algorithmic imaginaries and digital platforms in Europe*
Miloš Hroch et al.

61 *Imaginings of the Future of Conflict and Communication Technologies: A Map of Four Anxiety and Two Hope Driven Scenarios*
Nico Carpentier, Andrea Miconi

82 *Transforming Toxic Debates towards European Futures: Technological Disruption, Societal Fragmentation, and Enlightenment 2.0*
Mehmet Ali Üzelgün et al.

103 *The Future of Gender and Gender Equality Online: A Scenario Analysis of Imaginaries on Gender and Social Media Platforms*
Babette Lagrange et al.

125 *Roundtable Discussion: Perspectives on the Futures of Platforms and Democracy*
Miloš Hroch et al.

141 *Notes on Contributors*

DOI: 10.51480/1899-5101.17.1(35).737

Introduction: The Construction of the Future of Platforms

Nico Carpentier
Charles University, Czech Republic & Tallinn University, Estonia
0000-0002-8996-4636

Miloš Hroch
Charles University, Czech Republic
0000-0001-6590-595X

Abstract: The introduction of the special issue on the construction of the future of platforms provides the paradigmatic, conceptual and methodological framework for this special issue. Starting from a brief outline of the characteristics of the field of futures studies, the article supports the call to better embed in social and political theory, and frames the special issue, with its constructionist emphasis, as a contribution to this debate. In addition, the article provides an overview of the Delphi+ workshop method that was used, and describes the centralized data gathering process, into which all research articles of this special issue tap, to then produce their distinct analyses. This motivates the need to read this introduction alongside the five research articles that have been included in this special issue.

Keywords: Future; Futures Studies; Constructionism; Delphi method; Centralized Data Gathering; Platforms; Communication Technologies

INTRODUCTION

Platforms, and from a broader perspective, communication technologies, tend to—at least in particular periods—evolve rapidly, and have claimed a significant place in the 21st century. But how these technologies are used and have become articulated with a variety of societal fields, has proven to be complex and contingent over time. This renders discussions about their future—evolutions and societal roles—both necessary and difficult. Here, we should keep in mind that these imaginaries of the future are firmly embedded in the present, and thus speak to and about both the future and the present (and even the past) in a variety of ways. In other words, by studying the future, we can also understand which hopes, anxieties, utopias and dystopias exist now, and how they

intersect with broader ideological projects. Simultaneously, these many distinct discourses are still about the future and provide perspectives on what might develop, be desirable, and to be avoided. There is a further layer of complexity. As these imaginings are performative, their elaboration might either prevent them from becoming reality or strengthen their chances of realization.

This special issue, about "The Construction of the Future of Platforms", engages with this oscillation between present and future, in relation to platforms (and communication technologies). As there are numerous technological assemblages, fields in which they become activated and interact with, processes that take place within them, phenomena that are affiliated with them, and of future imaginings about all of these aspects, five thematic areas were selected—at the expense of many other options. For each of these thematic areas—algorithms and choice, surveillance and resistance, toxic debate and pluralistic values, destructive technologies and war, and gender in society—one research article has been produced and included in this special issue.

More details about each of these five research articles, and the transcript of the roundtable on the "Future, Democracy and Platforms" which follows, can be found at the end of the introduction. However, this introduction starts with a clarification of the relationship of this special issue with futures studies, and a description of the Delphi method that was central to our research. As the analyses of these future imaginings had a joint data gathering process, this introduction also spends ample time and space on explaining how the Delphi+ workshops and the scenario-writing project—which generated the data which was used by all five analyses—were organized. One of the implications of the centralization of the data gathering is that all five research articles need to be read alongside this introduction.

FUTURES STUDIES

The academic field of futures studies is defined by Inayatullah (2012, p. 37) as "the systematic study of possible, probable and preferable futures including the worldviews and myths that underlie each future". Over time, the field of futures studies has expanded but also changed its focus, moving "from predicting the future to mapping alternative futures to shaping desired futures" (Inayatullah, 2012, p. 37). These three components refer to three approaches—each with its own ontological assumption, which remain present in futures studies: (i) forecasting—to predict the most likely future; (ii) scenario-building—to explore alternative futures and (iii) backcasting—to assess the feasibility of a desired future. All three approaches are structured by one main limitation, which is often emphasized in futures studies publications. For example Glenn (2009) argues

that "[f]uturists do not know what will happen. They do not claim to prophesy. However, they do claim to know more about a range of possible and desirable futures and how these futures might evolve" (see also Robinson, 1988, p. 325). Nevertheless, futures studies relates to "thinking the unthinkable" (Kahn, 1962), with all the ontological problems that this encompasses.

In the first half of the 20th century, the word "futurist" was limited to either the circles of avantgarde artists (for instance, the Italian futurist movement of the early 20th century) or science fiction writers. However, the systematic study of the possible futures was developed as a set of methods and procedures in the 1950s and 1960s. As Seefried (2014, p. 2) writes, modern futures research (or futures studies) "grew out of dynamic developments in science and technology in a Techno-Scientific Age" after the Second World War and in the climate of the subsequent Cold War. There are a few earlier references, though, as the term "futurology", which was a predecessor to futures studies, can be traced back to the 1940s. Then, the Ukrainian-born Jewish refugee Ossip K. Flechtheim, who fled Nazi Germany and was teaching at the University of Atlanta, used this concept "to refer to a science of predictive probability" (Butler, 2014, p. 513). A more detailed outline of these ideas was only presented later, in the German-language book *Futurologie*[1] (Flechtheim, 1970), on the basis of his earlier notes (Andersson, 2018, p. 45).

Within the logic of the Cold War, futures studies also became highly politicized. Some, as Andersson (2018, p. 46) argues, saw futures studies as a method to create a 'Third Way' between the Eastern and Western bloc, as "[…] the instrument for the creation of a new kind of global human socialism, a pacifist, democratic, and ecological Marxism the logical conclusion of which was a democratic world federation as the opposite of the Bolshevik world state" (Andersson, 2018, p. 46). But for other scholars, futures studies was deeply connected to military R&D decisions, such as demonstrated by the work of the USA-based Project RAND. This also impacted on the agenda of futures studies itself, as Helmer-Hirschberg's summary of the 1960s attitude towards possible futures in one of RAND's long-range forecasting reports shows:

> The decade of the Sixties has brought with it an important change in the intellectual climate throughout many parts of the world, evidenced by a new attitude toward the future that has become apparent in public and private planning agencies as well as in the research community. The effect has been to extend customary planning horizons into a more distant future and to replace haphazard intuitive gambles, as a basis for planning, by sober and

1 The title was translated in English as History and Futurology.

> craftsmanlike analysis of the opportunities the future has to offer (Helmer-Hirschberg, 1967, p. 1).

In the early 1970s, futures studies underwent further structural changes and the field "abandoned large-scale and quantitative-based concepts of steering the future, developing instead a pragmatic and human-centred approach to thinking about and planning the future" (Seefried, 2014, p. 10). Moreover, in the 1970s and 1980s, futures studies started to gain popularity in the business sphere and turned the field's attention to the development of post-industrial societies and economies (Son, 2015). The book *Future Shock* (Toffler, 1970) introduced futurists and futurism to a broader public, which was an ambitious agenda. Toffler (1978, p. x), for instance, wrote that futures studies could help to develop "new, alternative images of the future — visionary explorations of the possible, systematic investigation of the probable, and moral evaluation of the preferable". It was followed by the 1972 collection of essays entitled *Futurists*, which included Flechtheim's work, but also contributions of Theodore Gordon, RAND's methodologist, engineer and futurist, media scholar Marshall McLuhan and science fiction writers such as Arthur C. Clarke.

After futures studies' neoliberal turn in the 1990s (see Son, 2015), which strengthened the connections between futures studies and the corporate world, the former focused more on strategic planning for organizational innovation. Only more recently, futures studies has been increasingly occupied with broader societal issues, including sustainability and climate change (Brozović, 2023; Kristóf, & Nováky, 2023), in response to the contemporary environmental challenges. Also the processes connected with platformization, algorithms, machine learning and AI development (Das et al., 2024; Díaz-Domínguez, 2020), representing today's techno-social paradigm shift, started to feature on the contemporary agenda of futures studies.

Apart from these changes related to the agenda of futures studies, the more methodological and paradigmatic discussions have also continued to enrich futures studies. One element here is the enlargement of the scope of futures studies, in dialogue with different imaginaries. For instance, Harrison (2023, p. 1877) stresses fiction's potential "to interrogate how digital culture shapes subjectivity while simultaneously offering an alternative articulation of identity". Here it is important to stress that science fiction and futures studies have a close interrelationship, as Butler (2014, p. 518) writes: "SF, like futures studies, imagines possible, probable, improbable, and preferable (as well as impossible) worlds". On a similar plane, van Lente and Peters (2022, p. 7) emphasize the importance of using more artistic approaches to engage with futures studies, with the latter producing imaginaries which—according to their words—"tend to lack imagination, urgency and consequences for action". They argue that the

future "merits to be an aesthetic experience" (Lente & Peters, 2022, p. 8; see also Bell, 2007; Motti, 2023). A second element targets the expert, and their privileged position in the context of speaking about the future. Here, we can find pleas to use more (qualitative) participatory methodologies in futures studies, as there is "the pressing need to involve people in conversations about [for instance] algorithmic developments that may affect them in the future" (Das et al., 2024, p. 5).

We have also seen more critical theoretical projects becoming activated in futures studies, as this field has been characterized by a rather eclectic approach towards theory, in combination towards more administrative approaches to research. Attempts to move beyond these restrictions have resulted in different "emerging socio-theoretical pathways for critical futures studies" (Ahlqvist & Rhisiart, 2015, p. 98). Ahlqvist and Rhisiart distinguish three of these approaches, which are grounded in (1) social constructivism and constructionism, together with science and technology studies (STS), (2) Hegelianist and Marxist approaches, and (3) Cultural studies-oriented approaches (combined with what they term "cultural political economy"). In particular the first approach allows emphasizing the contingency of imaginaries about the future, where different ideological projects engage in socio-political struggles how to think the future. These ideological projects not only aim to achieve hegemony in how the future is perceived, but also how it will be materially constructed. This brings us to, for instance, the work of Tutton (2017) who argues for the need to see the future as "entanglements of matter and meaning" and writes that:

> "Every materialized future leaves traces that cannot be undone […], these traces can become path dependencies that 'lock in' certain options and become irreversible because resources used in one way cannot be used again. Each future followed is another future not taken" (Tutton, 2017, p. 487).

THE DELPHI METHOD IN FUTURES STUDIES

One of the frequently used methods in futures studies is the Delphi method, which is a method for future scenario-building and forecasting with a long history. To illustrate: Gordon[2] (2009, pp. 1-2) relates this method to the work of RAND in the early 1960s (for instance, with the *Report on a Long-Range Forecasting Study* by Gordon and Helmer-Hirschberg from 1964[3]). Developed in the early stages of the Cold War, in order to "forecast the impact of technology on warfare"

2 https://www.millennium-project.org/publications-2/futures-research-methodology-version-3-0/
3 https://www.rand.org/pubs/papers/P2982.html

(San-Jose & Retolaza, 2016, p. 3), Delphi's consolidation started with the RAND projects, which were established to predict the "probability, frequency and intensity of possible enemy attacks" (San-Jose & Retolaza, 2016, p. 3). Think tanks such as RAND "provided the methods and techniques for the military and strategic planning of US administrations" (Seefried, 2014, p. 3; see also Amadae, 2003). Later, the Delphi method moved to other fields and was employed by various actors including corporate and industry planners.

As a result of this popularity, the Delphi method – as a technique that offers a "systematic means of synthesizing the judgments of experts" (Gordon, 2009, p. 11) – is now used across various academic disciplines and fields. Despite its limitations and biases, such as the "desirability bias" or the "bandwagon effect" (Winkler & Moser, 2016, p. 63), the Delphi method is often used in futures studies, but also in other fields (Poli, 2018). Landeta (2006, p. 468) defines the Delphi method as "a method of structuring communication between a group of people who can provide valuable contributions to resolve a complex problem". As Gordon (2009, p. 4) writes, the Delphi method is grounded in a "controlled debate", which allows to establish consensus among experts, through a series of iterations. There are many variations of this method, for instance, about how these iterations are organized, but a number of characteristics are more transversal. The core principle is that expert-participants can discuss the responses of others and the work of the group as a whole, which also implies that they can alter their own positions during the process.

Still, many variations exist, which also includes more simplified and less-time intensive versions of the Delphi method. For instance, Pan et al. (1996) describe adjusted (and time-compressed) workshops, and label them mini-Delphis. It is these more compressed versions that we have used in the project that this special issue reports on. What we preferred to call 'Delphi+' workshops consisted of face-to-face scenario-building workshops lasting 3.5 hours, which will be described in greater detail in the next section of this introduction.

THE DELPHI+ WORKSHOPS AND THEIR PARTICIPANTS

The Delphi+ workshops were organized within the framework of the Horizon 2020 research project EUMEPLAT, which ran from 2021 until 2024. EUMEPLAT was concerned with the intersection of platformization and Europeanization, and also contained a futures studies component (which was part of EUMEPLAT's work package 5). In this component, the original project design of EUMEPLAT mentioned five themes, which structured the work of five teams (or task forces, as they were called). These themes were algorithms and choice, surveillance and resistance, toxic debate and pluralistic values, destructive technologies and

war,[4] and gender in society. Even though these themes were very openly defined, and not used to block discussions from shifting elsewhere, they did provide five focal points, that also structured the contributions of this special issue (to which we will return later).

Table 1. The EUMEPLAT Delphi+ workshops

Number	Date	Location + Code	Participants
1	5 July 2022	Malmö, Sweden M	Science fiction writers and foresight researchers, experts on science communication or philosophy of science, and specialists in digital marketing and applied predictive models (6 participants)
2	4 October 2022	Sofia, Bulgaria Si	A theatre artist, a Roma activist, a journalist, and a former representative of the Bulgarian government in the field of culture (6 participants)
3	13 April 2023	Rome, Italy R	Expertise ranging from cultural relations, bioethics and AI to political science and the futures of electronic music (7 participants)
4	23 June 2023	Sofia, Bulgaria Sii	A film maker and producer, a TikTok influencer, journalists, media studies professors, and chatbot and new media experts (10 participants)

In order to provide data for these five analyses, the data gathering phase was centralized, by organizing four Delphi+ workshops[5] in three European cities—one each in Malmö and Rome, and two in Sofia—with in total 29 participants (see Table 1 for an overview, and see Carpentier & Hroch, 2023 for more detail on the participants and the workshop process). These Delphi+ workshop participants were selected, from a variety of societal fields, on the basis of their affinity with, and knowledge about, the themes and on the basis of their imaginative capacities. We organized these Delphi+ workshops to match the scheduling and locations where the EUMEPLAT consortium (or some of its work packages) had their meetings. This enabled us to select participants on the basis of their proximity to these meeting locations and ensure regional diversity (not restricting us to one country, but also including the neighbouring countries). The local EUMEPLAT consortium meeting hosts assisted with the recruitment of the participants. This recruitment process was supported by a series of participant profiles (which were used as illustration and not as quota). The last column of Table 1 provides the overview of the different types of participants, who were all considered experts, without expertise being restricted to academia. This

4 War was added at a later stage, to integrate better the deteriorating global political situation, and in particular the second stage of the Russian invasion of Ukraine, which started in 2022.

5 First, a pilot Delphi+ workshop was organized in Prague, on 5 May 2022. These data were not used.

resulted in a mixture of academic experts, artists and writers, journalists and media producers, and business consultants.

Obtaining the participants' informed consent was a critical part of the Delphi+ workshop process. According to Gallagher et al. (2010, p. 471), informed consent is central to the ethical practice in social research: "For consent to be considered truly informed, participants must understand the nature, purpose and likely consequences of a research project". An exploration of guidelines for informed consent in the context of focus groups—a method close to our Delphi+ workshops—throws up Hennink (2014) who argues that focus group participants should be provided with several key aspects, namely:

> sufficient, relevant, and accurate information about the study, in a comprehensible format […] [and informed not only about, authors words] any potential risks or benefits from participation, and how data will be used and safeguarded […] [but also, authors words] that if they participate in the study they do not have to answer any questions if they prefer not to, and that they are free to leave the discussion at any time (Hennink, 2014, p. 46).

The key principle of informed consent is that "participation is voluntary and not coerced" (Hennink, 2014, p. 46).

The method of obtaining informed content varies considerably, depending on the research subjects and methodologies, and all methods have their own ethical implications (see Critical Methodologies Collective, 2021; Sixtensson, 2022). In the case of the Delphi+ workshops, we chose a more conversational model of ensuring informed consent, which used audio recordings to register the permission, a method inspired by Lie and Witteveen's (2017) approach. First, we asked participants for permission to record (which allowed us to capture the consent discussion); then we discussed and asked permission to use the collected data (see below) for academic research and for academic publications; finally, the participants were briefed about the procedures of anonymization and confidentiality (Hennink, 2014, p. 123), and their right to leave the workshop and to revoke their consent was also discussed.

Each of the four Delphi+ workshops had the same two stages. In stage one, the participants were divided into three subgroups, and they were then invited (after an introduction) to develop in each subgroup three future scenarios in relation to the five EUMEPLAT themes mentioned before (resulting in a total of 15 scenarios per subgroup, if time allowed). In stage two, which was a plenary stage, the developed scenarios were then ranked, using a dimension of likelihood-unlikelihood. In this stage, the participants also further explained (a selection of) these scenarios, providing more information about their articulation.

The Delphi+ workshop process was coordinated by one main moderator, and three subgroup moderators. One of the authors of this introduction acted as the main moderator and the second author as one of the subgroup moderators. The other two subgroup moderators were selected in consultation with the local consortium meeting host, and trained by the author-subgroup moderator. The introduction (by the moderators) of each discussion theme was minimal (around three sentences), and no (further) thematic restrictions were imposed, resulting in, for instance, a broad definition of communication platforms.

The plenary discussions and the subgroup discussions were all audio-recorded, while also photography was used to document the process. Each scenario was registered on a 'scenario card' (SC), which was the size of an A5 page with two open spaces, a small one for a title and a larger one for a short description of the scenario. During the scenario development phases of the Delphi+ workshops, the subgroup moderators did not engage in the content of the discussions but did ensure that the SCs were filled out, in some cases helping the participants. With each Delphi+ workshop, we attempted to create an environment, in which speakers could express themselves freely, with respect for the diversity of opinions and positions. Here, we were inspired by the notion of safe spaces (Deller, 2019, p. 222)—or rather safer spaces, as no environment can ever be completely safe for everyone. This also means that we strove for balanced power relations between moderators and participants, which turned out to be difficult. For example, one host-subgroup moderator took an overly dominant position, while another host-subgroup moderator did not get sufficiently involved, which in both instances triggered intervention from the main moderator. In general, our goal was to create "participant structures" that enabled collaborative knowledge building, where "the group activity is structured so that responsibility for learning is shared, expertise is distributed, and building on each other's ideas is the norm" (Hmelo-Silver & Barrows, 2008, p. 49).

This process resulted in several datasets of distinct formats, such as the audio-recordings of plenary and subgroup discussions, the SCs, and the photographs of the workshop process. After the workshops had ended the datasets were stored on the intranet of the EUMEPLAT project's webspace and made available to the five teams in order to perform the five analyses, on which this special issue reports.

THE ESSAYS

The Delphi+ output, as primary data material, was supplemented by 34 future scenario essays (FSE), that were written by the EUMEPLAT researchers, whom we asked to engage in diary writing via the project's internal, i.e., not public, blogging platform. We instructed them to document their ideas connected to the future of the European media landscape, together with the processes of platformization and Europeanization, that start with relevant (maieutic) questions ("what if"). A total of 22 researchers participated in the diary project from January to October 2022, which resulted in 80 received blog posts containing semi-developed future scenarios, reflections of the present, notes on relevant literature or sketches of recommendations. In the second stage, we asked researchers to submit future scenario essays with a maximum of two pages each on one of the five themes. These scenario essays were stored on the intranet of the project's website. Each essay was required to focus on one scenario using "what if" as a starting point, and work with the notion of the future on a scale of twenty to thirty years. Maieutic questioning is not the only educational method with origins in ancient Greece—and particularly Socrates—but also one of the premises of science fiction writing. Maieutic questioning enables sci-fi writers to start a dialogue with the future and envision a scenario for society that differs from the current state, for better or worse.

The future scenario writing project thus added an autoethnographic element (Ellis et al., 2010) to our research, with the aim to partly free ourselves from traditional academic rituals (Spry, 2001), and enrich established research practices. Autoethnography as an approach to research and writing "seeks to describe and systematically analyze (*graphy*) personal experience (*auto*) in order to understand cultural experience (*ethno*)" (Ellis et al., 2010, emphasis in original) and autoethnographers engage in self-reflection to "identify and interrogate the intersections between self and social life" (Adams et al., 2022, p. 3). Autoethnography helps researchers to "foreground particular and subjective knowledge" and "illustrate sensemaking processes" (Adams et al., 2022, p. 4), which is particularly helpful when working with a notion as abstract as the future. Similarly, like autobiographical literature, good autoethnography is evocative and employs tropes from storytelling with characters and scenes (Ellis et al., 2010).

THE FIVE THEMES AND ARTICLES

The five themes—algorithms and choice, surveillance and resistance, toxic debate and pluralistic values, destructive technologies and war, and gender in society—also decided on the focus of the five research articles of this special issue. Each article analysed how the experts (both participants in the Delphi+ workshops and authors of the essays) offered a series of constructions of the future. Even though the entire project is embedded in futures studies, the emphasis on the *construction* of the future also structurally connects with theoretical frameworks which are still far beyond the boundaries of futures studies (e.g., social constructionism), despite the pleas to open up new "socio-theoretical pathways for critical futures studies" (Ahlqvist & Rhisiart, 2015, p. 98).

One of the consequences of this emphasis on the construction of the future is that the scenarios (and scenario clusters) are not seen as disconnected from each other. They are part of the same ideological space, in which all these scenarios engage, strengthen and compete with each other in discursive-material struggles. Moreover, the constructionist grounding also allows the understanding that these scenarios are part of broader assemblages, structured, for instance, by utopian and dystopian discourses, technological-determinist and determined-technologies discourses, and discourses of empowerment and disempowerment.

Methodologically, all five research articles use the Delphi+ workshop and essay data (see Table 2 for the codes used), but analyse these data through the lenses of their particular themes. This also implies that while the data gathering methods were centralized, the data analysis methods were distinct for each of the five studies. At the same time, there are methodological-analytical similarities, such as a gentle preference for qualitative analyses (without excluding quantitative analyses) and excursions into narratology.

The first research article, by Doudaki et al., is entitled "Techno-pessimistic and Techno-optimistic Visions of Surveillance and Resistance in Europe". The article's starting point is the discussion on, and concerns about, how online spaces allow for the surveillance of citizens (e.g., by states and companies), but also how these surveillance activities are—completely or partially—contested and resisted. The dimension that is seen to cut through these scenarios is techno-optimism versus techno-pessimism, which produces a set of contrasting visions on both surveillance and resistance to surveillance.

"Futures of Algorithms and Choices" is the second research article, and was written by Hroch et al. The article focusses on how algorithms intersect with structure and agency, allowing for a detour into structuration theory. This analysis is structured through four actors: (i) platform users, (ii) platform corporations, (iii) algorithms and (iv) institutions, which supported the identification of 10 scenarios, ranging from algorithmic tribalism to algorithmic regulation.

Table 2. Terms and their codes (abbreviations and acronyms) common across all five of the special issue's research articles

Location of Delphi+ Workshop	Code	Theme	Code	Sources of Text Data	Code
Sofia 1	Si	Destructive Tech and War	dt&w	Scenario Cards Produced by Delphi+ Workshops	SC
Malmö	M	Surveillance & Resistance	s&r	Format of Citation	SC[theme code] number
Rome	R	Gender & Gender Equality	g&ge	Future Scenario Essays Produced by Project Researchers	FSE
Sofia 2	Sii	Algorithms & Choices	a&c	Format of Citation	FSE[theme code]number
		Toxic Debates	txd		

The third research article, "Transforming Toxic Debates Towards European Futures", by Üzelgün et al., engages with the concept of toxicity, and its materializations in the online realm. This article focusses on the future of online discussions, and to what degree these futures will be characterized by antagonism or will turn out to be offering spaces of understanding and dialogue. The analysis results in the identification of three myths that structure these future imaginaries: technological disruption, societal fragmentation and digital enlightenment.

"Imaginings of the Future of Conflict and Communication Technologies" is the fourth research article, written by Carpentier and Miconi. This article starts from a discussion on (the differences between) armed, grey zone and democratic conflict, in order to discusses six future imaginaries in relation to conflict and communication technology. Four of these imaginaries are negative: the power take-over, the intensification of armed conflict, the intensification of democratic conflict, and the harm inflicted on the environment and society in general. The two positive scenarios are the protective role of supranational organizations and the cultural change.

The fifth research article was written by Lagrange et al., and is entitled "The Future of Gender and Gender Equality Online". This article focuses on foreseeable consequences of social media on gender (in)equality in Europe, and identifies three recurring themes situated on a continuum from utopian to dystopian perspectives, articulated with how social media can be safe or unsafe spaces. The three themes were (1) gender over time and space: fluidity, (un)certainty, and change; (2) doing gender: embodiment and representation of gender; and (3) gender and collectivity: resilience, activism, and solidarity.

The last text included in this special issue is the (edited) transcription of a roundtable debate, entitled "Future, Democracy and Platforms", which was organized at the EUMEPLAT project meeting at Charles University in Prague, on 15 January 2024, in collaboration with the MeDeMAP project. This roundtable highlights the importance of protecting a democratic future, but also serves as a warning that democracy in society, as well as in the field of communication technologies, is not set in stone, but can easily be lost and thus needs active and permanent protection.

ACKNOWLEDGEMENT

This article is part of the EUMEPLAT project which has received funding from the European Union´s Horizon 2020 research and innovation programme under grant agreement No 101004488. The dissemination of results and any communication must indicate that it reflects only the author´s view and that the Agency is not responsible for any use that may be made of the information it contains. We wish to thank the EUMEPLAT coordinator, Andrea Miconi, all EUMEPLAT colleagues (and in particular those who were involved in work package five), the Delphi+ hosts and participants, the Polish Communication Organization and the editors, proof-readers and copy-editors of the Central European Journal of Communication, and the reviewers of this special issue for their contribution in making this project possible, pleasurable and relevant.

REFERENCES

Adams, T. E., Holman Jones, S. L., & Ellis, C. (Eds.). (2022). *Handbook of autoethnography* (Second edition). Routledge.

Ahlqvist, T., & Rhisiart, M. (2015). Emerging pathways for critical futures research: Changing contexts and impacts of social theory. *Futures*, *71*, 91–104. http://dx.doi.org/10.1016/j.futures.2015.07.012

Amadae, S. M. (2003). *Rationalizing capitalist democracy: The cold war origins of rational choice liberalism.* University of Chicago Press.

Andersson, J. (2018). *The future of the world: Futurology, futurists, and the struggle for the post cold war imagination.* Oxford University Press.

Bell, W. (2007). *Foundations of futures studies. Volume 1: History, purposes, and knowledge*. Transaction Publishers.

Brozović, D. (2023). Societal collapse: A literature review. *Futures*, *145*, 103075. https://doi.org/10.1016/j.futures.2022.103075

Butler, A. M. (2014). Futurology. In R. Lantham (Ed.), *The Oxford handbook of science fiction* (pp. 513-523). Oxford University Press.

Carpentier, N., & Hroch, M. (2023). The EUMEPLAT Delphi+ workshops: A Manual. Culture and Communication Research Centre, Charles University.

Critical Methodologies Collective (Eds.). (2022). *The politics and ethics of representation in qualitative research: Addressing moments of discomfort*. Routledge.

Das, R., Wong, Y. N., Jones, R., & Jackson, P. J. (2024). How do we speak about algorithms and algorithmic media futures? Using vignettes and scenarios in a citizen council on data-driven media personalisation. *New Media & Society*. https://doi.org/10.1177/14614448241232589

Deller, R. A. (2019). Safer spaces. In R., Kinna & U. Gordon (Eds.), *Routledge handbook of radical politics* (pp. 222-239). Routledge.

Díaz-Domínguez, A. (2020). How futures studies and foresight could address ethical dilemmas of machine learning and artificial intelligence. *World Futures Review*, *12*(2), 169–180. https://doi.org/10.1177/1946756719894602

Ellis, C., Adams, T., & Bochner, A. (2010). Autoethnography: An overview. *Forum: Qualitative Sozialforschung/ Forum: Qualitative Social Research*, *12*(1). Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/1589/3095

Flechtheim, O. K. (1970). *Futurologie: Der Kampf um die Zukunft*. Verlag Wissenschaft und Politik.

Gallagher, M., Haywood, S. L., Manon, W. J., & Milne, S. (2010). Negotiating informed consent with children in school-based research: A critical review. *Children & Society, 24*, 471-482. https://doi.org/10.1111/j.1099-0860.2009.00240.x

Glenn, J. C. (2009). Introduction to the futures research methods series. In J. C. Glenn and T. Gordon (Eds.), *Futures research methodology — Version 3.0* (pp. 1-106). The Millennium Project.

Gordon, T. (2009). Delphi. In J. C. Glenn and T. Gordon (Eds.), *Futures research methodology — Version 3.0* (pp. 1-29). The Millennium Project.

Harrison, J. (2023). Inscribed in code: Depictions of computational algorithms in twenty-first century fiction. *Textual Practice*, *37*(12), 1875–1893. https://doi.org/10.1080/0950236X.2022.2148728

Helmer-Hirschberg, O. (1967). Analysis of the future: The Delphi method. RAND. https://www.rand.org/pubs/papers/P3558.html

Hennink, M. M. (2014). *Focus group discussions*. Oxford University Press.

Hmelo-Silver, C. E., & Barrows, H. S. (2008). Facilitating collaborative knowledge building. *Cognition and Instruction*, *26*(1), 48–94. https://doi.org/10.1080/07370000701798495

Inayatullah, S. (2012). Futures studies: Theories and methods. In F. G. Junquera (Ed.), *There's a future: Visions for a better world* (pp. 37-65). BBVA.

Kahn, H. (1962). *Thinking about the unthinkable*. Horizon Press.

Kristóf, T., & Nováky, E. (2023). The story of futures studies: An interdisciplinary field rooted in social sciences. *Social Sciences*, *12*(3), 192. https://doi.org/10.3390/socsci12030192

Landeta, J. (2006). Current validity of the Delphi method in social sciences. *Technological Forecasting and Social Change*, *73*(5), 467–482.

Lie, R., & Witteveen, L. (2017). Visual informed consent: Informed consent without forms. *International Journal of Social Research Methodology*, *20*(1), 63–75.

Motti, V. V. (2023). Futures studies. In V. P. Glăveanu (Ed.), *The Palgrave encyclopedia of the possible* (pp. 609-612). Palgrave Macmillan.

Pan, S. Q., Vega, M., Vella, A. J., Archer, B. H., & Parlett, G. R. (1996). A mini-Delphi approach: An improvement on single round techniques. *Progress in Tourism and Hospitality Research*, *2*(1), 27-39.

Poli, R. (2018). A note on the classification of future-related methods. *European Journal of Futures Research, 6*(1), 15.

Robinson, J. B. (1988). Unlearning and backcasting: Rethinking some of the questions we ask about the future. *Technological Forecasting and Social Change*, *33*, 325-338.

San-Jose, L., & Retolaza, J. L. (2016). Is the Delphi method valid for business ethics? A survey analysis. *European Journal of Futures Research*, *4*(1)*,* 19.

Seefried, E. (2014). Steering the future: The emergence of 'Western' futures research and its production of expertise, 1950s to early 1970s. *European Journal of Futures Research, 2*(1), 29.

Sixtensson, J. (2022). 'To say no wasn't something we could do': Reflexive accounts and negotiations of the ethical practice of informed consent during the research and beyond. In Critical Methodologies Collective (Eds.), *The politics and ethics of representation in qualitative research: Addressing moments of discomfort* (pp. 30-42). Routledge.

Son, H. (2015). The history of Western futures studies: An exploration of the intellectual traditions and three-phase periodization. *Futures*, *66*, 120–137. https://doi.org/10.1016/j.futures.2014.12.013

Spry, T. (2001). Performing autoethnography: An embodied methodological praxis. *Qualitative Inquiry*, *7*(6), 706-732.

Toffler, A. (1970). *Future shock*. Random House.

Toffler, A. (1978). Foreword. In M. Maruyama, & A.M. Harkins (Eds.), *Cultures of the future (*pp. ix-xi). Mouton.

Tutton, R. (2017). Wicked futures: Meaning, matter and the sociology of the future. *The Sociological Review*, *65*(3), 478–492.

Van Lente, H., & Peters, P. (2022). The future as aesthetic experience: Imagination and engagement in future studies. *European Journal of Futures Research*, *10*(1), 16. https://doi.org/10.1186/s40309-022-00204-8

Winkler, J., & Moser, R. (2016). Biases in future-oriented Delphi studies: A cognitive perspective. *Technological Forecasting and Social Chang*e, *105*, 63–76.

ORIGINAL ARTICLE

DOI: 10.51480/1899-5101.17.1(35).696

Techno-pessimistic and techno-optimistic visions of surveillance and resistance in Europe

Vaia Doudaki
Charles University, Czech Republic
0000-0002-6341-9963

Judith Clares Gavilán
Universitat Oberta de Catalunya, Spain
0000-0002-7462-9712

Panos Kompatsiaris
IULM University, Italy
0000-0002-2452-6109

Dessislava Boshnakova
New Bulgarian University, Bulgaria
0000-0001-9122-6459

Jim Ingebretsen Carlson
Universitat Oberta de Catalunya, Spain
0000-0001-9367-6891

Abstract: Our study explores peoples' visions of surveillance and resistance to surveillance, enabled through communication and digital platforms in Europe. The research involves future scenario development and analysis, which allows us to sketch out future outlooks concerning surveillance/resistance in Europe, examining how these visions reflect the main assumptions, fears and hopes about the future of societies in Europe. The analysis, which is anchored in surveillance studies, shows how the visions of surveillance and resistance are informed by people's dispositions towards technology, which centre around techno-optimism and techno-pessimism, focusing either on the empowering or liberating forces of technology or on technology's disabling and destructive power. These dispositions instruct ideas about the futures of Europe, seeing Europe as either a regulator or protector of people's privacy and freedoms or as a surveillant apparatus, curtailing peoples' freedom and democratic rights.

Keywords: surveillance, resistance to surveillance, techno-optimism, techno-pessimism, Europe, futures

INTRODUCTION

While evaluations and examinations of the past and present, in the context of social phenomena and the role of communication and digital technologies, are abundant, explorations of the future are less common. This reflects a tradition in the social sciences and humanities of refraining from predicting the future, and rather focusing on studying and trying to comprehend the past and the present. Still, the identification of trends and the normative assumptions and evaluations that accompany research in the field of communication and media studies, address directly or indirectly evaluations, fears and hopes of predicted future outcomes. This becomes clearer in instances, in which communication technologies are evaluated as a positive or negative force for societies' future (see, e.g., Könings, 2022; Negroponte, 1995; Postman, 1992). However, these kinds of studies do not often engage in methodologies that would facilitate future-oriented analyses.

One of the fields that offers such a toolbox is the interdisciplinary field of futures studies which focuses on "the systematic study of possible, probable and preferable futures including the worldviews and myths that underlie each future" (Inayatullah, 2012, p. 37)[1]. Our research touches upon this study area, contributing to the fertilization of communication and media studies with tools and methods employed in futures studies. This article, in particular, is an exploration of the visions of surveillance and resistance to surveillance, enabled mainly through communication and digital platforms in Europe. The study involves future scenario development and analysis (Glenn & Gordon, 2009), which allows scholars to sketch out future outlooks concerning surveillance/resistance in Europe, examining how these visions of the future reflect main assumptions, fears and hopes about technology and about Europe.

This study suggests that there are socially embedded visions, i.e., future-oriented images sketching out future conditions pertaining to social phenomena, which may be positive, negative or mixed.[2] Our analysis is theoretically informed by the scholarly work in the field of surveillance studies (see, e.g., Fernandez & Huey, 2009; Lyon, 2007; Martin et al., 2009; Zuboff, 2019) maintaining a focus on the debates of techno-pessimism and techno-optimism in media and communication (see, e.g., Könings, 2022; Lindgren, 2017; Negroponte, 1995; Postman, 1992; Ridley, 2010).

As will be elaborated throughout the analysis, the visions of surveillance and resistance are informed by people's dispositions towards technology. These

1 Of particular interest is Luhmann's (1976) theoretical reflection on how to approach and define the future.

2 The concept of (societal) vision is often associated with desired future outcomes (see, e.g., Verkerk et al., 2018), however we choose to use it neutrally, seen as a (future) imagining.

dispositions (i.e. the beliefs and attitudes that impact on people's perceptions and usage of technology) construct particular visions about the social role of surveillance and the degrees of freedom people have to resist surveillance. Moreover, they are structured around techno-optimism and techno-pessimism, focusing either on the empowering or liberating forces of technology or on technology's disabling and destructive power. These dispositions also instruct the ideas about the futures of Europe, seeing Europe as either a regulator or protector of people's privacy and freedoms or as a surveillant apparatus, curtailing peoples' freedoms and democratic rights.

After briefly presenting the arguments that structure the debates of techno-optimism and techno-pessimism and addressing the premises of surveillance and resistance while maintaining a focus on Europe, the article will present the study's methods and then proceed with the research analysis and concluding reflections.

DEBATES OF TECHNO-OPTIMISM AND TECHNO-PESSIMISM

The debates around the force and implications of surveillant practices for individuals and societies, and around the possibilities for resistance, are intertwined with specific approaches concerning the role and force of technology, given that surveillance is largely enabled through technological applications and platforms. These approaches may be clustered around two main 'camps', those of techno-optimism and techno-pessimism, which inform disparate visions of how surveillance is orchestrated, enabled, performed and how it can be resisted, instructing in turn differing visions of societies.

Techno-optimism relates to the belief that technology is inherently tied to (human) progress and that technological progress genuinely profits societies (Königs, 2022; Ridley, 2010). Techno-optimism is partly founded on technological solutionism, the belief that the key to solving societal problems lies in (humans' ingenuity to design and implement) technological applications. The idea that technological progress is the key to human and societal progress and wellbeing often echoes technological determinism, which prioritizes technology over other factors, forces and dimensions in what defines social formation and engineers societal change (Winner, 1999[1980]). Techno-centrism, a related concept, concerns the examination of broad societal phenomena through the prism of (certain types of) technology, positioning these technologies at the core of any associated consideration (Morozov, 2011). In the context of contemporary media technologies, techno-optimism is reflected in the sometimes-utopian belief shared during the early days of the 'digital revolution' (Negroponte, 1995), that the digital technologies and the internet offer open and decentralized spaces

fostering "new forms of direct democracy, increased participation and creativity, and the destabilization of old hierarchies of power" (Lindgren, 2017, p. 51).

Contrary to techno-optimism, techno-pessimism relates to the belief that technological progress impedes societies' wellbeing and that its benefits are less than its harm (Königs, 2022; Postman, 1992). Techno-pessimists tend to see technologies as harmful or destructive, and when a new form of technology appears they tend to focus on the damage it may cause to particular groups and society at large. Interestingly, the belief that technology is all-powerful coupled with techno-centrism or technological determinism is shared by techno-optimists and techno-pessimists alike. Techno-pessimism may sometimes reflect a technophobic attitude, that is expressed through fear or aversion of using particularly new forms of technology, as the latter are seen as threatening, harmful and destructive (Brosnan, 1998). Of relevance here is the concept of luddism. The Luddite movement, in the 19th century, concerned textile workers in central and northwest England who, in opposing the replacement of the skilled workforce by cost-efficient machinery in the textile industry, destroyed the newly installed factory machines (Jones, 2006). (Neo)luddism describes today a broader stance against technology, sometimes driven by a romantic vision and desire for a simpler life, and the appeal for a return to nature without the mediation of technology (Fox, 2002). Anarcho-primitivism is a related idea, which argues that technology-led civilization destroys authentic forms of social and natural life; hence the return to pre-technological lifestyles can lead to the liberation of humans and their reconnection with (their) true nature (Aaltola, 2010).

Both techno-optimist and techno-pessimist views may be techno-critical engaging in a critical reflection towards technology's roles in society, either from a more optimist or pessimist stance. These techno-optimistic and techno-pessimistic approaches, as will be exemplified later in the analysis, feed into people's visions of the future, structuring specific imaginings of societies and their assemblages of surveillance/resistance.

ASPECTS AND PRACTICES OF SURVEILLANCE AND RESISTANCE IN EUROPE

Surveillance concerns the "focused, systematic, and routine monitoring of behavior, activities, or information" (Costanza, 2018, p. 95) through the collection and processing of data (Lyon, 2007) of individuals and collective entities, "for the sake of control, entitlement, management, influence [, …] protection" (Murakami Wood, 2006, p. 4) or profit (Costanza, 2018, p. 95). Surveillance can be performed by state, public, corporate and private actors and entities.

Among the main arguments for state surveillance are efficient policy and governance, together with the enhancement of security and the protection of the state and its subjects. Systematic data collection and the creation of national or supra-national databases, facilitated by enhanced technologies and artificial intelligence, allow the state to offer its citizens the services and benefits they are entitled to, as it concerns social welfare and protect the citizens against violence and crime (Clarke, 2005). At the same time, this type of governmentality (Foucault, 2007, p. 108) enables social control, and allows for the "social sorting" (Lyon, 2003, p. 1), and discrimination against 'undesirable' or 'problematic' citizens, and the exclusion of 'illegal' subjects, as non-citizens (Bauman, 2004). Such processes and practices are systematically enforced, for instance, in migration-control policies across Europe (Broeders, 2007; Topak, 2019), frustrating the vision of Europe as a benevolent host (Carpentier & Doudaki, 2023). Enhanced securitization in Europe is enabled through a supra-apparatus of movement surveillance via the development of, for instance, the Eurodac biometric database for undocumented migrants, or the Schengen Information System that ensures mobility within the EU area (Bellanova & Glouftsios, 2022).

The dangers that surveillance poses for democracy, social justice and the rule of law have been recurrently addressed by critical scholars (Costanza, 2018; Taylor, 2002). Western democracies in Europe, guided by the European Convention on Human Rights, are equipped with legislations that restrict the use of surveillance practices against their 'recognized' citizens (Taylor, 2002), as these practices are seen as infringing various freedoms and rights. Still, in the context of public safety being reputedly at risk, the state is expected to protect itself and its subjects against external and internal threats and enemies. State authorities retain the "enhanced ability to collect detailed information on potential threats to society and take preventive measures" (Costanza, 2018, p. 99), even without judicial permission, which raises serious concerns related to privacy, civil rights and due process.

Another area of surveillance-related threats addressed by critical scholarship concerns the corporate sector. This strand of research scrutinizes the exploitative relations the capitalist logic imposes between the powerful telecommunications and media oligopolies, and the users (consumers and citizens), and the broader implications these fundamentally unequal power relations have, for societies and democracy. Scholars use terms such as data capitalism, platform capitalism, surveillance capitalism, and dataveillance (Degli Esposti, 2014; Zuboff, 2019) to argue that corporations harvest users' produced content and online behavior without the users' knowledge or consent. Corporate actors then process, reuse and sell these data to third parties (state and corporate). Through these practices, companies not only make profit at the users' expense, but also expose the latter to multiple risks caused by the separation of people and the data they

produce, risks which go far beyond privacy harms (Degli Esposti, 2014; Lyon, 2003; 2007; Zuboff, 2019).

Attempting to respond to these challenges, the EU adopted in 2016 the General Data Protection Regulation (GDPR), which regulates basic features and dimensions of privacy and processing of EU citizens' personal data by companies and third parties, aiming to enhance individuals' control and rights over their personal data. Due to its broad scope, GDPR is seen as a pioneer regulation and a model to follow by countries outside the EU and as the embodiment of Europe's vision as regulator and protector of individuals' rights and freedoms. Still, as scholars point out, in conditions where users have limited agency for accessing, navigating and using online platforms and environments, corporations find ways to harvest data from the platforms' users. This practice is facilitated by GDPR's failure to effectively regulate data transparency and to address the implications of artificial intelligence (Schade, 2023).

The scholarly discussion on state and corporate practices of surveillance brings to the fore issues of power and control. Surveillance implies unequal, exploitative or extractive relations of power, which need to be scrutinized in explorations of surveillance (Fernandez & Huey, 2009). At the same time, these relations shall not be taken for granted or considered unchanged, cemented in fixed positions where the powerful surveils and the weak is being surveilled, in a panoptic rationale (see Foucault, 1977), which brings us to the logics and practices of resistance. Resistance to surveillance can be described as the act or power of opposing, refusing or fighting against the systematic and routine monitoring of behavior and activities, and against the gathering and analysis of information concerning individuals or groups.

Historical analyses have shown that in all systematic or extensive practices of surveillance, there are developed practices of resistance (Hollander & Einwohner, 2004; Martin et al., 2009). In effect, both surveillance and resistance to it are constitutive of contemporary societies (Giddens, 1984), and as Martin and his co-authors (2009) argue, "resistance is not merely an epiphenomenon of surveillance – it is a basic and necessary co-development of surveillance" (p. 216). Resistance to surveillance may be formal, organized, largescale, long-term, but also informal, unorganized, everyday, trivial, ad-hoc and discontinued (Fernandez & Huey, 2009; Marx, 2009), and may involve "resistors other than the subjects of surveillance" (Martin et al., 2009, p. 217). Furthermore, resistance can take many forms. Scholars describe, for instance, processes and practices of counter-surveillance, surveillance neutralization (Marx, 2009) and sousveillance ("inverse surveillance in which citizens monitor the surveillors as a means to challenge the surveillance state"—Fernback, 2013, p. 14). In a similar vein, McCahill and Finn (2014), drawing on Bourdieu, refer to "surveillance capital" to describe "how surveillance subjects utilize the everyday forms of tacit knowledge

and cultural know-how that is acquired through first-hand experience of power relations to challenge the very same power relations" (p. 4).

One crucial element in citizens' perception of, and resistance to, state and institutional surveillance is trust. Studies show a positive correlation between trust in public institutions and tolerance or acceptance of surveillance, as trusting citizens are "more likely to cede their civil liberty protections and accept government surveillance practices" (Viola & Laidler, 2021, p. 10). On the other hand, low levels of political trust can be seen as a "vital component of maintaining liberty in democracies" (Hall, 2021, p. 50) and may be connected to greater citizen involvement and political engagement.

In any case, manifestations of enhanced general distrust towards the state and major institutions in Europe are increasing, targeting the media (EBU, 2020), science (Eurofound, 2022), education and contemporary forms of liberal democracy, having at times a full-scale antisystemic character. The people who experience such high levels of institutional distrust share beliefs about being subjects of powerful panoptic surveillance (see Foucault, 1977), which they sometimes attempt to resist or escape through community-building with like-minded people, in online and offline echo chambers. These echo chambers, in which disinformation and conspiracy theories circulate (Marwick & Lewis, 2017), seem to be functioning as communities of trust, while simultaneously allowing to express a lack of trust towards the institutions.

The case of the COVID-19 pandemic-related measures is relevant in the discussion concerning socially accepted surveillance in Europe and resistance to it. On the one hand, mandatory vaccination and other measures limiting mobility, enabled through technologically enhanced surveillant practices, appeared within mainstream media and public debate in Europe as positive action for the protection of public health. These supportive responses, shared by the majority of the population, were associated with a certain degree of trust to main institutions, such as those of science and medicine (Eurofound, 2022). On the other hand, these measures were opposed by certain parts of the population, as they were considered antidemocratic and major practices of orchestrated surveillance, aimed at curtailing people's freedoms. This opposition was expressed, e.g., through the COVID-19 anti-vaccination mobilization, which was largely voiced on social media and other online spaces, and which was associated with high levels of institutional distrust (Eurofound, 2022; Miconi, 2022).

RESEARCH METHODS

This study involves future scenario building and analysis, concerning the prospective or unlikely futures in and of Europe, related to surveillance/resistance enabled or facilitated through digital technologies. For the purposes of the research, two methods of scenario building were developed.

The first is (a simplified version of) the Delphi method, which is often used in futures studies and scenario development (Glenn & Gordon, 2009), and which was adjusted to serve the aims of the project. The method typically employs surveys, focus groups and workshops, aiming to synthesize in a systematic way expert opinions (Gordon, 2009, p. 11) and to structure "communication between a group of people who can provide valuable contributions to resolve a complex problem" (Landeta, 2006, p. 468). What we here call Delphi+ workshops relied more on focus group method tools and were condensed in time.

Four face-to-face scenario building Delphi+ workshops were organized, in three European cities (Malmö, Sofia and Rome), within a one-year period (July 2022–June 2023), as part of the EUMEPLAT research project[3]. The Delphi+ workshops engaged 29 expert participants (6–10 participants per workshop) of varying profiles (e.g., artists, academics, journalists, (science fiction) writers, media producers). Each Delphi+ workshop was structured around three phases: introduction, future scenario development in small subgroups, and summary and conclusion. Each subgroup was asked to develop three scenarios on surveillance/resistance.[4]

The second method of scenario building concerned the writing of future scenario essays by some of the authors of this article. The aim of this component was to complement and enrich the diversity of the produced future scenarios, and involve the research team members in both scenario writing and analysis. Apart from broadening the range of the Delphi+ produced scenarios, this second component allowed the introduction of reflexive moments in the research (Alvesson & Sköldberg, 2000).

The research material comprised 35 future scenarios[5] coming out the four Delphi+ workshops and four written future scenario essays, totaling 39 future scenarios, all focusing on surveillance and resistance to it. The Delphi+ workshops material consisted of the scenario cards (SCs) produced during the workshops

3 See https://www.eumeplat.eu.

4 The workshops focused, apart from surveillance/resistance, also on four other themes pertinent to digital platforms and futures in Europe (algorithms and choice, toxic debate and pluralistic values, destructive technologies and war, and gender in society). See the workshop script (Carpentier & Hroch, 2023) and the introductory article of this special issue, for an overview of the future scenario building design and methods.

5 Incidence of future scenarios focusing on surveillance/resistance, per workshop: Sofia 1: 6 scenarios; Malmö: 10 scenarios; Rome: 9 scenarios; Sofia 2: 10 scenarios.

by the participants, summarizing each scenario in keywords, and the transcriptions of the discussions that took place during the workshops.

For the purposes of the study, a qualitative content analysis (Saldaña, 2013) was conducted on the Delphi+ workshops and future scenario essays material. The analysis of the material followed a series of cycles. Initially, the main issues, topics and dimensions concerning surveillance/resistance were identified through open coding, by registering keywords and illustrative quotes. The preliminary analysis of the open coding was followed by a series of iterations between the empirical material and the study's theoretical foundations, through an abductive approach (Matthews & Ross, 2010). This resulted in the identification of the main dimensions of analysis, structured around the techno-pessimistic and techno-optimistic visions of surveillance/resistance.

IDENTIFYING VISIONS OF SURVEILLANCE AND RESISTANCE IN EUROPE

The scenario analysis showed how techno-pessimism and techno-optimism feed into perceptions of surveillance and resistance and Europe's visions of the future. These two approaches are consistent in informing distinct visions of the future, grounded in main assumptions, and echoing main hopes and fears about social organization and technology, and thus can be seen as glimpses of what to look for, and what to avert, in societies in Europe.

TECHNO-PESSIMISTIC VISIONS

The analysis structured around the techno-pessimistic visions comprised three main interrelated constituents: visions of surveillance; visions of resistance to surveillance; and visions of Europe. These constituents address how techno-pessimism instructs specific understandings of surveillance and responses to it through forms of resistance, and how these techno-pessimistic visions inform also specific visions of Europe, which are guided by a negative or disparaging disposition toward technology.

VISIONS OF SURVEILLANCE

In techno-pessimistic visions of surveillance, the focus is the problems technology creates for individuals and society at large, with technology being apprehended as the optimal tool for surveillance. In these techno-centric imaginings, humans have hardly any agency, being subjected to the force of technology, complying to its demands. Technology is apprehended as a disabler of people, restricting them to a large extent. Its force and impact are mainly destructive, impacting negatively on people's private, professional and social life. In the most dystopian

variants of these visions, humans lose all their freedom and become slaves of technology (SiiD)[6]. Surveillance then becomes absolute, as people's lives are tracked and controlled in every detail, through emotional tracking, or collection of biometric and DNA data (MD).

Enhanced or complete surveillance appears in several of the analyzed scenarios as enabling the full control of people's behavior, bodily performance and consciousness. Two of the scenarios involve implanting microchips into people's bodies, to achieve "total and absolute social control", in what is described as "QR-codization of life" (RD). This type of control is corporeal, fully restraining movement, as people will need to continuously scan their microchips, to be allowed mobility and access. These applications of biopolitics reach the level of dehumanization. One of the scenarios concerns a modified version of the dystopian science fiction television series 'Severance' (premiered in 2022), in which technology-enabled surveillance supports the separation of the self. In the TV series, people's work and personal lives' memories are separated, leading to people developing distinct consciousnesses and personalities, in professional and personal life. In the future scenario, people's memories are deleted, they abolish the memories of their lives and of how to be human (SiiD).

In such forms of "hyper-surveillance" or "micro-surveillance", not only does people's private sphere completely collapse or disappear (MD), but also massive social control is engineered. By developing predictive models of 'good' and 'bad', 'suitable' and 'unsuitable' citizens, extensive 'social sorting' (Lyon, 2003) is put to effect, excluding, punishing, or even exterminating 'unsuitable' individuals, in the name of social order and public safety (MD).

One other technophobic and dystopic scenario focuses on isolation and fragmentation of the social world, where technology-facilitated surveillance disrupts social cohesion and "everyone would try to survive by themselves. Manipulation and propaganda will divide people in several groups" (SiiD), there will be no trust in information, in (news) media and in institutions, and the levels of stress will increase for everyone due to a generalized suspicion and distrust.

These conditions of social fragmentation foster different types of conflict and social divides. One of these types concerns on the one hand the majority of oblivious people who are not resistant to surveillance and have fully complied, not perceiving surveillance as a problem, or the ones who do not realize that they are "giving their data away" (RD) and that they are subjected to surveillance, and on the other hand the small minority of people who are conscious of being surveilled and are resisting. The latter few, called in one of the scenarios

6 For references to the Delphi+ workshops, the following abbreviations are used: SiD = Sofia 1 Delphi+ workshop; MD = Malmö Delphi+ workshop; RD = Rome Delphi+ workshop; SiiD = Sofia 2 Delphi+ workshop.

the "leftovers" of society, are accused by the rest of society of being conspiracy theorists (RD).

VISIONS OF RESISTANCE

The ideas pertaining to resistance in the techno-pessimistic visions of surveillance are twofold. One cluster sees people as lacking agency and as powerless to resist, and another identifies some forms of resistance, which often involve technology avoidance or full rejection.

According to the first cluster, technology is seen as a dominator and enabler of enhanced or total surveillance, either at the individual or at the broader societal level, and resistance is not possible. Such visions are grounded largely in a fear-driven attitude towards technology, in which high interconnectedness creates conditions where there is no escape to surveillance, as non-traceability is impossible. As described in one scenario, "trillions of devices will be connected. It will be impossible to, be anonymous, go under the radar" (MD).

Within this logic, attempting to manage or control surveillance is considered aimless. For instance, struggling to manage consent for the collection of users' data in digital platforms is of limited effect, given that technological applications are purposefully complicated for ordinary users. Furthermore, while the requirement for consent will continue to exist, if users do not share their data, they will not be able to have access to services and social networks, and will be excluded from the social realm:

> You can choose to not give your data, but then you won't have access to basically anything. […] Like if you don't have a social security number or even the physical ID, you can't do anything. You basically don't exist (MD).

Developing literacy skills for self-protection is time-consuming and will require extra resources (training and money) to protect oneself (SiiD); hence the divide between the already socially and economically privileged, the ones possessing cultural and economic capital, and the ones who lack this capital, will deepen.

In the cases where resistance is identified in the techno-pessimistic visions, it involves, as mentioned previously, technology avoidance or technology rejection, either at the individual or collective level, driven by technophobic, or neo-luddite beliefs. For instance, one example is the scenario where the essay writer describes a fictitious person employed by an agency, who collects and analyses personal data of European citizens, and who develops paranoia about being surveilled. The person, subsequently, employs a series of technology avoidance practices, such as deleting their own social media accounts, stop using mobile devices, and cancelling their own accounts on video-on-demand platforms. The same

person gradually engages in more enhanced forms of technology avoidance and rejection, such as not using online banking and credit cards, paying only with cash, not having any online activity, and replacing all their digital devices with analogue ones (FSE[s&r]3[7]).

The visions of technology rejection include a scenario, in which a neo-Luddite movement wins power in Europe and abolishes all surveillance. The supporters of the movement advocate "for a return to a world without surveillance" and for an "immediate abolition of all surveillance systems aiming to subjugate the European population to the Machine"' (FSE[s&r]1). These neo-Luddites ground their views in a broad anti-technological sentiment and "blame technological progress for the misery of poorer populations" (FSE[s&r]1). Resistance in this case is expressed not only through technology rejection, but also through the claim for the elimination of technology. As described in the scenario, "the neo-luddite movement advocated for the immediate physical elimination of all machines and electronic devices capable of harvesting, storing, and processing private data, including computers, smartphones, data centers, and servers" (FSE[s&r]1). The visions that promote luddism are also embedded in ideas of primitivism, the belief that humankind needs to return to times prior to the industrial society and modern lifestyles. This belief is described through "Rousseau's archetypical figure of the 'noble savage'", which "signifie[s] an unspoiled, morally superior, and innocent creature that ha[s] not been contaminated by the evilness of modern civilization" (FSE[s&r]1).

VISIONS OF EUROPE

The techno-pessimistic visions of Europe are mainly dystopic, expressing fears of Europe being controlled by corporate and statist forces, and of European democracy shrinking.

Some of the analyzed scenarios see Europe as being defeated in the conflict with the (non-European) corporate sector. In such a scenario, "private companies will have a strong say, [pushing] for deregulation" (MD) and Europe will become unable to protect its citizens against corporate surveillance. Moreover, "infrastructure in Europe [will be owned] by foreign owners, enabling them to influence or control sensitive systems like electricity, water supply, etc." (MD).

In one scenario which focuses on issuing European identity cards for all citizens and abolishing national identity cards, techno-pessimistic voices are highly concerned about the collection of data for all European citizens and their use by companies. For them, "this is a project promoting globalized capitalism, imposed by the big multinational companies" (FSE[s&r]4). According to these

7 Future scenario essays (FSE) on the theme of Surveillance and Resistance [s&r] use FSE[s&r]1, 2, 3 or 4 as code.

critics, "these conglomerates will get access to all European citizens' personal information and use this data in an uncontrolled fashion to enhance their profits, and expand their business activities to a pan-European scale, further damaging local business activity" (FSE[s&r]4). Another dystopic variant sees Europe becoming "subservient to the US", to its companies and institutions (RD). These visions see corporate forces as damaging or destroying Europe and some of these visions incorporate a neo-luddite stance, arguing for the need to return to the past, promoting the disregard of technology in Europe as the solution for happier people and fairer societies (RD).

In another dystopic variant, Europe will become authoritarian. Citizens will be subjected to enhanced surveillance, their freedoms will be curtailed, and they will be unprotected against the nation-states and the European institutions, that will have become surveillant apparatuses. For instance, the resistance against the European ID cards, presented in the aforementioned scenario, is grounded in the critique from right-wing and nationalist voices that "Europe is being transformed into an apparatus of severe surveillance and control, fiercely attacking the national identity and sovereignty of the nation-states" (FSE[s&r]4). For left-wing voices who oppose the European ID cards project, "Europe functions as a supra-state, aiming to surveil and control all individuals", which "goes against people's individual identities and freedoms" (FSE[s&r]4). Similarly, in the scenario where a person is secretly "collecting and analyzing … personal data of European citizens", they engage in extensive forms of surveillance which expand into these citizens' "taste, behavior and preferences" (FSE[s&r]3).

A warning against the uncontrollable repercussions of surveillance of European citizens is expressed in the European ID cards scenario. Human rights advocates argue that "access to the pan-European ID cards database by third parties will infringe citizen rights and freedoms" (FSE[s&r]4). The danger is arguably greater "in countries with highly networked systems of public administration (e.g., Sweden)", where "uncontrolled third parties" can "have access to detailed information about individuals, related to income, professional activity, but also to criminal records, health records, etc., exposing individuals to multiple risks connected to the lack of control of their own information" (FSE[s&r]4).

These "uncontrolled third parties" may be either state or corporate entities, something that is shared in a number of the analyzed scenarios, which center around the state– or Europe–corporate collaboration as a threat to democracy, leading Europe to giving up its democratic values and becoming more authoritarian. In one of these versions, "the state–corporate nexus intensifies" (RD), leading to increased control of the European citizens through the state-business collaboration enabled by technology: "[The] social credit system will be intensified, states [will be] collaborating with corporations to deepen social control [and Europe will resemble] more authoritarian states" (RD). In such a scenario,

"Europe, [the] European Union could play a particularly negative role because it's one of the few supernational institutions capable of harmonizing social control across nation-states" (RD).

In another scenario, the state-corporate collaboration allowed for enhanced surveillance at the European level, leaving European citizens exploited and deprived of their main rights and freedoms:

> [a] secret, state-backed, and privately operated program was monitoring citizens through microchip implants that were inserted voluntarily into their bodies to help them with everyday decision-making. The data from these implants was […] sold to advertisers and governments around the world without the users' consent (FSE[s&r]1).

However, not all techno-pessimistic visions of Europe are dystopian. For example, in neo-luddite apprehensions of technology, present in the aforementioned scenario, the abolition of technology and the return to pre-industrial lifestyles would lead to a better and surveillance-free Europe. There "the exaltation of natural life, agriculture, and the archaic roots of European civilization" would help create a new European identity, of the pure, morally 'clean' "new European noble savage" (FSE[s&r]1).

TECHNO-OPTIMISTIC VISIONS

The analysis of the techno-optimistic visions comprised the same three interwoven constituents, as in the techno-pessimistic 'camp', namely visions of surveillance, of resistance and of Europe. As the analysis shows, these imaginings are constructed through fundamentally distinct understandings of surveillance, practices of resistance, and visions of Europe, fed by a positive disposition toward technology.

VISIONS OF SURVEILLANCE

In the techno-optimistic visions of surveillance, the focus is on the positive and empowering aspects and forces of technology. Technology is put to the service of people and societies, and surveillance appears as either a neutral reality (neither positive or negative) or as desirable and beneficial for societies and for the greater good. There are instances where a warning is raised against potential harm caused by technology-enabled surveillance, but these concerns are countered by the belief in control or regulation of surveillance by societies. Even if the techno-optimistic visions tend to be also technocentric, echoing sometimes technological solutionism, there is a clearer focus on what people do or what Europe does with technology, to improve people's lives and societies

at large. Technology is powerful, but people can use it in ways that will benefit them. It is thus perceived more as an enabler or facilitator of people and societies, than a threat.

In the techno-optimistic visions of surveillance, the latter is not perceived as enhanced or total, but rather as regulated and controlled, by elaborate regulatory frameworks and societies at large. There is also an emphasis on surveillance being moderate, leading to societies having as much surveillance as needed. This vision promotes "a balanced and completely ethical approach where you only have the surveillance you need. And no more, no less" (MD). In such imaginings there are incentives for voluntary engagement in surveillance, where responsible citizens have "opt-out options, voluntary opt-in and opt-out". This model of voluntary surveillance "would be […] harmonized with the governance structure in each society or community" (MD).

In similar scenarios, surveillance can contribute to safe societies, in a model where the state is not imposing severe control, but societies are self-governed: "Society can value more security […] [and surveillance] can be performed in [a] more humane form. [The] state is not controlling individuals, but society is governing itself" (SiD). The systematic collection of information concerning the citizens will allow, among other aspects, for policy planning and regulations concerning, for instance, better health control and the prevention of health crises and climate disasters (MD).

Technology-facilitated surveillance is seen also as an enabler of participation, democracy and civic engagement, and contributes to the vision of social justice. In this vision, surveillance is beneficial as it helps to build responsible societies, promoting "accountability and solidarity", "fairness", "equity", the protection of diversity and human rights, as well as the "protection of vulnerable groups" and their inclusion in the social realm (RD). Such conditions of enacted social justice will facilitate the reduction of societal conflicts and will result in "power distributed democratically" in societies (MD).

Visions of socially responsible surveillance see the latter as "human-centric" and "value-driven", where there is a strong emphasis on individual and collective ethics (MD). For instance, the scenario of "decentralized accountability" sees surveillance as "a system of solidarity where people are accountable for each other", taking "into account the […] diversity of experiences of different socioeconomic groups" and the "individual situations of people" (RD). This scenario argues that, as people and groups are affected in different ways from models of social organization, their rights and perspectives need to be considered when designing and implementing systems of control.

VISIONS OF RESISTANCE

The ideas pertaining to resistance in the techno-optimistic visions of surveillance are clustered around two main approaches. The first expresses the view that people have the agency to resist surveillance, and the other that there is no need for strong opposition to surveillance, as the latter is mostly beneficial for societies. The latter approach is embedded in considerable levels of societal and institutional trust, which are not generally met in the techno-pessimistic imaginings.

In the techno-optimistic visions, people have high levels of agency and control over both technology and their lives. In these visions, there are always ways of negotiating, managing, controlling or resisting surveillance, as people have developed forms of knowledge based on their own experiences that allow them to navigate the complex environments of surveillance and control.

One important aspect is technological and digital literacy. If people develop literacy skills and are critical towards digital technologies, they can use technologies in beneficial ways and can control parts of surveillance. According to one scenario, "algorithmic literacy" (RD) will lead to the increase of "individual resistance" to surveillance (RD). In these versions resistance appears as being up to people's interest and active engagement. Thus, people who are interested can develop skills that enable them to control surveillance and use media and communication platforms to their benefit. A number of these scenarios emphasize the role of instrumental and selective use of technology grounded in informed decisions, still acknowledging that enhanced skills and financial resources are required: "People who can, want, will afford to use non-algorithmic social media, which doesn't spy on them but is expensive" (SiiD).

According to one scenario, literacy helps people become knowledgeable of how surveillance functions and allows them to maintain some control in this process, being aware that they cannot avoid surveillance completely. This echoes an agency-oriented pragmatist approach towards technological use and surveillance, structured around

> [the] recognition that […] there is a compromise made between convenience and surveillance. […] it's a recognition that you can never be completely off-grid, but a much greater literacy around the exposure of being on-grid [allows to decide] how much of the trade-off you're willing to make (MD).

Literacy in the form of a continuous education for citizens is seen also as a mechanism of corporate regulation, due to societal pressure. "Corporate" literacy would support "the rise of critical currents that would foster resistance and pressure companies to adopt self-regulation measures" (FSE[s&r]2) "motivated by the demands of society and consumers" (FSE[s&r]2). Furthermore, literacy is connected with citizen responsibility and accountability in a vision where the

self-governance of societies will replace top-down surveillance, but "of course to make this work, it is necessary to foster critical thinking through education and active participation of people instead of just having policies to control … to exert surveillance from the top" (RD). In such visions of socially responsible surveillance, "resistance has turned into organized unions constructing civil engagements, data literacy, participatory designs, cooperation and inclusion" (MD).

VISIONS OF EUROPE

In the techno-optimistic visions of surveillance, Europe appears as having a generally positive or constructive role, using technology-enabled surveillance to the benefit of societies. Europe sometimes appears also in a rather neutral fashion, as a regulator or facilitator of data collection and management, still not invoking harm to individuals and societies.

In some eutopian techno-optimistic visions, Europe is presented as an active protector of people's rights and freedoms, fighting (successfully) against companies that aim to monitor people's behavior in online platforms for profit-oriented purposes. The vision of Europe as a powerful legislative regulator adheres to ideas of Europe governed by the rule of law, based on which people's privacy and freedoms have priority over corporate interests, and are rightfully protected. In this vision, in which "European states take competitive advantage of a more ethical use of data" and technology (MD), the role of nation-states and of European institutions is more powerful than that of companies.

These imaginings present Europe as the democratic paradigm, the example to follow in the USA and in other parts of the world. Some of the analyzed scenarios "recognize the role of European values and European institutions […] in equal rights or human rights and gender" (MD) and emphasize the need for a "European model of an ethical governance of data" (MD), that will prioritize values and freedoms over profit or political gain. For instance, one of the scenarios promotes the idea of a "European social contract for ethical use of surveillance for health and sustainability" (MD). These visions see Europe as a regulator of surveillance or facilitator of data collection and management, aimed at protecting social welfare, security, justice, peace and the environment.

Some scenarios promote the idea that regulated and supervised surveillance, based on the rule of law, would help protect democracy in Europe, and strengthen some sense of a European identity. For instance, the European ID cards project, which would require the collection and processing of information for citizens at a pan-European level, is seen "as an opportunity for the (pan-)European citizen, and for a Europe for all, which will be more inclusive and solidary than the EU" (FSE[s&r]4). Issuing the identity cards, according to supporters of the project, would allow the European citizens "to access services in different

European countries", and is seen as a means "to enhance mobility and boost the economy", but also as a way "to ease the trauma of the war in Ukraine[8] and the broader tensions and conflicts in Europe […] signifying a pan-European vision" (FSE[s&r]4). For these groups, which exhibit considerable trust in the national and European institutions, "the ID cards project does not constitute a surveillance threat per se, as long as access to the collected information is protected and supervised by independent authorities" (FSE[s&r]4).

CONCLUDING REFLECTIONS

This study focused on the analysis of future scenarios pertaining to surveillance and resistance in Europe, enabled largely through communication and digital technologies. The research aim was to explore the visions –i.e., the hopes and fears– that these scenarios encapsulate, about societies and about Europe.

The analysis of the future scenarios highlighted how people's visions of surveillance/resistance are fed by their dispositions towards technology. As the analysis showed, the scenarios imagining surveillance/resistance are anchored in techno-pessimistic or techno-optimistic approaches that construct specific visions of the future. The techno-pessimistic visions tend to imagine more enhanced forms of surveillance and fewer opportunities for resistance, enabled through digital and algorithmic affordances. These visions also express concerns regarding the future of Europe, as either succumbing to corporate pressures, failing thus to protect its citizens from enhanced forms of corporate surveillance, or as becoming more authoritarian, giving up some of its democratic freedoms and values. Of particular interest in these dystopic visions is the state– and Europe–corporate nexus gaining prominence and leading to enhanced forms of surveillance (through, e.g., online data harvesting) in conditions of shrinking democracy and powerful corporate interests that will leave citizens highly exposed and unprotected.

The scenarios and their visions of the future, anchored in techno-optimism, leave space for a more democratic, inclusive and socially fair Europe. They also see moderated surveillance, through data sharing, as facilitating life-improving conditions. These visions imagine increased levels of participation by the citizens in social organization and enhanced social responsibility, with the assistance of communication platforms and affordances. Such visions are related to considerable levels of societal or institutional trust, not met in the techno-pessimistic

8 In this future scenario, the war will be over and Russia will be part of the European ID card project.

imaginings, but also to higher levels of compliance to forms of what is perceived as socially responsible surveillance.

As shown, the varying dispositions towards technology are underpinned by broader questions around justice, equality, progress and human agency. Hence, technology appears as a field of struggle for diverse future visions, which are in turn bound to larger visions about politics, ethics and the social good, intersecting with the diverse political visions on Europe. Furthermore, the debates around technology-facilitated surveillance and control are connected to different levels of trust and distrust in Europe and its institutions, being part of the struggles over what constitutes Europe, and over the desired and undesired futures for Europe. In a way, these visions and their struggles, which might be exaggerating the fears and hopes about future societies, reflect people's expectations about Europe and the EU's role as protector of people's privacy, freedoms and democratic rights, preventing the materialization of the dystopian scenarios of full-scale surveillance in conditions of shrinking democracy.

ACKNOWLEDGEMENT

This research is part of a project that has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 101004488 (EUMEPLAT). The information and views in this article are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

REFERENCES

Aaltola, E. (2010). Green anarchy: Deep ecology and primitivism. In B. Franks & M. Wilson (Eds.), *Anarchism and moral philosophy* (pp. 161–185). Palgrave Macmillan.

Alvesson, M., & Sköldberg, K. (2000). *Reflexive methodology: New vistas for qualitative research*. Sage.

Bauman, Z. (2004). *Wasted lives: Modernity and its outcasts*. Polity.

Bellanova, R., & Glouftsios, G. (2022). Controlling the Schengen Information System (SIS II): The infrastructural politics of fragility and maintenance. *Geopolitics*, *27*(1), 160–184. https://doi.org/10.1080/14650045.2020.1830765

Broeders, D. (2007). The new digital borders of Europe: EU databases and the surveillance of irregular migrants. *International Sociology, 22*(1), 71–92. https://doi.org/10.1177/0268580907070126

Brosnan, M. (1998). *Technophobia: The psychological impact of information technology.* Routledge.

Carpentier, N., & Doudaki, V. (2023). When the margins enter the centre: The documentary 'Along the Borders of Turkey' and its YouTube comments as conflicting constructions of Europeanity. In K. Loftsdóttir, B. Hipfl, & S. Ponzanesi (Eds.), *Creating Europe from the margins: Mobilities and racism in postcolonial Europe* (pp. 174–192). Routledge.

Carpentier, N., & Hroch, M. (2023). *The EUMEPLAT Delphi+ workshops: A manual*. EUMEPLAT. https://eumeplat.fsv.cuni.cz/wp-content/uploads/2023/08/EUMEPLAT-Delphi-workshops_Manual.pdf

Clarke, R. (2005). Seven misconceptions of situational crime prevention. In N. Tilley (Ed.), *Handbook of crime prevention and community safety* (pp. 39–70). Routledge.

Costanza, S. (2018). Surveillance. In A. Treviño (Ed.), *The Cambridge handbook of social problems, Vol. 2* (pp. 95–108). Cambridge University Press.

Degli Esposti, S. (2014). When big data meets dataveillance: The hidden side of analytics. *Surveillance & Society, 12*(2), 209–225. https://doi.org/10.24908/ss.v12i2.5113

EBU (European Broadcasting Union) (2020). *Market insights, trust in media 2020.* https://www.horizont.net/news/media/33/Trust-in-Media-Studie-der-EBU--323478.pdf

Eurofound (2022). *Maintaining trust during the COVID-19 pandemic*. Publications Office of the European Union. https://doi.org/10.2806/707872

Fernandez, L., & Huey, L. (2009). ls resistance futile? Some thoughts on resisting surveillance. *Surveillance & Society, 6*(3), 198–202. https://doi.org/10.24908/ss.v6i3.3280

Fernback, J. (2013). Sousveillance: Communities of resistance to the surveillance environment. *Telematics and Informatics*, *30*(1), 11–21. https://doi.org/10.1016/j.tele.2012.03.003

Foucault, M. (2007). *Security, territory, population: Lectures at the Collège de France, 1977–1978*. Palgrave Macmillan.

Foucault, M. (1977). *Discipline and punish: The birth of the prison*. Random House.

Fox, N. (2002). *Against the machine: The hidden Luddite tradition in literature, art, and individual lives*. Island Press.

Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Polity Press.

Glenn, J., & Gordon, T. (Eds.). (2009). *Futures research methodology — Version 3.0.* The Millennium Project.

Gordon, T. (2009). Delphi. In J. Glenn & T. Gordon (Eds.), *Futures research methodology — Version 3.0* (pp. 1–29). The Millennium Project.

Hall, M. (2021). A neo-republican critique of transparency: The chilling effects of publicizing power. In L. Viola & P. Laidler (Eds.), *Trust and transparency in an age of surveillance* (pp. 47–64). Routledge.

Hollander, J., & Einwohner, R. (2004). Conceptualizing resistance. *Sociological Forum, 19*(4), 533–554. https://doi.org/10.1007/s11206-004-0694-5

Inayatullah, S. (2012). Futures studies: Theories and methods. In F. Gutierrez Junquera (Ed.), *There's a future: Visions for a better world* (pp. 37–65). BBVA.

Jones, S. (2006). *Against technology: From the Luddites to neo-Luddism.* Routledge.

Königs, P. (2022). What is Techno-Optimism?. *Philosophy & Technology, 35*, 63. https://doi.org/10.1007/s13347-022-00555-x

Landeta, J. (2006). Current validity of the Delphi method in social sciences. *Technological Forecasting and Social Change*, *73*(5), 467–482. https://doi.org/10.1016/j.techfore.2005.09.002

Lindgren, S. (2017). *Digital media and society*. Sage.

Luhmann, N. (1976). The future cannot begin: Temporal structures in modern society. *Social Research*, *43*(1), 130-152.

Lyon, D. (2007). *Surveillance studies: An overview*. Polity.

Lyon, D. (Ed.). (2003). *Surveillance as social sorting: Privacy, risk and automated discrimination*. Routledge.

Martin, A., Van Brakel, R., & Bernhard, D. (2009). Understanding resistance to digital surveillance: Towards a multi-disciplinary, multi-actor framework. *Surveillance & Society, 6*(3), 213–232. https://doi.org/10.24908/ss.v6i3.3282

Marx, G. (2009). A tack in the shoe and taking off the shoe: Neutralization and counter-neutralization dynamics. *Surveillance & Society*, *6*(3), 294–306. https://doi.org/10.24908/ss.v6i3.3286

Marwick, A., & Lewis, R. (2017). *Media manipulation and disinformation online*. Data & Society Research Institute.

Matthews, R., & Ross, E. (2010). *Research methods: A practical guide for the social sciences*. Pearson Education.

Miconi, A. (2022). *Deliverable D2.3. Positive and negative externalities of news platformization.* EUMEPLAT. https://www.eumeplat.eu/wp-content/uploads/2022/11/D2.3_Positive-and-Negative-Externalities-of-News-Platformization.pdf

McCahill, M., & Finn, R. (2014). *Surveillance, capital and resistance: Theorizing the surveillance subject*. Routledge.

Morozov, E. (2011). *The net delusion*. Public Affairs.

Murakami Wood, D. (Ed.). (2006). *A report on the surveillance society.* Surveillance Studies Network. https://rb.gy/pkuejq

Negroponte, N. (1995). *Being digital*. Knopf.

Postman, N. (1992). *Technopoly: The surrender of culture to technology*. Knopf.

Ridley, M. (2010). *The rational optimist: How prosperity evolves*. Harper Collins.

Saldaña, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). Sage.

Schade, F. (2023). Dark sides of data transparency: Organized immaturity after GDPR? *Business Ethics Quarterly, 33*(3), 473–501. https://doi.org/10.1017/beq.2022.30

Taylor, N. (2002). State surveillance and the right to privacy. *Surveillance & Society, 1*(1), 66–85. https://doi.org/10.24908/ss.v1i1.3394

Topak, Ö. (2019). Humanitarian and human rights surveillance: The challenge to border surveillance and invisibility? *Surveillance & Society, 17*(3/4), 382–404. https://doi.org/10.24908/ss.v17i3/4.10779

Verkerk, P., Lindner, M., Pérez-Soba, M. et al. (2018). Identifying pathways to visions of future land use in Europe. *Regional Environmental Change*, *18*, 817–830. https://doi.org/10.1007/s10113-016-1055-7

Viola, L., & Laidler, P. (2021). On the relationship between trust, transparency, and surveillance. In L. Viola & P. Laidler (Eds.), *Trust and transparency in an age of surveillance* (pp. 3–18). Routledge.

Winner L. (1999 [1980]). Do artifacts have politics? In D. MacKenzie & J. Wajcman (Eds.), *The social shaping of technology* (pp. 28–40). Open University Press.

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

ORIGINAL ARTICLE

DOI: 10.51480/1899-5101.17.1(35).707

Futures of algorithms and choices: Structuration of algorithmic imaginaries and digital platforms in Europe

Miloš Hroch
Charles University, Czech Republic
0000-0001-6590-595X

José Moreno
MediaLab CIES – University Institute of Lisbon, Portugal
0000-0001-8911-5813

Debashmita Poddar
Ca' Foscari University of Venice, Italy
0000-0002-8460-5773

Panos Kompatsiaris
IULM University, Italy
0000-0002-2452-6109

Lutz Peschke
Bilkent University, Ankara, Turkye
0000-0002-9513-3257

Volker Grassmuck
Independent researcher
0009-0002-3998-6287

Jan Jirák
Charles University, Czech Republic
0000-0001-9719-0063

Abstract: The increasing impact of algorithmically driven processes on human societies, which can exacerbate political, economic, and cultural asymmetries, raises questions about reducing human agency by constraining platform structures. We draw on the theoretical concept of algorithmic imaginary, which captures users' appropriations and ideas of these processes. In this paper, we focus on the dynamics between agency and structure in algorithmic imaginaries regarding the future of digital media platforms in Europe. The paper takes structuration theory as a theoretical starting point and employs methods of futures studies to analyze how the future is constructed in scenarios developed by a diversity of experts participating in a series of workshops. The future scenarios analysis is mapped around four actors, namely platform users, platform corporations, algorithms and institutions. By considering the role of various actors, particularly institutions, and their interdependencies this paper contributes to more balanced conceptualizations of algorithmic imaginaries, which tend to be centered around users' perspectives.

Keywords: Algorithmic imaginary, platformization, construction of the future, structuration theory, platform capitalism

INTRODUCTION

Many aspects of everyday lives, from political debates on social media to cultural consumption and dating, have in recent years been platformized (Armano et al., 2022), and therefore gradually affected by processes driven by algorithms. The increasing role of algorithms, or artificial intelligence, which can exacerbate political, economic, and cultural asymmetries in societies (Eubanks, 2018), raises questions about human agency being reduced or even lost in the (near) future, by constraining structures represented by digital platforms and their algorithms.

These questions reappear repeatedly with every techno-social shift (Mosco, 2004), but currently, algorithms have been occupying the imagination of platform users. This fixation is captured by the theoretical concept of "algorithmic imaginary" (Bucher, 2018), which is an idea that brings focus to "users' appropriations of algorithmic processes operating in opacity and their imaginaries of these operations" (Schulz, 2023, p. 647). Elsewhere, it appears in variations, such as "platform imaginaries" (Van Es & Poell, 2020) The notion of imaginary (or imagination) is well established in the tradition of media studies research, especially in media reception and audience studies (see Ang, 1985). At its core, the concept of algorithmic imaginary – which can be considered an addition to the concept of social imaginary (Castoriadis, 1997) – embraces users' reflections of reality and their phantasms of the future, but it is also essential for "the formation of sociality" (Schulz, 2023, p. 650). Therefore, algorithmic imaginary is approached as a productive and creative ability. Moreover, the aspect of sociality is reflected through the argument that users are "othering" algorithms in everyday practices, as Gandini et al. (2023) write, building on Bucher's concept; i.e., users reflexively engage with algorithms as if they were a separate agential entity (p. 420–21).

In this article, we are not aiming to forecast or predict the future but to capture the specific algorithmic imaginaries in and about Europe, and particularly the ways that the futures of algorithms and choices are constructed in these imaginaries. Rather than gazing into the crystal ball, the empirical part – which employs the methods of futures studies – analyzes how the algorithmic imaginary about the future of European media platforms is constructed by a diversity of experts. For this purpose, we analyzed data from four Delphi+ workshops at various locations in Europe (see Table 1). The Delphi+ participants were experts, ranging from science fiction writers and filmmakers to activists and journalists to researchers with expertise in bioethics, AI or foresight, who were asked to produce future scenarios. As part of the EUMEPLAT future scenario writing project, the Delphi+ output was combined with (future scenario) essays written by the authors of this text.

We translated the debate about human agency and algorithms into the dynamics between agency and structure in algorithmically governed platform environments. The starting point of the theoretical reflection in this article is structuration theory (ST), as it was initially developed by Giddens (1984). However, we add a brief overview of more contemporary approaches to ST, which have been favored by information systems researchers, but also by researchers from platform studies. We thus prioritize broader approaches that allow us to see algorithmic assemblages of entangled relationships between various actors.

The future scenarios analysis is developed on the axis of structure and agency around four actors, which emerged by filtering the theory through our data. These actors were platform users, platform corporations, algorithms and institutions. We argue that by explicitly adding institutions as actors, we contribute to more symmetrical configurations of algorithmic imaginaries that tend to put too much focus on users' perspectives (Schulz, 2023, p. 647). Ten scenarios (as clusters) were developed around these actors, and they further provided a perspective on interdependencies between these actors. Some of the future algorithmic imaginaries involved transhumanistic and neuro-futuristic visions of humans enhanced by algorithms, that were inspired by science fiction narratives (Harrison, 2023). Other algorithmic imaginaries were more pragmatic concerning the platformization of EU or the hope in supranational institutions securing the algorithm transparency in the future.

A BRIEF THEORETICAL OVERVIEW ON STRUCTURE AND AGENCY

Structure and agency are central concepts in sociology (Stones, 2017). On the one hand, structure has been traditionally understood as the relatively stable arrangements that exist in any social order, or as a system of entrenched institutional patterns that limit free will and choice. On the other hand, agency has been typically seen as a more active and processual element in human societies that refers to the capacity of individuals or groups, such as political movements, or simply people, to act independently. Cohen (1989) uses an aphorism by Marx to illustrate this relationship: "Human beings 'make their own history, but not in circumstances of their own choosing'" (Marx in Cohen, 1989, p. 9).

Some authors, especially the representatives of structural functionalism like Durkheim, tended to privilege structure over agency, while others, such as Giddens, attempted to overcome the dualism between structure and agency. Giddens refers to structure as "recursively organized sets of rules and resources" (Giddens, 1984, p. 25) that are "implicated in social reproduction; institutionalized features of social systems have structural properties in the sense that relationships are stabilized across time and space" (Giddens, 1984, xxxi). Agency is more

than a matter of individual will and skill: "For Giddens, agency is enhanced by control over *resources*; it is exercised through the following, or rejection, of *rules*." (Whittington, 2015, p. 147, emphasis in the original).

At the core of Giddens' structuration theory, which was outlined in 'New Rules of Sociological Method' *(*Giddens, 1997) and most systematically mapped in 'The Constitution of Society' (Giddens, 1984). The theory is an attempt to see concepts of structure and agency in a mutual relationship of interdependency and reciprocity. For this purpose, Giddens introduced the notion of duality of structure: "Structure must not be conceptualized as simply placing constraints upon human agency, but as enabling […]" (Giddens, 1976; 1997, p. 169, emphasis in the original). In the latter publication, he further developed the concept: "[…] the structural properties of social systems are both medium and outcome of the practices they recursively organize" (Giddens, 1984, p. 25).

Structure is thus seen in motion. According to Whittington (2015, p. 149), it is "an important implication of structuration […] that structures are not fixed or given". It opens the possibility of change for society. The contemporary developments of structuration theory are "designed to refine and enrich the conceptual range and precision of structuration" (Stones, 2020, p. 410).

STRUCTURE AND AGENCY THROUGH PLATFORMS AND ALGORITHMS

These theoretical debates around structure and agency can inform the ways we look at the structuring power of algorithms in digital platforms. Platforms are digital infrastructures facilitating multi-sided markets and mediating modes of production, consumption, and user interactions (Srnicek, 2017). Srnicek sees platforms as "intermediaries that bring together different users: customers, advertisers, service providers, producers, suppliers, and even physical objects" (2017, p. 43). There are assorted typologies of platforms (Srnicek, p. 49), of which Steinberg and Li (2017, p. 176) distinguish between three types: product-technology platforms (computing infrastructure like Apple), content platforms (social media platforms such as Twitter or YouTube), and transaction-type or mediation-type platforms (Amazon).

Van Dijck (2013, p. 25) considers platforms as techno-cultural constructs and socio-economic structures and disassembles them into their constitutive components. Approaching platforms as the former means to analyze "technology, users and content in close alignment" (Van Dijck, 2013, p. 28); the latter designates focusing on "their ownership status, governance, and business models" (Van Dijck, 2013, p. 28). Van Dijck et al. further highlight the inseparable relation between online platforms and societal structures: "Platforms do not reflect the

social: they *produce* the social structures we live in" (2018, p. 2, emphasis in the original).

Structuration theory has been used to "explain organizational adoption of computing and other technologies" (DeSanctis & Poole, 1994, p. 125; Orlikowski, 1992). The concern with structure made structuration theory attractive for information systems researchers "despite its almost complete neglect of technology" (Jones & Karsten, 2008, p. 134). Webster (2011) applies structuration theory to the platform environment to show how interactions between agents and structures (individuals and institutions, in his words) construct the algorithmically organized media landscape. At the core of Webster's analysis is the concept of "user information regimes" – recommendation systems or algorithmically driven search engines – that illustrates how these regimes are constructed from user actions and choices. Such – enabling and constraining – regimes (Webster, 2011, p. 43) are socially constructed, and they enable participation, but users' activity can "be harvested in various ways and used to produce the many forms of surveillance" (Webster, 2011, p. 50; see also Mathieu & Pruulmann-Vengerfeldt, 2020).

If platforms produce structures in the Giddensian sense, then the algorithms are the structuring mechanisms that structure user behavior, shape content, and feed (in the form of user data) recommendation systems: "Algorithms are tools for structuring and influencing *repeated* data: designed to pattern input and instrumentalize output" (Foster & Zhang, 2022, p. 1, emphasis in the original). Webster emphasizes that algorithms determine attention in certain ways, they "structure decision making within certain bounds" (2011, p. 50). The agency of platform users is thus shaped around algorithmic goals and, to some extent, constructs them because personal data are used to sustain the business model and to create personalized content, advertisements, and services. As Park et al. (2018, p. 1321) write: "[I]ndividuals' voluntary actions in digital media consumption become constitutive of the very structure of which they are a part." Some scholars like Klinger & Svensson (2018) point to the agency of humans, such as programmers and developers, in the input phase, while Rutz (2016) highlights the non-human agency of algorithms.

Platforms and algorithms are surrounded by the more optimistic discourses on participation (Vaccari & Valeriani, 2021) as devices enhancing agency and enabling activism. On the other hand, a significant and recent body of work accentuates the power of structures to exercise algorithmic control (Griesbach et al., 2019), accumulate platform power (Terranova, 2022), exploit user activity and surveil (Zuboff 2019), or shape platform users' choices in the consumption of culture (Higson, 2021).

REGULATORY PLATFORM STRUCTURES

As sets of rules and resources, institutions are "structured social practices that have a broad spatial and temporal extension" (Giddens, 1982, p. 9). They give "'solidity' across time and space" (Giddens, 1984, p. 24). From a broader perspective, institutions have three elements: regulative, normative, and cultural-cognitive (Scott, 2014, p. 60). In this section, we will focus mainly on the regulatory structures of European bodies that represent "the political-institutional component of European governance". Regulatory interventions aim to structure the behavior of particular actors, but also has an enabling, agency-generating component. At the same time, regulation is also a political process, where the agency of these actors allows for the engagement in these political struggles.

Several authors have pointed to the relationship between institutions and platforms, or conceptualized algorithms as institutional practices (Napoli, 2014; Park et al., 2018). For instance, Van Dijck (2020) argues that institutions are crucial in the process of negotiation with platform corporations about public values. Van Dijck suggests "Governing digital societies in Europe takes a serious effort at all levels, from local municipalities to national governments, from schools to collaborating universities, and from city governments to the European Parliament" (2020, p. 3). Platform corporations seek to reduce the role of European (political) and other public institutions over the market (Gorwa, 2019; Törnberg, 2023). They allocate resources to political strategies such as lobbying: "[…] platforms seek to exploit institutional weaknesses in order to break out of the control of the state" (Törnberg, 2023, p. 5).

European (political) institutions have recently created two instruments for regulating platform corporations. The DSA (Digital Services Act, 2022) package – together with DMA (Digital Markets Act) – which amends and complements the eCommerce Directive (2000) is at the time of writing being implemented by the member states, and should be fully in force from March 2024. Its subject matter are intermediary services in the internal market. The DSA provides layered obligations for various kinds of online providers with the largest number of cumulative obligations applying to Very Large Online Platforms (VLOPs) and Very Large Online Search Engines (VLOSEs) which have a monthly average of 45 million plus active users in the EU.

Intermediaries must inform their users about any tools used for the purpose of content moderation, including algorithmic decision-making. At least once a year, they have to report on their actual moderation practices, including whether the order or notice came from a national authority, a trusted flagger or an automated system and the specification, indicators of the accuracy and error rate of such systems. The DSA does not allow for entirely automated decisions on users' content. Platforms must ensure that the decisions on complaints

(about demonetizing or removing content, suspending or terminating account) are inspected by not exclusively automated means.

On 18 April 2023, the European Commission launched the European Centre for Algorithmic Transparency (ECAT) in Sevilla as an EU Commission's Joint Research Centre (JRC). Its task is to help enforce the DSA. At ECAT, an interdisciplinary team of around 30 data scientists, artificial intelligence experts, social scientists and lawyers will technically analyze and evaluate relevant program routines of VLOPs and VLOSEs. At the time of writing, the AI Act is in its final negotiations between EP and Council. It strives to establish the world's first-ever rules for safe and transparent AI. Article 4ad states:

> transparency' means that AI systems shall be developed and used in a way that allows appropriate traceability and explainability, while making humans aware that they communicate or interact with an AI system as well as duly informing users of the capabilities and limitations of that AI system and affected persons about their rights (AI Act, EP Mandate, 2023).

STRUCTURE, AGENCY AND ALGORITHMIC ASSEMBLAGES

Platforms and algorithms are often framed as constituting opaque structures based on mechanisms that are not completely transparent. They are seen as black boxes (Pasquale, 2015), as the invisible hand(s) influencing culture, politics, and other fields. Courtois and Timmermans (2018) provide us with a useful conceptual model to look under the hood of platforms and algorithms utilizing structuration theory. Their approach combines media effects research and (critical) political economy of online media, that: "[…] treats algorithmic governance as a dynamic structuration process" (Courtois & Timmermans, 2018, p. 2). Courtois and Timmermans present a tripartite of structuration for algorithmically governed platform environments that involves three types of actors that interact with one another: platform owners and developers, platform users, and machine learning algorithms dynamically interact, while they all possess agentic and structural characteristics (Courtois & Timmermans, 2018, p. 2).

Platform users "exercise agency within the boundaries that a platform provides: they roam within a platform's architecture that is governed by protocols, default settings, and algorithms" (Courtois & Timmermans, 2018, p. 3). The authors notice that platform users have the ability to perform different types of resistance to algorithms, such as figuring out the mechanics and acting accordingly, thus exercising agency beyond platform protocols (Courtois & Timmermans, 2018, p. 12). Perspectives of platform owners and developers, who develop and

refine platform mechanics and business models, then allow "to understand their internal structures and consequently their actions" (Courtois & Timmermans, 2018, p. 4). It means taking into account the sequence of goals (for instance, how the revenue is generated) that

> forms the internal-structural backdrop against which platform owners and developers exercise agency. This agency relates to a wide array of choices including the platform's interface design, its default settings, the protocols that govern it, what (meta)data are generated, and how these data are processed (Courtois & Timmermans, 2018, p. 3).

Finally, algorithms, and the machine learning versions shape platform users' choices and execute goals built into platforms by developers/owners. Courtois and Timmermans argue that it should be possible "to construct informed assumptions on the mechanics of algorithms by considering the economic and technological logics that pressure platform owners and developers" (2018, p. 5). It is important to note that recent debates informed by Latour's actor-network theory (Greenhalgh & Stones, 2010) have enriched structuration with non-human agencies, thus allowing scholars to consider the relationships between human and technological actors, such as algorithms (Courtois & Timmermans, 2018, p. 3). Combining these two theories is a valuable approach (Rose et al., 2005) to understanding platform landscapes. While structuration theory sees technology only as a tool employed by human agents, the actor-network theory (Latour, 2005) understands technology as actors (or actants) in their own right, and inseparable from society.

Our understanding of algorithmically-governed platform environments lies in a balance between structuration theory and Latour-inspired models, as discussed above, that conceptualize algorithms, platforms, and users as assemblages. In our analysis, we employ the notion of (algorithmic) assemblages as one of the sensitizing concepts, that help us to understand the interdependencies between actors. DeLanda theorizes assemblages are "wholes whose properties emerge from the interactions between parts" (DeLanda, 2006, p. 5). For instance, Fisher understands algorithms as "a whole socio-technical assemblage of people, technologies, practices, sites, and knowledges" (2022, p. 9), while Cellard (2022, p. 990) sees algorithms as sociotechnical assemblages and is concerned with algorithmic transparency: "At the end, what has to be negotiated and governed is not only a digital object but a set of protocols and procedures made of organisational habits, legal rules, analog artefacts and technological expertises" (Cellard, 2022, p. 996).

METHODOLOGY

The empirical part is a qualitative analysis of future scenarios that uses methods of futures studies, a field which can be defined as "the systematic study of possible, probable and preferable futures including the worldviews and myths that underlie each future" (Inayatullah, 2012, p. 37). For the data gathering, we used the adjusted Delphi method which is a futures studies' method for future scenario-building and forecasting. According to Gordon (2009, p. 4), the Delphi method is grounded in a "controlled debate" which allows for the establishment of consensus among experts, through a series of iterations. In our case, we adjusted the Delphi method into a 3.5 hour face-to-face scenario-building Delphi+ workshop, which approximates to mini-Delphi (Pan et al., 1996). (For more on data collection, Delphi+ method and futures studies, see the introductory article of this special issue).

We analyze three corpuses of text, namely: (1) The Delphi+ workshops output in the form of a database of scenario cards (SCs), (2) the transcriptions of the discussions during our workshops and (3) the authors of this text also wrote future scenario essays (FSEs). The FSEs were part of an EUMEPLAT future scenario writing project, and they were all produced before the data analysis. The usage of these FSEs added an auto-ethnographic dimension (Ellis, Adams & Bochner, 2010) to the data gathering process. The Delphi+ workshops together with future scenario writing project resulted in a total of 37 scenarios (see Table 1).

Table 1. Overview of the Delphi+ workshops, scenario cards, future scenario essays, and thematic code in the context of the theme 'algorithms and choices' [a&c]

Delphi+ workshop location (and Code)	**Scenario Cards—SC[a&c]**
Sofia 1 (Si)	6
Malmö (M)	9
Rome (R)	7
Sofia 2 (Sii)	8
Total SC	30
Future Scenario Essays	**Future Scenario Essays—FSE[a&c]**
Total FSE	7
Total SC + FSE	**37**

For the interpretation of the data, we used a qualitative research approach and coding methods inspired by the grounded theory method (GTM) (Bryant & Charmaz, 2007; Glaser & Strauss, 1967). We followed the GTM's coding procedure, but we have not adopted the method's approach, as a whole, because our aim was not to generate a new theory. To support the qualitative analysis,

we performed a quantitative content analysis on 37 scenarios, identifying the frequency of actors (clusters of scenarios highlighting the role of a particular agent or actor) and the European dimension of each scenario (see Table 2). The actors are concepts that emerged from the content analysis of our data, which were enriched by the theory presented above.

Table 2. Overview of the actors in the scenarios

Type of actor	Frequency (N=37)	European dimension
Algorithms	15	2
Platform users	5	1
Platform corporations	7	4
Institutions	10	9

Although the GTM's procedures can vary and some scholars attribute methodological eclecticism to it (Charmaz, 2009, p. 134), the multiple and multilevel coding is at the core of the method (Charmaz, 2006, p. 45). In order to support the coding, we created a future scenarios map to better visualize relationships between scenarios and dominant categories (see Figure 1). The coding was driven by the theoretical framework presented in the previous sections, which provided sensitizing concepts (Blumer, 1969) for the analysis. The sensitizing concepts we employ come from structuration theory (Giddens, 1984) and its more current applications, like structuration of algorithmically governed platform environments (Courtois & Timmermans, 2018), and from assemblage theory (DeLanda, 2006), which helped to acknowledge the multidimensional relationships between actors. Additional sensitizing concepts were inspired by human-centric vs. tech-centric approaches (Degeling & Berendt, 2018; Sigfrids et al., 2023) to AI governance, which helped to further structure and consolidate the analysis.

To support and display the results of the analysis, we used the method of semantic mapping, which helped us to visualize the categories that we identified in the scenarios (Freedman & Reynolds, 1980; Carpentier et al., 2023). We visualized the categories and clusters of scenarios after the coding procedure across an horizonal agency (structure) and a vertical tech-centric—human-centric axis (see Figure 1). This visualization proposes a two-dimensional and simplified overview of coding that helps navigate the data. Simply put, semantic mapping is "a structuring of information in graphic form" (Johnson, Pittelman & Heimli, 1986, p. 779), offering a visual arrangement of meaning that facilitates a more direct access to the clustering and presentation of data. Furthermore, a semantic map enables a spatial organization of the connections and interrelations between categories or clusters of meaning that makes the presentation of the analysis coherent and comprehensive (Johnson et al., 1986, p. 779).

We use an updated conceptual model of actors in structuration processes of platform environments (Courtois & Timmermans, 2018), which consisted of platform users, algorithms, platform corporations and institutions. Here, a number of clarifications need to be made: (1) In the case of machine learning algorithms, we labeled these non-human actors "Algorithms" because our data do refer in most cases to algorithms in general (and not a specific type); (2) Platform developers and owners will be labeled "Platform corporations" because our data were not that much concerned with the role of individuals behind platforms but refer to them as entities or structures. (3) With respect to Cellard's (2022) specific mention of legal rules in the workings of algorithmic assemblage (as outlined in one of the theory sections), and to the concepts that emerged from our data, we add a fourth type of actor, namely "Institutions".

FUTURE SCENARIOS ABOUT ALGORITHMS

Algorithms are structuring mechanisms of platforms that structure behavior, content, and feed (in a reciprocal relationship with user data)[1]. As technological actors, they enter in relationships with platform users, but algorithms have the capacity to act on their own, with their non-human agencies. In the more tech-centric imagination that the Delphi+ participants have created about the future in their scenarios, algorithms are considered to have more weight in 20 years' time, not only in the cultural or political field, but also in the medical field, meaning more areas of capitalist production will be affected.

ALGORITHMIC TRIBALISM

According to the analyzed scenarios, one of the negative effects is the amplification of polarization – or acceleration of filter bubbles' isolationism – resulting in what we call algorithmic tribalism. In this group of scenarios, algorithms are imagined as enforcing conspiracy theories through recommendation systems, and gathering tribe-like communities, which is a reference to the US Capitol Attack in January 2021 (Delphi+ participant 1). In a more positive variation, subcultures and cultural scenes will be created around certain algorithms (Delphi+ participant 11) – the scenario emerges here via the vocabulary of post-subcultural studies (Bennett, 1999) and cyber-punk literature (Attebery, 2020, p. 233).

1 But algorithms are positioned on our map on the side of agency, because the scenarios mainly accentuated their agentic characteristics.

ALGOSSISTANCE

The second cluster of scenarios, entitled *Algossistance*, addressed the idea of algorithms navigating better consumer or political choices for humans. It included a particular scenario named "Algorithm caretaker" (SC[a&c]1), that imagined algorithms as personal assistants, while other scenarios predicted algorithms that can assist in better decisions for climate mitigation (SC[a&c]2) or take the role of social workers (FSE[a&c]6). This cluster of scenarios was framed as positive (Delphi+ participant 2).

One particular scenario called 'Algossistance', which will serve here as case example, emphasized the entanglement of humans and non-humans. 'Algossistance' can be installed into the human body in the form of a microchip helping with everyday decision-making. For instance, it can assist in common activities like buying ice-cream, by "activating algossistance via the power of thought" (FSE[a&c]1). In line with the transhumanistic and neurofuturistic traditions (Gray-Hammond, 2023), "algossistance" establishes feedback between the human mind and technology. This scenario predicted that the EU would become a technological utopia by the 2050s. According to the scenario, that puts into motion the workings of the assemblage and closely interacts with all other actors (institutions, platform corporations and users), the European Commission was the first institution to approve implanting these algossistance microchips into human bodies. The EU saw it as economic opportunity:

> Europe could re-establish itself as a cutting-edge technological utopia that acts ahead of its global competitors. And it resonated well with the European tradition of public-private partnerships as the algossistance microchip was developed by ALGINO, a company jointly funded by the European Union and private capital (FSE[a&c]1).

HUMANIZATION OF ALGORITHMS

The idea of the *humanization of algorithms* has an ethical dimension, as it concerns the possible need of protecting algorithms (in their rights to dignity, for instance) and recommendation systems as persons or animals (FSE[a&c]6). The need in this scenario arises from the anticipation of a closer relationship between humans and algorithms, also in romantic relationships. But algorithms may become personalities with faces, which provokes questions concerning trust in connection to behavioral interfaces, which is the domain of another actor, platform corporations (more accurately, of marketing departments and designers and programmers behind platform interfaces—see later). One Delphi+ participant indicated that interfaces are part of the platforms' business model:

> The algorithm itself would probably be an infrastructural thing, but the branding which brings you to that particular choice of algorithm with that particular set of constraints, that's going to be very much a marketing thing (Delphi+ participant 3).

FUTURE SCENARIOS ABOUT PLATFORM CORPORATIONS

Platform corporations as actors are involved in the structuration process of algorithmically driven environments. Although Courtois and Timmermans' model (2018) accentuates human agency in the input phase by platform owners and developers, in our case this type of actors takes action as whole platform power structures rather than human individuals representing the companies. This type of actor is largely tech-centric and related to the accumulation of power.

ACCUMULATION OF PLATFORM POWER

This cluster of scenarios (Delphi+ participants 4 & 5; SC[a&c]3) predicts widening gaps in society enforced by platforms. For example, one idea is there will be only two classes, "Masters and Users": "People who are controlled and people who produce AI. It is a crucial moment in the lifespan of a civilization now" (Delphi+ participant 4). This scenario emphasized, in a very neoliberal-technological fashion, the importance of individual skills, which allows for growth and upward mobility. Also, asymmetries of platform power will lead to class distinctions in art consumption (represented by highbrow vs. lowbrow art). But this time, it will be mass-AI art vs. high human-produced art (Delphi+ participants 4 & 12; SC[a&c]4). The role of Europe in these processes related to AI development will be rather passive: The "EU will become [a] passive spectator" (SC[a&c]6), or "left behind by China" thanks to non-strategic regulation (Delphi+ participant 4).

PLATFORMIZATION OF STATE

The accumulation of platform power can be mobilized by the state, leading to the *platformization of the state* (Bratton, 2015). One essay (FSE[a&c]2) imagined Europe adopting a social credit system as in China. This state-like platform, "European Social Credit System" (which was the title of one FSE), would foster trust, transparency, and cohesion. The system would be based on the Social Credit Quotient (SCQ) and assess individuals' behavior. Although it would mean stronger structures, all-encompassing surveillance and less individual human agency, the scenario is framed as positive: "In the pursuit of an idealized society, dissent and individuality may be suppressed, as the system promotes

conformity" (FSE[a&c]2). Platformization of the state posits opportunities for more effective governance (Delphi+ participant 1 & FSE[a&c]3), but also challenges for maintaining the human agency in the structuration processes of platform environments.

FUTURE SCENARIOS ABOUT PLATFORM USERS

The perspective of the platform user scenarios is human-centric, focusing on communities, users, and on the good of society. This type of actor cannot be separated from the workings of the assemblage and interacts with other actors. The scenarios in this cluster highlight human agency in deliberative processes in platform structures, envisioning downscaling of platform environments, or of a partial return to traditional societies.

DOWNSCALING

The idea that any resistance against platforms and algorithms will have the form of partial renunciation of digital communication, and exile "away from keyboard", featured repeatedly in the discussion. However, the return to offline life cannot be accomplished in its totality, according to the Delphi+ participants (SC[a&c]7). For instance, Delphi+ participants 2 & 3 entitled the scenario "Cabin in the Woods" with the full awareness, that even when you have the opportunity to withdraw, you cannot completely escape:

> Off grid is the old cliché, but it's a recognition that you can never be completely off grid, but a much greater literacy around the exposure of being on grid and a lot more gradient of choice (Delphi+ participant 2).

The imagination about *downscaling*, and localization, was accentuated in the scenario "Local is the New Social" (FSE[a&c]4), which will stand as a case example here. It worked with the idea that in the future online sociality will collapse, as a consequence of massive platformization. For instance, VLLMs (Very large language models) will collapse, and algorithms' hallucinations will intensify, simultaneously polluting public discourse. In the positive prospect, platform corporations will understand that optimizing digital environments for maximum profit, extracted from users, is not sustainable. In the aftermath, the platform environment will return to a protected sphere that is more trustful and private: "By 2043, 'local is the new social'. It is friends and colleagues, our friendly neighborhood baker, hacker and information broker" (FSE[a&c]4). Also, algorithm learning will downscale to more sensitive open source LLMs "so that

they run on my laptop" and can be trained on users' interactions "from bills to love letters" (FSE[a&c]4).

PARTICIPATION+ IN DELIBERATIVE PROCESSES

The cluster *participation+ in deliberative processes* imagines a higher degree of participation in decision-making processes of platform structures (therefore the "plus" in the title), and is related to the issue of regulation, thus to the institutional level (see also below). One scenario (FSE[a&c]5), that will serve here as a case example, addressed the need for a direct user-platform relationship without barriers from national legal frameworks: "Maybe the solution is not to transfer power from the platforms to any national entity, but rather to the users themselves" (FSE[a&c]5). This is connected to the issue of national and supra-national regulations of global platforms, that are constructed here as restraining. The realization of this scenario is dependent on national and supranational political and law-making institutions, but also on platform corporations' willingness to open their structures for participation (as Meta did with their Oversight Board).

FUTURE SCENARIOS ABOUT INSTITUTIONS

The last type of actor in the algorithmic assemblage are institutions, mainly European (political) institutions. This cluster includes the focus on how rules, policies and practices are transferred between the supranational EU and member states, but also discussions about algorithmic literacy, transparency and regulation. Institutions-as-actors are considered human-centric, as they aim to maximize the agency of platform users.

ALGORITHMIC LITERACY

The need for improvement in *algorithmic literacy* and education was repeatedly mentioned, even though in most cases only vaguely. One scenario titled "EU Justice League of Literacy" (Delphi+ participant 6) though was more detailed in its predictions. It accentuated the need for supranational cooperation in an educational organization powered by all EU member states. Its goal would be to "find an easy way to explain to people what algorithms are doing to their lives and how they affect their choices". Establishing such a governmental body would mean the transfer of powers from the national level to the supranational-EU level – it would allow the "European Justice League of Literacy" to surpass the individual education systems in each country. In this scenario, the

present EU legislation is framed as constraining (or more precisely, EU legislation is constrained by the member states not having conferred the competence for education to the EU).

ALGORITHMIC TRANSPARENCY

The issue of algorithmic literacy is related to *algorithmic transparency*, which creates another cluster. Algorithmic transparency was often framed as desirable but "hyper optimistic" and "unrealistic": "We have had cars for a hundred years, and how many per cent know how this engine works" (Delphi+ participant 5). But algorithmic literacy will not solve the problem alone – and once again the workings of the assemblage were activated. Scenarios (Delphi+ participants 1 & 5) expressed the need for acceleration of institutionalization and European Unionization to create EU bodies and agencies (e.g., ECAT). A workshop participant described these bodies as "realistic means for mitigation and resistance […] For example, a new agency for algorithmic control, risk assessment, partnerships, quadruple helix networks" (Delphi+ participant 1). Among the measures that could contribute to better transparency are policies for global platforms to make their data and algorithms available and transparent, also readable and understandable: "Access to the ocean of data is not like you're transparent" (SC[a&c]8; Delphi+ participant 7).

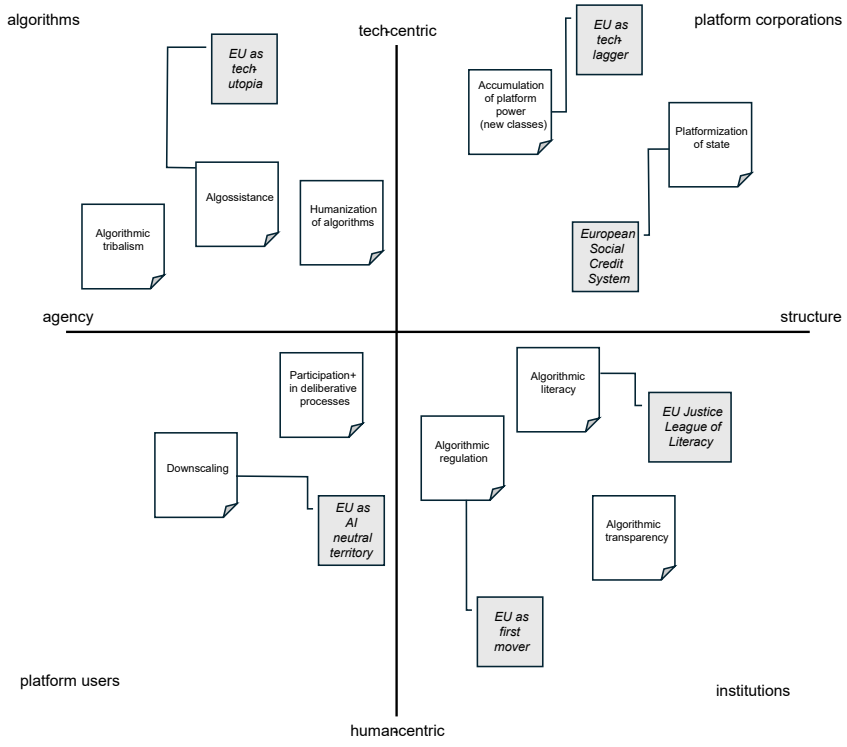
ALGORITHMIC REGULATION

This cluster of scenarios concerns the escalation of *algorithmic regulation* in the EU. For instance, by enforcing the GDPR, data protection officers will stop government agencies from using Facebook, TikTok and other social media platforms based outside the EU (FSE[a&c]4). The same scenario predicts that VLOPs will—after many lawsuits against online trolls and platforms over content moderation—need to change their upload filters from negative to positive, "allowing only content with license or approval to go online".

Other scenarios worked with the idea for algorithmic regulation that would turn off recommendation systems, for instance, during elections, so the political choices of platform users are not affected (SC[a&c]10; Delphi+ participant 8). It would be the responsibility of a state or EU's institutions. This group of scenarios takes a very human-centric position that does not consider other types of biases. In these scenarios, the EU is constructed through institutions and its policies as "first-mover" (SC[a&c]9). Although some of its decisions in regulation are not strategic (Delphi+ participants 4, 9 & 10), which may consequently lead to "disappearing as a political entity" (Delphi+ participant 10).

In Figure 1, all future scenarios are visually represented.

Figure 1. Future scenarios map



Key: White squares designate scenarios related to actors, while grey squares designate the EU or European dimension of each scenario

CONCLUSIONS

The article discussed structure and agency in varied algorithmic imaginaries that revolved around European media platforms, and how the future is constructed in these imaginaries. The analysis of the future scenarios operationalized four actors shaping these imaginaries—algorithms, platform corporations, platform users, and institutions. We suggested that the relationship(s) between algorithms and human choices in platform environments are complex and multidimensional, and that therefore we must understand platforms as forms of collective organizations of interactions across various actors.

The roles of these actors are accentuated to assorted degrees in each of these imaginaries, giving rise to a diversified landscape in which articulations about what constitutes a desirable platform future antagonize each other. In this sense, it is important to note that the future of algorithms and choices in Europe is not

independent of larger visions of optimal political futures. Seeing platforms as techno-social assemblages allowed us to point out the workings and interdependencies of actors in the assemblage. However, some particular actors were more visible. The algorithmic imaginary was mainly centered around two actors with higher frequency—algorithms and institutions. The existence of algorithms was understood as a principle in imaginaries, where the technologically deterministic tendency towards algorithms was evident, while other actors (platform users, for instance) are seen as a more adaptable factor. The relationship between algorithms and institutions had a partly techno-pessimist perspective, where algorithms represented the potential threat of an "alien", which needs to be tamed, while institutions were seen as a protective force from "non-human" actors. But algorithms are also seen as offering a prospect of effectivity and playing a role in de-institutionalization or re-institutionalization processes, as they create new contexts, as Mendonca et al. (2023, p. 19) writes: "They perform agency and interact with humans, and the outcomes of these interactions modify society's structure, in turn creating new political orders."

Scenarios related to platform corporations emphasized the role of strong structures and were connected to the centralization of power and capitalist modes of production. They are seen to potentially lead to systemic configurations allowing increasing levels of surveillance and control and societal divides, but also higher effectiveness of governance. The algorithms cluster promised prospects for more effective human minds, but also the danger of the loss of free will is mentioned. What these scenarios did not mention or consider, was that technologies are not universally accessible – even societal divides were constructed as a matter of individual skill, not access or systemic configurations. Also, the environmental impact of technologies or ecological sustainability of these technologies were not mentioned.

The platform users' scenarios worked with the idea of the sustainability of platform environments and with increasing levels of participation for users (thus decreasing levels of control). The institutions' scenarios accentuated maximizing human agency and aimed at society, community, or individual users. Institutions were seen as protective of users and humanism was valued in these scenarios, although some framed it as weakness which would marginalize Europe and the EU in the context of economic and technological developments. The dimension of European-ness in the algorithmic imaginaries was constructed mainly through normative aspects and institutions, and was deemed much weaker in the context of other actors.

Several authors have pointed to asymmetries and imbalances in the conceptualizations of algorithmic imaginaries. In this sense, Schulz criticizes the current conception of algorithmic imaginaries or folk theories (see Ytre-Arne & Moe, 2021), "primarily concerned with the users' perspective" (Schulz, 2023, p. 647),

as lacking and forgetting the perspective of designers and programmers. The imaginaries of designers and programmers of platform architectures are underrepresented in our model. They were only indirectly mentioned in relation to the interface designs of platforms (for a broader context see the discussion on the humanization of algorithms scenarios. We argue that our analysis has contributed to more balanced conceptualizations of algorithmic imaginaries by considering the perspective of institutions, and situating them in the model. However, it is fair to note that the institutional settings, in which algorithms exist are not entirely omitted in algorithmic imaginaries, as Bucher (2018, p. 150) says: "[…] 'ordinary' people and institutions are speaking and thinking about algorithms".

Algorithmic imaginaries undoubtedly participate in shaping the routines and the processes of decision-making in everyday life. Algorithmic imaginary is viewed as a user's competence—a specific set of skills and knowledge—that is shaped by both unguided, informal processes (including stereotyping) and potentially by formal inculcation (for example, as part of media education). Algorithmic imaginaries should be a prominent topic for further research, together with their contribution towards the formation of users' projective imaginations of their future actions and choices.

ACKNOWLEDGEMENTS

This article is part of the EUMEPLAT project which has received funding from the European Union´s Horizon 2020 research and innovation programme under grant agreement No 101004488. Any dissemination of results and any communication must indicate that it reflects only the author´s view and that the Agency is not responsible for any use that may be made of the information it contains.

REFERENCES

AI Act (2023). European Parliament: Negotiating position on proposal for a regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence, 14.06.2023, https://www.europarl.europa.eu/doceo/document/TA-9-2023-0236_EN.html

Ang, I. (1985). *Watching Dallas: Soap opera and the melodramatic imagination.* Routledge.

Armano, E., Briziarelli, M., Flores, J., & Risi, E. (2022). Platforms, algorithms and subjectivities: Active combination and the extracting value process – An introductory essay. In E. Armano, M. Briziarelli & E. Risi (Eds.), *Digital platforms and algorithmic subjectivities* (pp. 1–18). University of Westminster Press. https://doi.org/10.16997/book54.a

Attebery, S. (2020). Fashion. In A. McFarlane, G. J. Murphy & L. Schmeink (Eds.), *The Routledge companion to cyberpunk culture* (pp. 228–237). Routledge.

Bennett, A. (1999). Subcultures or neo-tribes? Rethinking the relationship between youth, style and musical taste. *Sociology*, *33*(3), 599–617. http://www.jstor.org/stable/42857964

Blumer, H. (1969). *Symbolic interactionism: Perspective and method*. Prentice Hall.

Bratton, B. (2015). *The stack: On software and sovereignty*. MIT Press.

Bryant, A., & Charmaz, K. (Eds.) (2007). *The Sage handbook of grounded theory*. Sage Publications.

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

Carpentier, N., Hroch, M., Cannizzaro, S., Miconi, A., & Doudaki, V. (2023). Bridging the discursive and material dimensions of europeanity and europeanisation: A participatory semantic map approach. *Observatorio (OBS*)*, *17*(1). https://doi.org/10.15847/obsOBS17120232251

Castoriadis, C. (1997). *The imaginary institution of society.* Polity Press.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis.* Sage Publications.

Charmaz, K. (2009). Shifting the grounds: Constructivist grounded theory methods. In J. M. Morse (Ed.), *Developing grounded theory: The second generation* (pp. 127–193). Routledge.

Cellard, L. (2022). Algorithms as figures: Towards a post-digital ethnography of algorithmic contexts. *New Media & Society, 24*(4), 982–1000. https://doi.org/10.1177/14614448221079032

Cohen, I. J. (1989). *Structuration theory*. Macmillan Education UK. https://doi.org/10.1007/978-1-349-20255-3

Courtois, C., & Timmermans, E. (2018). Cracking the Tinder code: An experience sampling approach to the dynamics and impact of platform governing algorithms. *Journal of Computer-Mediated Communication, 23*(1), 1–16. https://doi.org/10.1093/jcmc/zmx001

Degeling, M., & Berendt, B. (2018). What is wrong about Robocops as consultants? A technology-centric critique of predictive policing. *AI & SOCIETY*, *33*(3), 347–356. https://doi.org/10.1007/s00146-017-0730-7

DeLanda, M. (2006). *A new philosophy of society: Assemblage theory and social complexity*. Continuum Press.

DeSanctis, G., & Poole, M. S. (1994). Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization Science, 5*(2), 121–147. http://www.jstor.org/stable/2635011

Digital Services Act (DSA) (2022). Regulation on a single market for digital services and amending directive 2000/31/EC (EU 2022/2065, 19.10.2022), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R2065&qid=1666857835014

eCommerce Directive (2000). Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex-:32000L0031

Ellis, C., Adams, T., & Bochner, A. (2010). Autoethnography: An overview. *Forum: Qualitative Sozialforschung/Forum: Qualitative Social Research*, *12*(1). Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/1589/3095

Eubanks, V. (2018). *Automating inequality: How hight-tech tools profile, police, and punish the poor*. St. Martin's Press.

European Centre for Algorithmic Transparency. https://algorithmic-transparency.ec.europa.eu/index_en

Fisher, E. (2022). *Algorithms and subjectivity: The subversion of critical knowledge*. Routledge. https://doi.org/10.4324/9781003196563

Foster, C., & Zhang, R. (2022). Special Issue: Iteration and persuasion as key conditions of digital societies. *AI & SOCIETY, 38*(2), 1981–1986. https://doi.org/10.1007/s00146-022-01507-x

Freedman, G., & Reynolds, E. G. (1980). Enriching basal reader lessons with semantic webbing. *The Reading Teacher, 33*(6), 677–684. https://www.jstor.org/stable/20195100

Gandini, A., Gerosa, A., & Giuffrè, L. (2023). Subjectivity and algorithmic imaginaries: The algorithmic other. *Subjectivity 30*, 417–434. https://doi.org/10.1057/s41286-023-00171-w

Giddens, A. (1997). *New rules of sociological method: A positive critique of interpretative sociologies* (2nd revised edition). Polity Press. (Original work published in 1976)

Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Polity Press.

Giddens, A. (1982). *Profiles and critiques in social theory.* Macmillan Education UK. https://doi.org/10.1007/978-1-349-86056-2

Glaser, B. G., & Strauss, A. L. (2006). *The discovery of grounded theory: Strategies for qualitative research*. Aldine Transaction. (Original work published in 1967)

Gordon, T. (2009). Delphi. In J. C. Glenn & T. Gordon (Eds.), *Futures research methodology — Version 3.0* (pp. 1–29). The Millennium Project.

Gorwa, R. (2019). What is platform governance? *Information, Communication & Society*, *22*(6), 854–871. https://doi.org/10.1080/1369118X.2019.1573914

Gray-Hammond, D. (April 21, 2023). Reclaiming neurofuturism: Neuroqueering knowledge and its production. *Emergent Divergence*. https://emergentdivergence.com/2023/04/21/reclaiming-neurofuturism-neuroqueering-knowledge-and-its-production/

Greenhalgh, T., & Stones, R. (2010). Theorising big IT programmes in healthcare: Strong structuration theory meets actor-network theory. *Social Science & Medicine, 70*(9), 1285–1294. doi:10.1016/j.socscimed.2009.12.034

Griesbach, K., Reich, A., Elliott-Negri, L., & Milkman, R. (2019). Algorithmic control in platform food delivery work. *Socius, 5.* https://doi-org.ezproxy.is.cuni.cz/10.1177/2378023119870041

Harrison, J. (2023). Inscribed in code: Depictions of computational algorithms in twenty-first century fiction. *Textual Practice*, *37*(12), 1875–1893. https://doi.org/10.1080/0950236X.2022.2148728

Higson, A. (2021). Netflix – The curation of taste and the business of diversification. *Studia Humanistyczne AGH, 20*(4), 7–25. https://doi.org/10.7494/human.2021.20.4.7

Inayatullah, S. (2012). Futures studies. Theories and methods. In F. G. Junquera (Ed.), *There's a Future: Visions for a Better World* (pp. 37–65). BBVA.

Johnson, D.D., Pittelman, S.D. & Heimlich, J.E. (1986). Semantic mapping. *The Reading Teacher*, *39*(8), 778–783.

Jones, M.R., & Karsten, H. (2008). Giddens's structuration theory and information systems research. *MIS Quarterly, 32*(1), 127–157. https://doi.org/10.2307/25148831

Klinger, U., & Svensson, J. (2018). The end of media logics? On algorithms and agency. *New Media & Society, 20*(12), 4653–4670. https://doi.org/10.1177/1461444818779750

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory.* Oxford University Press.

Mathieu, D., Pruulmann-Vengerfeldt, P. (2020). The data loop of media and audience: How audiences and media actors make datafication work. *MedieKultur: Journal of Media and Communication Research*, *36*(69), 116–138. https://doi.org/10.7146/mediekultur.v36i69.121178

Mendonca, R. F., Almeida, V., & Filgueiras, F. (2023). *Algorithmic institutionalism: The changing rules of social and political life*. Oxford University Press. https://doi.org/10.1093/oso/9780192870070.001.0001

Mosco, V. (2004). *The digital sublime: Myth, power, and cyberspace*. MIT Press.

Napoli, P. M. (2014). Automated media: An institutional theory perspective on algorithmic media production and consumption. *Communication Theory*, *24*(3), 340–360. https://doi.org/10.1111/comt.12039

Orlikowski, W. J. (1992). The duality of technology: Rethinking the concept of technology in organizations. *Organization Science, 3*(3), 398–427.

Park, Y. J., Chung, J. E., & Shin, D. H. (2018). The structuration of digital ecosystem, privacy, and big data intelligence. *American Behavioral Scientist, 62*(10), 1319–1337. https://doi.org/10.1177/0002764218787863

Pan, S. Q., Vega, M., Vella, A. J., Archer, B. H., & Parlett, G. R. (1996). A mini-Delphi approach: An improvement on single round techniques. *Progress in Tourism and Hospitality Research*, *2*(1), 1–109.

Pasquale, F. (2015). *The black box society: The secret algorithms that control money and information*. Harvard University Press.

Rose, J., Jones, M., & Truex, D. (2005). Socio-theoretic accounts of IS: The problem of agency. *Scandinavian Journal of Information Systems*, *17*(1), 133–152.

Rutz, H. (2016). Agency and algorithms. *Journal of Science and Technology of the Arts, 8*(1), 73–83.

Schulz, C. (2023). A new algorithmic imaginary. *Media, Culture & Society*, *45*(3), 646–655. https://doi.org/10.1177/01634437221136014

Scott, W. R. (2014). *Institutions and organizations: Ideas, interests and identities* (Fourth edition). Sage.

Sigfrids, A., Leikas, J., Salo-Pöntinen, H., & Koskimies, E. (2023). Human-centricity in AI governance: A systemic approach. *Frontiers in Artificial Intelligence*, *6*, 976887. https://doi.org/10.3389/frai.2023.976887

Srnicek, N. (2017). *Platform capitalism*. Polity Press.

Steinberg, M., & Li, J. (2017). Introduction: Regional platforms. *Asiascape: Digital Asia, 4*(3), 173–183. https://doi.org/10.1163/22142312-12340076

Stones, R. (2017). Agency and Structure. In B.S. Turner (Ed.), *The Wiley-Blackwell encyclopedia of social theory*. John Wiley & Sons. https://doi.org/10.1002/9781118430873.est0006

Stones, R. (2020). Anthony Giddens, Structuration theory, and radical politics. In P. Kivisto (Eds.), *Cambridge handbook of social theory* (pp. 395–421). Cambridge University Press.

Terranova, T. (2022). *After the internet: Digital networks between capital and the common*. Semiotext(e).

Törnberg, P. (2023). How platforms govern: Social regulation in digital capitalism. *Big Data & Society*, *10*(1), 205395172311538. https://doi.org/10.1177/20539517231153808

Vaccari, C., & Valeriani, A. (2021). *Outside the bubble: Social media and political participation in western democracies*. Oxford University Press.

Van Dijck, J. (2013). *The culture of connectivity: A critical history of social media*. Oxford University Press.

Van Dijck, J., Poell, T., & De Waal, M. (2018). *The platform society: Public values in a connective world*. Oxford University Press.

Van Dijck, J. (2020). Governing digital societies: Private platforms, public values. *Computer Law & Security Review*, *36*, 105377. https://doi.org/10.1016/j.clsr.2019.105377

Van Es, K., & Poell, T. (2020). Platform imaginaries and Dutch public service media. *Social Media + Society 6*(2), 1–10.

Webster, J. G. (2011). The duality of media: A structurational theory of public attention. *Communication Theory, 21*(1), 43–66. https://doi.org/10.1111/j.1468-2885.2010.01375.x

Whittington, R. (2015). Giddens, structuration theory and strategy as practice. In D. Golsorkhi, L. Rouleau, D. Seidl & E. Vaara (Eds.), *Cambridge handbook of strategy as practice* (pp. 145–164). Cambridge University Press. doi:10.1017/CBO9781139681032.009

Ytre-Arne, B., & Moe, H. (2021). Folk theories of algorithms: Understanding digital irritation. *Media, Culture & Society*, *43*(5), 807–824. https://doi.org/10.1177/0163443720972314

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

ORIGINAL ARTICLE

DOI: 10.51480/1899-5101.17.1(35).684

Imaginings of the Future of Conflict and Communication Technologies: A Map of Four Anxiety and Two Hope Driven Scenarios

Nico Carpentier
Charles University, Czech Republic & Tallinn University, Estonia
0000-0002-8996-4636

Andrea Miconi
IULM University, Italy
0000-0002-1960-6243

Abstract: The article presents an analysis of the construction of future scenarios in relation to conflict and communication technologies (CTs), on the basic of Delphi+ workshops and essay-writing sessions. Grounded in a theoretical reflection on the various forms of conflict—distinguishing between armed, grey zone and democratic conflict—in combination with theoretical reflections on the role of CTs in conflict, and the future imaginings of (communication) technologies, the analysis discusses six future imaginaries. Four of these future scenarios are negative as in a power take-over, the intensification of both an armed conflict, and of democratic conflict, and the harm inflicted on the environment and society in general. The two positive scenarios are the protective role of supranational organizations and cultural change. Together, these six scenarios form a map of how European experts are concerned about media/technology and military/technology assemblages, and how they place their hope in supranational political institutions and cultural change.

Keywords: Construction of the Future; Conflict; Assemblage; Technology; Platforms

INTRODUCTION

Conflict is a phenomenon that often triggers a negative emotional response, as it is equally often considered undesirable. Still, at the societal level, the many differences, and the complexities of co-habitation, render conflict unavoidable. This implies that conflict is all-pervasive, and affects all fields of society, which become mobilized—in always particular combinations—as resources, and either

or both as actors and object of conflict. This all-pervasiveness of conflict affects the past, with the (selective) attention for conflict histories, the present, as many people are currently involved in either or both micro and macro-conflicts, but also the future, as a future without conflicts is extremely difficult to imagine.

Using a broad approach to conflict—not limiting it to armed or violent conflict—this article studies how a group of Delphi+ workshop participants and essay-writers perceive the future of one particular societal field, namely the field of CTs, in relation to conflict. The objective of the analysis was to identify the scenarios used to imagine the future of the intersection of communication platforms and conflict. To do justice to the complexities of conflict, this analysis is structured through a typology that distinguishes between three types of conflict: armed, grey zone, and democratic. Together with theoretical reflections on the role of, and the future imaginings of CTs in relation to conflict, these three discussions provide support for the future scenario analysis, structured through a retroductive approach (Glynos and Howarth, 2007). This future scenario analysis should not be considered a forecasting project but focuses on the diverse discursive-material constructions of the future (see e.g., Tutton, 2017) that the participants deploy, allowing for a better understanding what imaginings of the future of conflict and CTs circulate.

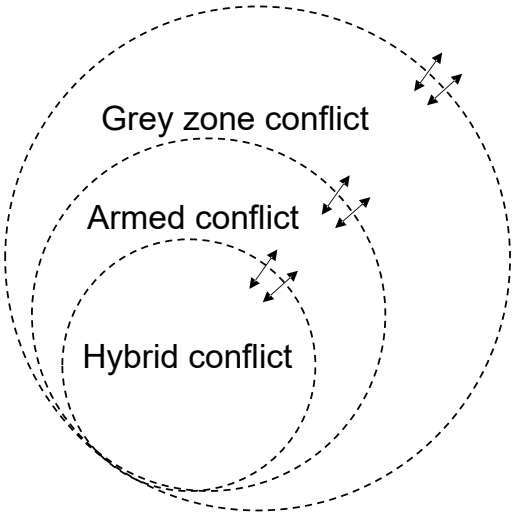
A THEORETICAL REFLECTION ABOUT CONFLICT[1]

The concept of conflict has a wide variety of meanings, including definitions of conflict as violent practices, as antagonistic positions, and as societal contradictions (Wallensteen, 1991, p. 130). If conflict is defined as violent behaviour, its cessation is possible, and the conflict's resolution allows shifting from a violent to a nonviolent state. When conflict is defined as "[…] subjectively experienced or objectively observable incompatibilities" (Wallensteen, 1991, p. 130), then these antagonisms are not necessarily resolved when violent behaviour disappears. Rather, the "resolution is then the […] transcending [of] a basic incompatibility between the parties in conflict in such a manner that they (voluntarily) express their satisfaction with the outcome" (Wallenstein, 1991, p. 131). When seen as societal contradictions, conflict is not resolved "[…] until more fundamental societal changes are made", and before that occurs, conflicts "[…] may shift between more latent or manifest phases […]" (Wallensteen, 1991, p. 130). This latter idea can be radicalized by the argument that societal contradictions never disappear, and that a fully harmonious society is illusionary. Mouffe (2005, p. 4), for instance, speaks about "[…] the ineradicability of the conflictual dimension

1 This section uses text from Carpentier (2017).

in social life […]". Mouffe's reflections about conflict are embedded in a democratic theory of diversity, where "[…] the specificity of liberal democracy […] consists in the legitimation of conflict and the refusal to eliminate it through the imposition of an authoritarian order" (Mouffe, 1996, p. 8). What matters is the acknowledgement of the continuous presence of conflict, combined with the need to avoid its violent manifestations—and the harm they do—by containing conflict within a democratic order. Even though violence cannot be completely eradicated—"we have to realise that the social order will always be threatened by violence", Mouffe (2000, p. 131) writes—democratic politics are needed to "tame" or "sublimate" (Mouffe, 2005, pp. 20–21) antagonisms, and to transform these antagonisms into—what Mouffe calls—agonisms[2].

Figure 1. Types of armed conflicts



Still, given its all-pervasiveness and destructive nature, armed conflict also merits attention, due to its own complexities. One set of arguments points to the changing nature of armed conflict over time (Coralluzzo, 2015, p. 14) and the concept of generation has been used to theorize these differences in a variety of ways. Often, five generations are distinguished to cover the history of modern warfare, but these models have been extensively critiqued (e.g., Barnett, 2010; Deichman, 2009, p. 6). Other—arguably, more fruitful—concepts are hybrid warfare (Fridman et al., 2019; Murray and Mansoor, 2012; Najžer, 2020), and grey zone conflict (Mazarr, 2015). Hybrid warfare refers to conflicts where

2 Agonism implies the articulation of the other as adversary, and not as enemy (Mouffe, 2005, p. 20).

"conventional as well as irregular – or hybrid – forces (are) working in tandem" (Mansoor, 2012, p. 2), while grey zone conflict refers to actors who "maneuver in the ambiguous no-man's-land between peace and war, reflecting the sort of aggressive, persistent, determined campaigns characteristic of warfare but without the overt use of military force" (Mazarr, 2015, p. 2). But again, we should be careful not to reduce conflict to armed conflict, and to ignore the existence of what we will call here democratic conflict, which refers to politicized differences in a democratic setting. Of course, the analyses of conflict in democracy are ancient—see, e.g., Polansky (2023) on Artistotle—and have been inspired by many perspectives. Here, we rely on Mouffe's above-mentioned work on agonism (2005), and the pacification of antagonistic conflict within a democratic context. We also take into account some of the critiques on her work (e. g., August, 2022), and keepin mind that democracy is not a given, and can be transformed into authoritarian or even totalitarian systems. All this allows us to argue for the existence of three main types of conflict: armed, grey zone and democratic.

CONFLICT AND COMMUNICATION TECHNOLOGIES

These three types of conflict intersect with a multitude of societal fields, as it is an all-pervasive mechanism resulting from the diversity of the social. Arguably, this diversity of the social also prevents one field to dominate (or determine) other fields, which implies that conflict has no privileged 'home' from which it operates. Instead, conflict intersects with a wide variety of fields, each with their own semi-autonomies, logics and mechanisms, and with their particular articulations of discourses and materialities.

In this section, we will focus on the field of communication platforms, characterized by its combination of technologies and institutions, whose articulation allows for the circulation of meaning in society. Even though we argue that this field is important, we want to shy away from media-deterministic (see, e.g. McLuhan and Fiore, 1968) approaches that privilege this field at the expense of other (equally vital) fields, such as, for instance, the political or the economic field. Instead, our focus on the field of communication platforms needs to be understood as grounded in the acknowledgement that all these fields of the social are particular while still interrelated. Nevertheless, communication platforms play a significant role in the different types of conflict that we have identified in the previous section of this text, as they allow for meanings about these conflicts to circulate but are sometimes also either or both discursive and material targets of conflicts.

Communication technologies play vital roles in armed conflict, at both material and discursive levels. At the material level, for instance, radio communication

continues to be important in armed conflict. Recently it has been complemented with remotely controlled drones and the use of Artificial Intelligence (AI), often programmed to target specific groups of individuals, as the 2022/24 phase of the Russia-Ukraine war demonstrates (Givens et al., 2023). At the discursive level, in particular media organizations are of vital importance, and are significant targets for the propaganda efforts of all parties involved. Even though there are many exceptions of media resisting incorporation, states engaged in armed conflict and (mainstream) media organizations active within these states tend to align in (re)producing and hegemonizing particular (antagonistic) ideological positions. This alignment has led some scholars to use the concept of the media-military industrial complex (or related concepts) (see Der Derian, 2001; Miller, 2011). Online media are no exception here (Bastos and Farkas, 2019, p. 2; Benkler et al., 2018), despite the hope that they would act as a counter-force to state propaganda (Boler and Nemorin, 2013, p. 411). The decentralized nature of online communication did produce a major change, as these online tools for the dissemination of propaganda came within reach of many actors, a process that some have called—with some irony—the democratization of propaganda (Carpentier, 2022, p. 74; Woolley and Howard, 2018, p. 191).

In grey zone conflicts, the online realm offers a relatively accessible site for acts of aggression,[3] which, at the same time, has only limited risks of escalation. A crucial area is cyberwar—as is evidenced by the 2007 cyberattacks in Estonia (Denisenko, 2022, p. 173)—but also opportunities for espionage have increased, as "[t]he internet makes it possible for the spy to telecommute" (Gartzke, 2013, p. 70). A third (overlapping) component of grey zone conflict is the support for opposition movements (or for political parties that are more sympathetic towards the supporting actor). For instance, Nye (2016/17, p. 48) suggests that the information distributed by Wikileaks in 2016, embarrassing the USA's Democratic Party, might have been "exfiltrated by Russian intelligence agencies". Finally, there is also the distribution of propaganda in foreign territories, again with the ambition to disrupt the functioning of the regimes who are exposed to these strategies. In particular the interventions in the 2016 USA presidential election and in the United Kingdom's referendum on European Union (EU) membership are frequently used as examples of what Baskos and Farkas (2019, p. 1) call the "weaponization of social media platforms", where troll factories or farms[4] play a disruptive role.

As is the case with the borders between armed conflict and grey zone conflict, also the frontier between violent conflict—grey zone or not—and non-violent

3 Of course, these techniques are also used in armed conflict, in combination with traditional warfare.

4 The label 'troll factory' (or 'farm') is problematic. As Bastos and Farkas (2019, p. 3) write, the work of these organizations "extends beyond trolling and includes large-scale subversive operations".

democratic conflict is not stable and not clearly-demarcated. In other words, the logic of antagonism can also enter into the realms of democracy, while also agonist conflict (often) occurs. The information that reporting –and the practice of mediation more generally—produces, can trigger conflict, as information is not necessarily neutral or reliable, and processes of symbolic annihilation (Tuchman, 1972) can even bring in more antagonistic dimensions. In some cases (e.g., investigative journalism, which, as Street (2001, p. 151) argues, is the "scrutineer of officialdom and elected representatives") reporting is almost necessarily confrontational. Moreover, information generated through media organizations, in combination with information produced by non-institutional actors, circulates, enabling citizens to engage in debate, dialogue and deliberation, allowing for the formation of what is called public opinion. Here, the confrontation between assorted perspectives produces (agonist) conflict. Online media were initially heralded as 'purer' examples of the public sphere, but later on, more critical analyses emphasized the (democratic) limits of online media. Scholars report continued power imbalances between elite and non-elite actors (Borge--Holthoefer et al., 2011, p. 6; González-Bailón, 2013) and the increase of the usage of symbolic violence (Bourdieu and Wacquant, 1992, p. 168; see Fuchs, 2022). Other scholars discuss the increase of content quality problems, and the continued ideological fragmentations of actors (the so-called bubbles or echo chambers—see Manjoo, 2008; Pariser, 2011; Sunstein, 2017).

IMAGINING THE FUTURE OF COMMUNICATION TECHNOLOGIES AND CONFLICT

Communication technologies have, because of their centrality to politics and society, provoked a series of both negative and positive responses in their capacity to either reduce or increase conflict. The history of Communication and Media Studies is—from this perspective—a history of concern and hope, which often overestimated the power of CTs and underestimated the capacities of audiences to distance themselves from (the content distributed by) these CTs. What characterizes these histories, though, is the tendency to articulate CTs (and the media organizations that deploy them) in moral terms. As Drotner (1999, p. 596) formulates the argument: "the medium is either 'good' or 'bad'".

In the case of the negative, anxiety-driven responses, we go into a process that has been called media panics, which can be theorized as conflicts between human and technology. These media panics have had—over time—a remarkable consistency, becoming activated when a new communication technology reached a sufficient level of popularity and concentrating concerns with particular groups, namely children and young people (Drotner, 1999, p. 596). In its

most negative, dystopian version, we move into the Frankenstein myth, or "the idea that human interventions in nature will inevitably return to destroy their maker" (Lewis, 2008, p. 328). But also positive, hope-driven approaches exist, which place CTs at the centre of societal improvement. A classic example is McLuhan's notion of the global village, with the promise of communication technology was expected to reduce (antagonistic) conflict and generate social coherence and exchange (see McLuhan and Fiore, 1968, for the connection between the global village, war and peace). At the heart of this discourse, we can find "a profound sense of optimism, that a rapidly expanding base of knowledge would contribute to an increase in the quality and virtue of the social and human condition" (Custer, 1996, p. 66). Still, utopian and dystopian ideologies might not be that different, when we consider "dystopia as a worst-case scenario that requires radical change" (Featherstone, 2017, p. 3), in which utopia then produces the horizon for this change deemed necessary.

What authors such as Drotner, but also Marvin (1988, p. 233), point out is that in particular changes in CTs and their usages require the introduction of "new rules and procedures around unaccustomed artifacts to bring them within the matrix of social knowledge and disposition" and that "any perceived shift in communication strikes the social nerve by strengthening or weakening familiar structures of association". These changes feed into conflicts between societal groups, as Marvin (1988, p. 5) writes—but we can add that these changes can also impact on non-human actors:

> In the end, it is less in new media practices, which come later and point toward a resolution of these conflicts (or, more likely, a temporary truce), than in the uncertainty of emerging and contested practices of communication that the struggle of groups to define and locate themselves is most easily observed. (Marvin, 1988, p. 5)

This also means that these changes are simultaneously embedded in, and contextualized by broader social imaginaries of the future, and contain projections of the *zeitgeist* into the (inversed) future. This implies that, even though CTs are often central to utopian and dystopian discourses, they articulate a wide set of societal concerns or hopes, intersecting with many other societal fields and thus transcending the field of CTs.

In the case of conflict—armed, grey zone or democratic—we can witness this intersection, where, for instance, utopian discourses about conquering the enemy (or adversary) intersect with those about technology's capacity to contribute to this victory (Chin, 2023; Walton, 2019). Inversely, also the anxiety about defeat in conflict can intersect with the fear that CTs can contribute to this situation, and can be used against 'us'. Here—even though we should be careful

not assume all too linear relationships—the argument is that we can see assemblages of utopianism and dystopianism, with discursive and material elements of assorted societal fields becoming activated in generating hope or concern.

ANALYSING THE FUTURE SCENARIOS ON CONFLICT AND COMMUNICATION TECHNOLOGIES

The analysis in this article focuses on how the 29 participants of a series of Delphi+ workshops (together with a handful of essay-writers[5]) constructed futures scenarios in relation to conflict and CTs. As a method, the adjusted (and time-compressed) Delphi workshops approximate what Pan et al. (1996) called a mini-Delphi, although we prefer to label them 'Delphi+' workshops (see the workshop script in Carpentier and Hroch (2023), and also the introductory article of this special issue for more on data collection, the Delphi+ workshop method and futures studies).

The Delphi+ workshop participants were a mixture of academic experts, artists and writers, journalists and media producers, and business consultants. As Table 1 illustrates, these workshops were organized in three European cities: Sofia (2), Rome (1) and Malmö (1), allowing participants to come from diverse European regions. Each Delphi+ workshop followed an identical structure involving an introduction followed by four phases. The first was a future scenario development phase (with two topics) in small subgroups with three to four participants. The second was a summary. The third was a second future scenario development (with three topics) in small subgroups. The fourth was the concluding summary. In both of the scenario development phases, each subgroup was asked to produce three future scenarios for each topic, with one of them being conflict and CTs.[6] The introduction of each topic (by the moderators) was minimal (around three sentences), and no (further) thematic restrictions were imposed, resulting in a broad definition of communication platforms, including robots and drones. During these scenario development phases, the participants

5 In addition to the Delphi+ workshops, the two authors of this article also wrote one future scenario essay (FSE) each, and two EUMEPLAT consortium members, who are not authors of this article, each wrote one. All the FSEs were written before the data analysis, as part of a EUMEPLAT future scenario writing project, in which the project's researchers developed future scenarios. This allowed us to enrich and diversify the future scenarios developed in the Delphi+ workshops, by adding an auto-ethnographic dimension (Ellis et al., 2010) to the data gathering process.

6 The label used for this topic, during the Delphi+ workshops, was 'destructive technologies and war', but the moderators in Delphi+ workshops also clarified that this title came from the original research proposal, and that scenarios should not be restricted to the label or war and destruction. In practice, the discussions in all four Delphi+ workshops moved beyond this narrower theme, and ended up covering conflict and communication technologies.

first discussed the topic and the scenarios in general, and were then requested to fill out, for each scenario, a 'scenario card' (an A5 form, on which a title and a short description could be written). All discussions were also audio-recorded. In the case of the topic of conflict and communication platforms, the Delphi+ workshops produced a total of 35 scenarios (see Table 1).

Table 1: Delphi+ workshops and essays

Delphi+ workshops					
Location	**Number of scenarios**	**Location code**	**Participants' coding[7]**	**Moderator's (MOD) coding[8]**	**Scenario Cards' (SC) coding**
Sofia 1	8	Si	Si_1–6	Si_Mod	SC[dt&w]1–8
Malmö	9	M	M_1–6	M_Mod	SC[dt&w]9–17
Rome	10	R	R_1–7	R_Mod	SC[dt&w]18–27
Sofia 2	8	Sii	Sii_1–10	Sii_Mod	SC[dt&w]28–35
Total	35		29		
Essays					
	Number of essays		**Essays' Coding**		
	4		FSE[dt&w]1–4		

The analysis presented in the next section thus used three types of data: (1) The scenario cards that the Delphi+ workshop participants filled out during their discussions (summarizing each scenario); (2) the transcriptions of the Delphi+ workshop participant discussions and (3) the essays generated[9]. Informed consent was assured in all cases. For the data analysis, we mostly used the procedures of qualitative content analysis (see Saldaña, 2013, on coding), driven by the theoretical framework—outlined in the previous sections—that provided sensitizing concepts (Blumer, 1969, p. 7) for the analysis. Additional (secondary) sensitizing concepts, interwoven in the analysis, were the assemblage (see assemblage theory, e.g., DeLanda, 2006) and the basic actor roles from narratology (see Propp, 1968). The relationship between theory and analysis was structured through a retroductive approach (Glynos and Howarth, 2007), which allowed us to organize iterations between theory and analysis, and to ensure that the theoretical framework did not dominate the analysis. Having achieved saturation, this analysis resulted

7 The participants' names have been anonymized. The first part of the code refers to the location of the Delphi+ workshop, while the second part, after the underscore, is a unique number.

8 Each Delphi+ workshop had several (subgroup) moderators, but in this text we only cited one of these moderators for each workshop. This is why these actors are not numbered. The first part still refers to the location of the Delphi+ workshop.

9 Spelling errors in the data were corrected. No other changes were implemented. All discussions were in English and thus no translation was needed.

in the identification of six scenario clusters, which we will label 'scenarios' for convenience sake, and which will be discussed in the next section.

HOW TO THINK THE FUTURE OF DESTRUCTIVE TECHNOLOGIES?

Our qualitative analysis of the future scenarios primarily showed the importance of a series of binary oppositions like positive/negative, optimist/pessimist and utopian/dystopian. The binaries were used to structure our analysis, and produced two sections. The first for scenarios showing fantasies of negativity distinguished four scenario clusters with a few actor-related variations. The second for scenarios showing signs of positivity and hope identified two scenario clusters, again with a series of variations.

FANTASIES OF NEGATIVITY

The first recurring (and dystopian) scenario is the **power take-over**, where a particular field of the social is predicted to centralize power, at the expense of the remaining parts of society and the broad populace. Here we can find two variations, with the first focusing on the media corporations and technology assemblage. The scenario card SC[dt&w]4 refers to "Master AI walking the streets", a scenario which Si_1 describes as "some kind of radical 'overtaking' by the machinery and algorithms". Another card, SC[dt&w]5, mentions "Corporate platforms take over". During the discussions, two participants of the workshop explained SC[dt&w]5 by showing the entanglement of discursive and material dimensions:

> Si_2: I think the real question is how they will take over. And how […] this [is going to] happen, is that they use their algorithms to basically change public opinion any way they like, so for example they can make people do what they like. […]
>
> The way I can imagine it, is that they can basically control elections with their algorithms and using this they can for example blackmail parties, they can achieve total control over parties, they can say: We can decide who wins and then they can use that as sort of a leverage, and basically, for example, they can … I mean, that's probably the way they will control, like controlling public opinion, because politics depends on public opinion. […]
>
> Force the states to adopt favourable rules. We could also have some sort of, like maybe they make people so angry, they elect some types of fascists that remove democracy completely.

> Si_3: I thought about this because […] like we are talking about the European Union and we're talking about Europe as democracy, but the control can lead to a totalitarian society. (Si_2 and Si_3)

The other variation has a more military dimension, articulating the military and technology in one assemblage, which tends to be more material in its focus. A Malmö scenario, SC[dt&w]10 was entitled the "Robotization of IRL Conflict", which refers to the development of autonomous weapon systems. As M_1 summarized: "killer drones and automated killings is of course the thing in the pessimistic [scenario]". The title of SC[dt&w]18 is even darker in describing a scenario with "Robots taking lethal action against civilian population, suppressing protests". In an ironic intervention, M_2 described this type of scenario in the following terms:

> Also, let's not forget the wonderful things that could happen if we add automated control systems to all the really physically deadly weapons we have and, you know, 'cause like manning border fences, which seems to be a really popular thing right now … I mean, that's much cheaper … if you just get some robot turret that some company in Texas makes for you. Yeah, you know, guaranteed to only shoot at genuine intruders. What could possibly go wrong? Yeah, the robotization of physical conflict. (M_2)

The second reoccurring dystopian scenario focuses on the **intensification of armed conflict**. This scenario references grey war conflicts that approximate armed versions. Again, we can find a variation focussing on the media corporations and technology assemblage. One scenario in Sofia, SC[dt&w]6, for instance, starts by referring to the fragmentation of society by algorithms, but then adds that "A civil war can erupt". During the discussion of this scenario, Si_2 gave this explanation:

> Very dramatic. Algorithms fragment society, let's start with this, people develop diverging views of reality, people's view of reality start to diverge. You know the main issue here is that people are no longer able to act collectively because they cannot connect with each other. Yeah, all these different groups cannot come together, to do something together, right? So for example, they cannot come together behind let's say one party, they fragment in many different small fractions. […] Actually, this can lead to a civil war. People can actually start killing each. That is actually [a] realistic scenario. Ok, so civil war can erupt. (Si_2)

Similarly, another scenario card, SC[dt&w]17 mentions: "Platforms increase the spread of misinformation. Some echo chambers will lead to establishing militia", where discursive (media) practices are seen to have strong material consequences. M_1 described the scenario in the following terms:

> Social media are creating echo chambers who are creating new militias in the US, which are ready for civil war. […] They are arming the citizens. […] Or maybe that's [too] pessimistic. There will probably not be a civil war. I hope. I mean … I don't know. (M_1)

Another example is from the Rome workshop, SC[dt&w]21, which states: "Communication as a weapon. AI technologies as weapon/war instruments". A similar scenario, SC[dt&w]24 is the "Mass use of psyops"[10], which R_1, described as:

> I mean, so this is [about] how information is for the mass use of psyops. So, this relates to war, cyber war. So, information becomes subjected to the military strategy of the moment, the context of which information is increasingly militarized. (R_1)

In discussing the role of the media corporations and technology assemblage, the link between war and capitalism is also emphasized, which again brings in a deeply material dimension. One example is SC[dt&w]8, which mentions the "Super rich people interfering in the war (Elon Musk)", where one of participants Si_4 said: "imagine in the future having like a small conglomerate, like couple of people …". The clearest example, though, is SC[dt&w]35 entitled "Entrepreneurship of the war", the discussion for which started with Sii_1 who said: "Who[ever] controls the algorithm controls the battlefield". This was followed by Sii_3 who pointed out that "the developing designers, the big brains, big IT brains" will produce new technologies, and will not "share this knowledge". Instead, "you are going to do a new algorithm which will be better than [those before], and someone is going to pay for this algorithm, and you will be here. You will become richer".

A second assemblage, similar to the actor-structure of the power take-over scenario, revolves around the military and technology assemblage, which brings us closer to the material dimensions of antagonism, with FSE[dt&w]4 having the following title "Technical progress opens for Weapons of Mass Destruction". Less strong in its formulation is the scenario SC[dt&w]23 that placed more emphasis

10 PSYOPS refers to psychological operations. Similar to propaganda, the methods of PSYOPS place more emphasis on the psychological dimensions.

on "cyber war", which will become "the direction; making war more effective; anything is possible. No WW3; conflicts more fragmented". During the summarizing phase at the Rome Delphi+ workshop, R_Mod described this scenario as:

> There's not going to be [something] like Terminators, super smart drones and what not. But the use of media, the development of media and data would be higher … That's the technological direction. They'd be used as weapons. Also, in terms of economic speculation and economic attacks […]: I know where your power centrals are. I'm going to destroy the power plant. (R_Mod)

A third negative scenario, which is less dystopian, still focuses on **conflict intensification**. But this scenario approaches conflict more as **democratic**, which has some connections with less intense grey zone versions. Again, we can find the two main assemblages, articulated in particular variations. First, there is the role of the media corporations and technology assemblage, in which many of the discursive elements of CTs strengthening antagonistic conflict (see Section 2 of this text) were mentioned. The role of this assemblage in (democratic) conflict intensification is illustrated by the scenario SC[dt&w]15 which states that "algorithm[s] causing hypes, based on fake news; leaving undesirable/unverified results". Another scenario card SC[dt&w]25 has a similar future perspective, mentioning "Culture wars caused by the algorithms". Here, we can also find links to grey zone conflict, with a scenario SC[dt&w]1 described as "Propaganda will be stronger (through digital media)", with "Cyber war intensification" as title. During the summarizing phase in Rome, one of the participants, R_1, summarized a similar scenario, starting from "A confrontation between China on one side […] and the US-led Western group on the other side", but then also arguing that each 'block' will be dominated by a "hegemonic power": The

> balkanization of the Internet also means that we'll have increasingly regionalized forms of Internet information. [They] will be increasingly regionalized, again controlled by the hegemonic power within those spheres of influence. In this scenario, the only real form of resistance that we could imagine was really kind of dropping out, stopping the use of cell phones, using the Internet as less as possible. (R_1)

Secondly, the military and technology assemblage features here again. One example is the SC[dt&w]24, which states that "Information becomes subjected to military strategy of the moment. The militarization of information, the deployment of deep fakes at the service of the military strategy". Here, even though armed conflict is not the focus, we can find a concern with the increased

grip of the military over the discursive-material world of communication. This is captured by R_2, during the workshop, when he referred to:

> The deployment of communication technologies to influence both kinds … Your domestic population as well as the enemy population; what some have called 5th generation warfare, so the mass use of psychological manipulation techniques, through both the traditional media and—but especially—the Internet […]. Information becomes completely subordinated to the military strategy of the moment. (R_2)

The fourth and last negative scenario moves away from conflict, and focuses more on the **harm inflicted on the environment and society**. Actors, in this scenario, are less outspokenly present, as the emphasis is more on processes and the harmful consequences of human activity (in general). Still, one variation is centred around the capitalist assemblage, for instance, when it concerns the material impact of technology on the labour market, as is illustrated by FSE[dt&w]3 titled "AI Replaces Jobs". Also more criminal profit-seeking activities are included here, with scenario SC[dt&w]5 illustrating this: "Technology being used by criminal groups to scam or rob people".

But the main victim of the harm discussed in these scenarios is the environment. The cause sometimes connected with capitalism, and sometimes broadened in general to human activity. The latter, as M_2 explained, was driven by a "greater realization of what we thought was the immaterial non-place of the internet, which turns out to be a fairly material place indeed". An example of the link between environmental damage and capitalism can be found in the scenario SC[dt&w]14 which talked about "Space mining. E-waste dumping into the Global South. Another chance for colonialism or dumping it into space". M_2 explained the scenario as follows: "the new extractivism will be precisely aimed at that, […] all those […] places where people who don't have a lot of money". M_3 added: "Maybe they will need to decide if they want to give another chance to colonialists in our own Earth or go into space. I'm being very science fiction here".

SIGNS OF POSITIVITY AND HOPE

In the onslaught of negativity, there are nevertheless a number of scenarios that are more positive and hopeful, emphasizing the agonizing role of technology. Unsurprisingly, these scenarios are mostly related to democratic conflict, although some of them shift into grey zone scenarios. Here, the main cluster is centred around the **role of supranational organizations,** with the European Union being allocated a prominent role, with often a strong emphasis on the material dimensions of regulation. One example can be found in the Malmö

Delphi+ workshop, where the following dialogue initiated one of these discussions about the role of supranational organizations:

> M_Mod: Shall we go on to the more optimistic? Destructive tech. We don't have an optimistic view of destructive tech.
> M_1: That must have something to do with regulation and revitalizing UN and EU stock value.
> (M_Mod & M_1)

A more specific example of this type of scenario is SC[dt&w]30 which said: "European institutions will take the leadership, the EU government will control and provide safe digital space". Another example that focused more on the European defence capacity was SC[dt&w]26, which stated: The "European defence system for data [becomes] less reliant on IT infrastructure". A more creative example is scenario SC[dt&w]32 titled "EU as a reservation", which described the "let's make EU offline" idea, a scenario which was said to produce the "hippies of the 21th century", who will still be "protected by electronics". Si_5 explained this scenario as:

> Why don't we make Europe a reserve area, like the Indians [sic] in the United States and we'll solve all the problems with technology […]. Just go farming. Just go organic farming. So a US reservation. Yeah, like just like the reserve areas, let's make Europe … […] Go organic, free … Or who wants to be online: Go to China, go to the United States. (Si_5)

Related to the focus on supranational organizations, we also find the outline of a more cosmopolitan future, as is illustrated by the scenario SC[dt&w]33 titled "United world", which imagined that "All countries play equal role into the debate to prevent cyberwar". The development of this scenario started from Sii_2 when he argued against being too restrictive by only focussing on Europe, and said: "Europe has to be equal part of the world". Sii_2 added that "actually every state has to be kind of equal parts". The moderator, Sii_Mod, at the end of this discussion summarized the scenario as follows: "This is United Countries. All the countries work together to prevent cyber war. All countries will work together".

Generally, the role of Europe was articulated with positivity, and there were not any negative scenarios that gave a central role to Europe (or the European Union). Some of the scenario development discussions still framed Europe from a more negative perspective (although this view rarely appeared on the scenario cards). One of the rare examples it did so, was formulated by R_1, who added the following description:

> In this scenario, we also imagine that Europe, the European Union, could play a particularly negative role because it's one of the few supernatural institutions capable of harmonizing social control across nation states. It could play a negative role in terms of how these policies are harmonized across nation states. And so the European Union would play a negative role in this scenario in terms of, you know, overseeing kind of the super-state control of information. (R_1)

The second cluster focused less on institutions—even though they still feature in these scenarios—but more on **cultural change**, with its emphasis on the more discursive components of agonization. The clearest example is the scenario SC[dt&w]3 titled the "I Robot situation", referring to Alex Proyas's film from 2004. This scenario imagines a "Mutual understanding between machines and humans", allocating a central role to "Utopian pacifists". Another scenario, SC[dt&w]29 titled "Cyber-defence for avoid destructive technologies" also highlighted this cultural change process: "If you want to have to work on prevention we will work on mentality, to improve it". When discussing this scenario, the participants argued this change in mentality was needed to counter jingoistic tendencies, as Si_6 illustrated:

> If we would like to have prevention, it should start from the […] awareness [of …] values and this comes with the showing of the consequences of what a war can do. So people who are in cyberspace are going to [need to see] the reality of killing because this is one of the effects. Cyber war is just like every war with the same mentality that you, you have to kill. To destroy. Destroy. (Si_6)

Some of these scenarios are more specific (as the previous example on cyber-defence illustrates), with a focus on increased platform accountability (FSE[dt&w]1) or increased data and ecological sustainability (SC[dt&w]27). Participant M_2 gave an example of the latter:

> In 20 years, I think we could be in a place where I see people are quite serious about saying, OK, well, this app is wonderful, but how much processing power does it actually take, how many flops, how many joules, how many miles of fibre, in sense of the infrastructure all being made visible rather than just rhetorically. So pulling back as a result of realization of destruction before it's complete. (M_2)

CONCLUSION

The relationship between conflict and communication technologies (CTs) is highly complex and simultaneously intense, even though care needs to be taken to avoid too media-deterministic positions. Partially, this complexity is caused by the complexities that characterize each of the two elements, with conflict's fluid borders between violence and non-violence and its role in democratic societies, and the diversity of CTs and communicative practices. Furthermore, the interactions between conflict and CTs add to this complexity, as they can either enhance or reduce the former.

This complexity became visible in the analysis of the future scenarios, where the future was constructed by the Delphi+ workshop participants and essay-writers through the benevolence/malevolence dichotomy. The undesirability of an escalation into violence was highly extant, irrespective of the risks produced by each of the conflict types. For example, a direct escalation into the high risks of armed conflict and the less intense forms of violence in the grey zone type. There were the risks produced by the intensification of democratic conflict (which can then slip into violence) or those produced by humans harming themselves and their environment. It may be unsurprising that in a scenario-building workshop which used the label 'destructive technologies', the signifiers of destruction and violence gained a strong presence. But these anxiety-triggering scenarios clearly dominated in the Delphi+ workshops, quantitatively and qualitatively, pushing the more desirable and benevolent scenarios to the background.

Similarly important was that in many of these scenarios of malevolence, the villains—to use a concept from the narratological framework—are limited in number, with two assemblages featuring prominently: (1) the media corporations and technology assemblage and (2) the military and technology assemblage, which are both associated with risk and distrust. They featured prominently, as actors, in these fantasies of negativity, while they were more absent in the benevolent scenarios. In other words, the Delphi+ workshop participants and essay-writers problematize these assemblages, and do not expect them to play a positive role. The participants did express awareness of the entangled nature of both assemblages and did acknowledge the presence of material and discursive components in these two assemblages. However, they did tend to (over)emphasize the discursive component of the media corporations and technology assemblage and the material component of the military and technology assemblage. This reduced the assemblages' complexity and might even have led to an underestimation of their potentially problematic nature.

Interestingly, the actors that featured in the positive scenarios were the supranational organizations, and in particular the European Union, whose interventions were seen as necessary to protect the citizenry against the assemblages

that combine technology with (a) media corporations and (b) the military. It is important to emphasize that in the more detailed Delphi+ workshop discussions, and in some of the four future scenario analyses (see, the future scenario analysis on surveillance and resistance in this special issue), Europe and the European Union *are* problematized. Nevertheless, the positive articulation of Europe in this context remains remarkable. The analysis suggests that in the context of protection of the citizenry from more extreme problems (such as violence), the more critical perspectives towards Europe shift to the background.

Still, not all scenarios are connected to particular actors. Here, there is a balance between the type of scenario that sees human activity as detrimental (particularly towards the environment), and that which locates the possibility of the creation of a more just and fairer world with mechanisms related to cultural change, as an overarching principle. Changes to, for instance, economic structures are less outspoken in these more positive scenarios, as the multi-dimensional (discursive, ideological, and cultural) change seems to take precedence over the implementation of changes to the material-economic structures. But simultaneously, these structures are not ignored, as the capitalist assemblage does feature in the negative scenarios, in intersection with the media and military logics and practices, thus also becoming framed as problematic. The absence of material-economic structures in the more positive scenarios seems to indicate that the Delphi+ workshop participants and essay-writers believed that initially the mindsets need to change, before economic reform can even be considered.

ACKNOWLEDGEMENTS

This article is part of the EUMEPLAT project, which received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004488. The information and views in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions or bodies, nor any person acting on their behalf may be held responsible for the use which may be made of the information contained herein. We want to thank the entire project team for their support, but in particular Thomas Andersson for his feedback on earlier versions of this article.

REFERENCES

August, V. (2022). Understanding democratic conflicts: The failures of agonistic theory. *European Journal of Political Theory*, online first. https://doi.org/10.1177/14748851221120120

Barnett, D. (2010). The fallacies of fourth and fifth generation warfare. *Small Wars Journal*, September 13, 1–3. https://smallwarsjournal.com/blog/journal/docs-temp/540-barnett.pdf.

Bastos, M., & Farkas, J. (2019). 'Donald Trump is my president!': The internet research agency propaganda machine. *Social Media + Society*, *5*(3), 1–13.

Benkler, Y., Faris, R., & Roberts, H. (2018). *Network propaganda: Manipulation, disinformation and radicalization in American politics*. Oxford University Press.

Blumer, H. (1969). *Symbolic interactionism: Perspective and method*. Prentice Hall.

Boler, M., & Nemorin, S. (2013). Dissent, truthiness, and skepticism in the global media landscape: Twenty-first century propaganda in times of war. In J. Auerbach & R. Castronova (Eds.), *The Oxford handbook of propaganda studies* (pp. 395–417). Oxford University Press.

Borge-Holthoefer, J. et al. (2011). Structural and dynamical patterns on online social networks: The Spanish May 15th Movement as a case study. *Plos One*. https://doi.org/10.1371/journal.pone.0023883

Bourdieu, P., & Wacquant, L. J. D. (1992). *An invitation to reflexive sociology*. University of Chicago Press.

Carpentier, N. (2017). *The discursive-material knot: Cyprus in conflict and community media participation*. Peter Lang.

Carpentier, N. (2022). The dislocation of the empty signifier freedom as a tool in global political struggles: A case study on RT's mini-series How to watch the news. *Javnost/The Public*, *29*(1), 66–81.

Carpentier, N., & Hroch, M. (2023). *The EUMEPLAT Delphi+ workshops: A manual*. Culture and Communication Research Centre, Charles University.

Chin, W. (2023). *War, technology and the state*. Bristol University Press.

Coralluzzo, V. (2015). Guerre nuove, nuovissime anzi antiche o dei conflitti armati contemporanei, *Philosophy Kitchen*, *2*(3), 11–28.

Custer, R. L. (1996). Examining cultural ideologies. In R. L. Custer & A. E. Wiens (Eds.), *Technology and the quality of life* (pp. 43–88). McGraw-Hill.

Deichman, S. (2009). Battling for perception: Into the 5th Generation? In D. H. Abbott (Ed.), *The handbook of 5GW: A fifth generation of war?* (pp. 6–17). Nimble Books.

DeLanda, M. (2006). *A new philosophy of society: Assemblage theory and social complexity*. Continuum.

Denisenko, V. (2022). Disinformation analysis and citizen activism in the 'post-truth' era: The case of DebunkEU.org. In J. Chakars and I. Ekmanis (Eds.), *Information wars in the Baltic states: Russia's long shadow* (pp. 169–186). Palgrave Macmillan.

Der Derian, J. (2001). *Virtuous war: Mapping the military-industrial-media-entertainment network*. Basic Books.

Drotner, K. (1999). Dangerous media? Panic discourses and dilemmas of modernity. *Paedagogica Historica*, *35*(3), 593–619.

Ellis, C., Adams, T. E., & Bochner, A. P. (2010). Autoethnography: An overview. *Forum: Qualitative Sozialforschung/Forum: Qualitative Social Research*, *12*(1). http://www.qualitative-research.net/index.php/fqs/article/view/1589/3095

Featherstone, M. (2017). *Planet utopia: Utopia, dystopia and globalization*. Routledge.

Fridman, O., Kabernik, V., & Pearce, J. C. (2019). *Hybrid conflicts and information warfare: New labels, old politics*. Lynne Rienner Publishers.

Fuchs, C. (2022). *Digital fascism: Media, communication and society. Volume IV.* Routledge.

Gartzke, E. (2013). The myth of cyberwar: Bringing war in cyberspace back down to earth. *International Security*, *38*(2), 41–73.

Givens, A. D., Gorbachevsky, M., & Biernat, A. C. (2023). How Putin's cyberwar failed in Ukraine, *Journal of Strategic Security*, *16*(2), 96–121.

Glynos, J., & Howarth, D. (2007). *Logics of critical explanation in social and political theory*. Routledge.

González-Bailón, S. (2013). Online social networks and bottom-up politics. *SRRN paper.* http://papers.ssrn.com/.

Lewis, J. (2008). *Cultural Studies: The basics*. Sage.

Manjoo, F. (2008). *True enough: Learning to live in a post-fact society.* John Wiley & Sons.

Mansoor, P. R. (2012). Introduction. In W. Murray & P. R. Mansoor (Eds.), *Hybrid warfare: Fighting complex opponents from the ancient world to the present* (pp. 1–17). Cambridge University Press.

Marvin, C. (1988). *When old technologies were new: Thinking about electric communication in the late nineteenth century*. Oxford University Press.

Mazarr, M. J. (2015). *Mastering the gray zone: Understanding a changing era of conflict*. Strategic Studies Institute and U. S. Army War College Press.

McLuhan, M., & Fiore, Q. (1968). *War and peace in the global village*. Gingko Press.

Miller, T. (2011). The media-military industrial complex. In S. Best, R. Kahn, A. J. Nocella II, & P. McLaren (Eds.), *The global industrial complex: systems of domination* (pp. 97–115). Rowman & Littlefield.

Mouffe, C. (1996). Deconstruction, pragmatism and the politics of democracy. In C. Mouffe (Ed.), *Deconstruction and pragmatism: Simon Critchley, Jacques Derrida, Ernesto Laclau, and Richard Rorty* (pp. 1–12). Routledge.

Mouffe, C. (2000). *The democratic paradox*. Verso.

Mouffe, C. (2005). *On the political*. Routledge.

Murray, W., & Mansoor, P. R. (Eds.), (2012). *Hybrid warfare: Fighting complex opponents from the ancient world to the present*. Cambridge University Press.

Najžer, B. (2020). *The hybrid age: International security in the era of hybrid warfare*. I. B. Taurus.

Nye, J. S. Jr. (2016/17). Deterrence and dissuasion in cyberspace. *International Security*, *41*(3), 44–71.

Pan, S. Q., Vega, M., Vella, A. J., Archer, B. H., & Parlett, G. R. (1996). A mini-Delphi approach: An improvement on single round techniques. *Progress in Tourism and Hospitality Research*, *2*(1), 1–109.

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

Polansky, D. (2023). Populism and democratic conflict: An Aristotelian view. *Review of Politics*, *85*, 207–224.

Propp, V. (1968). *Morphology of the folk tale*. University of Texas Press.

Saldaña, J. (2013). *The coding manual for qualitative researchers*. Sage.

Street, J. (2001). *Mass media, politics and democracy*. Palgrave.

Sunstein, C. (2017). *#Republic: Divided democracy in the age of social media*. Princeton University Press.

Tuchman, G. (1972). Objectivity as a strategic ritual: An examination of newsmen's notions of objectivity. *American Journal of Sociology*, *77*, 660–679.

Tutton, R. (2017). Wicked futures: Meaning, matter and the sociology of the future. *The Sociological Review*, *65*(3), 478–492.

Wallensteen, P. (1991). The resolution and transformation of international conflicts: A structural perspective. In R. Väyrynen (Ed.), *New directions in conflict theory: Conflict resolution and conflict transformation* (pp. 129–152). Sage.

Walton, S. A. (2019). Technological determinism(s) and the study of war. *Vulcan*, *7*(1), 4–18.

Woolley, S. C., & Howard, P. N. (2018). Introduction: Computational propaganda worldwide. In S. C. Woolley & P. N. Howard (Eds.), *Computational propaganda: Political parties, politicians, and political manipulation on social media* (pp. 3–18). Oxford University Press.

ORIGINAL ARTICLE

DOI: 10.51480/1899-5101.17.1(35).711

Transforming Toxic Debates towards European Futures: Technological Disruption, Societal Fragmentation, and Enlightenment 2.0

Mehmet Ali Üzelgün
University Institute of Lisbon and Nova University Lisbon, Portugal
0000-0003-4426-9055

Iliana Giannouli
National and Kapodistrian University of Athens, Greece
0009-0000-2634-351X

Ioanna Archontaki
National and Kapodistrian University of Athens, Greece
0000-0001-6712-0531

Klára Odstrčilová
Charles University, Czech Republic
0000-0002-8860-5869

Barbara Thomass
Ruhr University Bochum, Germany

Cláudia Álvares
University Institute of Lisbon, Portugal
0000-0002-2882-5114

Abstract: Online toxicity refers to a spectrum of problematic communicative phenomena that unfold in various ways on social media platforms. Most of the current efforts to contain it focus on computational techniques to detect online toxicity and build a regulatory architecture. In this paper, we highlight the importance of focusing on the social phenomena of toxicity, and particularly, exploring the public understanding and future imaginaries of toxic debates. To explore how users construe online toxicity and envisage the future of online discussions, we examine 41 scenarios produced by European experts from the field of technology and culture. Through a content analysis informed by a narrative approach and insights from futures studies, we identify three myths that characterize the future scenarios: technological disruption, societal fragmentation, and digital Enlightenment. After a discussion of their relations, we conclude by stressing the importance of platform transparency and user empowerment.

Keywords: Toxic debates, topic-driven toxicity, future scenarios, algorithmic disruption, regulation of social media content

INTRODUCTION

An article published on the WIRED Magazine website on 8th January 2024 argues that we are entering "a digital dark age", as online trust collapses due to several transformations in the online landscape (Neff, 2024). While Neff (2024) mentions developments around generative AI and associated issues, the article mainly highlights the lack of transparency of the social media platforms. Neff (2024) argues that their increasingly restrictive data access policies hamper the independent initiatives that monitor misinformation, harmful content, and deep fake propaganda, elevating the risks of online manipulation and polarization. Moreover, these phenomena are seen to be connected to the "attention economy" (Williams, 2018), in which every user action is measured, processed, and aggregated to become part of some commercial strategy. Perhaps the first lesson social media algorithms have learnt, in this economy, is that the more provocative a message is to a user, the greater the chances of capturing their attention. Research has shown that news stories conveying emotions of anger and surprise are shared through social media with greater frequency and speed (Fan & Gordon, 2014; Ferrara & Yang, 2015). The same goes for populist messages that provoke anger (Hameleers et al., 2017), and emotional posts in general (Stieglitz & Dang-Xuan, 2013). Findings also suggest that platform algorithms enhance emotional, partisan and polarizing content, particularly tweets expressing anger and animosity towards out-groups (Milli et al., 2023).

Platformization, the creation of hyper-interactional digital ecosystems that connect people across geographic boundaries, has been widely embraced due to its potential to foster democratic discourse and deliberative democratic ideals (Mendis, 2021). However, social media platforms have also brought about an escalation of phenomena grouped under the label "online toxicity" (Pascual-Ferrá et al., 2021; Rossini, 2019). The label is sometimes used synonymously with hate speech, involving "intentional statements or messages with discriminatory content" (Petlyuchenko et al., 2021, p. 114). At other times it may refer to all sorts of harmful content including extremism, bullying, trolling, harassment, physical threats, and online stalking (Patel et al., 2021), "obscenity, insults, and identity-based hate" (Adams et al., 2017, p. 1), and "rude language, harsh criticisms, anger, hatred, even threats" (Suler, 2004, p. 321). There is no doubt that online hate and toxicity have serious impacts on the willingness to participate in public debate, formation of personal and public opinion, and people's interpretation of polarization around issues of common concern (Anderson et al., 2018).

The documentation behind Google's Perspective[1] defines toxicity as "rude, disrespectful, or unreasonable language that is likely to make someone leave a discussion" (Jigsaw, 2024). Accordingly, while "hate speech" or "abuse" refer to "specific categories of language that violate certain terms of service or laws", the term toxicity is preferred in that it "refers to a broad category of language that is subject to individual interpretation" (Jigsaw, 2024). In this paper we examine how experts view online toxicity and envisage the future of online discussions. To study how users construe toxicity and envisage networked communication, we explore 41 future scenarios produced in four scenario-building workshops and a scenario-writing exercise within the frame of the EUMEPLAT Horizon 2020 project (see Table 1). Before we report about our study of future scenarios for "toxic debates", we will provide an overview of the efforts to moderate and regulate social media content. Next, we will highlight the limitations of these efforts and argue that there are aspects of toxicity to be addressed at the level of the whole debate, without being stripped of its public-political content, and, more broadly, as a matter of online culture. We aim to study toxicity as a socio-communicative issue, captured by the notion of "toxic debates", rather than as an interpersonal issue of psychological harm. Our content analysis of scenarios draws on a narrative perspective, congruent with futures studies (Hänninen et al., 2022; Inayatullah, 2008). We discuss three myths as the output of our content analysis: (i) 'technological disruption' refers to the impact of algorithms on platformized interactions, (ii) the primary impact of 'societal fragmentation', and (iii) 'enlightenment 2.0' that refers to the efforts to address and alleviate that impact. In our conclusion, we stress the importance of platform transparency and user empowerment.

MODERATION OF SOCIAL MEDIA CONTENT

Two interconnected trends can be identified in the treatment of the diverse phenomena grouped under the notion of online toxicity. The first is to treat toxicity as an interpersonal phenomenon with a source (offender) and a target (victim). The second is to treat it as a matter of rude, coarse, or "abusive language" (Nobata et al., 2016; Waseem et al., 2017) or as a verbal act, i.e., verbal aggression (Guberman et al., 2016; Kumar et al., 2018). The act of speech thus involves the violation of personal boundaries and psychological harm (Petlyuchenko et al., 2021). These two trends are sometimes offered as two dimensions. For instance,

1 Perspective is an Application Programming Interface (API) that uses machine learning models to score the perceived impact a comment might have on a conversation. It reportedly processes over 500 million requests per day.

Waseem et al. (2017) argues abusive language can be categorized by taking into consideration the nature of the language used (implicit or explicit), and the target of the abuse (specific addressee or a generalized other). In the same vein, Kumar et al. (2018) propose a typology of verbal aggression by looking into both how it is expressed (overt or covert) and the nature of aggression (physical threat, sexual threat, identity threat, etc.) (see also Fortuna & Nunes, 2018).

The rationale in conceptualizing toxicity as offensive verbal behavior is that the more directly it is connected to a particular subject and an act of offence, the easier it becomes to normatively regulate it. Regulation and moderation of social media content have important roles to play in safeguarding pluralism in the online public sphere. Yet, the differences in size, reach, design, and business model of platforms are significantly involved in how content moderation works (Gillespie, 2020). This suggests the need for industry standards, but also a common understanding of the limits of admissible incivility, the delimitation of toxicity, and the regulatory enforcement agency.

The EU is particularly in favor of self-regulation by platforms, as they have the flexibility, agility, and innovation means to meet the evolving needs of online communities[2]. The Code of Conduct published by the European Commission in 2016 represents an important step in this direction (Quintel & Ullrich, 2020). This initiative, adopted widely across platforms, requires that participating companies establish a set of rules and community standards explicitly forbidding online hate speech, submit such content for review, and remove it from platforms within 24 hours. The adoption of the Code also involved establishing a network of civil society organizations that monitors the implementation of these commitments (Reynders, 2022). Assessments of the Code reported impressive results in the number of processed user notifications, with a sharp increase in hateful content removal from the platforms from 2017 to 2020 (Reynders, 2022). Yet, serious concerns over lack of transparency and accountability remain, as little is known about how platforms process and remove content.

The process of content removal takes place in various ways, both internally by the platforms themselves, involving teams of humans and machine learning algorithms, and externally involving third-party companies. Notably, when content is flagged or reported by external experts, platforms have the final decision on removal. Platforms grant their users the option to report content, thereby leaving the detection of unwanted content to the community. A well-known case is the application of Reddit's 2015 anti-harassment policy, titled "Promote ideas, protect people"[3], which caused many users to migrate from the

2 Platform companies are increasingly regarded as responsible parties such as the curators of the published content, rather than "mere conduits" or infrastructure providers (Mendis, 2021).

3 https://www.redditinc.com/blog/promote-ideas-protect-people (Accessed 30 Jan 2024).

platform. A serious limitation of user-based moderation is its subjectivity and openness to exploitation by user groups, which represents time and energy costs for platforms. Furthermore, during the processing of user reports, the content in question remains online, and this delay constitutes another limitation of user-based content moderation (Carrasco-Farré, 2022).

Another more technology-driven form of content moderation by platforms concerns the automated detection of toxic content, which involves machine learning algorithms. Indeed, machine learning and deep learning have been state-of-the-art in the last decade when it comes to hate speech detection (Jahan & Oussalah, 2023). AI-based systems proved highly effective at identifying certain content categories but were prone to errors with others (Ohol et al., 2023). AI-based systems came with large promises. Nevertheless, algorithmic moderation systems simultaneously suggest (a) further rises in the opacity of industry practices already lacking transparency; (b) exacerbating existing challenges regarding fairness within large-scale sociotechnical systems, and (c) depoliticizing inherently political decisions that might significantly influence public discourse (Gorwa et al., 2020). We revisit these limitations in the next section.

CONTROLLING ONLINE TOXICITY?

Despite the efforts mentioned above, controlling online hate and toxicity remains a difficult challenge. First, it is important to highlight the tension between uncivil language underpinning toxic debates and incivility integral to political expression. Even relatively nuanced forms of intervention based on a specific lexicon of "coarse language", or predictive algorithmic content removal on any definition of toxicity, could stifle public debate. Disrespectful language may serve the minority or the discriminated groups who are otherwise not heard at all in public debate (Jamieson et al., 2017), and thus is integral to both the formation and makeover of public opinion. Incivility may also serve social purposes among like-minded people and be conducive to reasoned arguments (Chen et al., 2019; Rossini, 2019). In sum, inconsistent enforcement of cryptic standards across an industry consisting of competing corporations raises criticisms about suppressing dissident voices, which conflicts with the norm of freedom of speech (Quintais et al., 2023).

A second and associated drawback of lexically regulative approaches is that they operate at the micro-level of speech components, whereas cultural meanings and political implications often reside in the connections of a particular speech. For instance, words like shade, snowflake, or thirsty can be insulting across cultures, whereas slurs can be commonly used in non-toxic conversations (Sheth et al., 2022). Thirdly, regulating online interactions is largely at odds with

the makeup of the Internet. Conventional nation-state legislation and top-down enforcement will remain both spatially and temporally limited against the global reach and light-speed of the media. In comparison to broadcast or print media, the challenge is thus multiplied many times, requiring participation at various levels (Konikoff, 2021).

In sum, while content moderation efforts that operate at the micro-level of speech components help curb toxic commentary on social media to some extent, whether lexical matching or prediction-based (Gorwa et al., 2020), their impact on the online environments may be limited. There are positive steps that can be taken, which were briefly reviewed in the previous section. But, these efforts only scratch the surface of a more complex and multi-dimensional problem.

Rajadesingan, Resnick and Budak (2020, p. 559) argue that toxicity is not "an isolated phenomenon but a consequence of more structural factors" that have to do with each platform's design and specific traits, content moderation policies, and community culture. In this regard, Oz et al. (2018, p. 3404) identify substantial differences between Facebook posts and tweets, with higher levels of aggression on Twitter (now known as X). They explain the difference by higher levels of de-individuation Twitter offers, as users communicate more often with strangers on this platform than on Facebook. Similarly, Recuero (2024) suggests that toxicity is fostered by the structural and economic particularities of platforms: "echo chambers" and "filter bubbles" are two of the famous metaphors that describe the users' disconnect from the variety of available perspectives. The disconnect comes as a result of a customized information repertoire and "ideological homophily" fostered by platform algorithms, and its link to political polarization is well established (Boutyline & Willer, 2016).

TOXIC DEBATES: COLLECTIVE BUILDUP OF TROUBLED CONTEXTS

Following from the previous section, we hold that it is useful to distinguish broadly "toxic debates" from hate speech, abusive language, and toxicity. The argument is that toxic debates are not reducible to categories of speech by subject, but rather consist in an emergent feature of some polarized discussions. Feelings of hate and violence are sometimes collectively built, as suggested by the notions of "cascades" or "spirals" of toxicity (e.g., Kim et al., 2021). In this view, online toxicity is a socio-communicative issue with aspects that will escape all moderation – both by law and technology – and must be dealt with by platform users and communities.

The relationship between news topics and online toxicity is a case in point. Some issues are more controversial than others, and thanks also to media ranking algorithms, more divisive for societies (Milli et al., 2023; Recuero, 2024).

Research into online toxicity shows that a significant part of troubled comments is directed to the topic rather than individual users or groups, and that levels of toxicity vary significantly between topics (Salminen et al., 2020). Accordingly, topics with political connotations are more divisive for the online community, and topics such as the environment, health, race, and religion generate more hostile user comments. In turn, users who comment frequently on Facebook are shown to exhibit higher levels of political interest, possess more polarized viewpoints, and are more prone to employing toxic language in an elicitation task (Kim et al., 2021). For Salminen et al. (2020), this "topic-driven toxicity" suggests the potential impact that topic selection and the framing of news stories have on the shape and quality of social media discussions. Thus, as Salminen et al. (2020) argue, journalists today have additional burdens, since they should "be aware of the content topic's inflammatory nature and possibly use that information to report in ways that mitigate negative responses" (p. 17).

Similar concerns also burden politicians, civil society organizations and platform users. We hold that the achievement of enduring results in curbing online toxicity relies on bottom-up understanding by, and the participation of, users. As in any democratic undertaking, sufficient emphasis should be placed on moral agency and online cultures. In this regard, it is no surprise that the notion of "netiquette", the first informal code of online conduct (Kleinsteuber, 2004), appeared long before the soft laws and regulations that have entered the scene in the last decade.

However, we also need to recognize the role of "de-individuation" in the dynamics underlying toxic debates. Characteristics of online communication such as lack-of-face interaction, anonymity, and virtually instant access to unprecedented distances and audiences play a role in cascading toxicity. One aspect of this concerns the new speech context social media platforms provide for people to express themselves more freely than in other settings, a phenomenon dubbed the "online disinhibition effect" (Suler, 2004). Another very much interlinked aspect concerns the propagation or contagion of toxicity on media platforms. In this regard, Kim et al. (2021) identify amplification, mimicry, and normativity as three mechanisms that produce "spirals of toxicity" (p. 7). This spiraling effect of contagion is also documented in online gaming platforms (Shen et al., 2020).

This suggests asking the extent to which anyone can rely on individual users in the age of algorithmic concealment, celebritization, and the erosion of the contextual dimension of communication, where users find themselves "placed before random influences without knowing what they are, nor where they come from" (Cardoso, 2023, p. 47). How do users perceive and think about their regular experience with toxic encounters? What are their main worries and imaginaries of their future interactions online? We know too little about how platform users

consider toxicity, their views on what should be done, and the responsible agency. Scant research focuses on the perceived degrees of severity of the types of norm violations (Bormann, 2022), and the interaction with variables such as gender and political affiliation (Madhyastha, Founta & Specia, 2023).

Answers to any of the questions above contemplate as common responsibility the containment of a "global information environment crisis" (IPIE, 2024). We emphasized the political and cultural aspects of this responsibility, when with 29 assorted experts participating in workshops (see Table 1 of the the Introduction of this Special Issue and also Table 1 of this paper) and an essay writing project involving the 6 authors of this paper, we co-created 41 scenarios. We analyzed the scenarios to identify salient patterns and insights for thinking about the futures of networked communication, as presented in the next section.

FUTURE SCENARIOS ON TOXIC DEBATES

As the Introduction explains, "toxic debates and pluralistic values" comprised one of the five themes covered in the four Delphi+ workshops, which the EUMEPLAT team analyzed (see Table 1 below).

Table 1. The Delphi+ workshops, scenario-building exercises and theme specific codes for 'Toxic Debates' [txd]

Delphi+ workshops			
Locations	**Codes and (frequency of) Scenario Cards**	**Participant code (Pn) in the pertinent location***	**Theme and Location Specific Scenario Cards: SC[txd]n**
Sofia 1	Si (7)	P2	SC[txd]1 – 7
Malmö	M (9)	P3, P4	SC[txd]8 – 16
Rome	R (10)		SC[txd]17 – 26
Sofia 2	Sii (7)	P1	SC[txd]27 – 33
Total	33	29	33
Future Scenario Essays			
	Number of Future Scenario Essays		Theme Specific Future Scenario Essays: FSE[txd]n
	8		FSE[txd] 1-8

Key: * There were 29 participants of the workshops: Si (6); M (6); R (7); Sii (10) (see Table 1 in the Introductory article of this Special Issue). These four participants—P1, P2, P3 and P4— were those cited in this article

We carried out content analyses (both quantitative and qualitative) informed by a narrative approach[4] that pays attention to the pentad of actors, acts, scenes, agencies and purposes (Burke, 1969; Hänninen et al., 2022). Narrative may be regarded as a conventional mode through which people process and structure information (Bruner, 1991), as well as a human cultural effort to transform the feelings associated with certain events into a coherent sequence to learn from them (van den Hoven, 2017). In this view, narratives have an evaluative aspect, created through the connection of two casualties: a precedent event – complication – changes the circumstances of an actor, requiring her to respond, creating a succeeding causality. The succeeding action – repair – is central as it establishes the causal sequence that helps to construct the experience and drive lessons (van den Hoven, 2017). Futures studies seek to identify recurrent themes that tell us something about the underlying patterns that shape how people understand the future in a causal framework (Inayatullah, 2008). The narrative approach is useful in offering structure to what otherwise might be rather disconnected comments on the future.

The unit of analysis was the scenario, and our coding grid included the following nine fields: Title; Question(s) raised; Scene in the background; Main actor (of significant change), Main event (about Toxic Debates); Value (that grounds the aspired or unwelcome future); Prescription[5]; Role of the EU; Pessimism/Optimism. Except for the last field, all the others were coded by following an inductive approach. That is, rather than imposing top-down categories, we first coded particular actors, events, etc. Once the initial coding was finished, we grouped these figures into simple categories (e.g., human actors vs. non-human actors), and where necessary, into further, more diversified sub-categories.[6]

In the phases of categorization, we tried to remain attentive to the common patterns and causalities that weave the coded content together. The concept of myth (Inayatullah, 2008) was used to summarize these patterns and causal relations that connect the present to the futures envisaged in the scenarios. The Causal Layered Analysis for futures thinking (Inayatullah, 2008) stipulates myth

4 Drawing on Burke's dramatistic pentad (1969) and inspired by its relation to the study of futures (Hänninen et al., 2022), we initially attempted a narrative analysis, but encountered several difficulties. Some fields (Scene, Main Event, Agency) could not be coded systematically and had to be excluded from the analysis. This was because the scenarios differed considerably and were too sophisticated for this type of coding. Therefore, we opted to carry out quantitative and qualitative content analyses.

5 Again, inspired by Burke's (1969) dramatistic pentad, Main Event translates the Act into an action that is not necessarily connected to a particular actor, Value translates Purpose along the same lines, while Prescription registers the lesson – the coda, epilogue – that the narrative offers.

6 Given the very basic nature of the quantitative coding, and the limited number of texts, we decided against the calculation of an intercoder reliability coefficient. Instead, the author team checked the quality of the coding.

as "the deep unconscious story" (p. 12), akin to master narratives (Hyvärinen, 2020). We assume that while myths, like master narratives, have a taken-for-granted and archetypal character (Cowart, 2022; Inayatullah, 2008), they can be disclosed, expressed and challenged (Hyvärinen, 2020). It is indeed a strength of futures studies to make explicit the visions of the future in a way that acknowledges not just the restrictive but also the productive power of such cultural stocks of stories (Hänninen et al., 2022). We thus use myths as cultural and communicative resources that people draw on when discussing possible futures, and as an interpretative tool to weave the content together, consisting of the causal connections among the common patterns and storylines. In the following sections, we report our quantitative and qualitative findings.

"EDUCATE PEOPLE, NOT MACHINES!"

ACTORS

We start the overview of the scenarios departing from the most relevant code in understanding the agency involved in constructing the futures of toxic debates and pluralism: actors. This code aimed to register the actor (actant) that brings significant change in each scenario. The code was split into three actor categories (Table 2), besides the null category—No actors identified—included those instances where a passive voice dominated the conversation, e.g., "Everybody will be anonymized. […] Like the memes you lose track of everything" (SC(txd)16)[7].

Table 2. Main Actor Categories

Actor	N
Digital and technological	19
Political and institutional	9
Media	5
No actors identified	8
TOTAL	41

The outstanding finding in this code concerns the predominance of non-human actors (19 of 33 scenarios with an actor mentioned), which are specifically digital or technological actants, such as "chatbots", "artificial intelligence", "algorithms", "interface", "platforms", "journalistic machines", "WeChat", and "technology" at large. This predominance may be an outcome of the hype built around the

7 The number refers to the specific scenario card, see Table 1.

rise of generative AI at the time of the workshops. It simultaneously indicates the preoccupation of the participants with the enormous social impacts of recent developments in the computational sciences.

Following on from the dominance of non-human actors are 14 human actors, of whom 9 are political and institutional and 5 are media (see Table 2). Among the institutional and political agency, we can distinguish: "right-wing and populist parties", "alternative and marginalized voices", "colonizers", "the acceleration", "the public", "Europe", "media literacy programs", and "some authority". The term "colonizers" was used for denoting the human actors behind the algorithms regulating public opinion and human consciousness.

The five occurrences of the Media category are "Media", "Niche media", "Fake news" (twice) and "Public Service Media Organizations". Note that fake news is a category that partially belongs to the political domain, due to being often used by illegitimate political interests. Without these two occurrences that pertain to pessimistic scenarios, niche media and public service media stand out as the sole actors that are set to bring some change from the media domain to the transformation of toxic communication.

VALUES

We report the values that pertain to communication and that the scenarios explicitly take up. These values typically ground the discussion over the imagined futures, more precisely, the actions and impacts brought about by the key actors, and they can be grouped into four categories (Table 3).

Table 3. Categories for Values

Values	N
Intellectual	13
Ethical	14
Sociopolitical	8
Technological	3
No values identified	3
TOTAL	41

In some contrast with the code Actors, values related to technology occupy a very small place in the scenarios. Instead, Intellectual (13 of 38 scenarios with a value mentioned) and Ethical (14 scenarios) take precedence in the futures of toxic communication and pluralism. To better understand these, we can exemplify Intellectual values as follows: "critical thinking", "media critical thinking", "media literacy", "solid starting points", "tolerance comes from knowledge", and "substance of debate". Notably, there were no negative values

among those that relate to the intellect, suggesting the participants' interest and esteem in the powers of reflection in tackling toxicity and a view of pluralism as an intellectual virtue.

Ethical values occupy a significant place in the scenarios and can be exemplified by "peaceful communication", "respect", "tolerance", "pluralism", "identity politics", and "sensationalism". The latter two of these are negative values in the sense that they are related inversely to pluralistic values and regarded as contributing to toxic debates. For instance, in one case (SC(txd)10), future generations, who live in the "vibe" of cancel culture and "social media as constant performative purity test", fall prey to a "sort of compartmentalized identity politics". It is then this negative vibe that brings about their failure in reconciling the two contradictory goals of "free speech" and "protect people from speech".

In the third place are the values we designated as Sociopolitical (8 scenarios), a minority of which were negative. While "public good", "transparency", "universal citizen rights", and "legitimate authority" are considered as positive values, "corporate interest" and "authority" exemplify the negative values.

Finally, the three occurrences of Technological values can be captured as "autonomy of technology", "lack of face communication" (in online communication), and "digital mobility" (between bubbles, as a capacity that is achieved technologically). Notice that the initial pair are negative values – with autonomy of technology referring to the loss of human control over technological change. This suggests that when technology is linked to values grounding decisions or actions, it does so rather negatively.

PRESCRIPTIONS

This code aimed to register the policy proposals the scenarios may involve. It is typical of the pessimistic scenarios, in the sense that most of them devise an issue or problem – e.g. deep bubbles, the demise of the notion of truth – and then offer certain ways out of the predicament. A total of 25 of 41 scenarios involved such ideas towards positive change, or prescriptions. We initially coded these into two categories, which reflected the two fundamental aspects of social change—structure and agency (Best, 2014). The output of the coding process was rather unexpected, with all but one of the prescriptions being categorized as 'structural change' (24 scenarios). Building on the previously reported codes, we re-coded 'structural change' to distinguish it from the prescriptions that centrally involved technology. This way we achieved three categories for the code prescriptions (Table 4).

Even after the attempt to split the structural change code into two, there is still an overwhelming weight of structural change prescriptions (21 of 41 scenarios). This reflects the locus of deliberate change and social transformation as pointed out by the participants. Rather than individual or ethical action prescriptions—except for one

case—all scenarios involving such action-guiding proposals expected the change to originate in the structure, i.e., institutions and regulations, as these examples show:

> "…Yes, encouraging pluralism. So, first to distinguish what are the hidden forms of dialogue that we can encourage and then to provide the tools for the people to be able to participate with them, because, the first one is how they can break this you and me contradiction model" (P1 at Sii).
> "An obligatory continuous media education is implemented in schools of all types […] The compulsory information and media education is a part of educational systems among Europe in all stages of education" (FSE(txd)5).

In the first of these two excerpts, the participant aligns themselves with a top-down agenda that provides tools for the public, encouraging novel formats of dialogue. The second excerpt also exemplifies the scenarios in which the "encouragement" is envisaged in a more structured educational reform. Such a position echoed in most of the scenarios, where education at large, and "encouraging activism, finding other way[s] to […] participation" (SC(txd)39), or "democratization of culture and knowledge worldwide, and algorithm knowledge" (SC(txd)24), were offered as the locus of the solution(s) to online communicative predicaments.

Table 4. Categories for Prescriptions

Prescriptions of change	N
Structural	21
Technological	3
Agential and personal change	1
No prescriptions identified	16
TOTAL	41

To emphasize the weight of digital literacy and education in prescriptive statements, more examples can be offered. One of the scenarios elaborated several levels of intervention (FSE(txd)5): first, development of critical thinking for evaluating (online) content; second, encouraging empathy and respectful online interactions; third, encouraging responsible digital citizenship; and fourth, addressing online hostility. In another, we have critical perspectives in education: "…very close to this critical thinking. Progress through education, consensus through education and through developing critical thinking" (P2 at Si). Such calls for "progress through education" should not be regarded as un-reflexive prescriptions of simple modernization, as participants are well aware of the limits and failures of education as a policy to deal with social problems. Yet, they seem to be unable to come up with alternative proposals, probably due to the recognition of the necessity to approach such communicative problems in a bottom-up fashion.

To a lesser extent than the prescriptions on what may be called 'critical thinking' and 'digital literacy', there were others for more and extensive 'regulation'. These were typically top-down measures to control and restrain the corporate power dominating in social media platforms and networked communication. Examples are "Regulation of commercial platforms" and:

> "…interventions in business models, aligning with democratic principles […] platforms cannot be operated with the same profit margins as before […] Political support must come both from the nation-states and from the European level" (FSE(txd)2).

The need for regulation is recognized as an integral task for nation-states. Rather than imagining some new and innovative agency, for instance at the global level – except for "good algorithms" – the recorded prescriptions ascribed responsibility to current public authorities and governments. This seems to suggest that for the participants toxicity is a problem to be dealt with and a phenomenon that can be regulated today, rather than in an imagined future.

After examining the prescriptions for structural interventions, let us also briefly look at the outlier: the only scenario that included aspects of agential/personal change as a response to the bleak futures of online debates. This prescriptive statement also comprised algorithmic knowledge and digital literacy:

> "P3 at M: [A] lot of people are gonna be like: I'm done having choices made for me, you will have to extricate yourself from a lot of systems" […]
> P4 at M: I also think that [this has] something to do with media literacy as well […] so maybe the flip side is not just being offline or AFK [away from keyboard], but actually learning more about how things work, like how algorithms for how media works and so forth…"

It is worth noting that while the source of salvation is the same as with the majority of the prescriptions marked just above, in this excerpt the predicate is to "learn" – rather than "encourage" – and it signals the powers or agency of the user in a bottom-up fashion. While it plays the agential tune in reverse, in regard to the content, the outlier also falls within the broad domain of digital literacy, with an emphasis on acquisition and self-instruction on how algorithms work.

In brief, two major messages can be drawn from the prescriptive statements involved in the scenarios analyzed: educate and regulate. In this regard, perhaps the most salient direction that can be drawn from the experts involved in the scenarios is summarized in a slogan that popped up in one of the sessions: "Educate people, not machines" (SC(txd)20).

As an epilogue to this section, let us briefly mention the role of Europe in the scenarios. Europe was mentioned only in 11 of 41 scenarios. Although it was hardly one of the central actors, it was endowed with a consistent character, namely with the role to "safeguard democracy", "defend the institutions" (FSE(txd)1), and "among the institutions most likely to foster, and cultures most prepared to sustain, such an open public debate" (FSE(txd)6). The EU was thus ascribed a central role in the public education and digital literacy efforts mentioned above: "Under the coordination of European institutions, specific modules designed to combat toxicity could be established in schools" (FSE(txd)8). Besides this, there were also few mentions of a "stronger European identity", and, more precisely, the recommendation "the EU should empower its tech and media industry to take the lead, even to import know-how from abroad, since most European AI companies are still at an early stage" (FSE(txd)7). Generally speaking, the EU was not a defining actor in the scenarios, but there were calls for it to become one, if toxicity and fragmentation of society were to be tackled.

ENVISAGING THE FUTURES OF TOXIC DEBATES

In more or less organized ways, societies increasingly project themselves into the future, set goals, and strive to contain the externalities of their preceding projections. Future, in this sense, becomes a resource to orient human action and policy preferences (Üzelgün & Pereira, 2020). After the study of future scenarios, we now interpret the coded categories to extract the salient causal relationships and myths from the 41 scenarios. This section discusses three myths and two causal relationships that characterize the scenarios, informed by the quantitative content analysis, and further supported by a qualitative content analysis.

TECHNOLOGICAL DISRUPTION

The first myth can be called technological, or more specifically, AI and algorithmic disruption. It underlies the imaginaries of a brave new world where the integration of digital technologies into all aspects of human communication brings numerous challenges that even the public cannot fully comprehend. This myth is grounded in the overwhelming predominance of the AI and digital actants among the actors that bring the change, as well as that almost no agency is ascribed to the user or the public in the prescriptive statements. In other words, the most central preoccupation of the participants was that digital and generative technologies bring a sweeping change that will disrupt manifold aspects of human communication. Rapidly evolving digital technologies are thus envisaged as the villain and the main cause of future predicaments. Yet, to address

how these technologies impact and interact with toxic debates, it is imperative to understand how they broadly tap into the mechanisms of "virality" and platform logics (Recuero, 2024).

SOCIETAL FRAGMENTATION

The second myth can also be called by its sociological metaphor—anomie. As the corporate deployment of algorithms, AI and other disruptive technologies amplify existing cleavages, nothing short of the breakdown of common grounds and communicative frameworks is regarded as the peril ahead. Societal fragmentation thus consists in the communicative predicaments online, summarized in the notion of toxicity, but exacerbated by technology as projected into the future. This central myth then represents where the scenario builders envisage themselves with regard to toxic debates: a broken society that could not anticipate the social and political impacts of the disruptive technologies mentioned above. Several cascading factors and issues can be aligned in this causal link: lack of facework, filter bubbles, fake news, polarization, blurring boundaries of the real and virtual, and the neglect of truth. In short, regarding platformized interactions, designed and maintained by non-human values and interests, the central worry is the loss of the foundational elements of human communication, remaining locked in conflicts and contradictions.

ENLIGHTENMENT 2.0

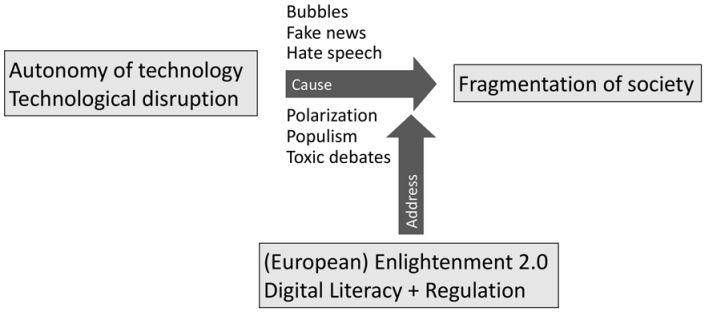
The third myth is associated with Europe and consists in a decidedly digital enlightenment – hence the 2.0 designation – in which authorities are envisaged to encourage digital literacy, public knowledge on algorithms, critical thinking to evaluate online information, and support the epistemic quality or substance that grounds public debate. Notably, enlightenment 2.0 is not just about enhanced critical thinking on the part of users, but also about regulating the platforms and the corporate interests behind algorithmic distortion. In this sense, a core concern is public – or human – accessibility, and corporate accountability, of the choices taken over digital platforms. The regulations mentioned also concern upholding and innovating in public service media, opening alternative paths to media institutionalization, and innovation in the design of online debate and interactions. Enlightenment 2.0 thus incorporates both bottom-up and top-down measures to address as yet little known impacts of platformization on human communication and society. Although it was not as salient, digital enlightenment represents the collective efforts envisaged to deal with the communicative predicaments registered by the previous two myths, and has an important role in the construction of futures.

CAUSAL LINKS

To address the relations among the three myths that summarize the futures of toxicity, two causal relationships may be discussed (See Figure 1). The first causal link lies between the first two myths, depicting the challenges that digital technologies precipitate for the complex communicative predicaments captured by the notion of toxicity. This means, issues such as filter bubbles and polarization are projected to exacerbate with further development of platform technologies. The impacted end of the causal link is human society at large, and an associated worry is that the public may not be ready to handle, nor comprehend, the challenges human nature and institutions are faced with.

It is important to underline that, contrary to what Figure 1 may suggest, technology is not the only cause that brings about the second myth—fragmentation of society. Technology should be seen as exacerbating the already existing societal problems. In this sense, the loci of the relationships among the three myths are the six problems that connect all three imaginaries: bubbles, fake news, hate speech, polarization, populism, and toxic debates.

Figure 1. A basic view of relationships among the three myths



If the link between the first and the second myths was causal, that between the second and the third myths could be designated as negative causation. That is, the third myth is envisaged to avert the impact of digital technologies on society, by protecting communicative and social relations. In other words, to address the ongoing fragmentation of society due to the platform designs, the recommendation is to launch a global public campaign to enhance digital literacy and regulate social media platforms, with the ultimate objective of boosting democratic accountability. In this regard, calls for regulation, associated with the institutional level, may be seen to indicate a certain concern, or fear of the AI-powered algorithmic distortion as a "symptom" of deregulation and neoliberalism.

TRANSFORMING PLATFORMIZED INTERACTIONS

Animated by platform monetization and recommendation algorithms, toxicity endangers not only pluralism and quality of societal debates (Anderson et al., 2018; Milli et al., 2023), but also the future of public discourse at large. The pessimistic tenor of the scenarios examined in this paper, and specifically the dim view of the role of technology therein, can be understood within the framework of a loss in the media gatekeeping processes (Cardoso, 2023). As the static gatekeeping practices are transformed into a dynamic practice of negotiation between users and algorithms (Cardoso, 2023; Konikoff, 2021), the aspects that becomes increasingly invisible and unintelligible are the rules of the negotiation. The lack of transparency and social understanding of the network gatekeeping processes may account for absences in the scenarios of a view favoring the injection of democratic values into these dynamic processes, as well as that of fostering participatory self-regulation by users (de Gregorio, 2020). So, concerning the futures of toxic debates, the complex challenge ahead can be simplified twofold. First, platform transparency, which rather than optimistically expected from platform businesses, should be imposed as a public good. Second, as a much more complex challenge, empowerment of online users, communities and initiatives to actively participate in the vast potential opened by digital technologies. After all, the future of the networked debates will probably depend on the extent to which we understand who keeps the gate and how.

ACKNOWLEDGEMENT

This article is part of the EUMEPLAT project which has received funding from the European Union´s Horizon 2020 research and innovation programme under grant agreement No 101004488. Any dissemination of results and any communication must indicate that it reflects only the author´s view and that the Agency is not responsible for any use that may be made of the information it contains.

REFERENCES

Adams, C.J., Sorensen, J., Elliott, J., Dixon, L., McDonald, M., Nithum, & Cukierski, W. (2017). Toxic comment classification challenge. https://kaggle.com/competitions/jigsaw-toxic-comment-classification-challenge

Anderson, A. A., Yeo, S. K., Brossard, D., Scheufele, D. A., & Xenos, M. A. (2018). Toxic talk: How online incivility can undermine perceptions of media. *International Journal of Public Opinion Research, 30*(1), 156-168. https://doi.org/10.1093/ijpor/edw022

Best, S. (2014). Agency and structure in Zygmunt Bauman's modernity and the holocaust. *Irish Journal of Sociology*, *22*(1), 67-87. https://doi.org/10.7227/IJS.22.1

Bormann, M. (2022). Perceptions and evaluations of incivility in public online discussions: Insights from focus groups with different online actors. *Frontiers Political Science*, 4:812145. https://doi.org/10.3389/fpos.2022.812145.

Boutyline, A., & Willer, R. (2016). The social structure of political echo chambers: Variation in ideological homophily in online networks. *Political Psychology*, *38*, 551-569. https://doi.org/10.1111/ pops.12337

Bruner, J. (1991). The narrative construction of reality. *Critical inquiry*, *18*(1), 1-21.

Burke, K. (1969). *A Grammar of Motives*. University of California Press.

Cardoso, G. (2023). *Networked communication: People are the message.* Mundos Sociais.

Carrasco-Farré, C. (2022). The fingerprints of misinformation: How deceptive content differs from reliable sources in terms of cognitive effort and appeal to emotions. *Humanities and Social Sciences Communications, 9*(1), 1-18. https://doi.org/10.1057/s41599-022-01174-9

Chen, G. M., Muddiman, A., Wilner, T., Pariser, E., & Stroud, N. J. (2019). We should not get rid of incivility online. *Social Media +Society*, *5*(3), 1-5. https://doi.org/10.1177/2056305119862641.

Cowart, A. (2022). Living between myth and metaphor: Level 4 of Causal Layered Analysis theorised. *Journal of Futures Studies*, *27*(2), 18-27. https://doi.org/10.6531/JFS.202212_27(2).0003

de Gregorio, G. (2020). Democratising online content moderation: A constitutional framework. *Computer Law & Security Review*, *36*, 105374. https://doi.org/10.1016/j.clsr.2019.105374

Fan, W., & Gordon, M. D. (2014). The power of social media analytics. *Communications of the ACM, 57*(6), 74-81.

Ferrara, E., & Yang, Z. (2015). Quantifying the effect of sentiment on information diffusion in social media. *PeerJ Computer Science, 1*(26), 1-15. https://doi.org/10.7717/peerj-cs.26

Fortuna, P., & Nunes, S. (2018). A survey on automatic detection of hate speech in text. *ACM Computing Surveys, 51*(4), 1-30. https://doi.org/10.1145/3232676.

Gillespie, T. (2020). Content moderation, AI, and the question of scale. *Big Data & Society*, *7*(2), 1-5. https://doi.org/10.1177/2053951720943234.

Gorwa, R., Binns, R., & Katzenbach, C. (2020). Algorithmic content moderation: Technical and political challenges in the automation of platform governance. *Big Data & Society*, *7*(1), 1-15. https://doi.org/10.1177/2053951719897945

Guberman, J., Schmitz, C., & Hemphill, L. (2016). Quantifying toxicity and verbal violence on Twitter. In *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion* (CSCW '16 Companion), 277-280. New York: Association for Computer Machinery.

Hameleers, M., Bos, L., & de Vreese, C. H. (2017). "They did it": The effects of emotionalized blame attribution in populist communication. *Communication Research, 44*(6), 870-900.

Hänninen, V., & Sools, A. (2022). Cultural story models in making sense of a desired post-corona world. *Futures*, *141*, 102989. https://doi.org/10.1016/j.futures.2022.102989

Hyvärinen, M. (2020). Toward a theory of counter-narratives: Narrative contestation, cultural canonicity, and tellability. In K. Lueg & M.W. Lundholt (Eds.), *Routledge handbook of counter-narratives* (pp. 17-29). Routledge.

IPIE, International Panel on the Information Environment (2024). https://www.ipie.info/ (Accessed January 30, 2024).

Inayatullah, S. (2008). Six pillars: Futures thinking for transforming. *Foresight*, *10*(1), 4-21.

Jahan, M. S. & Oussalah, M. (2023). A systematic review of Hate Speech automatic detection using Natural Language Processing. *Neurocomputing*, 546. 126232. https://doi.org/10.1016/j.neucom.2023.126232.

Jamieson, K. H., Volinsky, A., Weitz, I., & Kenski, K. (2017). The political uses and abuses of civility and incivility. In K. Kenski & K. H. Jamieson (Eds.), *The Oxford handbook of political communication* (pp. 205-218). Oxford University Press.

Jigsaw (2024). https://current.withgoogle.com/the-current/toxicity/ (Accessed February 7, 2024).

Kim, J. W., Guess, A., Nyhan, B., & Reifler, J. (2021). The distorting prism of social media: How self-selection and exposure to incivility fuel online comment toxicity. *Journal of Communication*, *71*(6), 922-946. https://doi.org/10.1093/joc/jqab034

Kleinsteuber, H. J. (2004). *The Internet between regulation and governance. Self-regulation, co-regulation, state regulation.* https://www.osce.org/files/f/documents/2/a/13844.pdf (Accessed on 14 February 2024).

Konikoff, D. (2021). Gatekeepers of toxicity: Reconceptualizing Twitter's abuse and hate speech policies. *Policy & Internet*, *13*(4), 502-521. https://doi.org/10.1016/j.clsr.2019.105374

Kumar, R., Ojha, A. K., Malmasi, S., & Zampieri, M. (2018). Benchmarking aggression identification in social media. In *Proceedings of the workshop on trolling, aggression and cyberbullying, 1-11.*

Madhyastha, P., Founta, A., & Specia, L. (2023). A study towards contextual understanding of toxicity in online conversations. *Natural Language Engineering*, *29*(6), 1538-1560. https://doi.org/10.1017/S1351324923000414

Mendis, S. (2021). Democratic discourse in the digital public sphere: Re-imagining copyright enforcement on online social media platforms. In H. Werthner, E. Prem, E. A. Lee, & C. Ghezzi (Eds.), *Perspectives on Digital Humanism* (pp. 41-46). Springer.

Milli, S., Carroll, M., Pandey, S., Wang, Y., & Dragan, A. D. (2023). Twitter's algorithm: Amplifying anger, animosity, and affective polarization. *arXiv preprint arXiv:2305.16941.*

Neff, G. (2024). The new digital dark age. *Wired*. https://www.wired.com/story/the-new-digital-dark-age/ (Accessed February 23, 2024)

Nobata, C., Tetreault, J., Thomas, A., Mehdad, Y., & Chang, Y. (2016). Abusive language detection in online user content. *Proceedings of the 25th International Conference on World Wide Web*, 145-153. https://doi.org/10.1145/2872427.2883062.

Ohol, V. B., Patil, S., Gamne, I., Patil. S., & Bandawane, S. (2023). Social shout: Hate speech detection using machine learning algorithm. *International Research Journal of Modernization in Engineering Technology and Science, 5*, 584-586.

Oz, M., Pei, Z., & Chen, G. (2018). Twitter versus Facebook: Comparing incivility, impoliteness, and deliberative attributes. *New Media & Society*, *20*, 3400-3419.

Pascual-Ferrá, P., Alperstein, N., Barnett, D. J., & Rimal, R. N. (2021). Toxicity and verbal aggression on social media: Polarized discourse on wearing face masks during the COVID-19 pandemic. *Big Data & Society*, *8*(1), 1-17. https://doi.org/10.1177/20539517211023533

Patel, A., Cook, Ch. L., & Wohn, D. Y. (2021). User opinions on effective strategies against social media toxicity. *Proceedings of the 54th Hawaii International Conference on System Sciences.* http://hdl.handle.net/10125/70980

Petlyuchenko, N., Petranova, D., Stashko, H., & Panasenko, N. (2021). Toxicity phenomenon in German and Slovak media: Contrastive perspective. *Lege Artis. Language Yesterday, Today, Tomorrow, 2*, 105-164.

Quintais, J. P., De Gregorio, G., & Magalhães, J. C. (2023). How platforms govern users' copyright-protected content: Exploring the power of private ordering and its implications. *Computer Law & Security Review*, *48*, 105792.

Quintel, T., & Ullrich, C. (2020). Self-regulation of fundamental rights? The EU Code of Conduct on Hate Speech, related initiatives and beyond. In B. Petkova & T. Ojanen (Eds.), *Fundamental Rights Protection Online* (pp. 197-229). Edward Elgar.

Rajadesingan, A., Resnick, P., & Budak, C. (2020). Quick, community-specific learning: How distinctive toxicity norms are maintained in political subreddits. *Proceedings of the International AAAI Conference on Web and Social Media*, *14*(1), 557-568. https://doi.org/10.1609/icwsm.v14i1.7323.

Recuero, R. (2024). The platformization of violence: Toward a concept of discursive toxicity on social media. *Social Media + Society*, *10*(1). https://doi.org/10.1177/20563051231224264

Reynders, D. (2022). *7th evaluation of the Code of Conduct on countering illegal hate speech online*. European Commission. https://commission.europa.eu/document/download/5dcc2a40-785d-43f0-b806-f065386395de_en?filename=Factsheet%20-%207th%20monitoring%20 round%20of%20the%20Code%20of%20Conduct.pdf

Rossini, P. (2019). Toxic for whom? Examining the targets of uncivil and Intolerant discourse in online political talk. In P. Moy & D. Mathlson (Eds.), *Voices: Exploring the shifting contours of communication* (pp. 221-242). Peter Lang.

Salminen, J., Sengün, S., Corporan, J., Jung, S., & Jansen, B. J. (2020). Topic-driven toxicity: Exploring the relationship between online toxicity and news topics. *PLoS ONE, 15*(2): e0228723. https://doi.org/10.1371/journal.pone.0228723

Shen, C., Sun, Q., Kim, T., Wolff, G., Ratan, R., & Williams, D. (2020). Viral vitriol: Predictors and contagion of online toxicity in World of Tanks. *Computers in Human Behavior*, *108*, 106343. https://doi.org/10.1016/j.chb.2020.106343.

Sheth, A., Shalin, V. L., & Kursuncu, U. (2022). Defining and detecting toxicity on social media: Context and knowledge are key. *Neurocomputing, 490,* 312-318. https://doi.org/10.1016/j.neucom.2021.11.095.

Stieglitz, S., & Dang-Xuan, L. (2013). Emotions and information diffusion in social media sentiment of microblogs and sharing behavior. *Journal of Management Information Systems, 29*(4), 217-248. https://doi.org/10.2753/MIS0742-1222290408.

Suler, J. (2004). The online disinhibition effect. *Cyberpsychology & Behavior, 7(*3), 321-326.

Üzelgün, M. A., & Pereira, J. R. (2020). Beyond the co-production of technology and society: The discursive treatment of technology with regard to near-term and long-term environmental goals. *Technology in Society*, *61*, 101244. https://doi.org/10.1016/j.techsoc.2020.101244

van den Hoven, P. (2017). Narratives and pragmatic arguments: Ivens' The 400 million. In P. Olmos (Ed.), *Narration as argument* (pp. 103-121). Springer Cham.

Waseem, Z., Davidson, T., Warmsley, D., & Weber, I. (2017). Understanding abuse: A typology of abusive language detection subtasks. In *Proceedings of the First Workshop on Abusive Language Online,* 78-84. Association for Computational Linguistics.

Williams, J. (2018). *Stand out of our light: Freedom and resistance in the attention economy*. Cambridge University Press.

ORIGINAL ARTICLE

DOI: 10.51480/1899-5101.17.1(35).704

The Future of Gender and Gender Equality Online: A Scenario Analysis of Imaginaries on Gender and Social Media Platforms

Babette Lagrange
CIMS – Ghent University, Belgium
0000-0002-1218-2310

Sofie Van Bauwel
CIMS – Ghent University, Belgium
0000-0002-8554-2452

Daniel Biltereyst
CIMS – Ghent University, Belgium
0000-0001-5954-1547

Sara Cannizzaro
IULM University, Italy
0000-0002-3205-8632

Justine Toms
New Bulgarian University, Bulgaria
0000-0001-5001-2905

Yasemin Ağca
Bilkent University, Türkiye
0000-0002-2381-9305

Ingrid Andersson
International Organisation for Knowledge Economy and Enterprise Development, Sweden
0000-0002-1290-3763

Emma Bjorner
International Organisation for Knowledge Economy and Enterprise Development, Sweden
0000-0002-5127-1869

Achilleas Karadimitriou
National and Kapodistrian University of Athens, Greece
0000-0003-3670-968X

Klara Odstrčilová
Charles University, Czech Republic
0000-0002-8860-5869

Stylianos Papathanassopoulos
National and Kapodistrian University of Athens, Greece
0000-0001-7946-6310

Elisabetta Risi
IULM University, Italy
0000-0002-0237-217X

Valentina Latronico
USI – Università della Svizzera Italiana, Italy
0009-0003-7084-5826

Abstract: The emergence and growth of the internet and social media platforms have engendered significant transformations in everyday life, affecting not only society's most innermost life but also its structural organization. This digital realm impacts gender equality, giving rise to spaces for feminist community building and activism, but at the same time enabling online gender harassment and violence. Our aim was to construct possible scenarios of the future, focusing on foreseeable consequences of social media on gender (in)equality in Europe. Using the Delphi+ method, we generated diverse future scenarios envisioning the intersection of gender and social media platforms. Through an analysis of these scenarios, we identified three recurring themes situated on a continuum from utopian to dystopian perspectives, including various positions in relation to the question of social media as safe or unsafe spaces. This study then provides us with possible imaginaries in relation to gender and social media platforms.

Keywords: Future scenarios, gender, gender equality, social media platform, feminism

INTRODUCTION

> Technology isn't inherently progressive. Its uses are fused with culture in a positive feedback loop that makes linear sequencing, prediction, and absolute caution impossible. Technoscientific innovation must be linked to a collective theoretical and political thinking in which women, queers and the gender non-conforming play an unparalleled role. (Cuboniks, 2018, p. 17)

This quote from the manifesto "Xenofeminism: A Politics for Alienation" entails the social shaping of technology and stresses the importance of including women, LGBTQIA+[1] people, and other non-hegemonic gender and sexual identities in thinking about technologies. Xenofeminism (XF) is a movement that explores the intersection of technomaterialism, anti-naturalism, and gender abolitionism (Hester, 2018). Xeno relates to foreign and, in this context, refers to alienated online space in comparison to today's practice of "infinite scrolling" on, for example, social media platforms. Xenofeminism embodies new political trajectories that re-engineer the world in relation to gender, which bridges ideas on the abolition of gender to the inclusion of the particularity and the blossoming of "a hundred sexes," stressing equalities (Hester, 2018; Kay, 2019).

Most authors claim that the arrival of the internet and social media platforms has changed everyday life immensely. Although some critics argue that this position leans towards technological determinism, many authors argue that the internet and social media have had an impact on aspects ranging from the most personal life of an individual (Hobbs et al., 2016; Cefai & Couldry, 2017) to the more structural and institutional way societies are organized (van Dijck, 2013). This online sphere has had consequences for gender equality, which range from creating spaces for feminist community building and activism, as the example

1 Lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, and more.

of xenofeminism shows (Kay, 2019), to many instances of online gender harassment and violence (Banet-Weiser & Miltner, 2016; Ging & Siapera, 2019; Vickery & Everbach, 2018). The materiality of social media platforms not only impacts our lives, but media technologies and media platforms will surely continue to change our lives, including gender equality, even more in the future.

With the advent of the internet, various feminists (e.g., Clark-Parsons, 2018; Sunden, 2001) saw a utopian way forward by using the internet for their own purposes. They consider the internet a means for communication and emancipation and see endless possibilities to use the internet and social media as tools toward gender equality (Sunden, 2001). Today, however, the path towards utopian perspectives is tortuous and complex. The online sphere has been a place for both safe and unsafe cases related to gender equality (Clark-Parsons, 2018) and opens possibilities for increasing and enhancing emancipation, community building, and epistemic justice (Clark-Parsons, 2018). But, on the other hand, the online sphere has also generated unsafe consequences, such as harassment and sexism (Marwick & Caplan, 2018). With regard to gender and social media, the notion of safe/unsafe must be specifically addressed because it embodies the lived experiences of media users (Workman & Coleman, 2014). The notion is also part of the genderedness of media technology (Wajcman, 2010) and the gendered social shaping of social media platforms (Bivens & Haimson, 2016; Lundmark & Normark, 2014) or of media technology in general (Oudshoorn, Rommes & Steinstra, 2004; Rommes 2014). Our aim is to contribute to knowledge production and ideas about the relationship between social media platforms and gender (in)equality, and to think about the social shaping of technology in relation to gender.

To examine the foreseeable consequences of social media on gender (in) equality, we first focus on the way scholars have defined the effects and impact of digital media technologies on gender equality. Relevant theories range from cyberfeminist perspectives on the internet (for an overview, see Paasonen, 2011) as being full of possibilities, to scholars researching the dangers of social media in relation to gender equality and gender rights (see Fotopoulou, 2016). Allmer (2015) suggests theories are more optimistic about the potential of technology in relation to emancipation, equality, and inclusion. From this last perspective, social media platforms can be seen as spaces that allow women to come together and fight for their rights (Brown et al., 2017; Fabbri, 2022; Keller, 2011). However, at the same time, aspects such as anonymity facilitate online harassment (Ging & Siapera, 2019; Jane, 2016; Nadim & Fladmoe, 2021).

All these perspectives on the relationship between digital media and gender give us insights into how we can think about gender and social media platforms. But to fully understand this relationship, it is also relevant to consider possible futures. In view of what we know about today's situation, how can we imagine

the future of gender (in)equality in our society? In what ways can social media platforms enhance or impede gender equality and rights? To answer these questions, we analyzed the results of a scenario-building project, where the scenarios were generated through the Delphi+ method (See the introduction of this Special Issue, and Carpentier & Hroch, 2023). Discussions conducted using this method provided our research with multiple well-reasoned possible future scenarios. We worked on the basis that grounded theory and data are conceptualized as sites of ideological negotiations, and we looked for similar discourses and recurring arguments. By analyzing them from a theoretical discourse perspective (Arribas-Ayllon & Walkerdine, 2008; Foucault, 1975) by using thematical analysis (Dusi & Stevens, 2022), we were able to identify three main themes: (1) gender over time and space: fluidity, (un)certainty and change; (2) doing gender: embodiment and representation of gender; and (3) gender and collectivity: resilience, activism, and solidarity. All three present distinct positions in relation to gender (in)equality and social media across utopian–dystopian and safe-unsafe continuums.

CYBERFEMINISM AND UTOPIAN FEMINIST IDEAS ON SOCIAL MEDIA AND GENDER EQUALITY

Feminism is often described as a movement that has fought for gender equality in four waves, which correspond to the specific rights that feminists were targeting, and depended on context and timeframe. They saw the escalation of the internet and the growing predominance of its use as an opportunity to spread feminist discourse more widely. The feminist perspective that grew out of this view of the internet and online sphere as having utopian possibilities is called the cyberfeminist perspective (see Haraway, 1985; Plant, 1997) or later xenofeminism (see Hester, 2018; Kay, 2019). This perspective offered a path to discussions about which experiences feminist movements prioritized. It did so by exalting the disembodiment promoted by new technologies, resulting in multiple and innovative possibilities to rethink issues of identity, subjectivity, and the (de) construction of relationships established between women and technology.

Moreover, various feminists (e.g., Batool et al., 2022; Morahan-Martin, 2000) considered the internet a platform and space for feminist discourse and activism. The internet was seen as a space where women could find a voice and organize communities to strive for equality; it is capable of empowering women and other minority groups in ways barely imaginable in the past (Morahan-Martin, 2000). The internet provides women with a space for community building and social support. Sharing their experiences with other women has become easier through, for example, social media posts (Morahan-Martin, 2000). Social media platforms

provide an outlet to spread awareness of gender rights and other feminist issues by giving equal opportunities to individuals rather than those available in offline situations of community and awareness building (Batool et al., 2022). Reading about other women's experiences is much more accessible with the worldwide connection the internet offers (Morahan-Martin, 2000).

Furthermore, for various women it has become easier to seek information online on a wide range of topics (e.g., health care). The internet has made knowledge much more accessible, and its impact on people who were previously not included in its distribution, community building, and social support cannot be underestimated (Morahan-Martin, 2000). In this way, internet access can lead to improved empowerment of disadvantaged groups (Masi et al., 2003). According to Hamid et al. (2015), social media can help women and girls improve their knowledge, skills, careers, and more. Kadeswaran et al. (2020) argue social media grants people a voice that they otherwise might not have and a way of exploring and expanding their opinions and education on specific topics. Likewise, social media allows people to work from home, contact others online, build networks, and set up businesses. Social media entrepreneurship assists people who need mobility and flexibility (Komarraju et al., 2022). Melissa et al. (2013) discuss these needs in relation to women.

Online communities and platforms provide opportunities for intellectual and emotional development. Keller (2011), for example, illustrates how blogs help girls attain a deeper understanding of community, activism, and feminism by functioning as a platform for discussion and for formulating one's thoughts and feelings. Online communities can serve as a space to safely ask questions that feel uncomfortable in the real world and to "[learn] through discussion" (Clark-Parsons, 2018, p. 2140). This can add great value in the development of people (i.e., girls and women) who are not always understood or well represented in the real world. Additionally, even though we can imagine gender as fluid, most of the research in relation to gender equality and social media platforms is focusing on women and girls.

Clearly, the internet is a space where activism is discussed and spread, thereby creating a real and often positive impact on the world around it. As Connelly (2015) illustrates, using the example of Tumblr, online platforms have the potential to raise awareness of existing issues and initiate social change. By functioning as a space where activism can be discussed, the internet also helps shape social movements.

SOCIAL MEDIA PLATFORMS AS TOXIC AND DANGEROUS SPHERES FOR GENDER EQUALITY

Feminist imaginaries have constructed a mostly emancipatory impact on social media, especially in relation to seeking knowledge and building communities, but it is important to shed light on the negative consequences social media can have for gender equality. After all, the internet did not evolve into the strictly utopian space that cyberfeminism had envisioned. Considering that the body has been the site of heavily charged political struggles within feminist thought and activism, the romanticized and incorporeal nature of cyberfeminist values has provoked feminist criticism (Wajcman, 2004). Social media is not only a place that fulfills certain feminist ideals of community building, social networking, and equality of knowledge production and distribution (boyd, 2011), because it also has disadvantages. Although the internet provides people a space to talk, it also comes with its own gender-related dangers and gender inequality. Various feminist concerns about the internet and the use of social media point to online topics such as harassment, false information, oppression, and the like (Morahan-Martin, 2000).

Looking at online harassment, we can see how gender plays a role in various ways. First, women are particularly vulnerable to falling victim to online harassment (Bartlett et al., 2014; Jane, 2014). There are many ways to harass someone online, some of which are sexual. The internet can be a space for women to discover and express their sexuality facilitated by, for example, accessible knowledge, anonymity, and less physical restraint (Morahan-Martin, 2000). However, the anonymity and accessibility of the internet do not have only liberating sexual influences. Negative consequences stem from cases of unsolicited nudes, anonymous online harassment of people, harassing comments on women's sexual content, porn that objectifies women and girls, pictures and videos of women and girls that are shared without consent, and more (Morahan-Martin, 2000). Similarly, this danger can be illustrated by recent controversies in relation to deep-fake porn (Saner, 2024). Indeed, women can receive a harassing backlash to their own exploring online due to gendered communication styles and stereotypes (Morahan-Martin, 2000).

Notably, online sexism and harassment are often portrayed as "acceptable" by framing them as humor (Drakett et al., 2018). Instead of allowing women an online space and voice, harassment framed as "jokes" oppresses them and silences their voices. Women are then "othered" and excluded through humor in technological spaces (Drakett et al., 2018). Nadim and Fladmoe (2021) explore how online harassment affects men and women differently. Women who have been harassed online are likelier to be cautious in expressing their opinions and ideas publicly (Nadim & Fladmoe, 2021), and consequently, they are likelier to be excluded and silenced.

While these studies mention online harassment generally, there are also feminist concerns about specific online harassment coming from the friends and lovers of women and girls. We can see modernization and technologization in the forms of violence toward women committed by their romantic partners. Studies such as one in Spain (Martínez-Pecino & Durán, 2019) underscore how many women are cyberbullied by their romantic partners. Moreover, in cyberbullying, we can identify the influences of male sexism (Martinez-Pecino & Durán, 2019). The overall prevalence of cyberbullying is hard to estimate; however, multiple studies argue for acknowledging its high incidence among teenagers and its gendered impact on them. Cyberbullying is becoming alarmingly common among teenagers and young people, whether they are perpetrators or victims (Aboujaoude et al., 2015; Garaigordobil, 2011; Martinez-Pecino & Durán, 2019).

Granted, the internet makes distributing knowledge and ideas much more accessible. While this can be a good activity to ensure that valuable and often disregarded voices are heard, it can also have negative consequences, as it opens the door to a great deal of false information (Morahan-Martin, 2000). With so much information out there, it can be hard for users to distinguish between what is and is not real. Moreover, like how oppressed people can find a community online, the internet can also be a place where people with misogynist and sexist viewpoints can find each other (Morahan-Martin, 2000). We can think, for example, about 'involuntary celibates' (incels) who blame women for their own discomfort in society. Their hatred for women is justified through the presence of online incel communities, because not only do these communities perpetuate these ideas of fault and responsibility, but they also exacerbate them (Hoffman et al., 2020; Tranchese & Sugiura, 2021). Groups like these can then create support for violent, hostile, or simply deviant behavior. Such groups ensure that people can feel justified in committing dangerous or simply inappropriate acts directed at women and others (Morahan-Martin, 2000). While it helps create communities that support women, the internet also creates communities that threaten them.

Finally, although there is truth that social media platforms can provide women and girls with a community, a voice, and a place to access knowledge, this has not always been the case. Women worldwide have been slower to find their way to the internet, making sure that unequal power relations offline can find their way online. In other words, the internet may "amplify rather than diminish existing gender social, political, and economic inequities in the Digital Age" (Morahan-Martin, 2000, p. 683). Thus, in summary, although there can be emancipatory benefits in the possibilities the internet affords us through social media, there are many negative and harmful consequences for gender equality that accompany social media as well.

Considering these insights from previous research, we aim to investigate imaginaries and the possible futures envisioning the relationship between social

media platforms and gender (in)equality. These imaginaries deal with the individual, which entails the potential of gender fluidity or hybridity, and focus on the lived experiences of individuals but also of the collective, which is embodied by solidarity between gender groups, activism, and resistance.

METHODOLOGY: A FUTURE SCENARIO ANALYSIS

In this study, our aim was to answer the question of how we might see the future of gender equality in relation to social media platforms. Drawing upon theoretical and empirical insights from previous studies, we focused on the relationship between social media platforms and gender (in)equality, analyzing possible future scenarios that we have collected. To gather and build future scenarios, the Delphi+ method—as mentioned before, see the Introduction of this Special Issue, and Carpentier & Hroch (2023)—was used. All future scenarios or imaginaries describe potential variations, in which social media platforms demonstrate their impact on gender equality in Europe. Our analysis moves beyond the mere description of the scenarios, as they are used to map various alternative futures, to reflect about desired futures and how these can shape our future-present accordingly (Carpentier & Hroch, 2023; Inayatullah, 2012). Analyzing these varying imaginaries thus allows us to form an idea of how to envision possible futures, of what the future in relation to gender and social media might be.

For this article, we focused on 22 scenario cards (SCs) gathered from the four Delphi+ workshops at Sofia (coded Si and Sii), Mälmo (M) and Rome (R) on the theme "Gender and Gender Inequality in Societies" [g&ge] created by an aggregate of 29 experts. In addition, the members of the EUMEPLAT consortium, within the context of a topic-specific writing project wrote 11 future scenarios essays (FSEs). An overview and the in-text coding of all 33 scenarios (22 SCs and 11 FSEs) can be found in Appendix 1. In our analysis, we thematically analyzed the scenarios and organized them in relation to how people today envision the future of gender and social media. The first phase of the analysis resulted in the identification of two dimensions: a utopian–dystopian perspective and whether they are safe or unsafe. This means that all scenarios were placed on these two axes (see Fig. 1). We first checked whether the wording of the scenarios described them more as either utopian or dystopian. This classification was driven by questions such as: Are the scenarios describing ideal conditions? Are they not necessarily practical or real, but idealistic? Do they take intersectionality into account? How fully positive are they? If the answers to these questions were positive, we categorized them as utopian. However, some scenarios were inherently dystopian, meaning not necessarily realistic but negative, and with consequences that could spiral out of control.

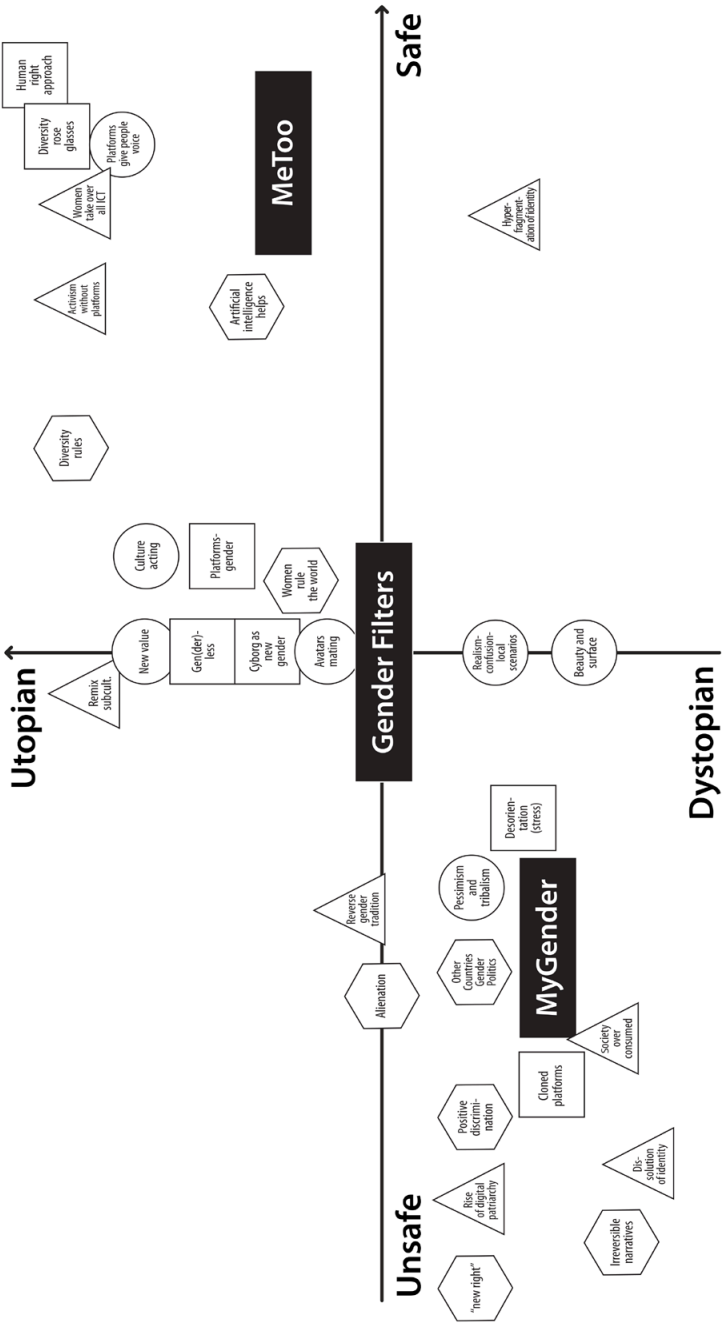
Next, we analyzed whether the wording of a scenario could be seen as safe or unsafe situations with regard to gender. The scenarios were considered safe if they described narratives moving toward gender equality and freedom of gender identity and expression. Safe scenarios can include legal frameworks and describe situations that are far from physical and psychological danger. Moreover, they do not allow discrimination, inequality, or exclusion. In contrast, scenarios were considered unsafe when their narratives moved away from gender equality and freedom. Unsafe scenarios also lacked legal frameworks for the protection of gender equality. An important note in relation to these axes is that we analyzed the scenarios based on the way how the author(s) framed them. In other words, we described scenarios as utopian/dystopian and safe/unsafe only if the author(s) of the scenarios viewed these possible futures in these ways. As such, even though at first glance utopian-dystopian and safe-unsafe can be considered two sides of the same coin, aspects such as the interpretation of the author(s) can result in differences. Indeed, our analysis demonstrated the existence of one scenario that was perceived as very safe but at the same time dystopian.

We analyzed the scenarios using a thematic analysis with a specific focus on the narratives created around social media and gender. We started our analysis by inductively and carefully re-reading our data in detail (Polkinghorne, 1995).

We searched for narrative and discursive patterns in our data and connected and clustered similar codes into three major themes. We identified these themes as the most significant topics in the narratives of the scenarios. We thematically coded their narratives according to the themes: (1) gender over time and space: fluidity, (un)certainty, and change; (2) doing gender: embodiment and representation of gender; and (3) gender and collectivity: resilience, activism, and solidarity. All scenarios fell under those three recurring themes. Therefore, we decided to focus on these three themes as an analytic framework. Secondly, we analyzed how these were related with the dimensions (or axes) such as safe/unsafe and utopian/dystopian. With this methodological frame, we aimed to gain insight into the discourses on the imagined futures of gender and social media. The themes all cover safe, unsafe, utopian, and dystopian scenarios.

We explain the themes by focusing on excerpts from future scenarios. These excerpts were chosen because they can be seen as diverse in relation to the two utopian/dystopian and safe/unsafe axes. In this way, aside from illustrating the three general themes (which contain scenarios at various points on the axes), these examples can give an idea of what might happen in utopian, dystopian, safe, unsafe, or rather neutral future worlds. The scenarios are illustrative because they clearly show the relationship between social media and gender (in)equality. Below is a graph depicting all the scenarios (see Fig 1). The themes are not visible since all three cover scenarios on various points of the axes.

Figure 1. Graph of future scenarios on gender[2]



2 The four types of shapes only serve to make the scenarios distinct.

THE THREE THEMES IMAGINING THE FUTURE OF GENDER AND GENDER EQUALITY ONLINE

THEME 1: GENDER OVER TIME AND SPACE: FLUIDITY, (UN)CERTAINTY, AND CHANGE

This theme concerns individual experiences of gender over time and space. Scenarios under this theme discuss the feelings, understandings, and experiences of gender that people may have. They illustrate how ideas of gender can vary, depending on the countries, in which people live or the communities that surround them. With the authors of the scenarios being mainly European, mentioned countries were found to be European as well. Gender, in this sense, is a cultural factor. The scenarios also show how gender identities and our perceptions of them can fluctuate over time. One scenario, for example, imagines a future when there will be even more gender identities distinguished (SC[g&ge]26_R). This is seen by the author(s) as very safe but rather dystopian. Addressing gender identities has fluctuated and most probably will continue to fluctuate over time. Moreover, not only is this non-fixedness of gender identities seen in relation to their conceptualization, as it can also be found when looking at people's individual and lived experiences. People's gender identities can fluctuate over their lifetimes. Both gender identities and own gender journeys can be fluid and not necessarily fixed. However, this aspect is not necessarily fully recognized by contemporary societies and their legislations. Future scenarios may therefore solidify the idea that gender is fixed, or they may move away from this misconception (an example of the latter is SC[g&ge]19_Sii, which the author(s) considered as neutral with regards to safe-unsafe but rather utopian). The future scenarios we collected focused on these topics, partly related to social media. These latter scenarios focused, for example, on not only future ideas of gender but also on the way these ideas would be distributed and find a place on social media.

To illustrate this theme in more depth, we focused on one of the future scenarios, entitled: "What if there would be a social media platform that quantified the certainty of how people feel about their gender identity?" (FSE[g&ge]25). This scenario imagines a world in which expecting certainty of one's gender identity is taken even further than it is today. It refers to a social media platform, MyGender, where people give information about their gender. However, it is also used as a surveillance app to decide whether people can take certain medical or legal steps in their transgender journey (FSE[g&ge]25). It is classified as an unsafe and rather dystopian scenario.

Societies today expect certainty from people about their gender identities. This is notable in the future scenario on MyGender. Indeed, societies are generally not

compatible with the fluidity and malleability that can be inherent in gender. This is reflected in the legislation of various countries in relation to, for example, transgender care.

> When looking at legislation regarding transgender care, we see a variety of laws and legislation across European countries. Whereas some countries (e.g., Bulgaria, Albania, North Macedonia, and Hungary) have no legislation regarding the recognition of transgender people, others do, but with numerous conditions that transgender people must meet to be eligible. (Transgender Infopunt, 2023, cited in FSE[g&ge]25)

These requirements are in place in recognition of the certainty with which transgender people are expected to experience their gender identity. This future scenario takes the idea of the necessity of certainty further by describing a future when everyone (starting from the moment a child leaves kindergarten) must have an account on the surveillance social media app MyGender. The future scenario describes the app and its use as follows:

> Every day, MyGender asks you to fill in a questionnaire. This questionnaire is made up of different questions aimed to understand one's current gender identity and expression. For young kids, questions are asked like "do you feel like a boy today?" or "which outfit do you prefer wearing?" together with five outfits ranging from very masculine to androgynous to very feminine presenting. The questions change with the users' ages. … Each day, people's answers are turned into percentages. These show how much you felt like a woman, a man, a non-binary person … during that day. The percentages then get saved on your identity card. … If transgender people want to start certain procedures in their trans journey (like hormone therapy), they must receive a green light from the specialists in question (like doctors). These specialists are legally obliged to consult the saved percentages on the identity cards. Only when for 10 years their patients have had a sufficiently high percentage of the gender they say they are, can the specialists start thinking about allowing the requested procedures. The exact percentages vary from 70 to 100%, depending on the procedure. (FSE[g&ge]25)

This is an example of a scenario in which the idea of certainty in relation to gender identity has been radicalized. The scenario is an illustration of how contemporary societies and possible future variation fail to leave room for the very normal doubt transgender people can experience (since lack of representation, etc., is the perfect fuel for doubt) and the fluidity that can be inherent in certain gender identities. Moreover, it is an example of how social media can

not only allow people to gain gender-related knowledge and find communities (boyd, 2011; Kadeswaran et al., 2020), but can also take this too far by surveilling them. In short, scenarios under this first theme talk about gender in relation to certainty–uncertainty, fluidity, and change over time and space.

THEME 2: DOING GENDER: EMBODIMENT AND REPRESENTATION OF GENDER

This theme covers scenarios addressing ways of doing gender. Again, these scenarios express themselves on an individual level. However, while the first theme considers the way people experience, feel, and conceptualize gender, the second looks at gender's representation and embodiment. Scenarios under this theme discuss what representing one's gender and gender identities looks like, and others cover topics such as believability e.g., FSE[g&ge]4 and FSE[g&ge]24. Whereas the former is considered neutral (including positive and negative elements) the latter is negative on both axes. Both FSE[g&ge]4 and FSE[g&ge]24 discuss the relation of gender embodiment with being believed by others or not focusing on authenticity. That is, alongside embodiment and representation, the scenarios also discuss the perception of these representations and images. One scenario does this by imagining a deep fake-inspired future in relation to gender (FSE[g&ge]24). Most scenarios also discuss these topics of representation, embodiment, and perception in relation to social media. As discussed, social media can be a place for people to find a community and themselves (boyd, 2011), but also for others to perceive people and their (gendered) representation online and respond to it. This can result in online harassment, gendered backlashing focusing on stereotypes, cyberbullying and more (Bartlett et al., 2014; Jane, 2014; Martínez-Pecino & Durán, 2019; Morahan-Martin, 2000). To better illustrate this theme, we focused on a scenario that covers all aspects of the theme and presents them in relation to social media. This scenario is entitled: "What if filters on social media allowed users to believably change their secondary sex characteristics in pictures and videos?" (FSE[g&ge]4), which describes filters that can believably change one's secondary sex characteristics in pictures and videos. The scenario is described by the author(s) as having both dystopian and utopian, and safe and unsafe aspects (FSE[g&ge]4).

The future scenario discusses authenticity in online spaces in relation to gender and mentions how people on social media "try to show their most 'authentic self' to be either or both relatable and real to their followers" (Banet-Weiser, 2021 cited in FSE[g&ge]4). However, as the scenario mentions, "this self is always influenced by culture and social norms" (Banet-Weiser, 2021 cited in FSE[g&ge]4). Likewise, this self is constructed by cultural and social norms regarding gender representation, as the essay explains:

> When users try to show their most 'authentic self' online, they can be confronted with online gender norms. These norms raise the question of what to do with one's gender identity and expression online (Kondakciu et al., 2021). Can one's gender identity and expression be shown, and how? Is it safe for people to do so, and are they inauthentic if they don't? There is a tension between those two aspects. (FSE[g&ge]4)

In this context, the scenario anticipates that a certain kind of social media filter will be invented. These filters could believably change one's secondary sex characteristics in online pictures and videos. By doing this, the filters allow users to represent their gender in a way that feels true to themselves. Alternately, filters can be used by people who believe that their voices might be taken more seriously if others imagined them to be another gender and embody a voice of authority. Aside from possible results in gender euphoria or a voice of authority (depending on the reason for using them), these filters can also have a negative impact. Online euphoria could make people more dysphoric offline (using the filters could lead to a backlash if followers, friends and family knew about the filter and called the users "fake", in line with more pessimistic theories on the impact of social media). We could question whether real sustainable gender equality in relation to the voice of authority could be reached without any diverse gender representation (FSE[g&ge]4). Moreover, we can imagine this to differ depending on the locations and situatedness of people, such as for example whether or not they live in Europe. We can thus both envision utopian and dystopian outcomes of the scenario, which is therefore rather neutral in relation to the dichotomies safe/unsafe and utopian/dystopian. The scenario also illustrates both the various ideas of gender embodiment and representation online and the relation of these representations to credibility and the perceptions of others.

THEME 3: GENDER AND COLLECTIVITY: RESILIENCE, ACTIVISM, AND SOLIDARITY

In the third theme, gender topics related to collectivity were articulated in various scenarios. That is, these future scenarios discuss activism in relation to equal opportunities and gender rights. They mention, for example, topics like "what if women ruled the world" or situations in which only women would run certain fields (for example, ICT) (SC[g&ge]16_R and FSE[g&ge]23). Of these two scenarios, the former is perceived as very safe and very utopian and the latter as slightly safe and slightly utopian. They also discuss possible futures when gender equality has reverted to a state reminiscent of several years prior (e.g., FSE[g&ge]14, which is seen as very unsafe and slightly dystopian). Most scenarios speak from a European perspective as most of their authors are European. Some scenarios discuss these topics in relation to social media, as this can also allow for activism,

community building and solidarity (e.g. Connelly, 2015; Kay, 2019; Keller, 2011). One scenario, for example, portrays a future in which activism would be fully offline and not rely on online platforms (SC[g&ge]27_R), which is seen as safe and very utopian. The scenarios under this theme illustrate possible futures, either with or without both resilience toward gender inequality and solidarity for victims of gender issues. An example is the following: "What if #MeToo would be turned into a social media platform?" (FSE[g&ge]15, which is seen as safe and rather utopian). This scenario imagines a future in which there would be more safety from gender violence due to the installation of a specific social media app, MeToo. The author(s) of the scenario portrays it as safe and rather utopian. This scenario is also one of the examples that connect possible future ideas of activism with social media (in line with examples of Connelly, 2015; Kay, 2019; Keller, 2011). Indeed, it situates a world in which #MeToo is turned into a safety and informational social media app, *MeToo* (FSE[g&ge]15).

> This app is a positive future scenario as it extends the positive impact of #MeToo with regard to representation, recognition, and knowledge of sexual violence. By posting their own experiences, people break the taboo around sexual violence and further the effect of #MeToo. By sharing information on sexual violence and help for victims, people create needed knowledge. This knowledge is being shared on a social media app, making it accessible for a very broad audience. Lastly, the map can be seen as an archive and a useful tool about safety and unsafety. People can consult the map to gain space- and time-specific information about sexual violence and (un)safety. Whereas some of the app's features already exist in different forms today, in 20 years from now, the app MeToo enriches the possibilities of these existing features by broadening them and bringing them together in one platform. To conclude, this app can be seen as a positive extension of the hashtag. The app breaks taboos and creates recognition, representation, and acknowledgment of sexual violence and its impact. (FSE[g&ge]15)

The scenario, like others under this theme, starts by looking at current forms of activism. In this example, current forms of dealing with sexual violence, such as #MeToo and Meldet (https://meldet.org/) (FSE[g&ge]15), continue to imagine ways, in which these forms of activism could be strengthened, held back, or remain unchanged. This particular scenario (FSE[g&ge]15) looks at the first way, and more specifically is an illustration of strengthening current activism by using social media (comparable to examples discussed by Connelly, 2015; Kay, 2019; Keller, 2011). The other scenarios in this third theme work in similar ways and range from safe to unsafe and utopian to dystopian.

CONCLUSION

The analysis of the future scenarios demonstrated in many ways what gender (in)equality on social media might look like in 20 or 30 years. By clustering the scenarios into three main themes, we were able to construct an idea about the various ways in which social media can relate to gender (in)equality. Some future scenarios are more or less desirable and articulate a utopian and safe vision. All of them show where we, as a community of European citizens, might find ourselves. Understanding future scenarios and possibilities in relation to gender is meaningful because it pinpoints what must be done in the present to prevent potential future scenarios from happening. The internet and social media are ever evolving and impact our daily lives, and by extension, they impact gender equality. We identified positive impacts regarding feminist issues that reflect some of the aspirations formulated in existing cyberfeminist (Sunden, 2001; Plant, 1997) and xenofeminist theories (Hester, 2018; Kay, 2019). Social media provides a platform to gain knowledge that might not otherwise reach those who need it. Moreover, it provides opportunities for women and girls to create communities. People suffering from gender inequality can find each other on social media platforms by sharing their stories. This can then, in turn, lead to offline activism.

Current social media and internet possibilities in general seem rather hopeful with regards to feminism and gender equality. These imaginaries can be linked to the strand of cyberfeminism, in which the term "stands for feminist analyses of human–machine relations, embodiment, gender, and agency in a culture saturated with technology" (Paasonen, 2011, p. 340). However, on the flip side of the coin, social media is also responsible for the negative consequences diminishing gender equality. Women and girls are frequent victims of online harassment. This online harassment and sexism are often accepted by disguising them as "humor." The anonymity of social media can also turn the idea of the internet as a feminist utopia upside down. It ensures that those who commit acts of online harassment or sexism are not held accountable. Thus, although the internet and social media have a positive potential regarding feminist issues (Squires, 2000), they come with threats to gender equality. These critical thoughts on media technology in relation to gender are linked to the strand in cyberfeminist theory that "points to critical analyses of cyberculture in relation to feminist thought, where cyberfeminism becomes a critical feminist position for interrogating and intervening in specific technological forms and practices" (Paasonen, 2011, p. 340).

By grasping the various ideas people have about possible futures in relation to gender and gendered othering, particularly on social media we can think about what kind of society, including the online spaces, we want in our future. This can, in turn, fuel

questions about what we, as a society, can do now. What can we do to prevent the dangerous and encourage the desirable possible future scenarios?

Based on the analysis of the future scenarios, it became clear that there are many contexts across Europe and these contexts are important in the way future scenarios relating to gender are formulated and seen as somewhat utopian or dystopian and either safe or unsafe. A broader development of European values reflected in legislation is one of the arguments that seems to be present. Media, and more particularly social media platforms, are seen as an important material place and space where gender is perceived and articulated. The idea of fluidity of gender identity is related to the material aspect of social media platforms and what these technologies can do. The materiality of the media technology becomes important and as Niels Van Doorn (2011) argues gender, sexuality and embodiment "come to 'matter' in digital environments" stressing the fact that we need to rethink the materiality of the digital. The fluidity of gender identities seems often articulated as part of the performativity online but does not seem as inscribed in the materiality of the technology although there is a concern about the social shaping of technology.

In the scenarios, the idea that social media spaces need to be safe spaces, especially in relation to expressing gender identities, is prominent. Despite the general concern about polarization online, including the backlash in some European countries, media platforms are seen as a place of "action"—from a place for individual expressions of gender identity to a place of collectivity and gender activism.

Although there is much reflection on the pitfalls of social media and a plea for safe spaces is present, the imagined futures are mostly quite hopeful in seeing all kinds of opportunities into technology. We can question if – related to gender and social media technologies or media technologies in general – we can and do look into the future with an optimistic lens (Dickel & Schrape, 2017) and how did this come about? As a result of our digital everyday lives, are we increasingly intertwined in media technologies to the extent that we are not even capable of thinking detached from these technologies? And are future scenarios about gender and social media alternative constructions of reality?

ACKNOWLEDGEMENT

This article is part of the EUMEPLAT project, which received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004488. The information and views in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions or bodies, nor any

person acting on their behalf may be held responsible for the use which may be made of the information contained herein.

REFERENCES

Aboujaoude, E., Savage, M. W., Starcevic, V., & Salame, W. O. (2015). Cyberbullying: Review of an old problem gone viral. *Journal of Adolescent Health*, *57*, 10-18. https://doi.org/10.1016/j.jadohealth.2015.04.011

Allmer, T. (2015). *Critical theory and social media: Between emancipation and commodification*. Routledge.

Arribas-Ayllon, M., & Walkerdine, V. (2008). *Foucauldian discourse analysis*. Sage.

Banet-Weiser, S., & Miltner, K. M. (2016). #MasculinitySoFragile: Culture, structure, and networked misogyny. *Feminist Media Studies, 16*(1), 171–174. https://doi.org/10.1080/14680777.2016.1120490

Banet-Weiser, S. (2021). Gender, social media, and the labor of authenticity. *American Quarterly*, *73*(1), 141-144. https://doi:10.1353/aq.2021.0008

Bartlett, J., Norrie, R., Patel, S., Rumpel, R., & Wibberley, S. (2014). *Misogyny on Twitter*. Demos.

Batool, S., Qadri, F. A., & Amir, M. A. (2022). Social media and women empowerment: A digital feminist analysis of 'Watch Us Rise' by Watson and Hagan. *Journal of Social Sciences Review*, *2*(4), 9-18. https://doi.org/10.54183/jssr.v2i4.40

Bivens, R., & Haimson, O. L. (2016). Baking gender into social media design: How platforms shape categories for users and advertisers. *Social Media + Society*, *2*(4). https://doi.org/10.1177/2056305116672486

boyd, D. (2011). Social network sites as networked publics: Affordances, dynamics, and implications. In Z. Papacharissi (Ed.), *Networked self: Identity, community, and culture on social network sites* (pp. 39–58). Routledge.

Brown, M., Ray, R., Summers, E., & Fraistat, N. (2017). #SayHerName: A case study of intersectional social media activism. *Ethnic and Racial Studies*, *40*(11), 1831–1846. https://doi.org/10.1080/01419870.2017.1334934

Carpentier, N., & Hroch, M. (2023). *The EUMEPLAT Delphi+ workshops: A manual*. Culture and Communication Research Centre, Charles University.

Cefai, S., & Couldry, N. (2017). Mediating the presence of others: Reconceptualising co-presence as mediated intimacy. *European Journal of Cultural Studies*, *22*(3), 291–308. https://doi.org/10.1177/1367549417743040

Clark-Parsons, R. (2018). Building a digital Girl Army: The cultivation of feminist safe spaces online. *New Media & Society, 20*(6), 2125–2144. https://doi.org/10.1177/1461444817731919

Connelly, S. M. (2015). 'Welcome to the FEMINIST CULT': Building a feminist community of practice on Tumblr. *Student Publications*, *328*.

Cuboniks, L. (2018). *The Xenofeminist manifesto: A politics for alienation*. Verso Books.

Dickel, S., & Schrape, J. F. (2017). The logic of digital utopianism. *NanoEthics* (11): 47-58.

Drakett, J., Rickett, B., Day, K., & Milnes, K. (2018). Old jokes, new media: Online sexism and constructions of gender in Internet memes. *Feminism & Psychology, 28*(1), 109-127. https://doi.org/10.1177/0959353517727560

Dusi, D., & Stevens, P. (2022). Thematic analysis: An analytical method in its own right. In P. Stevens (Ed.), *Qualitative data analysis: Key approaches* (pp. 293–316). SAGE.

Fabbri, G. (2022). Intersectional activism on social media: Anti-racist and feminist strategies in the digital space. *Journal of Postcolonial Writing*, *58*(5), 713-728.

Foucault, M. (1975). Préface. In M. Foucault, *Dits et écrits* (pp. 187-195). Gallimard.

Fotopoulou, A. (2016). *Feminist activism and digital networks: Between empowerment and vulnerability*. Palgrave Macmillan.

Garaigordobil, M. (2011). Prevalencia y consecuencias del cyberbullying: Una revision [Prevalence and consequences of cyberbullying: A review]. *International Journal of Psychology and Psychological Therapy*, *11*, 233-254.

Ging, D., & Siapera, E. (Eds.). (2019). *Gender hate online: Understanding the new anti-feminism*. Springer.

Hamid, N. A., Ishak, M. S., & Yusof, N. (2015). Measurement model of empowerment for women and girls using social media. *Journal of Social Sciences and Humanities*, *1*, 84–91.

Haraway, D. (1985/2016). *A cyborg manifesto: Science, technology, and socialist-feminism in the late twentieth century*. University of Minnesota Press.

Hester, H. (2018). *Xenofeminism*. John Wiley & Sons.

Hoffman, B., Ware, J., & Shapiro, E. (2020). Assessing the threat of incel violence. *Studies in Conflict & Terrorism*, *43*(7), 565-587. https://doi.org/10.1080/1057610X.2020.1751459

Hobbs, M., Owen, S., & Gerber, L. (2016). Liquid love? Dating apps, sex, relationships and the digital transformation of intimacy. *Journal of Sociology, 53*(2), 271–284.

Inayatullah, S. (2012). Futures studies. Theories and methods. In F. G. Junquera (Ed.) *There's a future: Visions for a better world* (pp. 37-65). BBVA.

Jane, E. A. (2014). 'Back to the kitchen, cunt': Speaking the unspeakable about online misogyny. *Continuum: Journal of Media & Cultural Studies*, *28*, 558-570. https://doi.org/10.1080/10304312.2014.924479

Jane E. A. (2016). *Misogyny online: A short (and brutish) history*. Sage.

Kadeswaran, S., Brindha, D., & Jayaseelan, R. (2020). Social media as a gateway for accelerating women empowerment. *Parishodh Journal*, *9*(3), 4876-4885.

Kay, J. B. (2019). Xenofeminism. *Feminist Media Studies*, *19*(2), 306–308. https://doi.org/10.1080/14680777.2019.1579983

Keller, J. M. (2011). Virtual feminism: Girls' blogging communities, feminist activism, and participatory politics. *Information, Communication & Society*, *15*(3), 429-447. https://doi.org/10.1080/1369118X.2011.642890

Komarraju, S. A., Arora, P., & Raman, U. (2022). Agency and servitude in platform labour: A feminist analysis of blended cultures. *Media, Culture & Society*, *44*(4), 672-689. https://doi.org/10.1177/01634437211029890.

Kondakciu, K., Souto, M., & Zayer, L.T. (2022). Self-presentation and gender on social media: An exploration of the expression of 'authentic selves'. *Qualitative Market Research*, *25*(1), 80-99. https://doi.org/10.1108/QMR-03-2021-0039

Lundmark, S., & Normark, M. (2014). Designing gender in social media: Unpacking interaction design as a carrier of social norms. *International Journal of Gender, Science and Technology*, *6*(2), 223-241.

Martinez-Pecino, R., & Durán, M. (2019). I love you but I cyberbully you: The role of hostile sexism. *Journal of Interpersonal Violence*, *34*(4), 812-825. https://doi.org/10.1177/0886260516645817

Masi, C. M., Suarez-Balcazar, Y., Cassey, M. Z., Kinney, L., & Piotrowski, H. (2003). Internet access and empowerment: A community-based health initiative. *Journal of General Internal Medicine*, *18*(7), 525-530.

Marwick, A. E., & Caplan, R. (2018). Drinking male tears: Language, the manosphere, and networked harassment. *Feminist Media Studies, 18*(4), 543-559. https://doi.org/10.1080/14680777.2018.1450568

Melissa, E., Hamidati, A., & Saraswati, M. S. (2013). Social media empowerment: How social media helps to boost women entrepreneurship in Indonesian urban areas. *The IAFOR Journal of Media, Communication and Film*, *1*(1), 77-90.

Morahan-Martin, J. (2000). Women and the internet: Promise and perils. *CyberPsychology & Behavior*, *3*(5), 683-691.

Nadim, M., & Fladmoe, A. (2021). Silencing women? Gender and online harassment. *Social Science Computer Review*, *39*(2), 245-258. https://doi.org/ 10.1177/0894439319865518

Oudshoorn, N., Rommes, E., & Stienstra, M. (2004). Configuring the user as everybody: Gender and design cultures in information and communication technologies. *Science, Technology, & Human Values, 29*(1), 30-63.

Paasonen, S. (2011). Revisiting cyberfeminism. *Communications, 36*(3), 335-352. https://doi.org/10.1515/comm.2011.017

Polkinghorne, D. E. (1995). Narrative configuration in qualitative analysis. *International Journal of Qualitative Studies in Education, 8*(1), 5-23.

Plant, S. (1997/2016). *Zeros + Ones: Digital Women + The New Technoculture*. Fourth Estate.

Rommes, E. (2014). Feminist interventions in the design process. In W. Ernst & I. Horwath (Eds.), *Gender in science and technology* (pp. 41-55). transcript Verlag.

Saner, E. (2024, 31 January). Inside the Taylor Swift deepfake scandal: 'It's men telling a powerful woman to get back in her box'. Retrieved 2 February 2024, from https://www.theguardian.com/technology/2024/jan/31/inside-the-taylor-swift-deepfake-scandal-its-men-telling-a-powerful-woman-to-get-back-in-her-box

Squires, J. (2000). Fabulous feminist futures and the lure of cyberculture. In D. Bell & B. M. Kennedy (Eds.), *The cybercultures reader* (pp. 360-373). Routledge.

Sunden, J. (2001). What happened to difference in cyberspace? The (re)turn of the she-cyborg. *Feminist Media Studies, 1*(2), 215-232.

Tranchese, A., & Sugiura, L. (2021). 'I don't hate all women, just those stuck-up bitches': How incels and mainstream pornography speak the same extreme language of misogyny. *Violence Against Women*, *27*(14), 2709-2734. https://doi.org/10.1177/1077801221996453

Transgender Infopunt. (2023, May 11). *Transwetten Europa*. Transgenderinfo. https://www.transgenderinfo.be/nl/rechten/wetgeving/transwetten-europa

van Dijck, J. (2013). *The culture of connectivity: A critical history of social media*. Oxford University Press.

Van Doorn, N. (2011). Digital spaces, material traces: How matter comes to matter in online performances of gender, sexuality and embodiment. *Media, Culture & Society, 33*(4), 531-547.

Vickery, J. R., & Everbach, T. (2018). *Mediating misogyny: Gender, technology, and harassment*. Springer.

Wajcman, J. (2004). *Technofeminism*. Polity Press.

Wajcman, J. (2010). Feminist theories of technology. *Cambridge Journal of Economics*, *34*, 143-152.

Workman, H., & Coleman, C. A. (2014). 'The front page of the internet': Safe spaces and hyperpersonal communication among females in an online community. *Southwestern Mass Communication Journal*, *29*(2), 2–21.

APPENDIX

FUTURE SCENARIO ESSAY-FSE (N=11)
SCENARIO CARDS—SC (N=22)
IN-TEXT CITATION FORMATS:
FSE[thematic code]n
SC[thematic code]n

THEME AND CODE: GENDER AND GENDER EQUALITY [G&GE]

FUTURE SCENARIO ESSAY 1. FSE[g&ge]1 What if differences in views on gender – and depictions of this in media – escalated; resulting in deepened polarization and alienation, further fueling increased division between countries, cultures and groups of people?	FUTURE SCENARIO ESSAY 2. FSE[g&ge]2 What if worldwide media organizations were mostly run by women and LGBTQ+ people, positioned at top managerial posts? How would this condition impact the diversity of (journalistic) content?	FUTURE SCENARIO ESSAY 3. FSE[g&ge]3 What would happen if artificial intelligence helped us to design more integrated populations by applying feminist urbanism and promoting women in rural areas?
FUTURE SCENARIO ESSAY 4. FSE[g&ge]4 What if filters on social media allowed users to believably change their secondary sex characteristics in pictures and videos?	FUTURE SCENARIO ESSAY 12. FSE[g&ge]12 What if the ‚new right' in Europe, in 20 years, were to increasingly use feminist discourse to discriminate against those who are not receptive to feminist values?	FUTURE SCENARIO ESSAY 13. FSE[g&ge]13 What could happen of countries were not affected by other countries' gender politics?
FUTURE SCENARIO ESSAY 14. FSE[g&ge]14 What if all positive discrimination and affirmative action--the measures to achieve effective parity between, and equal opportunities for, women and men--were eliminated?	FUTURE SCENARIO ESSAY 15. FSE[g&ge]15 What if #MeToo would be turned into a social media platform?	FUTURE SCENARIO ESSAY 23. FSE[g&ge]23 What if women ruled the world?
FUTURE SCENARIO ESSAY 24. FSE[g&ge]24 What if platforms produce irreversible narratives of gender identities?	FUTURE SCENARIO ESSAY *25.* FSE[g&ge]25 What if there were a social media platform that quantified the certainty of how people feel about their gender identity?	
SCENARIO CARD 5. SC[g&ge]5 Reverse gender tradition	SCENARIO CARD 6. SC[g&ge]6 Running in circles (the rise of digital patriarchy)	SCENARIO CARD 7. SC[g&ge]7 Rebirth and remix of subcultures
SCENARIO CARD 8. SC[g&ge]8 Human rights approach	SCENARIO CARD 9. SC[g&ge]9 Disorientation	SCENARIO CARD 10. SC[g&ge]10 New Values
SCENARIO CARD 11. SC[g&ge]11 Pessimism	SCENARIO CARD 16. SC[g&ge]16 Women take over all lCT	SCENARIO CARD 17. SC[g&ge]17 A society overconsumed by gender Identities

SCENARIO CARD 18. SC[g&ge]18 Cloned platforms	SCENARIO CARD 19. SC[g&ge]19 Gen(der)less	SCENARIO CARD 20. SC[g&ge]20 Platforms – gender intersectionality with youth
SCENARIO CARD 21. SC[g&ge]21 Realism	SCENARIO CARD 22. SC[g&ge]22 Kardashianisation	SCENARIO CARD 26. SC[g&ge]26 Hyper fragmentation of identity
SCENARIO CARD 27. SC[g&ge]27 Activism without platforms	SCENARIO CARD 28. SC[g&ge]28 Dissolution of identities	SCENARIO CARD 29. SC[g&ge]29 Diversity rose-tinted glasses
SCENARIO CARD 30. SC[g&ge]30 Cyborg as a new gender	SCENARIO CARD 31. SC[g&ge]31 Platforms give people voice	SCENARIO CARD 32. SC[g&ge]32 Dealing with and counteracting hatred towards women, vulnerable groups, etc.
SCENARIO CARD 33. SC[g&ge]33 Avatars mating		

KEY:

FUTURE SCENARIO ESSAY (FSE): written by EUMEPLAT consortium researchers.

SCENARIO CARDS (SC): created and written by participants of the four Delphi+ workshops.

DOI: 10.51480/1899-5101.17.1(35).714

Roundtable Discussion: Perspectives on the Futures of Platforms and Democracy

Miloš Hroch
Charles University, Czech Republic
0000-0001-6590-595X

Nico Carpentier
Charles University, Czech Republic
& Tallinn University, Estonia
0000-0002-8996-4636

Marie Heřmanová, Václav Janoščík, Dita Malečková, Martin Tremčinský

Abstract: This is an edited transcript of the audio recording of the roundtable on *Future, Democracy, and Platforms*, which was organized at the EUMEPLAT project meeting at Charles University in Prague on 15 January 2024, in collaboration with the MeDeMAP (Mapping Media for Future Democracies) project. The current digital public spaces have been transformed by platformization, and besides the positive consequences such as democratization of communication or access to information, these processes driven by algorithms have brought political, cultural, and economic asymmetries. At the roundtable, we discussed challenges and threats to fostering more democratic platform environments in the future with experts from fields such as digital and economic anthropology or new media philosophy. Among the discussed platform related topics were public and cooperative ownership, the need to strengthen their democracy and imagination or pleasure as the key principles.

Keywords: future, democracy, participation, platform capitalism, public platforms, strengthening imagination

INTRODUCTION

As many aspects of our lives are now intersecting with the digital, and interactions with online platforms are manifold, we need to ask questions about what future prospects this setting has for democratic systems. What are the challenges and threats to democracy in the future? Semi-public digital/platform spaces have been marked by economic, political, and cultural asymmetries of power, but what needs to be done to secure the balance of powers between the corporate and the commons, between the private and the public, and between human and non-human agencies? How can we secure better work, life, art, and democratic

debate and avoid tech monopolies or 'machines' taking over? These questions were starting points for the roundtable discussion entitled *Future, Democracy, Platforms*, which took place at the EUMEPLAT project meeting in Prague on 15 January 2024. The acronym—EUMEPLAT—stands for European Media Platforms, and is a Horizon 2020 project.[1] The roundtable was organized by the EUMEPLAT researchers in collaboration with another European project, the MeDeMAP (Mapping Media for Future Democracies) project, which is a Horizon Europe project.

The following text is an edited[2] transcript of the audio recordings of the roundtable, which ran for 75 minutes and featured four experts: cultural anthropologist Marie Heřmanová, new media philosopher Dita Malečková, curator and philosopher Václav Janoščík, and economic anthropologist Martin Tremčinský. The roundtable also had two moderators: Miloš Hroch and Nico Carpentier, from the Culture and Communication Research Centre of the Institute of Communication Studies and Journalism (Charles University in Prague), which was hosting the EUMEPLAT meeting.

The roundtable's central concepts that structured the discussion—democracy, platforms and future—were defined in an open way, to provide as much space as possible to the roundtable participants to engage with them. *Democracy* was seen as an always unique combination of participation and representation. We did not limit democracy to its proceduralist approach, but connected it to democratic values such as freedom, equality, diversity, justice, and accountability. *Platforms* were understood as digital infrastructures, often facilitating multi-sided markets and mediating modes of production, consumption, and user interactions. We assumed a dialectical and contingent relationship between technologies and democratic-political practices. In order to think about the *future*, we used a horizon of ten plus years. It is important to note that the future cannot be considered without including the present situation as a reference point. This is similar to science fiction literature (which was a perspective embedded in our roundtable), which also takes the present as a steppingstone. In our case, this resulted, for instance, in discussions about public versus cooperative ownership of platforms, or pleasure as one of the platform principles.

1 The full name of EUMEPLAT is "European Media Platforms: Assessing Positive and Negative Externalities for European Culture".

2 The speakers had the opportunity to review the transcription and refine their formulations, and—within reason—to incorporate subsequent thoughts.

Miloš Hroch: *What is the shape of democracy and platforms right now, in your opinion? How democratic are today's platforms? This question assumes dialectics between technology, politics and democracy, as a starting point.*

Marie Heřmanová: It is also very important how we define platforms and how we define democracy. I guess you hinted in one of your reports that the definition of platforms could be problematic. But in the very broad sense, I think the platforms that we use today are, or could be, democratic by design. The concept… the idea is that platforms could be a voice for democratization. But I think they are not democratic in the current political system and in the current economic system. There is a gap between what they could be and how they maybe were designed in the first place, and how they are really used today. But it is not a very sharp distinction. Of course, there are shades of gray in between.

Martin Tremčinský: I will follow up on that. From a political economy point of view, there is this double movement: Platforms, on the one hand, are inclusive. In the fact, they include people, providing them with a platform to be able to communicate, to become included into specific social processes, from which they were previously excluded or to which they did not have access, in the world of the old pre-digital platforms. But on the other hand, this inclusion often seems rather predatory. It naturalized an omnipresent platformization of our social lives, of our daily communication, of our reproductive work, of the social at large. It is also exploited by some specific agents or actors within the system who gain almost a near monopoly on platform communications or platform design. So, there is the question whether we can run platforms differently, and if platforms are not what economists tend to call a natural monopoly by design. In this sense, I see this sort of dialectic, as you mentioned in your question, Miloš.

Miloš Hroch: *Can we assume technologies are neutral?*

Martin Tremčinský: No.

Marie Heřmanová: No.

Václav Janoščík: From a broader framework of democracy in the age of platforms or Web 3.0, I see several dynamics that we can resort to. One is that we know far more about our online presence, online identities, and online agency. And we are far more skeptical about these concepts. Before, we had these huge expectations of us going online and communicating in a more direct, straightforward, or unmediated way. I think this kind of dream of augmented social and individual agency within online environments is in fact disappearing. The other thing concerns the building up, or generating of the social consensus, which becomes ever more volatile. We can see that—demonstrated by various types of controversies—platforms promote a highly positional logic in respect

to being informed and expressing our opinions about various phenomena, events, controversies, …. We live in the bleak age of this harsh return to history. We have been told that history has ended and now we actually have platforms and the internet for more democratic societies and consensus building. And now we know we are back in history [in a sense that democracy – or platform democracy – needs to be built again]. And it is the history of this kind of positional identitarian logic.

Dita Malečková: First, I would like to apologize for the slowness of my [spoken] thoughts. When I listen to the others, they are all so fast. I spent winter in the countryside with my dog and a fireplace and now I am back in the city. For me it is like: Yeah … platforms … right. You mean the tools I use to connect to the world? They are fine. But they are of course different from [in-person] communication. The differences between us speaking together and speaking on social platforms are somehow shaping our society, or our future. It is something that we could easily see. This was for a long time the future that was awaiting us. And I want to ask everybody if you see, or if you think, that platforms and the future they co-create with us can be fully democratic. If it is not some kind of utopia. Which is fine as a backdoor of our hopes and dreams and so on. But it will never be realized. And then the question becomes, what is the realistic goals that we should have regarding platforms and the future that we are co-creating, in this environment?

Martin Tremčinský: More public control, and regulation… Of course, ideal democracy does not exist. It is an ideal type. By definition, ideal types do not exist, but they are a horizon which we can strive for, or move towards. And one of the steps would be making platforms public. Because now their control is deeply privatized. There is value that is created by us, using platforms. But we do not have suitable public alternatives. I do not have a suitable public Facebook, that I could use and not be punished by being excluded from social connections.

Dita Malečková: There is a reason for the fact that platforms are privately-owned.

Martin Tremčinský: But what is the reason?

Marie Heřmanová: I think it needs to be said out loud, we are situated in the political setting of neoliberal capitalism. That is the reason for it. It may be outside of the scope of this debate. But I think that what Martin is talking about, is that in order to move forwards – not even towards utopia, but to be able to change anything at all, we need more agency for the users. If you ask this question like: What can we do to make it better? I do not know what I can do because I do not have the agency right now. I do not make the decision, I do not have the power. And I think that the power imbalance is the problem. But then again, this is of course connected to the political system.

> **Nico Carpentier:** *I think you opened a wonderful can of worms. Platforms would argue that they are offering, and there is an audience accepting it. And platforms implicitly argue that maybe it is sufficient, and maybe—and I am playing devil's advocate here—maybe the problem is us, citizens and we are just not easily satisfied. How do we deal with that type of argumentation? How do you counter a neoliberal discourse about platforms, that is basically saying: "Guys, this is what democracy is: We offer and you select." In Media Studies we have called this 'audience sovereignty'. I am not saying that I agree, but the formation of aggregated choices of the audience is considered to be a democratic process. I think that you believe that more is needed. But how do we counter that argument? To make your life a bit more difficult. Sorry* **(smiles)**.

Václav Janoščík: Historically speaking there is a very clear argument against that, coming largely from Marxist and post-Marxist positions. We not only live in a capitalist order, but we also live in a system that has a strong tendency to reproduce itself and to enforce the ideological positions. And even to conceal them, as something that is pertaining to human nature or human desire, grounded in some sort of universalist idea about us, realizing democracy through a free market society. We know it is not the case, and every society somehow builds up, creates its own conception of what human life is, what the meaning of life is, etc. Today we are very brutally impregnated with this ideological preconstruction of ourselves. This is what social media, and what the corporate culture, currently feeds into. It is not just like what 'people just want'.

Marie Heřmanová: This is a very good theoretical, philosophical argument. There are also empirical ones. Let's look at the data. Who really profits from platforms? What are the real effects on democracy and on society? We can support the theoretical argument by the empirical one.

Martin Tremčinský: I do agree, especially given the nature of platforms that we are talking about. For example: social media. Social media started to mediate our relations with other people, generating social identities and social processes, such as social formation or socialization in general. And when the free market argument of 'just opting out' is used, it creates problems. It is difficult to opt out from society, from relations that you have built, that you have cherished and that you have really spent energy on creating. We can see, for example, with Elon Musk taking over Twitter that everybody agrees that the quality of the platform is worsening. And they do not want to support the platform because they do not like the person who owns it, but at the same time, they do not want to lose these connections. That is one of the reasons why users/people are complicit with platforms. Because they are part of society. Society has structures and designs and abandoning these designs is always difficult. And it is not just a matter of individual choice or individual responsibility.

> **Nico Carpentier:** *Somehow Thatcher comes to mind, and her famous quote: "There is no such thing as society…"*

Martin Tremčinský: And that was part of the design. She was trying to convince people about this and she was successful. That is the worst thing. She was successful in convincing people that they are independent individuals and only their choices, or only consumer choices, is what matters. But daily experience shows us something different, right? We do not make only consumer choices. We are not just consumers in society, even though there are TV adverts that are trying to tell us otherwise. In that logic, I am human, because I shop or consume. But that is part of the ideology. That is part of the structure, that sometimes people are somehow struggling against. Or living with.

> **Miloš Hroch:** *We have mentioned this negotiation between public and corporate spaces. The idea of a public service platform has been mentioned. How do you think that this negotiation should be performed? And a related question is: How could this public platform look like in the future?*

Dita Malečková: If you have public control, who is the public and how does it act?
Martin Tremčinský: You have institutions. For instance, we have public service media. Why we cannot have a public platform, just like we have public TV and public radio? I am not saying that public TV, Czech public TV in particular, is perfect. But it is an existing institution. It exists. It can be better, but it is not some utopia.
Dita Malečková: Yeah, but why is Czech TV better than Netflix?
Martin Tremčinský: I am not saying it is better.
Václav Janoščík: It has a different function.
Martin Tremčinský: It has a different function, exactly.
Marie Heřmanová: It is an alternative to Netflix, and something we currently do not have in the realm of platforms. For me, this is a really difficult question. Often I would insist that we need public platforms, yet I do not know how to describe or imagine them. But I think that with a different type of imagination than what we currently have, we can picture how these public platforms could look like. In the Czech, or post-socialist—whatever that means—discourse, this would always be a difficult question [especially given the users coming from older generations, with experience with the communist regime]: "The alternative to corporate models would be some sort of state-controlled platform? That is scary." And we have examples of how things work in countries like, for example Russia or maybe China. Russia is a scary alternative.

Nevertheless, there are definitions of public in terms of being owned by co-operatives, for example. But I think that also the state, or the European Union, can

play a regulating role. We currently have examples of what these institutions can do. I think that the Digital Services Act (DSA) is an interesting step towards perhaps a more balanced future. We do not know yet how it will work out, and it is obviously not perfect, but I think it is an interesting step forward. Maybe, five years ago, I could not have been able to imagine it. But now it works, as far as we can tell, after the first six months (or so) that the DSA has been in operation. We do not know yet how it will play out. But someone had the imagination to develop this sort of regulation.

> **Miloš Hroch:** *When you mention DSA: Can we imagine what will happen with it, in the future? How will it transform the platform environment, or public discourse, you think?*

Marie Heřmanová: I think it would be a good question for a lawyer, or perhaps for someone who has a bigger picture of the legal or policy frameworks. I am an anthropologist, so I study individual users and people… I am personally convinced, that the DSA does give us some levels of agency that we previously did not have, as far as I know. And I think it is interesting how we will start to use it. For example, even with the simple choice, do I use an algorithmic feed or not? This will be interesting to see. Will we find out that it is better without the algorithmic feed? Or maybe we will find out there are different problems? Like we need the algorithmic feed to have a functioning user experience. But maybe we need different algorithms. Maybe we need more control, more understanding of the algorithm. So, I think it opens a lot of questions, to which I do not have answers.

> **Nico Carpentier:** *But eventually we also might need a new imaginary. We might need new ways of trying to think of the future. That is also part of that process. And that might also be an important step.*

Dita Malečková: Imaginary and technological knowledge.
Marie Heřmanová: Yes.
Martin Tremčinský: But the imaginary always comes from praxis, right. Nobody has an imaginary before we start doing something. You will never be able to imagine what you can do with wood until you start to shape that wood, and you feel it. You know what the material is capable of. And with algorithms, there is no reason to think it will be otherwise. So, the first step is to enable certain practices. And then we can see what imaginaries come out of this. So yes, having an imaginary is important, but it is usually not the thing that you start with.
Václav Janoščík: I really hate to be skeptical again. But there is actually very little in terms of hints or suggestions of directions towards, for instance, publicly owned or publicly controlled platforms. The first step that we need is to create

public demand or public pressure, for instance, via better media literacy… The second thing is regulation; we have seen that particularly the European Union can really push forward the line of what is controlled, regulated, negotiable. And the possibilities of this are basically endless. This might even imply more public control over the corporate space.

Dita Malečková: I am just wondering if it will work. The users and people, who we are speaking about, are they going to be willing to work on the tools they want to use? Or will they just take what is easy and what everybody else is using? Because I think this is a part of this logic of the governance of platforms, that everyone wants it, because it is easy and everybody else has it. And how do you want to overcome this? You have to deal with this situation. I mean, platforms have success for a reason.

Martin Tremčinský: But what is this success? Is it the social divisions that we see, the emergence of certain social bubbles? Is it the exploitation of workers in the global South? If I remove all the problems, then, of course, everything is a success, right? But this is not a successful platform.

Dita Malečková: Maybe there are problems, but there is also some success.

Martin Tremčinský: I am not saying if there is no success in these things, of course, they were successful in terms of including people, as you mentioned: Everybody uses them. But it is also part of the problem.

Dita Malečková: You know what? This is not only about our, let's say, our definition of success. I mean, they are a success. They have billions of users. And in their world, it is a success, you know.

Martin Tremčinský: That is a success, yes. But exactly. It is their success. Is it our success? Is it our success that we have to use private platforms to be full members of society? Is it my success? It is not success, I would say.

Dita Malečková: Is it not a part of every kind of governance? I mean, if you are a part of the state, you are part of the institution.

Martin Tremčinský: But in a democratic state, I am a citizen, and I have voting rights. If I am using Facebook, I do not have any voting rights.

Marie Heřmanová: We cannot vote Mark Zuckerberg out.

Martin Tremčinský: I do not have this agency. That is what Marie said.

Marie Heřmanová: I do not think it is either this or that. You can have the good things, but not without the bad things, because that is not how it currently works. We need to be able to imagine it some other way. How can we keep the good things but build them in a more ethical, responsible, and democratic way? And obviously, the answer is not to replicate the corporate model, but to try to imagine a different one, whether it is co-op owned or publicly owned or… I do not have the imagination right now, so I do not know what models there are, but I think it is good that the debate, at least in academic circles, started a few years back. There have been efforts to cultivate this imagination

and offer different models. It has been happening during the last couple of years, the last five years. It is a new thing and we have to give it time. I think we will get there, optimistically. Or maybe the planet will burn before we get there, but that is a different question (smiles).

Václav Janoščík: Maybe we are too focused on either social media or already existing platforms. And it is hard to change something, for example, within the mind of Elon Musk or the Facebook [Meta] corporation or whatever. But there are, of course, completely new technologies. And I presume we all know what happened with Open AI this fall. There was quite a reasonable hope, that this particular project can establish a new model of how to work with new technologies, and how to deploy them for public benefit or non-profit. This experiment, with its hope, somehow ended with Sam Altman and his corporate line of the management first being expelled, then being quickly reinstated, followed by the non-profit branch of the company resigning from its board. However, it is not final yet. But again, we see how the corporate culture is aggressively incorporating whatever it feels is the next new thing.

I really want to have at least one positive remark, and that is about gaming. Because also gaming is becoming more and more platformized. Particularly younger generations just use it as social media, to get in touch with their peers, etc. And, of course, the whole industry became very large and successful during the Covid-19 pandemic. It was marked, not only by the commercial success of the triple A titles, but also by very significant mergers: Microsoft buying Activision Blizzard, or acquisitions around Tencent, Embracer Group, etc. So, we see a very aggressive move of capital into that direction. But on the other hand, and this is the positive thing, we have Unreal Engine and Unity [cross-platform game engines used for game production and development], which are still for free. Not only are they free, but they are basically community-based. Of course, there are tons of problems—particularly with Unity and their managerial decisions last year. But we see that a service can be for free, not using the Facebook model of just harvesting our data. And if the service is for free, we can have different models of capitalization, then there can be a community that has a very informal yet public control over the medium, over what happens with that medium, and over what you can do with that medium.

Nico Carpentier: *Marie has brought in the environment, when you were threatening to burn down the planet* **(smiles).**

Marie Heřmanová: I did not. Not me (laughs)

Nico Carpentier: *I think that that is one of the areas we need to discuss.*

> **Miloš Hroch:** *Yes. What do you think of the future of platforms in relation to their environmental impact and environmental issues. Is there really democracy on a dead planet?* **(smiles)**

Martin Tremčinský: (laughs) Well, yes, if everybody is dead, that is very democratic. That is a risk society, the risks apply to everybody.

> **Miloš Hroch:** *How can we create platforms that are more environmentally sustainable? How can we minimize the damage that is done?*

Martin Tremčinský: If they are not profitable, there is no reason to exploit resources for them, or to exploit the Global South.
Dita Malečková: It is like cancelling information channels. You cannot do it.
Marie Heřmanová: I do not think we need to cancel the information channels. I mean, obviously, I think it is a question of infrastructure, and I am not an expert in that. So how much, really, in a technological sense, how much energy do we need to sustain the platforms? If that energy can be sustainable or renewable? I am not an expert in that area. But I think it is also about how sustainable the model is, and it depends on what kind of platforms we are talking about. Because if we are talking about social media from a user perspective, then I do not think that it is a question of sustainable infrastructure. But if we are talking about platforms in the platform economy, then I think it is a huge question. Maybe it was just the marketing behind it, but still, there was this idea that by being a worker in the platform economy, it can be more sustainable, because you might not use your own car to commute to work, for example. I think this was the promise. But this is not happening, not because it is not possible, but mostly because it is not profitable. So again, it is the same question, but I am not an expert in the area, I just share the general doom feeling that we will burn.
Václav Janoščík: Maybe just one comment about an epiphenomenon. Particularly social media, but other platforms as well, give us false hopes about our agency: The individual ability to communicate to the world about what we do, about what kind of lunch we had, …. In parallel, these platforms somehow enforce responsibility, or individual responsibility, towards environmental issues. But of course, we really must act responsibly. Of course we must recycle, upcycle, but the key decisions, the key agency, rests at the corporate level. And there we should regulate these issues.

> **Miloš Hroch:** *And what responsibility can the European Union take for the environment, in relation to platforms?*

Martin Tremčinský: There are so many levels to this, right? The very existence of the infrastructure itself is ecologically unsustainable. Every datacenter is basically a coal mine. So, there should be some regulation on which kind of energy is used to power these things. How much energy from the global pool of energy can they actually take, the same way other factories have these limits? What kind of minerals can be used, and in what conditions do they have to be extracted and from where; on whose behalf, who is going to benefit from these minerals? The tool [smartphone] in our pocket has the entire global capitalism in it. It is there. This is the peak of the global supply chains and all the inequalities that come with them. And we carry them in our pockets every day. So, it is really difficult to say one thing, because one thing is never enough. In complex issues you must have different angles that complement each other.

Dita Malečková: Yeah, I think that there are so many misconceptions that are globally shared, like that artificial intelligence will solve the problem, or that artificial intelligence is the problem. Because it is extremely energy demanding. So, creating artificial intelligence for answering the questions of climate change is actually creating the cause of climate change. I agree with all these issues and answers, and problematic visions. But for me, it is difficult to see how to really deal with it. We can understand that global capitalism is somehow eating itself and the planet with it, but it appears impossible to stop it. The practical question then becomes: How not to be benevolent to the planet and the people on it? I do not know if we will see any realistic solution in the near future.

Martin Tremčinský: But I think we already have that. That is the sort of saddest thing, that we—as a global society—already have the computational and logistical capacities to tackle at least part of the problems of global climate change or human poverty, etc. But we do not use them to do that. We use them to accumulate more capital. So, why is it okay to use these systems, platforms and logistical tools to provide Walmart with cheaper products and cheaper workers, and more effective central planning, etc.? But is it not okay to use these tools to tackle deforestation in Amazonia? Why is it okay to use these huge capacities to create silly pictures of—I do not know—Joe Biden hugging Donald Trump? But why not use it to do some planning for better resource distribution in Central Africa, or even in Europe? Social inequality is increasing. Also the goals, and how our system is designed, determines how these tools are being put to use, so if you live in this neoliberal venture capitalist society, then these tools are used to create spectacle. To convince Mark Cuban to give you more money and not to solve a real-life problem. Or to trap poor workers from the Global South in your warehouse and turn them into cogs in the machine, and not to improve their working conditions.

Marie Heřmanová: There is one more dimension to it, because we all get this question quite often. When you criticize something, instantly people ask: What

is the solution? And I have thought about it a lot, and I do not think it is specifically my task to come up with a solution. I am a researcher. I am entitled to criticize because I have data to back up my criticism. What I want is a political representation that will come up with the solutions and that will listen to me and listen to my problems and other people's problems. I do not think we should be responsible for coming up with solutions. I think we can criticize the platforms and the model that they are operating without necessarily giving them guidelines on how to do it better. Because I really thought about it a lot and I felt like, okay, maybe I should just be silent if I do not have the solution. But I do not think that that is true, in the end.

Dita Malečková: I totally agree. But do you think that on the level of political representation, there is a sign that something like this can happen?

Martin Tremčinský: If we would change our political institutions, yes, to a degree. We would bring people from different backgrounds and different kinds of knowledge together. This might happen, right? It might be a political body that can propose certain changes. But it is difficult to have one person do it all – to say what is wrong, what one needs to keep, and how to do it. That goes against the modern division of labor. That is what the whole Durkheimian approach was about, right? Everybody knows something, and together they create society. And so, trying to have one person, or just one group of people, to do that, is difficult. Even impossible.

> **Nico Carpentier:** *Just to go back to the issue of the spectacle because I think that that is one of the valid points. What I think platforms are providing is pleasure, which is the logic of the spectacle. And as long as that pleasure is sufficient, there might not be a political will to move into the direction of change. So should we then problematize or critique pleasure? Should we say this pleasure is wrong? But how do you move out of that trap? Because, I believe it is a trap.*

Marie Heřmanová: I am talking about social media specifically because that is what I research right now: Do you really have the impression that people talk about social media in terms of 'it gives me pleasure'? Because from my research, that is not really what they are talking about. They are more like: "It gives me a headache, and some sort of weird addiction, and lots of problems in my personal life. And maybe also, I do not know, a sense of not being good enough." It also obviously gives us a lot of good things and it gives us connection. It gives us access to information. But I would not say that the general grassroots understanding of social media is that this is something pleasurable. I think at this point, it is something like: It is good for me in terms of connection, access to information, inspiration, maybe, so I must be there. But there are significant downsides to that.

Martin Tremčinský: It is like cigarettes. They give me pleasure as well, but they also give me cancer. Capitalism hacks into that. That is Deleuze and Guattari: You have loads of desires, and capitalism hacks into those and creates barriers that stop and accumulate these desires, and that is how the system gets rich.
Dita Malečková: Also, they all come together and say, it gives me a headache, but they really use it because there is this dopamine trap. Which is somehow beneath the level of consciousness, below what you can control. So basically, you cannot control it.
Marie Heřmanová: That is one thing, but I think I also just like to use it. Again, it is not black and white. It is fifty shades of gray. There are many good things that we can do online. I talk with my friends, I watch funny cat videos, I learn a lot of things on social media. I do research on social media. I do really like social media. I do not want to lose these possibilities that it offers us. But that does not mean that it is always—to come back to the metaphor that you used—a matter of pleasure. And I think we can also see, empirically, that the big platforms have reached a breaking point. Some of them are losing users. We see this fragmentation, with people looking for different platforms, and for different experiences. I think this is all part of the process, that we are starting to deal with the less pleasurable consequences of being on the big platforms.

> **Nico Carpentier:** *I think we still have the issue of free labor left. We might want to zoom in on that theme. It gives pleasure to work for free for platforms, right?*
>
> **Miloš Hroch:** *The question is, how do platforms change our understanding and performance of labor? What about the automation that can come with platforms, and that could free us from labor, so that we could just enjoy ourselves? Can we really reach a fully automated luxury platform communism?*
>
> **Nico Carpentier:** *We can have a fully automated roundtable* **(smiles)**.

Martin Tremčinský: Not without a fight … The literature that tackles this topic has two branches. One branch deals with this acceleration and believes that we will have this fully automated luxury communism. Everything is going to be great. The other is saying that this is not going to happen if we do not fight for it and the technologies are not going to do it by themselves. That is like Gaving Mueller and his book *Breaking Things at Work: The Luddites Are Right About Why You Hate Your Job*. And there are other books that are now currently tackling the history of the luddite movement, for example. It shows that every time there is an improvement in the communication process, production process, and other processes that capital uses to reproduce itself – even though it promises the betterment of the workers – it actually disposes of, or de-skills, the workers.

It takes away their autonomy within the production process, or within the communication process.

If automation does something, it does not make work easier per se, it only makes it more dull or stupid. I think that AI and its deployment in cognitive labor, in fields like journalism, is interesting. It does not mean that if AI does some work for you, you will have less work. It means you will have less control. And your work will be duller. You will just write the instructions for the AI, so it can write the articles. You will end up doing it all day, just as the worker in the factory. So that is one thing. With cognitive labor or unpaid labor on platforms, I think, that is the work of communication that we do. That is the work of caring for each other and being a society, living in a society, that is being now appropriated, or its value is being appropriated. This brings back the feminist critique of capitalism and Marxism in the 1960s and 1970s: People like Silvia Federici, who were demanding wages for housework, and who were demanding to be paid for reproductive labor. Being either a housewife, or a user of a platform, does not mean that you per se expect to actually get paid, but this argument shows that what you do, is work. Once you establish this knowledge, you can say 'no' to it. Or you can negotiate about it. It creates a political arena. When this unpaid labor is naturalized, and when it is seen as human nature, either for women taking care of their children and of their families, or for people communicating with each other and using platforms, then it will always be stuck in this limbo. This is typical for the modern paradigm: Nature is not political and cannot make political claims. So, once you move away from nature, as a category that covers this behavior, this situation or this position within the social matrix, only then you can make political claims. So that is the strategy. I am not saying that this strategy is necessarily successful, but this is how it works.

> **Miloš Hroch:** *Martin has been talking about negotiating space between humans and non-humans, which also relates to cultural work, artistic production, and so on. So, what will be the challenges for the future when we talk about AI and the production of art?*

Dita Malečková: Of course, with the rise of AI now, there are so many new questions. For instance, there are questions about the role of creativity and the rights of authors and artists, and so on. Again, there are at least two starting positions. The first is: Everything is alright and if you are an artist, you have new tools to use. The second one is that we are all doomed. All artists will be exploited, because we can just use their work and then you do not have to have a human artist. Because they are slow and costly. You can just type something and the algorithm generates your own image or text.

If you use these generative systems now, you can see clearly that it is not that simple. If you just take a name and put it in the system, it will generate something, but everyone with a pair of eyes will see that quality is elsewhere. And there are new kinds of artists using these tools in creative ways. When they work with AI, you can see, at the first sight, that it is something original and that it does not matter if you use these tools, or not. That is my position. But of course, the whole scene is changing. Not only for individuals but also for institutions. One example is all these channels where you can ask for an artwork to use as a future value. So, there are changes, and, for example, one of the really difficult questions for the future is the energy costs of artificial intelligence. For the moment it is something which is so radically unsustainable that it probably will not be able to last. Even when there are so many people that think that AI will add value to humanity, from this point of view, it cannot continue, because we will end up using all the energy to generate silly images.

And yes, I derive pleasure from it. I love it. Again, how to deal with a situation where we all so much like to generate silly images, while we know it is bad for our planet. How to deal with it? And this is a question that really can start a fight. But at the same time, the conditions need to be met. The context needs be ready somehow. For example, women's positions improved during the 20th century wars, because women were needed to work and not at home. The context was ready for feminism. Had the context not been ready, it would have been so much more difficult to improve women's rights. So, we must fight, but you cannot start a fight out of nothing. You must know the situation very well, and it needs to be ready. And then you can find the key points where you can act upon, and decide with whom to fight, and so on. It is very strategically demanding situation, I think.

> **Nico Carpentier:** *On this Gramscian note, I think we can wrap up this discussion. I would like to say thank you so much for being here, for also engaging in this conversation with us. Thank you for being with us.*

ACKNOWLEDGEMENTS

The EUMEPLAT project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 101004488, and the MeDeMAP project has received funding from the European Union's HORIZON research and innovation action under Grant Agreement No 101094984. The information, views and opinions in this publication are those of the authors and do not necessarily reflect those of the European Union or of both research projects. Neither the European Union institutions or bodies, nor any person

acting on their behalf may be held responsible for the use which may be made of the information contained herein. Finally, we want to thank our colleague Klára Odstrčilová for the transcription of the audio recordings.

BIOS

Miloš Hroch is an assistant professor at the Department of Media Studies at Charles University in Prague. He is a researcher at the Culture and Communication Research Centre (within the Institute of Communication Studies and Journalism) and his research interests are in the fields of participatory media studies, platform studies and cultural studies.

Nico Carpentier (Culture and Communication Research Centre at the Institute of Communication Studies and Journalism, Charles University & Baltic Film, Media and Arts School, Tallinn University) is a communication and discourse studies scholar, working on the social construction of politics, participation, nature and conflict.

Marie Heřmanová (Institute of Sociology, Czech Academy of Sciences) is a cultural anthropologist researching communication on digital platforms, questions of gender and authenticity.

Dita Malečková is a new media philosopher and researcher associated with the Faculty of Fine Arts (Charles University) and FAMU (Centre for Audiovisual Studies). Dita specializes in artificial intelligence, not only theoretically, but she and her team have worked on projects using neural networks (see the Digital Philosopher and Digital Writer projects).

Václav Janoščík is a lecturer, curator, philosopher and gamer from the Academy of Fine Arts (Department of Theory and History of Art).

Martin Tremčinský is an economic anthropologist (Institute of Sociology, Czech Academy of Sciences) specializing in cryptocurrency communities and the anthropology of (digital) labor.

GUEST EDITOR

Nico Carpentier (Culture and Communication Research Centre at the Institute of Communication Studies and Journalism, Charles University & Baltic Film, Media and Arts School, Tallinn University) is a communication and discourse studies scholar, working on the social construction of politics, participation, nature and conflict. Email: nico.carpentier@fsv.cuni.cz

AUTHORS

Yasemin Ağca is full time Instructor with a background in humanities and media and visual studies. She has taught on aesthetics, art, design history, and advertising. She worked in international research projects and published work in scholarly journals. Research interests include philosophy and history of art, analysis methods, and design history. Email: yasemin.agca@bilkent.edu.tr

Cláudia Álvares is Associate Professor (Habilit.) at the Sociology Department of the School of Sociology and Public Policies at ISCTE – University Institute of Lisbon and Integrated Researcher at the Centre for Research and Studies in Sociology (CIES-ISCTE). She holds the position of an elected fellow in the Academy of Europe since 2020 and is former president of the European Communication, Research and Education Association (ECREA) (2012-2016). Her research projects and publications fall within the area of Media and Gender Studies. Email: claudia.alvares@iscte-iul.pt

Ingrid Andersson is Senior Expert at IKED and Vice President of the Global Forum. She has an Executive Master of Business Administration (EMBA) from HEC Paris, with a major in Differentiation and Innovation through Services. She focuses on entrepreneurship, innovation, and commercialization based on tailoring to special customer needs and co-creation. Email: ingrid.andersson@iked.org

Ioanna Archontaki is a PhD candidate and Researcher at the Department of Communication and Media Studies of the National and Kapodistrian University of Athens. Her focus is on media populism in the digital age. Email: ioannarx@media.uoa.gr

Daniel Biltereyst is Full Professor at Ghent University, where he leads the Center for Cinema and Media Studies (CIMS). Besides exploring new approaches to historical media and cinema cultures, he is engaged in work on film and screen culture as sites of censorship, controversy, public debate and audience engagement. Email: daniel.biltereyst@ugent.be

Emma Björner is a Researcher at the Department of Business Administration, the School of Business, Economics and Law, University of Gothenburg, and Senior expert at the International Organisation for Knowledge Economy and Enterprise Development (IKED). Her research centres on marketing, branding, place development, tourism, food, entrepreneurship, policy and media. Email: emma.bjorner@iked.org

Dessislava Boshnakova is a full-time Professor at the Department of Media and Communication at New Bulgarian University. Since 2019 she is Head of the Department. Her research is focused on the areas of public relations, digital communication, crowdsourcing, event management, public speaking and education. Email: dboshnakova@nbu.bg

Sara Cannizzaro is a Research Fellow on the Public Voices in AI at the University of Sheffield. Previously, she was Research Fellow on EUMEPLAT – European media platforms: Assessing positive and negative externalities for European culture – at Libera Università di Lingue e Comunicazione IULM (Italy). Email: s.cannizzaro@sheffield.ac.uk

Judith Clares-Gavilán works as full-time Lecturer of Communication and Media Studies at Universitat Oberta de Catalunya. Her research activity and publications lie in the fields of audio-visual policy and audio-visual market in Europe, digital distribution, SVOD, connected TV and new business models. Email: jclares@uoc.edu

Vaia Doudaki works as Associate Professor of Communication and Media Studies at Charles University. Her work is driven by social constructionist and post-structuralist approaches, focusing on the study of representations, discursive practices and the social construction of identities and social phenomena, in media and communication. Email: vaia.doudaki@fsv.cuni.cz

Iliana Giannouli is a Researcher at the Department of Communication and Media Studies of the National and Kapodistrian University of Athens. She holds a Ph.D. Degree in journalism studies, awarded by the National and Kapodistrian University of Athens. She has also worked as a journalist in the medical field. Email: giannoul@media.uoa.gr

Volker Grassmuck is a media sociologist, freelance author and activist. He has studied and conducted research on the knowledge order of digital media, copyright and the knowledge commons at Freie Universität Berlin, Tokyo University, Humboldt-Universität zu Berlin and University of São Paulo. Email: vgrass@vgrass.de

Marie Heřmanová (Institute of Sociology, Czech Academy of Sciences) is a cultural anthropologist researching communication on digital platforms, questions of gender and authenticity. Email: marie.hermanova@soc.cas.cz

Miloš Hroch is an Assistant Professor at the Department of Media Studies at Charles University in Prague. He is a Researcher at the Culture and Communication Research Centre (within the Institute of Communication Studies and Journalism) and his research interests are in the fields of participatory media studies, platform studies and cultural studies. Email: milos.hroch@fsv.cuni.cz

Jim Ingebretsen Carlson works as a Research Fellow at the Department of Information and Communication Sciences at Universitat Oberta de Catalunya. His research is focused on the areas of behavioural economics, behavioural medicine, and data science. Email: jingebretsen@uoc.edu

Václav Janoščík is a lecturer, curator, philosopher and gamer from the Academy of Fine Arts (Department of Theory and History of Art). Email: vaclav.janoscik@avu.cz

Jan Jirák is a Professor at the Faculty of Social Sciences, Charles University. He is a media scholar, teacher, translator, columnist, and Head of the Department of Media Studies at Metropolitan University in Prague. His main fields of academic interest are media literacy and media education, the role of public service media, and media history. Email: jan.jirak@fsv.cuni.cz

Achilleas Karadimitriou is a Researcher, Adjunct Lecturer, and is working as journalist/fact-checker for check4facts.gr, headed by the National Centre for Social Research. He has participated in various European research programmes. His publications focus on broadcasting policy, news media and social media framing, journalism professionalism/practices in the context of the platformised era. Email: akaradim@media.uoa.gr

Panos Kompatsiaris is an Associate Professor of Cultural and Media Theory at HSE University and a Research Fellow in Media Sociology at IULM. He is the author of The Politics of Contemporary Art Biennials (2017) and several articles on art, theory, and cultural politics. His latest book is Curation in the Age of Platform Capitalism: The Value of Selection, Narration, and Expertise in New Media Cultures (2024). Email: panos.kompatsiaris@iulm.it

Babette Lagrange is a Teaching Assistent at the Department of Philosophy and Moral Sciences at Ghent University. She has also conducted research both in the fields of Communication Sciences and Gender Studies. She has published articles in both fields, often combining them. Within these articles, she regularly implements an affect theoretical lens. Email: babette.lagrange@gmail.com

Valentina Latronico is a full-time Researcher. She trained and specialized in psychology, communication, and management, after which she implemented her experience working on international projects. She now publishes reports and articles in both the academic and corporate worlds. Email: vlatronico@uoc.edu

Dita Malečková is a new media philosopher and Researcher associated with the Faculty of Fine Arts (Charles University) and FAMU (Centre for Audiovisual Studies). Dita specializes in artificial intelligence, not only theoretically, but she and her team have worked on projects using neural networks (see the Digital Philosopher and Digital Writer projects). Email: dita.maleckova@famu.cz

Andrea Miconi is Professor of Media Sociology at IULM University of Milan, Italy. His research topics include media history, European media systems, and critical Internet theory. His last work is Europeans and the Media. Between Global and Local (Routledge, 2024, forthcoming). Email: andrea.miconi@iulm.it

José Moreno is a PhD candidate and Research Assistant at MediaLab CIEs ISCTE, a research center within the University Institute of Lisbon in Portugal. He was born in Portugal and joined academia after a professional career in journalism and his research interests include platformization of news, political polarization and disinformation. Email: Jose_Carlos_Moreno@iscte-iul.pt

Klára Odstrčilová is a PhD candidate and a Researcher at the Institute of Communication Studies and Journalism at Charles University. She has a bachelor's degree in Journalism, and master's degree in Theory of Interactive Media and Documentary Filmmaking. Klara´s doctoral research is focused on children on social media. Email: klara.odstrcilova@fsv.cuni.cz

Stylianos Papathanassopoulos is Professor of Media Policy and Organization at the Department of Communication and Media Studies at the National and Kapodistrian University of Athens. He has written extensively on European and Greek media, with reference to the development and impact of new media in various journals and books. Email: spapath@media.uoa.gr

Lutz Peschke is an Assistant Professor at the Department of Communication and Design at Bilkent University in Ankara. He studied chemistry (PhD at the University of Heidelberg) and media studies (PhD at the University of Bonn). His research interests are, among others, digital cultures, science and knowledge communication, and environmental communication. Email: lutz.peschke@bilkent.edu.tr

Debashmita Poddar is a Postdoctoral Fellow at Ca' Foscari University of Venice, Italy, working as a social network researcher. She obtained her PhD in computer science, and her thesis focused on stochastic network optimization. Email: debashmita.poddar@unive.it

Elisabetta Risi is Senior Assistant Professor at IULM University (Milano). Her research is situated within the field of critical algorithm studies and analyses power asymmetries gender related. She teaches sociology and communication sciences and she is author of several papers on the relationship between subjectivity and platform capitalism. Email: elisabetta.risi@iulm.it

Barbara Thomass is Professor em. for International Comparison of Media Systems at the Ruhr-University of Bochum, Germany. Her main fields of research are media systems in East and West, media politics, public service media, international communication, media and journalism ethics. She is the Second Deputy Head of the administrative council of the ZDF, the national public service broadcaster in Germany. Prior to her academic career she had been working as a journalist. Email: barbara.thomass@rub.de

Justine Toms is a Lecturer at the New Bulgarian University since 2007, University of Sofia since 2020 and Software University SoftUni since 2017. Toms is well known in the Bulgarian internet community. She has published more then 20 books on internet, online communication and digital media. Email: justine.toms@gmail.com

Martin Tremčinský is an economic anthropologist (Institute of Sociology, Czech Academy of Sciences) specializing in cryptocurrency communities and the anthropology of (digital) labor. Email: martin.tremcinsky@soc.cas.cz

Mehmet Ali Üzelgün is an Integrated Researcher at CIES-ISCTE, Associate Researcher at NOVA Institute of Philosophy, and an Invited Assistant Professor at the Department of Communication Sciences, Universidade NOVA de Lisboa. His research looks at the argumentative formats and rhetorical features of public discourse, with a specific focus on political and environmental controversies. Email: Mali.Uzelgun@iscte-iul.pt

Sofie Van Bauwel is a Full Professor at the Department of Communication studies at Ghent University where she is part of the research centre CIMS. Her main field of interest is gender, media and film and television and she publishes internationally and nationally on popular media culture, feminist theory and film. Email: Sofie.vanbauwel@ugent.be

GUEST ENGLISH LANGUAGE EDITOR

Marcus of Derettens OÜ has, since 2006, been English language editing scholarly texts (n=1000+), mostly published as either research articles in peer-reviewed journals or chapters in edited books.
For more details contact derettens@icloud.com

CENTRAL EUROPEAN JOURNAL OF COMMUNICATION (ISSN 1899-5101) CEJC.PTKS.PL

Central European Journal of Communication is an Open Access journal which welcomes online submissions. The website cejc.ptks.pl offers information about Publication Ethics and Submission Guidelines for authors, editors and reviewers.

Central European Journal of Communication is published by the Polish Communication Association. It is financed by the Polish Communication Association and the following supporting institutions:

- Faculty of Management and Social Communication, Institute of Journalism, Media and Social Communication, Jagiellonian University, Cracow, Poland;
- Faculty of Philology, University of Wrocław, Poland;
- Faculty of Theology, Institute of Media Education and Journalism, Cardinal Stefan Wyszyński University, Warsaw, Poland;
- Faculty of Journalism, Information, and Book Studies, University of Warsaw, Poland;
- Institute of Media, Journalism, and Social Communication, University of Gdańsk, Poland;
- Institute of Social Communication and Media, Maria Curie-Skłodowska University, Lublin, Poland;
- Jan Kochanowski University, Kielce, Poland;
- University of Warmia and Mazury, Olsztyn, Poland.

Central European Journal of Communication is indexed in the following databases: ARIANTA, BazHum, CEEOL, CEJSH, ERIH PLUS, EBSCO, SCImago Journal & Country Rank, SCOPUS (CiteScore, SJR, SNIP) and Web of Science Core Collection (Emerging Sources Citation Index), as well as scored on the list of scientific journals of the Ministry of Education and Science in Poland.

Central European Journal of Communication
ul. Bednarska 2/4, 00-310 Warsaw, Poland
cejc.ptks.pl
journal@ptks.pl
The Polish Communication Association
residental address: ul. Koszarowa 3, 51-149 Wrocław, Poland
correspondence address: ul. Głęboka 45, 20-612 Lublin, Poland
www.ptks.pl
office@ptks.pl



Central European Journal of Communication

www.cejc.ptks.pl

Central European Journal of Communication is published twice a year (in Spring and Fall) by the Polish Communication Association. It engages in critical discussions on communications and media in Central and Eastern Europe and beyond. CEJC welcomes submissions of both theoretical and empirical research from a wide range of disciplinary approaches. We also publish papers on methods and concepts, book reviews, conference reports, interviews with scholars and media practitioners (policy-makers, media managers and journalists). The journal is indexed in several scientific databases, including SCOPUS, Web of Science Master Journal List (Clarivate), Central and Eastern European Online Library, Central European Journal of Social Sciences and Humanities and on the list of scientific journals of the Ministry of Education and Science in Poland.

ISSN 1899-5101