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
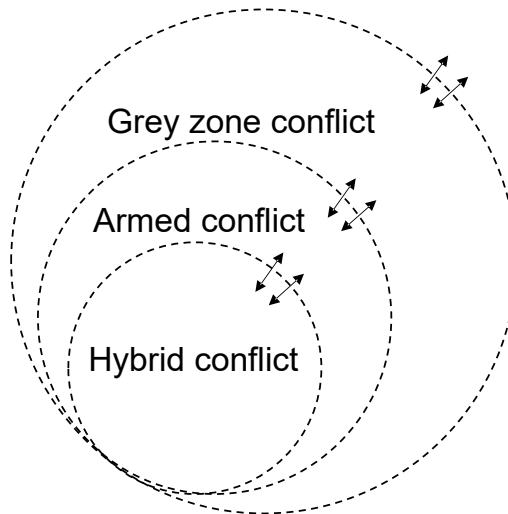
Still, given its all-pervasiveness and destructive nature, armed conflict also merits attention, due to its own complexities. One set of arguments points to the changing nature of armed conflict over time (Coralluzzo, 2015, p. 14) and the concept of generation has been used to theorize these differences 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 'over-taking' 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

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.