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RESEARCH ARTICLE



The War in Ukraine Through the Prism of Visual Disinformation and the Limits of Specialized Fact-Checking. A Case-Study at *Le Monde*

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ABSTRACT

The Russian invasion of Ukraine in February 2022 led to a flood of disinformation circulating online, making fact-checking and verification crucial for journalists covering the conflict. Based on five semi-structured interviews and an analysis of 48 debunks published between February and October 2022, this study aims to understand how *Les Décodeurs*, the fact-checking unit of the French daily newspaper *Le Monde*, organized its practices in response to the flow of visual disinformation surrounding the conflict, and to place them within the broader framework of practices and categorizations of previous research on fact-checking and disinformation. The findings show that most fact-checks focuses on authentic images with misleading captions, rather than sophisticated manipulation. Previous categorizations prove their ability to describe the 48 pieces of visual disinformation but a more refined approach is suggested by considering visual disinformation as mainly multi-modal. The study reveals the fact-checkers' role as gatekeepers in filtering content from social networks and addressing the challenge of countering viral disinformation while avoiding unintended amplification. It also identifies a blend of shared and individualized approaches among fact-checking journalists, including manual and pre-digital methods, reflecting the adaptable nature of their work. Based on the latest developments of gate-keeping functions, the study highlights limitations in the challenge of reconciling reactive and retroactive practices with mid-term editorial considerations in a rapidly evolving media ecosystem.

KEYWORDS

Fact-checking; visual disinformation; war in Ukraine; journalistic practices

Introduction

Monday, 21st of February, 2022. Russian President Vladimir Putin announces the recognition of the independence of the Donetsk and Luhansk republics in Donbass, eastern Ukraine. For several weeks, Russian troops have been massed at the Ukrainian

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border. Images and videos suggesting Ukrainian aggression near the country's border with Russia began to circulate on the Internet in mid-February¹. From the beginning, Russia tried to impose its story through videos and photographs broadcast on the Internet (Perrot 2022). Since 2014, Ukraine and Russia have been fighting an information and image war on social media and websites (Hoskins and O'Loughlin 2015; Khaldarova and Pantti 2016). On 24th of February, 2022, President Putin announced a "special military operation" in Ukraine.

The Russian invasion is the first war waged to occur in Europe in the age of social networks, unlike the civil war in the former Yugoslavia (1991–2001), which occurred before the widespread of social networks. Two elements stand out: the nature of the false information disseminated (many visuals (Perrot 2022)) as well as its quantity. Paradoxically, it is not a lack of information that makes this war opaque, but the amount of data disseminated in record time, especially during the first weeks of the war. Never had the rest of the world been so immersed in a conflict, with such a flow of images and testimonies coming directly from the Russian and Ukrainian sides (Perrot 2022).

Over the past few years, fact-checking practices within newsrooms, and occasionally beyond them, have become more structured, visible and equipped with new tools to address the specific challenges posed by online disinformation (Bigot 2017; Thomson et al. 2022). As soon as the Russian invasion of Ukraine began in February 2022, fact-checking journalists were faced with the proliferation of visual content online and had to react quickly considering the large audiences and the virality of (fake) news raised by these events. *Les Décodeurs*, the specialized fact-checking unit of *Le Monde*, one of the French reference daily newspapers, has debunked disinformation on social media platforms in the early stages of the war, publishing these verifications on their web page with the aim of informing internet users about the fallacious nature of some content circulating online. How did the journalists at *Les Décodeurs* select the content for fact-checking? Which means and tools did they mobilize to carry out fact-checking in such a context? This article aims to understand how the context of disinformation surrounding the war in Ukraine affected the practices of visual verification of *Les Décodeurs*, and to place them in the broader practices and categorizations of previous research on fact-checking and disinformation.

Literature Review

Visual Disinformation and Propaganda

The digitalization of news, combined with the rise of citizen journalism, or citizen witnessing (Allan 2013b) as "individuals able to participate in the development of information," the democratization of photography (Ritchin 2013) and the emergence of platforms on which to disseminate various forms of content, has increased tenfold the means to contribute to the informational disorder. Social media change news distribution, news appearance, and news interpretation (Tandoc, Lim, and Ling 2018). Images form a crucial part of this digital news ecosystem and the amount shared online everyday continue to grow. These visuals are produced, published, and shared extremely quickly online (Thomson et al. 2022) especially when an important event affects a community. While some of these visuals have proved to be a relevant source

of information for journalists (Allan 2013a; Wahl-Jorgensen 2016), many others are created to spread false information, some of it in an increasingly sophisticated way (Vaccari and Chadwick 2020).

A common myth is that images do not lie, and it is also mistakenly believed that they possess an unchanging interpretation (Mielczarek and Perlmutter 2014) due to their apparent qualities: emotive, vivid, memorable, and as “proofs” of the authenticity of the event depicted (Joffe 2008) but also because they act as markers of collective memory (Zelizer 2010). Asserting that a picture is powerful is scientifically imprecise (Mielczarek and Perlmutter 2014), but it can act as stimuli. Previous research has primarily focused on textual forms of disinformation, “while visual and multimodal forms (...) have received much less attention” (Dan et al. 2021, 641). This tendency may be due to visual information coming “with an implicit guarantee of being closer to the truth than other forms of communication” (Messaris and Abraham 2001, 217, cited by Dan et al. 2021). Hameleers et al. (2020, 283) insist on the *multimodal* dimension of visual disinformation, i.e., “the integrative ability of images alongside text to highlight a salient aspect of an issue.” They suggest the interactions of visual and textual cues have a strong impact and must be included in existing conceptualizations that have classified mis- and disinformation (see further, Tandoc, Lim, and Ling 2018; Wardle 2018).

Information disorder is a complex and fluid concept (Wardle 2018) encapsulating different forms of false information commonly grouped under the term “fake news.” The term’s inability to describe the complexity of that ecosystem (Wardle 2017), has led researchers to refine the definition into new typologies that take into account the type of content that is being created and shared, the motivation of those who create it and the way this content is being disseminated. Tandoc, Lim, and Ling (2018) and Wardle (2018) draw a line between satire and parody, defined as fictional news using humor or exaggeration to present news, and other types of disinformation that do not have the stated aim of making people laugh. Wardle then proposes six further categories of information disorder (false connection, misleading content, false context, imposter content, manipulated content and fabricated content), categorized into three camps, based on truthfulness and intention to harm: misinformation, disinformation and malinformation. In this study, we focus on *disinformation*, understood as intentional and credible deceptive information to advance political goals, opposed to misinformation, which is considered unintentional (Bennett and Livingston 2018). To define “fake news,” Tandoc, Lim, and Ling (2018) classify it according to their level of facticity, i.e., the extent to which the false information is based on facts, as well as the degree of intention of the author(s) to mislead the audience. Their typology of four general types of fake news definitions is based on levels of facticity and intention: native advertising, propaganda, photo manipulation, and fabrication of content (Tandoc, Lim, and Ling 2018).

According to Jowett and O'Donnell (2018, 6), propaganda is “the deliberate, systematic attempt to shape perceptions, manipulate cognitions, and direct behavior to achieve a response that furthers the desired intent of the propagandist.” Visual representations have played a significant role in propaganda for an extended period (Seo 2020). Social media platforms have become indispensable dissemination channels, facilitating direct engagement between individuals and entities. Within these networks, visual propaganda holds importance and effectiveness. The increasing prevalence of

infographics, GIFs, images, and short videos on social media mirrors individuals' preferences for consuming information. Visual propaganda distributed through social media has gained significant prominence within conflicts (Khaldarova and Pantti 2016; Pantti and Sirén 2015). Recurring themes emerge in the strategies of various parties, which primarily involve analytical propaganda, particularly centered on military facts, or emotional propaganda.

Verification Practices

The “renewed” fact-checking, which emerged in the United States in the early 2000s with the advent of the Internet (Graves 2016), initially focused on assessing the veracity of public political claims, should not be confused with traditional, internal fact-checking designed to eliminate errors before publishing a story (Graves 2018). This new form of fact-checking, dominated by professional journalists (but not exclusively) can be regarded as “a kind of news reporting” (ibid.) committed to publicizing errors or falsehoods regardless of the source (Amazeen 2015). It is no longer aimed at the exhaustive and systematic verification of journalistic content *a priori*, but at the punctual control of public quotes *a posteriori* (Bigot 2017). This paradigm shift can be attributed to editorial and economic constraints within news organizations, as well as by the proliferation of online news creation, and the speed at which they are published and shared.

The traditional role of the journalist as a gatekeeper, controlling the doors of information disseminated to the public (Shoemaker and Vos 2009) collapses as anyone can now create and publish their own content, opening the doors to disinformation (Amazeen 2020; Waisbord 2018; Vos and Thomas 2019). Nowadays, gatekeeping is distinguished from *gategatching* and *gategouncing*. Gatebouncing occurs in a networked information environment, where news and information are already circulating. “While traditional gatekeepers checked facts before publication, the network environment has ‘let out’ information that must be gatebounced to an alternative status” (Vos 2019, 92–93). This kind of activity understands fact-checking, or sorting facts from alternative facts and news from fake news, as a sort of retroactive selectivity. Examining US fact-checked statements on the Covid-19 pandemic, Singer (2023) confirms this evolution as she concludes that “in ruling on the veracity of previously published material rather than determining what should be published in the first place, the core of journalistic gatekeeping as traditionally understood, fact-checkers stand on the other side of a metaphorical gate to exercise an alternative approach that is both reactive and retroactive” (345).

Current verification practices are shaped by the imperatives of today's media ecosystem in which there is no rest but a continuous flow of information at any time of the day (Caplan and Boyd 2018; Gottfried and Shearer 2016). Image-based disinformation in journalistic and communication context manifests through various manipulations such as saturation/desaturation, artificial blurring, copy/move and splicing, retouching, misattribution and cropping (Thomson et al. 2022). To debunk them, journalists therefore use a mix of automated and manual detection strategies (Katsaounidou et al. 2020; Thomson et al. 2022). Manual detection strategies mainly rely on using reverse image search, examining image metadata, analyzing light and shadow, or utilizing image editing software. Fact-checkers cannot debunk all the false

images as not all are visible to the naked eye. While the use of digital image verification tools can be very useful, human verification and critical thinking remain crucial (Himma-Kadakas and Ojamets 2022; Katsaounidou et al. 2020).

Previous research reveals that journalists and news organizations do not have a consistent approach or a standardized set of guidelines for verifying information and sources (Brandtzaeg et al. 2016; Shapiro et al. 2013). This echoes the theoretical perspective of journalism as a practice, defined by Witschge and Harbers (2018, 111) as “an ongoing process of bottom-up, collective negotiation of practitioners (...) determined (...) by specific contextual and material conditions, normative preferences, habitualized routines, and subjective experiences.” Despite the rapid rise of computational methods and tools, Brandtzaeg et al. (2016) note that traditional methods such as face-to-face of phone contact are still strongly rooted when verifying sources. Videos and photos are described as “the most challenging modalities to verify” (Brandtzaeg et al. 2016, 331), and their verification needs to go beyond traditional methods, requiring the use of digital tools and the ability to utilize them. Lack of time, lack of knowledge and/or suitable training to use verification tools lead journalists to entrust part of the verification work to professional fact-checking teams that work as part of a news organization, belong to a non-profit organization, operate as a stand-alone website, or are affiliated with academic institutions (Saldaña and Vu 2022) or even to “trusted amateurs users” on social media (Pantti and Sirén 2015; Tolmie et al. 2017).

Given the amount of (visual) disinformation released at the outbreak of the war, the availability of sophisticated tools to produce it, and its widespread circulation online, one might expect that fact-checkers would have to deal with unusual or unexpected forms of disinformation. Referring to this context and previous categorizations of disinformation (Tandoc, Lim, and Ling 2018; Wardle 2018), the first research question is therefore formulated as follows: (RQ1) ***Did the particular context of disinformation surrounding the war in Ukraine influence the forms of visual disinformation?*** This first question is linked to another one, based on the findings of previous research, showing how fact-checking as a practice is changing and how this set of practices is understood and justified by journalists in relation to the impossibility of controlling more than a fraction of what circulates online: (RQ2) a) ***How did fact-checkers select the content to verify and*** b) ***how did they conduct these verifications?*** Together, these two questions will allow us to better situate the discursive positions that specialized fact-checkers develop about the function of fact-checking in the broader context stated by previous research and in a context of war, where a more intensive circulation of (dis)information online is often associated with crucial military or political events (Seib 2021). This second question, through the selection criteria and methods of verification, also addresses the way in which these practices unfold over a certain period of time, in this case that of a long-term conflict.

Methodology

Les Décodeurs is the dedicated fact-checking department of *Le Monde*, one of the most prominent French newspapers with an extensive coverage of international topics, and the most important in terms of subscribers (more than 500,000 at the end of 2022). Founded in 2009 as a stand-alone blog, then established itself in 2014 as a

part of *Le Monde* newspaper's efforts in explanatory and data-driven journalism, *Les Décodeurs* has grown by taking inspiration from *The New York Times*' "The Upshot" (Graves 2018). The operations of *Les Décodeurs* adhere to a charter primarily focused in factual verification of information, systematic citation of sources, and the universal accessibility of articles (without any requirement for paid access on *Le Monde* website). Besides fact-checking activities, the team of approximately twenty journalists is primarily involved in investigation, data journalism and media literacy projects. Not all team members are involved in fact-checking daily; these tasks essentially employ three full-time journalists. The selection of *Les Décodeurs* as a case study is first based on the exploratory objective this kind of study can aspire to, as outlined by Gerring (2007, 39–40). In this exploratory design, the choice of *Les Décodeurs* fulfils another objective: "cases must be representative of the population of interest" (Gerring 2007, 146). In the European French-speaking journalistic landscape, *Les Décodeurs* fairly respond to this search for representativeness by virtue of its characteristics (history, composition, practices, editorial guidelines) and its status as a "reference" in the French-speaking fact-checking community. The hypothesis could therefore be made that it represents a "typical case" as defined by Gerring (2007, 91 et sq). Although an exploratory case study should "culminate in cross-case confirmatory analysis" capable to addressing the question of representativeness (Gerring 2007, 84), it is not the aim of this study to test the representativeness of *Les Décodeurs* in terms of their practices relating to the war in Ukraine.

This study is based on a dual framework: an analysis of *Les Décodeurs*' fact-checking work on the war in Ukraine, combined with semi-structured interviews. We first analyzed a series of visual debunks related to the war, published by *Les Décodeurs* on a single webpage named "War in Ukraine: Navigate through the disinformation and false images circulating since the onset of the Russian offensive"². We selected 48 of the 52 debunks published between the beginning of the war and the end of the year 2022. Four debunks that did not include an explicit visual dimension were excluded from the analyzed corpus. This inductive analysis compares the different cases by focusing on the origin of the disinformation, the date of the debunk, the type of manipulation according to the categorization presented above, and the tools/practices used to verify the visual contents.

We conducted five semi-structured interviews with members of *Les Décodeurs* between November 2022 and February 2023. We met with the head of the department, the deputy head of department and the three journalists regularly involved in fact-checking related to the war against Ukraine. All interviews were conducted via videoconference, transcribed in full, and anonymized by the authors. We systematically discussed the following five questions with the respondents: 1) the internal organization of *Les Décodeurs* after the war started; 2) the criteria for choosing the contents to debunked; 3) the favorite tools and methods for verifying and the formats used to publish the debunks online; 4) the arbitration of ethically, technically, or politically sensitive cases; 5) the audiences garnered by debunks during the twelve months of 2022.

The interviews were conducted with a dual purpose: firstly, documentary, in the sense that they provide a basis of references and facts necessary for understanding the subject (we have very few points of comparison with conflicts in the digital era

that have involved France and Europe as a whole, so closely). These statements are not assimilated as they are. They are confronted with other documents and sources relating to *Les Décodeurs'* operations (activity reports, previous interviews, content from *Le Monde's* website). They are also contextualized through ethnographic research conducted within the newsroom: the present study is part of a larger research project on the roles and values of visual content in the editorial strategies of the French-speaking daily press, for which an ethnography of one full week was conducted in January 2023 (Zecchinon and Standaert 2022). We therefore know how the newsroom of *Le Monde* is organized and managed, and we can contextualize the content of the interviews to place the case of *Les Décodeurs* in a larger intra-organizational context.

The second aim of the interviews is to capture various experiences and “understand the meanings attributed to an activity by those involved in it” (Demazière 2012, 30; Lamont and Swidler 2014). Indissociable from the first, documentary, aim, this perspective enables the inductive identification of types of arguments, (after-the-fact) justifications, and significant configurations of categories linked to individual and professional identities (Dubar 1998; Ryfe 2020). This comprehensive analysis of how the journalists describe and perceive the stakes related to their fact-checking activities place the analysis of the debunks in the theoretical perspective of journalism as a practice, itself defined by *performed* practices and *discourses* on these practices (Witschge and Harbers 2018). These two dimensions coexist closely in the material analyzed. Our research posture is not strictly report “pure” practices, nor to access the “practical consciousness” of journalists, which is the habitual and unconscious dimension of news production (Ryfe 2020, 357), but rather to understand how practices and discourses – as well as silences and omissions – reflect distinctive meanings and stakes in relation to our research question.

Findings

When the Russian invasion started, *Les Décodeurs* created a dedicated web page designed to “verify the most viral images shared online and to allow to see how they were used in the information war waged between pro-Ukrainian and pro-Russian factions.” It is presented as a “tool” or a “guide” for users’ reference. All the visual disinformation analyzed was circulated on social media platforms, primarily X (previously Twitter) and Facebook. Only five of them did not originate directly from social media and instead came from either pro-Russian media or foreign media outlets inadvertently disseminating false information. However, all of them subsequently circulated widely on social media, being disseminated by the media themselves and/or picked up by individuals close to conspiracy networks, pro-Russian or Ukrainian networks.

The web page presents the verifications one after the other, in reverse chronological order, in the form of thumbnails. These intentionally mimic the format of posts on social media from which the fake visuals originate. Each thumbnail consists of an image (the fake visual, either a photo or a video, or a screenshot of a post from a social media platform that disseminates it), an informative title providing indications of the deception, and a brief descriptive text succinctly explaining the debunking.

This multimodal explanation is deliberately concise to “make a dense page more digestible” (*deputy head of department*) and to provide a brief yet clear answer to increasingly distracted Internet users. Tags complete the thumbnail, providing information on 1) the nature of the visual (tagged as “photo” or “video”), 2) the type of deception (“out of context,” “manipulation,” “false account,” “rumor”), 3) the recurring topics (“Bucha,” “Zelensky”), and 4) the type of propaganda (“pro-Russian,” “pro-Ukrainian”) (Figure 1).

(RQ1) Did the Particular Context of Disinformation Surrounding the War in Ukraine Influence the Forms of Visual Disinformation?

As the tags were randomly assigned by the journalists, we reclassified the 48 fact-checks included in our analysis in a categorization based on the categories of fake news discourse and information disorder presented by Tandoc, Lim, and Ling (2018) and (Wardle 2018), which can be combined (see Table 1). This allow us to assess the extent to which the content analyzed reflects forms and techniques that have already been described by previous research. Twenty-four fact-checks are based on animated visuals (videos) and 24 based on static visuals (photographs or screenshots). Only four of the 52 fact-checks included in *Les Décodeurs*’ webpage do not rely on visuals (and are therefore not analyzed). This supports the statement made by most of the interviewees, explaining that disinformation is predominantly visual in nature. It is important to note that, following previous research guidelines on the multimodal dimension of visual disinformation (Dan et al. 2021; Hameleers et al. 2020), we not only analyze the image itself, but the whole vignette (which often includes captions, titles, logos, etc.).

As presented in Table 1, only a quarter of the visuals (12 out of 48) fall under the category of photo manipulation, which includes visuals that have undergone technical



Figure 1. Screenshot of one of the 52 thumbnails included in *Les Décodeurs*’s article on *Le Monde*’s website.

Table 1. Categorization of the 48 debunks related to the Russian–Ukraine war published by *Les Décodeurs* from February to October 2022, based on the categories of fake news discourse and information disorder presented by Tandoc, Lim, and Ling (2018) and Wardle (2018).

		Photo	Video	Total
Photo manipulation	Imposter content	4	0	4
	Manipulated content	3	4	7
	Fabricated content	0	1	1
False context Misappropriation	Wrong temporality, wrong location, wrong interpretation	6	14	20
	Wrong temporality, related to the Russian-Ukrainien conflict (since 2014), wrong interpretation	3	2	5
	Correct temporality and location, wrong interpretation	8	3	11
				48

Tandoc et al. 2018

Wardle 2018

manipulation using image editing software or assisted by artificial intelligence. Five cases relate to a video, with only one being a “deep fake” created *via* artificial intelligence, which we can subclassify in the Wardle’s (2018) “fabrication content” category. The techniques used for the remaining four videos involve sound manipulation or incorrect translation resulting in the opposite meaning (in dubbing or subtitles). These are manipulated contents. The seven cases of photographic manipulation involve four instances of “imposter contents” (genuine sources impersonated) (Wardle 2018), such as the creation of a fake cover of a well-known magazine or the use of the name and logo of existing television channels. The three remaining cases of photographic manipulations involve basic photo collages or the addition of minor modifications to one or more elements (such as the addition of a swastika on a football jersey worn by President Zelensky).

Three-quarters of the analyzed photographs and videos are therefore authentic and fall under the category of “false context” (Wardle 2018) or “misappropriation” (Tandoc, Lim, and Ling 2018). It is the way they are presented and contextualized in commentaries or captions that distorts the true meaning of the visual. Contextual distortions may relate to the location, dating, and interpretation of the document. Twenty are images taken from events prior to the war (*temporal difference*) and having no geographical connection with it (*wrong location*). Some are related to real events (an explosion in China, a plane crash in Libya, a photo of a beauty pageant winner, etc.), while others are taken from works of fiction (making-of a film, Ukrainian series in which Zelensky played as an actor, adverting) or even fictional images (an excerpt from a video game, 3D special effects illustrating the World War II). Five visuals meet the location criterion but come from the Russo-Ukrainian conflict of 2014. Finally, eleven of the “false context” images adhere to both the temporality and the location designated by the commentary that accompanies them. Only the

textual *interpretation* is incorrect, i.e., what we can deduce from the image. For example, a little girl has indeed been treated in a Ukrainian hospital in June 2022, but because she fell off her bike, not because she was injured by bombing, as claimed in the photo caption. Others exploit the optical effects of some images to mislead the reader due to an erroneous caption.

Most of the visual disinformation analyzed can be classified within preexisting categorizations of Tandoc, Lim, and Ling (2018) and Wardle (2018), revealing a majority of nonsophisticated, if not commonplace, disinformation processes. These are largely based on pre-existing material and a malicious use of the interactions between visual and (sound/written) textual cues. Despite the exceptional context of a war involving Russian agencies, well-known for their expertise in the creation and propagation of disinformation (Biei 2021), the analyzed corpus appears to be based on proven and tested methods. As we shall discuss later, this does not prevent them from going viral.

(RQ2) a) How Did Fact-Checkers Choose the Content to Verify and b) How Did They Conduct These Verifications?

Criteria for Selecting the Content to Verify

Previous research has clearly shown the current challenges facing gatekeeping functions, due to the overabundance of content circulating and the unlimited number of potential creators. This context is particularly relevant to *Le Monde's* fact-checkers, especially considering the constraints on their human and time resources. Therefore, understanding the criteria used to justify what is debunked in a context where verifying everything is impossible is crucial. The central criterion put forward concerns virality signals. Interviews reveal that this criterion is based on the ability to judge that a piece of content has become so viral that it requires containment through debunking and publication on the newspaper's website.

We observe a relatively short, but not always immediate, time between the propagation date of the fake news and the publication of the debunk (mode = 2 days; average = 2.5 days). The reactive approach highlighted by Singer (2023) is clearly stressed by the close monitoring of the virality: "If a hoax is circulating and being widely shared, we can't wait weeks before fact-checking it. When it's going viral, we need to bring the debunk quickly" (*fact-checker 1*). Fact-checkers regularly identify a tweet or Facebook post as the one that made them decide to start their fact-checking because these posts give a great visibility to fake news. The work is therefore fast, but not necessarily immediate. This is not so much related to the difficulty of proving falsehood, but rather to the criterion of virality. Fact-checkers all agree on this point: if false news is not widely shared on mainstream networks such as X or Facebook, it is not worth conducting and publishing a verification that would give it more visibility.

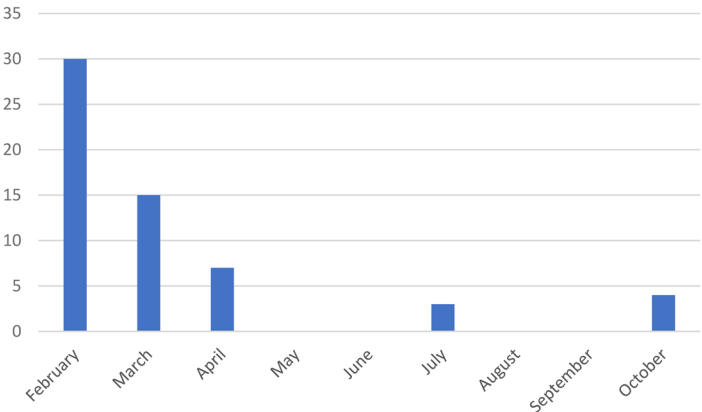
"Telegram is the incubator for what will later be posted on Twitter and taken up on a larger scale. Therefore, it has become a criterion: when we see something on Telegram, and we see that it is starting to circulate on Twitter, we think that it may be worth verifying. If it doesn't leave Telegram and stays with the activists, in a closed and restricted circle, we don't deal with it." (*fact-checker 3*)

Based on the verification dates, we identify three key periods that have accounted for the majority of debunking (see Table 2). These periods coincide with an intensive circulation of (dis)information online and were themselves associated with crucial military or political events. This association between disinformation peaks and high-intensity events is not surprising in the context of a conflict (Seib 2021). The first period is the beginning of the war, where nine verifications were performed on 24 February and five in the days leading up to it. The second period covers the first month of the invasion, with 21 verifications conducted between 25 February and 25 March. This period corresponds to the rapid advance of Russian forces towards Kiev, followed by an equally rapid retreat. The third peak occurred on 8 April, a few days after the discovery of the massacre in Bucha, when Russian troops withdrew from the city on 31 March 2022. Interviewees claim that low-intensity periods in the news seem to correspond to a decrease in the quantity of disinformation. Once again, the criterion of virality, coupled with the intensity of military events and news coverage, appears to function as a guide for allocating time and resources to counteract and debunk disinformation. Therefore, the *Décodeurs*' verifications almost stopped in October 2022, as the flow and the virality of visuals to verify had dried up after April 2022, at the same time as the conflict was gradually losing intensity on the ground, settling into a war of positions with no significant advances, which was also gradually reflected in the intensity of media coverage. The three fact-checking journalists of the team also admit that they no longer have "time to deal with it," as the circulation of these visuals is "minor compared to the beginning of the war" (*fact-checker 2*).

Fact-Checking Practices

Sources. To identify and debunk disinformation, fact-checkers from *Les Décodeurs* do what Wardle (2018) names "source-checking," by investigating the individuals or networks pushing a piece of information disorder. They conduct various types of monitoring on different social media platforms, where they cross-

Table 2. War in Ukraine. Number of visual debunks by "*Les Décodeurs*" (*Le Monde*) between February and October 2022.



check information and ensure its virality before conducting a verification. Since the Covid-19 pandemic, the social network Telegram has gained importance and has become, along with the war in Ukraine, one of the most important channels for disinformation. Telegram is considered an “anteroom” for false information, a place where it appears in echo chambers of “convinced” individuals (Nguyen 2020). Our interviews support this representation to the extent that some fact-checkers infiltrate certain groups or follow specific individuals whom they identify as “pro-Russian,” “anti-vaccine,” “conspiracy theorists,” etc.

Interviews reveal that a significant part of the monitoring is carried out on X for several reasons. First, fact-checkers observe that this network is massively used to spread false information from echo chambers to epistemic bubbles (Ibid.). Second, X is the only social network with a tool (X Pro, formerly TweetDeck) that allows for the collection of tweets by hashtags or the tracking of specific trends and individuals. This greatly facilitates and personalizes monitoring. Facebook and Instagram tend to be less monitored than before. They acknowledge that the Meta group has conducted “a lot of verification work on their own after the 2016 US election,” notably by integrating teams of professional fact-checkers into their content verification (including *Les Décodeurs* until December 2022). Thanks to this partnership, fact-checkers had direct access to content flagged as potentially false by Meta’s social media users.

Fact-checkers are aware of the blind spots that their monitoring does not cover, such as the Tik Tok social network or discussion forums like 4chan and Reddit. Several factors are cited to explain these blind spots: the small size of the team, the lack of time to conduct quality monitoring on a larger number of social networks, the absence of monitoring tools like X Pro on other platforms, and a recognized “X bias” among journalists who heavily rely on this social network as a primary, if not sole, source of information. “We are not the only ones with this bias, politicians and even conspiracy theorists also have it. Pro-Russian and anti-Ukrainian activists who were banned from X have returned once their accounts were reinstated. We didn’t see them open an account on Facebook or elsewhere.” In addition to monitoring individuals and groups likely to spread false information, fact-checkers also follow internet users who specialize in fact-checking, “civil observers and indicators” whom they can rely on without necessarily accepting their information unquestioningly.

Tools. When it comes to visuals, the use of digital tools is prevalent. Reverse image search is considered the most effective, easiest, and most frequently employed tool. In fact, “one or two tools are enough to find the source or tell me it will be untraceable” (*fact-checker 2*). This emerges from interviews with fact-checking journalists and is also often mentioned in the verification articles we analyzed. Reversing search *via* Google or Yandex allows one to take an image and find its origin and/or other pages that have already published it. Other digital tools for searching in image metadata or determining if an image has been modified with image editing software are also mentioned. These websites or plug-ins are often available online for free, developed by the OSINT community, journalists, media organizations, and researchers from around the world. For

example, in the case of the war in Ukraine, a tool like Faktisk³ is particularly relevant. Developed in Norway, it identifies the type of weaponry present in an image. Given the availability of such tools, it is not necessary for fact-checking journalists to have strong computer skills to perform this type of verification, but it is important to know that such tools exist.

While image verification does involve technical analysis, a second significant work relates to the image's context. Using software is then no longer sufficient. To identify the source, location, date, and motivation of the author, purely manual techniques specific to each fact-checker are systematically at work. "Sometimes you just must find clues in the image that allow you to trace the thread. There is no magic recipe that applies to every debunk, it remains a craft" (*fact-checker 3*). The experience gained over the years by these journalists also plays a major role in the verification process. Although no one on the team has specific knowledge of military issues, Russia and Ukraine, the habits and the recurrence of certain mechanisms encountered in other circumstances of false information dissemination can enlighten them (e.g., the Covid-19 crisis, Yellow Vests protests in France, etc.).

The use of "trusted amateur users" (Pantti and Sirén 2015) is also perceived as a verification technique. Many internet users who do not work for recognized media or organizations have become passionate about fact-checking. They share their findings on social networks, explaining their approach through X threads, for example. "It's becoming increasingly rare to be the first to debunk fake information. In the war in Ukraine, there are important networks of Ukrainians who systematically verify what is circulating on pro-Russian networks. We pay particular attention to these sources, but it is imperative that we verify everything ourselves" (*fact-checker 1*). Trusted amateur users also enable fact-checkers to discover new techniques that they can subsequently apply to upcoming verifications.

In the specific case of debunking visual disinformation about the war in Ukraine, *Les Décodeurs* also relied on verifications carried out by other fact-checking teams from French legacy media (*AFP, France 24, Libération...*). Half of the cases published were verified by other actors. The fact-checking journalists at *Les Décodeurs* recognize that given the time allotted to them for fact-checking, their small number (only three people), and the lack of internal resources, the use of debunks from colleagues "whom they know well and trust" is a significant resource for achieving the goal of "providing people with as many keys as possible to avoid being taken in by images, and being as informative and complete as possible" (*deputy head of department*). Before publishing verifications that do not come directly from their teams, whether in the case of verifications by internet users or professional journalists, *Les Décodeurs* systematically conduct "fact-checking of fact-checking" by reapplying the verification process to ensure the accuracy of the results. They also always cite the authors of the debunk.

Discussion

Results show that most fact-checks conducted (36 out of 48) were focused on *authentic* images whose meanings were distorted due to misleading captions. We identified only one *deepfake* and we are thus far from a wave of sophisticated disinformation orchestrated by Russian or Ukrainian partisans. Even though our corpus is limited, it

seems that traditional methods, using fairly basic and classical forms of visual disinformation, have proven to be easily viral despite the availability of much more sophisticated tools (Vaccari and Chadwick 2020). Supporting previous findings (Hameleers et al. 2020), our research also shows that fact-checkers are not less effective in correcting visual disinformation. They can deal with it in a rapid and relevant manner.

The categorizations proposed by Tandoc, Lim, and Ling (2018) and Wardle (2018) demonstrate their capacity to encompass primarily visual disinformation, even though neither was initially designed exclusively for the exclusive classification of visual disinformation. That being said, a few minor improvements could be considered: First, Tandoc, Lim, and Ling (2018) introduce a category of “photo manipulation,” while acknowledging the term’s constraints, as a portion of the images are not genuinely manipulated but rather *misappropriated*. Second, Wardle (2018) does not differentiate textual disinformation from visual disinformation. These two examples matter because they highlight the complex interweaving of texts and visuals. Our research shows the extent to which textual and visual (or even audio) elements interact closely to form *multimodal disinformation* (Dan et al. 2021; Hameleers et al. 2020), a concept that seems very useful when trying to capture how the combination of texts and visuals effectively acts and must be unraveled by fact-checkers. Third, since three-quarters of the images and videos in our corpus were authentic, three parameters give a finer subclassification of these out-of-context items. We thus propose refining the “false context” category into three subcategories (temporality, location, and interpretation), although this does not imply that they will be exhaustive for future studies. Fourth, the non-exclusive nature of certain categories may also be problematic. Categorization is based on content type, type of modification performed, or even the motivations of those who create them. Tandoc, Lim, and Ling (2018) thus differentiate a category of “propaganda” from “advertisement,” on the same level as “photo manipulation” or “news fabrication.” However, for example, an item can be classified as both “propaganda” and “photo manipulation.” Moreover, the same item can also change categories depending on how it is presented on social media platforms and by whom. Disinformation has a strong bottom-up basis (Dan et al. 2021) and user’s manipulation on social media leads to a certain volatility of the shared content. As an example, the addition of satirical subtitles to an authentic video of President Putin was primarily intended to *distract* audience, but the reuse and the virality of this video on social media gave it a propagandistic character. Therefore, we could differentiate categorizations based on the type of manipulation (manipulated content, imposter content, fabricated content, false context) from those that are more related to the author’s intention (parody, satire, propaganda, advertisement).

Previous studies have demonstrated the value of an integrated gatekeeping model in today’s digital media ecosystem, including the multiple channels through which information passes and the role of the audiences (Shoemaker and Vos 2009; Vos 2019). Based on our results, the fact-checking journalist can be considered one of the gates through which specific pieces of information are filtered. Here, the contents that fact-checkers work on are primarily sourced from social networks and often originates unknown or anonymous users, which diverges from the traditional role of the “watch-dog” fact-checker mainly focused on holding politicians accountable (Ferracioli, Kniess, and Marques 2022). Interestingly, the discourses that justify the decision to debunk

or not are deeply linked to, and even dependent on, a digital-based criterion that influences newsrooms to varying degrees, namely virality and online visibility. This discursive stance echoes Harcup & O'Neill's "magnitude" criterion (2017): a fake news story must be fact-checked because of the large number of people who have been impacted by it. The goal of fact-checkers is therefore to filter a part of this abundant content bursting onto the web. Consequently, all the fact-checkers interviewed, as well as their two supervisors, mentioned the complex balance between "information and visibility" as a recurring question behind every verification. It means countering disinformation that has already gained a certain level of virality, without giving more visibility to more "underground" problematic contents. This discursive stance illustrates the gatebouncing activity (Vos 2019), the reactive/retroactive approach observed by Singer (2023) and what she previously called a "two-step gatekeeping, in which initial editorial decisions to reject or include an item in the news product are followed by user decisions to upgrade or downgrade the visibility of that item for a secondary audience" (Singer 2014, 67). Our findings suggest that we could also consider the model in reverse: the secondary audience becomes the origin of the news and its dissemination, followed by a decision to check it or not. Fact-checking journalists rely more on users' decision to give high visibility to a piece of "news," but this leaves the gatebouncing function and reactive fact-checking practices with surprisingly undiscussed journalistic issues. The broader military, political and humanitarian context of the war, which influenced the rise and fall of disinformation, seems to no longer be considered after the three "key" periods mentioned above. The editorial necessity of debunking visual disinformation that might not be as viral as others but could be more vicious, shocking or sophisticated, is never taken into consideration.

The demobilization of the team after April 2022 occurred without any real questioning of the medium-term coverage strategy. To extend this, the interviews do not contradict the view of journalistic work as an ongoing process of mainly bottom-up and collective negotiation among practitioners (Witschge and Harbers 2018). Our sources do not attempt to present their verification practices as settled, codified, and even less planned over time. In fact, what we learn from the temporality of the work of "Les Décodeurs" is a remarkable ability to cobble together, to react, to perform tasks that were both usual (checking content) and new (no one was a specialist in military issues, Russia, or Ukraine), but also an inability to envision these efforts beyond the short term. Disinformation and propaganda about the war in Ukraine most likely did not subside by the summer of 2022.

Theoretical discussions on gatekeeping, and the study of journalistic practices, encounter a dimension that could be more thoroughly discussed: how to explain things that haven't been done. Given the speed at which content circulates on the web, this is a crucial dimension: choices don't have time to be debated and matured at length. While our study has highlighted the actors' practices in relation to the criteria for selecting content to be checked (*what to check and why?*), in line with gatekeeping theory, it does not, however, adequately delve into practices and internal organization longitudinally (*how long to check and why/when stop doing it?*). The fact that it is difficult for the actors involved to account for this undoubtedly reflects several factors, including habits and routines that are so embedded in the way newsrooms operate that it is difficult to make them aware of them (Ryfe 2020).

With regard to methodology and research design, this study underscores the importance of three aspects. First, the broadening of visual disinformation datasets is an essential methodological challenge. Virality is important, but it does not necessarily imply representativeness. Datasets should encompass not only what gains visibility but also what goes under the fact-checkers' radar. Additionally, content that exhibits not only a large magnitude, but may also be worth analyzing for other reasons such as sophistication, polarization, shocking content, difficulty in debunking and impact on specific audience segments, should be included.

Secondly, the essential role of social networks has been sufficiently emphasized in this and other studies. While the majority of them point Facebook, X, Instagram or TikTok (Dan et al. 2021), our study highlights the necessity of a more in-depth analysis of social networks such as Telegram, whose key role in terms of the creation and propagation of disinformation has been highlighted.

Finally, our analysis of the justifications for the criteria used to select content to be debunked shows the importance of understanding intra-organizational realities, values, routines and practices of fact-checkers. This should be done not only through case studies, but with more longitudinal and comparative approaches in order to better understand why fact-checkers from traditional media cover (visual) disinformation the way they do (Tsfati et al. 2020, 169), and which patterns of this coverage can be explained by internal factors, while others may depend on external ones such as the context of events. This requires qualitative methods (interviews) with, if possible, ethnographic approaches at the heart of the daily work of selecting, verifying and managing publications related to disinformation.

Even if this study shows that nonsophisticated visual forms of disinformation still play an important role, the impact of the increasing availability of artificial intelligence tools will have to be reevaluated in the near future, given the major concerns it raises about their potential. Journalists are concerned about this technology and fear the impossibility for readers to differentiate between AI-generated content and human production (Moran and Shaikh 2022). AI image generator as Stable Diffusion, Dall-E or Midjourney are further blurring lines (Grut 2022). It would be necessary for future research to explore the use of AI-generated images for visual disinformation and the techniques that fact-checking journalists will need to develop to detect and debunk them.

Following this technological concern, the main limitation of our study is its inability to study the way in which disinformation networks operate behind the screen. Reaching them and talking with them remains a challenge for researchers, despite a few examples that allow for a better understanding of how they work from the inside. Based on interviews with people working in troll farms, Biei suggests, in the case of Russia, "an institutionalization of cyber war practices by trolls (...) for propaganda purposes" (Biei 2021, 214–215). Beyond the interest in comparing practices, the question of (technological) proximity between these two sides is crucial and deserves more attention. Our study shows that fact-checkers follow disinformation networks very closely, to the point of occasionally infiltrating them. It would therefore be useful to understand to what extent practices of (visual) fact-checking and disinformation interact and respond to each other in their respective attempts to inform or deceive the audience.

Notes

1. <https://www.bellingcat.com/news/2022/02/23/documenting-and-debunking-dubious-footage-from-ukraines-frontlines/>.
2. https://www.lemonde.fr/les-decodeurs/article/2022/03/04/guerre-en-ukraine-notre-guide-pour-detecter-les-infos-et-les-faussees-images_6116197_4355770.html.
3. <https://faktisk.demo.mediafutures.no/>.

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