

2 From Leaflets to Livestreams: The Evolution of Wartime Communication

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The landscape of wartime communication has undergone profound changes over the last century, with the evolution of technology playing a critical role in how information is disseminated and consumed during conflicts. Historically, the primary objective of wartime communication was to influence public opinion, bolster troop morale and undermine the enemy's will to fight. As a result, the effectiveness of these communication strategies has often been a key determinant of a conflict's outcome.

In the early 20th century, wartime communication was heavily reliant on what Media Richness Theory (MRT) identifies as low-richness media (Daft/Lengel 1986). These forms of media – which include leaflets, radio broadcasts and posters – conveyed simple messages, offered limited interaction and provided few opportunities for immediate feedback. Despite their limitations, these tools were pivotal in past conflicts, including World War II and the Winter War. The strategic use of communication in warfare has long been recognized as a means of shaping the battlefield beyond physical confrontations. Propaganda, for instance, was as powerful a weapon as any firearm, used to demoralize the enemy and rally support at home.

In contrast, contemporary wars, such as the ongoing Russo-Ukrainian War, have seen a dramatic shift towards high-richness media. The advent of digital technologies has enabled the use of platforms that support multimodal communication – combining text, video and real-time interaction. Social media, livestreams and blogs have become powerful tools for both state and non-state actors to shape narratives, influence public sentiment and mobilize resources. This shift reflects broader changes in society's consumption of information, where immediacy, interactivity and emotional engagement are increasingly valued.

Given this significant evolution in wartime communication, the central research question guiding this study is: *How has the shift from low-richness to high-richness media transformed the dynamics of wartime communication, particularly in terms of propaganda effectiveness, public sentiment and international perceptions?* This question aims to explore the implications of media richness on the strategic outcomes of modern conflicts, using the Winter War and the Russo-Ukrainian War as comparative case studies.

This chapter examines the transformation from traditional media, such as leaflets and broadcasts, to advanced digital platforms in wartime communication, highlighting their impact on the effectiveness of propaganda and public engagement. It contrasts the limited interaction of earlier media with the dynamic, multimodal capabilities of current digital platforms, illustrating how these changes influence both domestic and international perceptions during conflicts.

Theoretical Background: Media Richness Theory

Media Richness Theory (MRT), first introduced by Daft and Lengel (1984), was initially developed to explain the effectiveness of different communication media in organizational settings. The theory posits that communication effectiveness is determined by the richness of the medium. This richness is defined by its capacity to reduce uncertainty and ambiguity in transmitting information. Richer media are considered more effective for conveying complex, ambiguous or sensitive information, while leaner media are better suited for straightforward messages (*Ibid.*: 560–562).

While a wide range of communication theories could have been applied to this analysis of wartime communication, MRT was chosen for its unique focus. The theory looks at the relationship between media capabilities and the complexity of the messages being conveyed. Other prominent theories, such as Agenda-Setting Theory or the Uses and Gratifications Approach, focus primarily on media effects and audience motivations (McCombs/Shaw 1972; Katz et al. 1973). However, these theories do not address the intricacies of how different media types convey complex and emotionally charged messages. This is particularly crucial in high-stakes environments such as wartime communication. MRT has the advantage of evaluating media not only based on content but also on the richness of the communication channels used. This is essential in modern conflicts where both the speed and depth of engagement with audiences are necessary.

Recent studies on wartime communication have revisited and extended MRT. These studies examine how communication strategies have evolved in conflict settings. Research on digital propaganda and psychological operations highlights the growing importance of multimodal platforms such as social media, which enable rapid and interactive communication (Tufekci 2017; Hoskins/O'Loughlin 2010). These platforms convey complex narratives through multiple cues, including text, images, video, and real-time interaction. This makes them particularly effective for modern psychological warfare. Unlike traditional theories that focus primarily on media content or audience agendas, MRT's emphasis on the medium's capacity to handle complex, interactive communication makes it uniquely suited for understanding the dynamics of contemporary wartime messaging.

In the context of the Russo-Ukrainian War, MRT provides a critical framework for analyzing the shift from traditional low-richness media, such as leaflets and radio broadcasts, to high-richness digital platforms. These platforms engage audiences emotionally and interactively. High-richness media allow for real-time interaction and feedback, which is especially valuable in fast-moving conflict situations where timely adjustments in messaging are crucial. Recent research has shown that the multimodal nature of these platforms allows them to transmit not only factual information, but also emotionally charged messages. Such messages resonate deeply with both domestic and international audiences (Hoskins/O'Loughlin 2015; Zeitzoff 2017). This aligns with MRT's core premise that richer media are more effective for conveying complex and emotionally charged messages.

MRT is particularly useful for analyzing wartime communication due to its focus on several key factors, including immediacy of feedback, multiple communication cues, language variety and personal focus. Each of these factors is crucial in the context of military operations and psychological warfare. For instance, high-richness media such as social media platforms and livestreams allow for real-time feedback. This enables military and political actors to adjust their messaging based on audience responses (Tufekci 2017). In fluid and dynamic environments where both public sentiment and battlefield conditions can change rapidly, immediacy is crucial.

Moreover, the ability to convey messages through multiple cues – visual, auditory and textual – enhances the communication of complex and emotionally charged information. This is essential for influencing both public perception and enemy morale during wartime (Hoskins/O'Loughlin 2010). MRT's attention to language variety and personal focus offers further insight into how different communication approaches are tailored to different audiences. In modern conflicts, where messages must resonate with both domestic and international audiences, the ability to shift between formal, technical communication and more colloquial, emotionally engaging language is critical (Lengel/Daft 1988). Platforms like Twitter and Instagram allow for quick transitions between these styles, enhancing the flexibility and impact of wartime messaging (Zeitzoff 2017).

In contrast to theories that prioritize either content or audience reception, MRT's emphasis on the richness of the communication medium allows for a deeper understanding of how complex information is transmitted and received in the chaotic, high-stakes environment of modern warfare. Additionally, MRT facilitates an understanding of how personal interaction and emotional engagement are leveraged in modern psychological operations. High-richness media enable personal interaction through direct engagement with audiences, fostering a sense of connection and trust – which can be critical for maintaining morale and support during wartime (Hoskins/O'Loughlin 2015). This personal focus is especially relevant in the context of social media platforms. Individual stories, as well as

direct communication between leaders and the public, play a pivotal role in shaping narratives during conflict.

The shift from low-richness to high-richness media in warfare reflects broader societal changes in how information is consumed. In today's media environment, audiences expect interactivity, immediacy and emotional engagement. High-richness media have met these expectations by enabling communicators to transmit complex, emotionally resonant messages that are crucial for shaping public opinion, both domestically and internationally (Tufekci 2017).

In summary, MRT remains a valuable tool for understanding the role of media in modern warfare, in which information, psychological and propaganda operations play an increasingly central role. By ensuring that communication strategies are aligned with the richness of the media being used, military and political leaders can enhance the effectiveness of their messaging. This allows them to influence not only public opinion, but also the broader strategic outcomes of the conflict.

Historical Context and Limitations of Early Wartime Media

During the Winter War (1939–1940) between the Soviet Union and Finland,¹ communication technologies were relatively primitive compared to those used in modern times. Leaflets and radio broadcasts were the primary means of disseminating information and propaganda during this conflict. While these forms of communication were effective for delivering simple messages, they lacked the ability to engage the audience interactively or convey complex information (McLuhan 1964). For example, Soviet forces used leaflets extensively, often dropping them from airplanes to demoralize Finnish soldiers and civilians (*Figure 1A*). The content of these leaflets typically urged the Finns to surrender by emphasising the overwhelming strength of Soviet forces and portraying resistance as futile. Despite being utilized for the purpose of spreading information, the impact of such leaflets was limited. The fact that they could be easily ignored or discarded, combined with their lack of interactivity, hindered their effectiveness. These leaflets offered no opportunity for feedback or audience engagement, both of which are crucial in psychological warfare (Ellul 1973). Moreover, the simplicity of these messages often failed to capture the complex realities of the conflict, limiting the Soviet Union's ability to fully achieve its psychological objectives.

¹ **The Winter War** refers to the war between the Soviet Union and Finland from 30 November 1939 to 13 March 1940. It resulted from the Soviet invasion of Finland, as the Soviets sought to expand their territorial control and secure strategic advantages. Despite being outnumbered, Finnish forces mounted a resilient defense, prolonging the war by several months.

In response, Finland also utilized leaflets as a form of counterpropaganda. Finland's leaflets aimed to boost the morale of its own troops and civilians while simultaneously demoralising Soviet soldiers (Figures 1B-C).

These leaflets often mocked Soviet leadership or emphasized the strength and resilience of Finnish forces. Finland's counterpropaganda efforts directly countered Soviet narratives by using similar methods, albeit with content more suited to the Finnish perspective on the war. Despite the limitations of leaflets as a low-richness medium, this form of counterpropaganda played a significant role in maintaining Finnish morale during the conflict.

In addition to leaflets, radio broadcasts served as another primary tool for wartime communication during the Winter War. Radio, though a step up from leaflets in terms of reach and immediacy, still fell into the category of low-richness media. Broadcasts typically featured speeches by political leaders, news updates, and propaganda messages aimed at boosting morale on the home front while intimidating the enemy. However, like leaflets, radio broadcasts were unidirectional and offered no real-time feedback or interaction, limiting their ability to influence public sentiment or enemy morale (Axelrod 1984).

Figures 1A + 1B + 1C: Soviet propaganda poster depicting Marshal Mannerheim as a bloody executioner of the Finnish people (1A), and examples of Finnish counterpropaganda showing the true nature of political officers (1B) and calling on Soviet soldiers to surrender (1C).



Source: Jenikirby History, Public Domain.

The limitations of low-richness media such as leaflets and radio are evident in their inability to provide immediate feedback or engage the audience in meaningful ways. In the Winter War, the lack of interactivity in Soviet propaganda left its effectiveness largely speculative, with little data available to confirm whether the

messages were influencing Finnish morale as intended. Moreover, the simple nature of these messages often prevented them from being persuasive enough to have a profound psychological impact, especially when faced with the resilient and well-motivated Finnish forces.

In contrast to these low-richness media, the development of high-richness digital platforms has revolutionized wartime communication. In modern wars such as the Russo-Ukrainian War, social media, livestreams and blogs provide both state and non-state actors with tools for disseminating information in real-time, engaging with audiences interactively, and shaping public opinion. These platforms allow for dynamic, two-way communication, in which messages can be tailored and adjusted based on real-time feedback, making them much more effective in shaping public sentiment and international perceptions.

The Shift to High-Richness Media in Modern Warfare

The transition from low-richness to high-richness media in wartime communication is most evident in contemporary wars, such as the Russo-Ukrainian War. This war, which began in 2014, escalated significantly with Russia's full-scale invasion on 24 February 2022 and continues to the present day. It has been marked by the extensive use of digital platforms for communication, propaganda and psychological operations. High-richness media – including *social media, livestreams and blogs* – have become central to the war effort, enabling both state and non-state actors to engage with global audiences in real-time. These platforms offer a much more dynamic, interactive form of communication compared to traditional low-richness media such as leaflets and radio. They allow for instantaneous feedback and provide the ability to modify messages based on audience responses.

Social media platforms such as Twitter, Facebook and Instagram have played crucial roles in the Russo-Ukrainian War. These platforms allow for the rapid dissemination of information, the mobilization of grassroots support and the shaping of international perceptions. Ukrainian government officials and military leaders, as well as ordinary citizens and lifestyle influencers, have used them to share real-time updates, counter Russian propaganda and garner international support. Such individuals have served as disseminators of information, activists mobilizing followers, and patriotic figures fostering a shared history, understanding of current events, and visions of a desired future (Pelevina et al. 2024: 157–158). Hashtags, viral videos and emotionally compelling stories have been instrumental in maintaining global attention and international aid. In 2024, Ukraine had 24.3 million social media users, representing 64.9 percent of the population. Facebook, with 13.85 million users, played a particularly critical role, reaching 37 percent of the population, while YouTube boasted 24.3 million users. Instagram, with 12.4 million users, and TikTok,

with 16.47 million users, also contributed significantly to communication efforts during the war, serving both domestic and international audiences (DataReportal 2024).

Among high-richness media, *livestreams* stand out as a particularly effective tool in modern warfare communication. Livestreams provide real-time interaction with viewers, enabling a level of immediacy and engagement that was impossible with earlier forms of wartime communication. They are used by military leaders, politicians, journalists and even ordinary citizens to deliver updates, mobilize support and create interactive experiences with global audiences. The dynamic nature of livestreams allows for an immediate exchange of information, in which messages can be adjusted in real-time based on audience feedback. This makes livestreams more engaging and more effective in achieving strategic communication goals, compared to the static, one-dimensional nature of low-richness media such as leaflets.

A prominent example of livestreaming in the Russo-Ukrainian War is the work of Ukrainian journalist Vitaliy Portnikov. His YouTube channel, with more than 738,000 subscribers as of October 2024, has significantly shaped public understanding and influenced international perceptions (Portnikov 2024). Portnikov's streams, which provide real-time analysis and commentary, have made him a key voice in the information war. The strategic value of these livestreams lies in their ability to reach a global audience, offering an interactive platform that fosters dialogue and builds public awareness of the war's nuances.

Another compelling case of the use of livestreams in the war is by Ukrainian Twitch streamer Mykhailo Lebiga, known online as "Lebiga". In April 2024, Lebiga set a new record for Ukrainian Twitch by gathering over 57,000 viewers during the premiere of a new track by Ukrainian singer Nadya Dorofeeva. This livestream was not only an entertainment event but also a significant fundraising effort for the Ukrainian military. Over 5 million hryvnias were raised during the event, showcasing the profound impact that high-richness media can have on a conflict (Forbes 2024). This livestream was a highly interactive experience in which viewers could engage directly with Lebiga and contribute to the war effort in real-time. Unlike traditional propaganda methods, livestreams create a dialogue with the audience, providing the opportunity for both sides to adjust narratives dynamically.

Blogs have also played an important role in the Russo-Ukrainian War. They offer a platform for long-form content that provides detailed analysis, personal reflections and in-depth commentary. Blogs are often used to complement the shorter, more immediate forms of communication found on social media and livestreams. While they may not offer the same level of real-time interactivity, they allow for the dissemination of complex information and provide a space for deeper engagement with audiences. In the context of the Russo-Ukrainian War, many journalists and independent analysts have used blogs to provide extensive reports on the conflict,

often countering misinformation and providing detailed narratives that might not be covered in mainstream media.

Despite the clear advantages of high-richness media in terms of real-time communication and audience engagement, they also present significant challenges. One of the most pressing issues is the rapid spread of misinformation. The same immediacy and interactivity that make platforms such as livestreams so powerful also make them susceptible to the rapid dissemination of false or misleading information. In modern warfare, this can have dangerous consequences; misinformation can spread quickly before it is verified, influencing public opinion and potentially affecting military operations (Tufekci 2017). The Russo-Ukrainian War has witnessed both sides using high-richness media not only to disseminate information, but also to spread propaganda and counter-narratives, complicating efforts to control the flow of accurate information.

The role of high-richness media in modern warfare extends beyond the battlefield. Information wars are fought alongside physical conflicts, and high-richness media are instrumental in shaping the global narrative. In the Russo-Ukrainian War, these platforms have been used to influence not only domestic audiences but also international actors, including governments, NGOs and the general public. By leveraging the power of these platforms, Ukraine has managed to maintain a favourable narrative in the international arena; countering Russian efforts to justify their actions, and presenting Ukraine as a victim of aggression deserving of global support. The interactive nature of high-richness media has proven instrumental in mobilizing international diplomatic and financial support for Ukraine, emphasising the strategic value of these platforms in contemporary war.

Strategic Implications of Media Evolution in Warfare

The evolution of communication technologies has significantly impacted the use of propaganda in warfare. High-richness media have made it possible to create more sophisticated and emotionally compelling propaganda, which can be disseminated quickly and widely through digital platforms (Ellul 1973). This has led to a shift in the dynamics of public sentiment, with real-time information influencing the attitudes and behaviours of both domestic and international audiences.

In the past, propaganda efforts were often limited by the medium through which they were delivered. Leaflets, posters and radio broadcasts, while effective in certain contexts, were inherently limited in their ability to convey complex and emotionally resonant messages. The advent of high-richness media has changed this dynamic, allowing for the creation of content that is not only informative but also emotionally engaging. Videos, livestreams and social media posts can combine visual, auditory

and textual elements to create a more immersive and persuasive experience for the audience.

The use of high-richness media in modern warfare has also had a profound effect on international perceptions and diplomacy. The ability to broadcast real-time updates and engage with global audiences has allowed state actors to shape the narrative surrounding the conflict, garnering international support and influencing diplomatic outcomes (Gellner 1983). This has made communication technologies an essential component of modern military strategy, with the potential to sway the course of conflicts through information warfare.

A key aspect of this shift is the rise of “information warfare”, in which controlling the narrative becomes as important as controlling the battlefield. In the Russo-Ukrainian War, both Ukraine and Russia have used high-richness media to shape international perceptions of the war. Russia has employed a range of tactics, from disseminating false information to hacking social media accounts, in an effort to create confusion and undermine Ukraine’s credibility. Ukraine, on the other hand, has used high-richness media to document Russian aggression, highlight civilian suffering and mobilize international support.

The strategic implications of these developments are far-reaching. High-richness media allow for greater flexibility in communication strategies, enabling actors to adapt their messages to changing circumstances and respond quickly to emerging threats. This has made information warfare a central component of military strategy, since the battle for public opinion can have a direct impact on the outcome of the war.

Moreover, the use of high-richness media has blurred the lines between traditional military operations and civilian life. In the past, wartime communication was primarily the domain of governments and military organizations. Today, however, anyone with a smartphone and an internet connection can participate in the information war. This shift has not only democratized the battlefield but also introduced the concept of ‘participatory war,’ in which ordinary citizens play an active role in the war effort by sharing information, raising funds and influencing public opinion (Hoskins/O’Loughlin 2010). However, this democratization also carries unintended consequences, as individuals may find themselves engaging in war through digital content without a deliberate or purposeful effort (Rid 2013). In the era of social media, simply sharing a video or retweeting content can indirectly contribute to the spread of wartime propaganda or misinformation, making civilians inadvertent participants in the information warfare that accompanies physical conflict (Tufekci 2017).

The implications of this democratization are complex. On the one hand, it has empowered individuals and grassroots organizations to play a more active role in shaping the narrative of the war. On the other hand, it has also increased the potential for misinformation, as unverified and sometimes false information can spread

rapidly through social media. This has made the task of controlling the narrative more challenging for both state and non-state actors, who must constantly navigate a landscape of competing information and disinformation.

Comparative Analysis of Media Capabilities and Warfare Dynamics

A comparative analysis of the Winter War and the Russo-Ukrainian War illustrates the stark differences in media capabilities and their effectiveness in wartime communication. The low-richness media used during the Winter War were limited in their ability to engage audiences and convey complex messages, resulting in a less effective communication strategy (McLuhan 1964). In contrast, the high-richness media utilized in the Russo-Ukrainian War have proven to be far more effective in shaping public sentiment and influencing international perceptions, due to their ability to convey nuanced and emotionally engaging information (Tufekci 2017).

In the Winter War, the use of leaflets and radio broadcasts was constrained by the technology of the time. These media forms, while effective for disseminating basic information, were unable to engage the audience in a meaningful way. The messages delivered through these media were often simplistic, lacking the depth and nuance needed to influence public sentiment on a large scale. Moreover, the unidirectional nature of these media meant that there was little opportunity for feedback or interaction, limiting their ability to adapt to changing circumstances or respond to audience reactions.

In contrast, the high-richness media used in the Russo-Ukrainian War have transformed the dynamics of wartime communication. Social media platforms, livestreams and blogs allow for a more interactive and engaging form of communication, in which messages can be tailored to the audience and adjusted in real-time based on feedback. This has enabled both Ukraine and Russia to engage with global audiences in a more dynamic and responsive way, shaping public sentiment and influencing the outcome of the conflict.

These differences in media richness have also had a significant impact on the dynamics of warfare. The limited capabilities of low-richness media in the Winter War resulted in a more static and predictable form of communication, with little opportunity for adaptation or real-time response (Ellul 1973). On the other hand, the use of high-richness media in the Russo-Ukrainian War has allowed for a more dynamic and responsive approach to wartime communication, with the ability to adapt messages in real-time and engage with global audiences on a deeper level (Tufekci 2017). This has contributed to a more fluid and unpredictable environment, where information plays a critical role in shaping the outcomes of the war (Castells 2009).

The strategic use of high-richness media has also created new opportunities and challenges for military planners. On the one hand, these media allow for greater

flexibility in communication strategies, enabling actors to adapt their messages to changing circumstances and respond quickly to emerging threats. On the other hand, the rapid dissemination of information through these platforms can also lead to unintended consequences, as messages can be misinterpreted, manipulated or taken out of context.

This comparative analysis of the Winter War and the Russo-Ukrainian War highlights the importance of media richness in wartime communication. As the examples in this paper demonstrate, the ability to convey complex and emotionally engaging messages is a critical factor in shaping public sentiment and influencing the outcome of a war. The shift from low-richness to high-richness media has fundamentally changed the way wars are fought, with information warfare becoming an increasingly important component of modern military strategy.

The Future of Wartime Communication

As technology continues to evolve, the future of wartime communication will likely see the emergence of even more advanced forms of high-richness media. Virtual reality (VR), augmented reality (AR) and artificial intelligence (AI) are poised to revolutionize the way information is conveyed during conflicts, offering even greater opportunities for immersive and interactive communication (Zuboff 2019). These technologies will further enhance the ability to transmit complex and emotionally charged messages, potentially reshaping the dynamics of future warfare (Van Dijk 2020).

VR and AR have the potential to take the concept of media richness to new heights. By creating immersive, 3D environments, these technologies can provide users with a more visceral and engaging experience, making the messages conveyed through them more impactful. For example, VR could be used to create simulations of battlefield conditions, allowing users to experience the realities of war in a more direct and personal way. This could be used for training purposes, to prepare soldiers for combat, or as a propaganda tool to influence public opinion by showing the horrors of war in a more vivid and realistic manner.

AI also holds significant promise for the future of wartime communication. AI algorithms can be used to analyze vast amounts of data, identify patterns and generate personalized messages tailored to specific audiences. This could enhance the effectiveness of propaganda campaigns, allowing for more targeted and persuasive communication. Moreover, AI could be used to automate the dissemination of information, ensuring that messages are delivered quickly and efficiently, even in the midst of a rapidly evolving conflict.

However, the increasing sophistication of wartime communication technologies raises important ethical and strategic considerations. The use of high-richness me-

dia for propaganda and information warfare has the potential to manipulate public opinion and distort the truth, leading to unintended consequences (Baudrillard 1995). As such, it is essential for military and political leaders to carefully consider the implications of these technologies and develop strategies to mitigate their potential negative impacts (Gellner 1983).

One of the key challenges in the future of wartime communication will be managing the balance between transparency and control. On the one hand, high-richness media have the potential to provide unprecedented levels of transparency, allowing the public to see and experience the realities of war in real-time. On the other hand, these technologies also give those in power greater control over the narrative, enabling them to shape public perceptions in ways that may not always align with the truth.

The rise of deepfakes and other forms of synthetic media further complicates this issue. Deepfakes, which use AI to create realistic but fake videos, have the potential to be used for nefarious purposes, such as spreading false information or discrediting political opponents. As these technologies become more sophisticated, it will become increasingly difficult to distinguish between real and fake content, raising concerns about the potential for misinformation and deception in wartime communication.

The future of wartime communication will also be shaped by the continued integration of civilian and military communication networks. As the line between civilian and military life becomes increasingly blurred, the role of non-state actors in wartime communication will likely continue to grow. Grassroots organizations, activist groups and even ordinary citizens will play an increasingly important role in shaping the narrative of conflicts, using high-richness media to influence public opinion and mobilize support.

In this context, the role of governments and military organizations will also need to evolve. While they will continue to play a central role in wartime communication, they will need to adapt to a landscape in which information is increasingly decentralized and democratized. This will require new strategies for managing and responding to the flow of information, as well as new approaches to engaging with a more diverse and fragmented audience.

Conclusions

The evolution of communication technologies has profoundly reshaped the conduct of warfare, altering both the means of information dissemination and the strategic outcomes of conflicts. The transition from low-richness media, such as leaflets and radio, to high-richness digital platforms, such as social media and livestreams, has fundamentally transformed wartime communication. This shift has not only en-

abled more immediate and emotionally engaging messages to be disseminated in real time, but also enhanced the capacity to influence public sentiment and international perceptions.

In addressing the central research question – *How has the shift from low-richness to high-richness media transformed the dynamics of wartime communication, particularly in terms of propaganda effectiveness, public sentiment and international perceptions?* – this study reveals several key insights. High-richness media have significantly enhanced the ability to convey complex, emotionally resonant and multifaceted messages, allowing for interactive and immediate communication strategies. This has led to a profound shift in the effectiveness of propaganda, in which state and non-state actors are able to shape public opinion and mobilize support with unprecedented speed and depth. The interactive nature of high-richness media allows for feedback and adaptation, making wartime communication more responsive and thus more strategically effective.

Furthermore, the study underscores that high-richness media have become pivotal in shaping international perceptions of conflicts. Through real-time updates and direct engagement with global audiences, combatants can influence international narratives and frame themselves as victims or legitimate actors, thus garnering support and legitimacy on a global stage. In contrast, the limited feedback and adaptability of low-richness media in earlier conflicts restricted their ability to effectively convey the complex realities of war.

The implications of these findings for future conflicts and information warfare are significant. As media richness continues to increase with advances in technology, future conflicts will likely see even greater use of high-richness media, further enhancing the immediacy, interactivity and emotional impact of wartime communication. Information warfare is becoming an increasingly central component of military strategy, in which the ability to win the battle for public opinion and international support can be just as critical as traditional military success. This shift emphasizes the importance of media strategy in modern warfare, in which combatants must not only engage their adversaries on the battlefield, but also manage the information landscape to control perceptions and mobilize both domestic and international audiences.

In conclusion, the shift from low-richness to high-richness media has revolutionized the way wars are fought, perceived and understood. This evolution highlights the growing importance of media richness in strategic planning and military operations, making it an indispensable tool in modern conflicts. The future of wartime communication will likely see further developments in media richness, with an ever-greater ability to craft and disseminate complex, interactive and emotionally charged messages that can shape not only the outcome of battles, but also the perceptions that define the broader conflict.

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References

Axelrod, Robert (1984): *The Evolution of Cooperation*, New York: Basic Books.

Baudrillard, Jean (1995): *The Gulf War Did Not Take Place*, Bloomington: Indiana University Press.

Castells, Manuel (2009): *Communication Power*, Oxford: Oxford University Press.

Daft, Richard L./Lengel, Robert H. (1986): "Organizational information requirements, media richness, and structural design." In: *Management Science*, 32/5, pp. 554–571, <https://doi.org/10.1287/mnsc.32.5.554>

"Digital 2024: Ukraine", 2024, <https://datareportal.com/reports/digital-2024-ukraine>.

Ellul, Jacques (1973): *Propaganda: The Formation of Men's Attitudes*, New York: Vintage Books.

Forbes Ukraine (2024): "New record for Ukrainian Twitch: Dorofeeva's track premiere gathered over 57,000 viewers and 5 million UAH", <https://www.forbes.ua>.

Gellner, Ernest (1983): *Nations and Nationalism*, Ithaca: Cornell University Press.

Hoskins, Andrew/O'Loughlin, Ben (2010): *War and Media: The Emergence of Diffused War*, Polity Press.

Hoskins, Andrew/O'Loughlin, Ben (2015): "Arrested war: The third phase of mediatisation." In: *Information, Communication & Society* 18/11, pp. 1320–1338, <https://doi.org/10.1080/1369118X.2015.1068358>

Jenikirby History (n.d.): Soviet propaganda poster depicting Marshal Mannerheim as a bloody executioner of the Finnish people, <https://jenikirbyhistory.getarchive.net/amp/media/pyoveli-mannerheim-3c2899>.

Katz, Elihu/Blumler, Jay G./Gurevitch, Michael (1973): "Uses and gratifications research." In: *Public Opinion Quarterly* 37/4, pp. 509–523. <https://doi.org/10.1086/268109>

Lengel, Robert H./Daft, Richard L. (1988): "The selection of communication media as an executive skill." In: *Academy of Management Perspectives* 2/3, pp. 225–232. <https://doi.org/10.5465/ame.1988.4277259>

McCombs, Maxwell/Shaw, Donald L. (1972): "The agenda-setting function of mass media." In: *Public Opinion Quarterly* 36/2, pp. 176–187. <https://doi.org/10.1086/267990>

McLuhan, Marshall (1964): *Understanding Media: The Extensions of Man*, New York: McGraw-Hill.

Pelevina, Nuppu/Domina, Oksana/Laaksonen, Salla-Maaria (2024): "Instagram as an affective battlefield. Patriotic inspirational influencers as strategic narrators." In: Arnesson, Johan/Reinikainen, Hanna (eds.), *Influencer Politics: At the Intersection of Personal, Political, and Promotional*, De Gruyter, pp. 157–177. <https://doi.org/10.1515/978311036106>

Portnikov, Vitaliy (2024): Vitaliy Portnikov's YouTube Channel, <https://www.youtube.com/@portnikov>.

Rid, Thomas (2013): *Cyber War Will Not Take Place*, Oxford University Press.

Tufekci, Zeynep (2017): *Twitter and Tear Gas: The Power and Fragility of Networked Protest*, Yale University Press.

Van Dijk, Jan (2020): *The Network Society*, London: Sage Publications.

Zuboff, Shoshana (2019): *The Age of Surveillance Capitalism*, New York: Public Affairs.

Zeitzoff, Thomas (2017): "How social media is changing conflict." In: *Journal of Conflict Resolution* 61/9, pp. 1970–1991. <https://doi.org/10.1177/0022002717721392>

