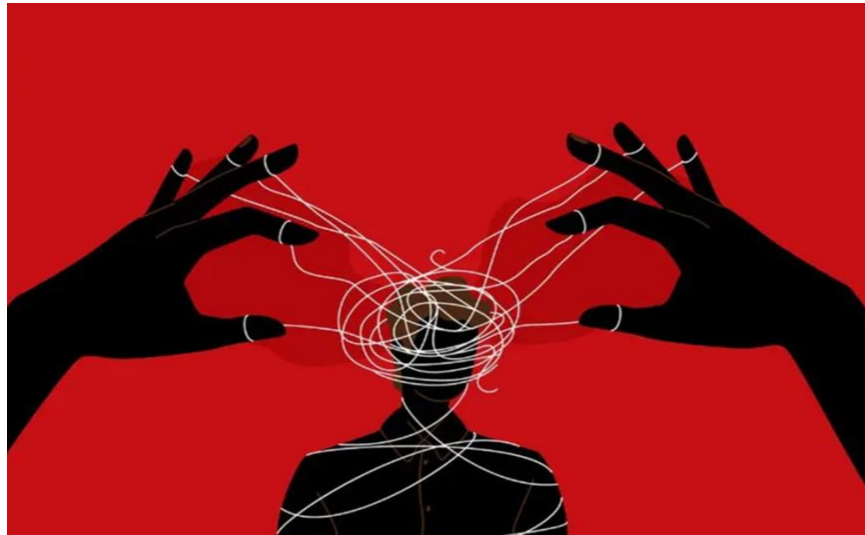


Next Generation Psychological Warfare: Application of Emerging Technologies

Nabib Bin Zahid¹



Source: Observer Research Foundation

Introduction

The modern age of warfare has seen a significant shift towards the use of emerging technologies in psychological operations and information warfare. As Lind et al. observed, 'psychological operations may become the dominant operational and strategic weapon in the form of media/information intervention' (Murden, 2007)². The evolution of warfare has reached a critical juncture with the advent of next-generation psychological warfare, where emerging technologies play an increasingly pivotal role. Psychological

¹ Nabib Bin Zahid is a Research Assistant at the Bangladesh Institute of Peace and Security Studies (BIPSS). He has completed his B.S.S in International Relations from the University of Rajshahi.

² Murden, Simon. 2007. "Staying the Course in 'Fourth-Generation Warfare': Persuasion and Perseverance in the Era of the Asymmetric Bargaining War." *Contemporary Security Policy* 28 (1): 197–211.
doi:10.1080/13523260701240682.

warfare, defined as the use of psychological tactics to influence and manipulate adversaries, has historically been a tool of statecraft. However, in the contemporary landscape, it is being transformed by advancements in technology such as big data analytics, artificial intelligence, and social media platforms. These innovations not only enhance the effectiveness of psychological operations but also broaden their scope, enabling states to engage in more sophisticated forms of influence and manipulation. The significance of this shift is underscored by the strategic doctrines of nations like Russia and China, which emphasize psychological operations as central to their military strategies. For instance, the Gerasimov Doctrine articulated by Russian military leaders posits that information and psychological warfare are as crucial as conventional military capabilities in achieving strategic objectives. Similarly, China's approach integrates cognitive sciences and data-driven strategies to shape public perception and undermine adversaries' resolve.³ As these nations leverage technology to wage psychological warfare, the implications for international security and conflict dynamics become profound.

This commentary will explore the strategic deployment of these cutting-edge psychological warfare tactics, analyzing their far-reaching societal and geopolitical implications, as well as the profound challenges they pose to traditional security frameworks that have long been the bedrock of national defense.

Historical Context

Psychological warfare has been an integral component of military strategy throughout history, evolving significantly from ancient times to the modern era. Its roots can be traced back to early military leaders who understood the importance of morale and perception in warfare. For instance, Genghis Khan effectively utilized rumors about the size and ferocity of his army to instill fear in his enemies, demonstrating that psychological tactics can be as powerful as physical force in achieving military objectives⁴⁵.

In the 20th century, psychological warfare became more structured and systematic, particularly during World War II. Specialized units were formed within the German and Allied forces to conduct psychological operations (PSYOP), aiming to demoralize enemy troops and influence civilian populations. The Psychological Warfare Branch (PWB) under General Douglas

³“Chinese Next-Generation Psychological Warfare the Military Applications of Emerging Technologies and Implications for the United States Research Report.” June 1, 2023.

https://www.rand.org/content/dam/rand/pubs/research_reports/RRA800/RRA853-1/RAND_RRA853-1.pdf.

⁴ <https://www.britannica.com/summary/psychological-warfare>

⁵ “Psychological Warfare in World War II | Archives & Special Collections, University of Nebraska-Lincoln.” n.d. <https://libarchives.unl.edu/project/sandberg-hallgren-collection/>.

MacArthur was instrumental in using leaflets and broadcasts to undermine Japanese morale in the Pacific theater⁵. This period marked a significant shift as military operations began to incorporate psychological strategies alongside traditional combat tactics.

The Korean War further highlighted the role of psychological warfare, where both sides engaged in extensive PSYOP activities. American forces employed leaflets and radio broadcasts to encourage enemy soldiers to surrender, while North Korean forces attempted to undermine U.S. troops' resolve through similar means⁶. This conflict illustrated the effectiveness of psychological operations in shaping the battlefield environment, as they contributed to large-scale surrenders and desertions among enemy ranks.

The Gulf War (1990-1991) is another critical example of psychological warfare's transformative impact on military strategy. The U.S.-led coalition employed extensive psychological operations to create favorable conditions for combat. By disseminating over 29 million leaflets aimed at encouraging Iraqi soldiers to surrender, PSYOP played a crucial role in demoralizing the enemy and facilitating a swift coalition victory⁷. The success of these operations underscored the importance of integrating psychological tactics into broader military campaigns, leading to a recognition that modern conflicts require a comprehensive approach that includes both kinetic and non-kinetic strategies.

As we move further into the 21st century, the integration of emerging technologies into psychological warfare continues to evolve, reshaping how states conduct influence operations on a global scale. Understanding this historical context is essential for analyzing current trends and future implications of psychological warfare in international relations.

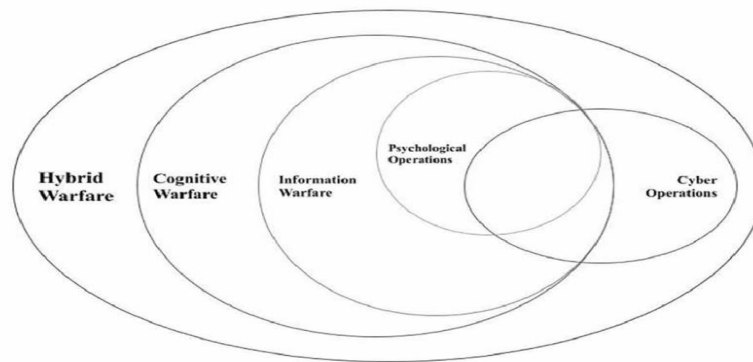
The Evolving Landscape of Psychological Warfare

The rapid advancement of information and communication technologies has fundamentally transformed the landscape of psychological warfare. Whereas past iterations of psychological

⁶ Psychological operations after the Second World War. Accessed December 3, 2024. <https://securityanddefence.pl/pdf-103237-36119?filename=36119.pdf>.

⁷ Putra, Galih Adi, Muhammad Hadiano Wirajuda, and Helda Risman. 2024. "Psychological Warfare As a Driving Factor in the Development of Military Strategy During the Gulf War 1990-1991". *Advances in Social Sciences Research Journal* 11 (1):97-106. <https://doi.org/10.14738/assrj.111.16262>.

operations relied on relatively blunt and easily-identified propaganda, modern techniques leverage sophisticated data analytics, artificial intelligence, and social media platforms to target and manipulate populations with unprecedented precision and scale (Feldman et al., 2024)⁸. As Clausewitz famously observed, war is the continuation of politics by other means; in the 21st century, this maxim has taken on a distinctly virtual dimension, with the 'battle for hearts and minds' increasingly waged in the information domain rather than physical battlefields. (Nestoras, 2019)⁹.



Source: ResearchGate

The openness and interconnectedness of Western societies, in particular, have made them increasingly vulnerable to these novel forms of political warfare. Authoritarian regimes, terrorist groups, and other revisionist actors have been quick to exploit these vulnerabilities, using emerging technologies to erode public trust, sow social discord, and undermine the foundations of liberal democracy.⁴ (Nestoras, 2019)

Emerging Technologies in Psychological Warfare

The integration of emerging technologies into psychological warfare represents a transformative shift in how states conduct influence operations. These advancements not only enhance the

⁸ Feldman, Philip, Aaron Dant, and James R Foulds. 2024. "Killer Apps: Low-Speed, Large-Scale AI Weapons." ArXiv.org. 2024. <https://arxiv.org/abs/2402.01663v4>.

⁹ Nestoras, Antonios. "Political Warfare: Competition in the Cyber Era." *European View* 18, no. 2 (October 2019): 258–58. <https://doi.org/10.1177/1781685819885318>.

effectiveness of traditional psychological tactics but also introduce new methods for manipulating perceptions and behaviors on a global scale:

- **Artificial Intelligence (AI):** AI can be used to analyze vast amounts of data to identify vulnerabilities in an adversary's information environment. It can also be used to generate highly targeted and persuasive messages, as well as to automate the dissemination of these messages across multiple platforms.
- **Big Data and Information Processing:** One of the most significant developments in psychological warfare is the utilization of big data analytics. States can now collect and analyze vast amounts of information about their adversaries, allowing for highly targeted psychological operations.



Source: TWDI

This capability enables military strategists to tailor messages that resonate with specific audiences, thereby increasing the likelihood of influencing enemy decision-making and behavior. For instance, the Chinese military has recognized the potential of big data to enhance its psychological warfare capabilities, focusing on how data can predict and influence adversary actions during conflicts.

- **Cognitive Science and Brain Research:** The application of cognitive science in psychological warfare is another emerging trend. Understanding the cognitive processes that underpin decision-making allows military planners to craft messages that exploit cognitive biases and vulnerabilities. Research indicates that advanced techniques, such as brain imaging, can provide insights into how individuals process information, which can be leveraged to manipulate perceptions effectively. This intersection of neuroscience and military strategy marks a significant evolution in the approach to psychological operations.

- **Cyber Warfare and Information Manipulation:** The rise of cyber capabilities has also reshaped psychological warfare. Cyber operations can disseminate disinformation rapidly across digital platforms, creating confusion and distrust among targeted populations. The ability to manipulate social media narratives allows states to conduct large-scale psychological operations without traditional military engagement. For example, during recent conflicts, both state and non-state actors have utilized social media to spread propaganda, incite unrest, or demoralize opponents by undermining their narratives.^{10,11} This capability emphasizes the need for nations to adapt their strategies in response to the evolving landscape of information warfare.
- **Non-Traditional Weapons:** Emerging technologies have also introduced new forms of non-traditional weapons that can be employed in psychological operations. Tools such as sonic weapons and advanced holography are being explored for their potential to create disorienting effects on adversaries without direct physical confrontation. These innovations represent a shift towards more subtle forms of warfare that prioritize psychological impact over traditional kinetic responses.¹¹

The incorporation of emerging technologies into psychological warfare is reshaping how states engage in conflict. By leveraging big data, cognitive science, cyber capabilities, and non-traditional weapons, military strategists can conduct more effective and nuanced psychological operations. As these technologies continue to evolve, understanding their implications for international security will be crucial for both policymakers and military leaders alike.

Strategic Implications

The integration of psychological warfare into modern military strategy has profound implications for international relations and conflict dynamics. As states increasingly leverage psychological operations, the nature of warfare is shifting from traditional kinetic confrontation to battles for

¹⁰ Udrescu, Mircea, and Eugen Siteanu. 2021. "Emerging Technologies: Innovation, Demassification, Effectiveness, Revolutions in Military Affairs." *Revista Academiei Forțelor Terestre* 26 (4): 299–308. <https://doi.org/10.2478/raft-2021-0039>.

¹¹ Whitman W (2022) Psychological Warfare and Innovation: A Constantly Evolving Combination. *Global Media Journal*, 20:52.

influence and perception. This evolution underscores the importance of understanding psychological warfare as a core component of national security strategy.

Shift from Kinetic to Psychological Operations

Historically, military success was often measure by physical dominance on the battlefield. However, contemporary conflicts demonstrate that psychological operations can be equally, if not more, effective in achieving strategic objectives. The U.S. military's experience during the Gulf War exemplifies this shift; psychological operations were crucial in creating favorable conditions for coalition forces, effectively undermining enemy morale and facilitating rapid victories without extensive ground combat.⁸ This trend suggests that future conflicts may prioritize psychological tactics over traditional military engagements, necessitating a reevaluation of defense strategies.



Source: The Intercept¹²

Influence of Global Power Dynamics

The rise of psychological warfare also impacts global power dynamics, particularly as nations like Russia and China effectively utilize these tactics to advance their strategic interests. Russia's annexation of Crimea in 2014 involved extensive psychological preparation that shaped

¹² <https://theintercept.com/2024/04/02/pentagon-army-psyops/>

perceptions both domestically and internationally before any military action was taken.¹³ Similarly China employs psychological operations to bolster its territorial claims in the South China Sea and influence public opinion regarding its policies.⁴ These examples illustrate how psychological warfare can alter the balance of power by enabling states to achieve their objectives through manipulation rather than direct confrontation.

Challenges for Traditional Military Responses

The increasing sophistication of psychological warfare poses significant challenges for traditional military responses. As adversaries employ advanced technologies such as big data analytics and artificial intelligence to enhance their psychological operations, it becomes difficult for conventional forces to counteract these tactics effectively. The Chinese military's focus on cognitive modeling and information manipulation highlights a potential future where adversaries can predict and influence U.S. decision-making processes, complicating the operational landscape for American forces. This underscores the necessity for the U.S. and its allies to adapt their strategies to incorporate psychological dimensions into their military planning.

Ethical Considerations and International Norms

The use of psychological warfare raises ethical concerns regarding manipulation and deception in international relations. As states engage in disinformation campaigns and exploit social media to shape narratives, the potential for unintended consequences increases. This behavior can erode trust among nations and complicate diplomatic efforts, leading to a more fragmented international system.⁴ Establishing norms around the use of psychological operations may become essential to mitigate these risks and promote stability in global affairs.

Conclusion

The evolution of psychological warfare in the context of emerging technologies makes a significant transformation in how states engage in conflict and influence one another. As we have

¹³ Staff, SWJ. 2021. "Psychological Warfare: Principles for Global Competition | Small Wars Journal by Arizona State University." Small Wars Journal by Arizona State University. April 21, 2021. <https://smallwarsjournal.com/2021/04/21/psychological-warfare-principles-global-competition/>.

explored, the integration of big data analytics, cognitive sciences, cyber capabilities, and non-traditional weapons has redefined the landscape of psychological operations. These advancements not only enhance the new methods for manipulating perceptions and behaviors on a global scale.

The strategic implications of next generation psychological warfare are profound. The shift from kinetic confrontation to psychological operations emphasizes the importance of understanding the mind as a battleground. Nations that successfully leverage these capabilities can gain significant advantages in achieving their strategic objectives, often without resorting to direct military engagement. These evolving dynamic challenges traditional military responses and necessitates a re-evolution of defense strategies to incorporate psychological dimensions effectively.