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The Advantages of Combat Robot Systems in Proxy Wars

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Abstract

During conflicts, weaker nations often become vulnerable targets for stronger authoritarian regimes, leading to the devastating consequences of proxy wars. The participation of democratic nations in such conflicts is frequently restricted by political and social constraints, as exemplified by the recent Russian invasion of Ukraine. Combat robots present a viable solution, offering a more effective and efficient means of conducting military operations while mitigating the political pressures typically associated with deploying human soldiers. This paper examines the advantages of combat robots in balancing military forces and minimizing political risks in proxy wars.

Keywords: combat robot; war; proxy war; dilemma; conflict; politics

INTRODUCTION

Historically, smaller nations with limited populations and reduced national power have struggled to maintain robust defense capabilities. As a result, these nations often depend on more powerful states, known as world powers, for their security (Thorhallsson, 2012). Consequently, many smaller nations enter into mutual defense treaties (MDTs), although such agreements cannot guarantee absolute protection (Kinne, 2018). A notable example of an MDT is the North Atlantic Treaty Organization (NATO). Similarly, the Warsaw Pact served as a mutual defense alliance for Eastern European countries and the Union of Soviet Socialist Republics until its dissolution (NATO, 2016). Nations without legally binding MDTs may be more vulnerable to foreign invasion, as demonstrated by Russia's invasion of Ukraine on February 24, 2022, despite the existence of the Budapest Memorandum, which provided security assurances but lacked the force of a formal defense treaty (Budjeryn, 2014; Yost, 2015). Authoritarian regimes with totalitarian tendencies are often prone to initiating local warfare, which can quickly escalate into proxy wars (Mumford, 2013).

AUTHORITARIAN REGIMES, EVERLASTING RISK OF BLOODY CONFLICT

Throughout history, authoritarian regimes have emerged and come to power through various means. While some regimes have been established through military coups, others have risen to power through legal elections and acts (Gandhi & Lust-Okar, 2009; Levitsky & Way, 2010). The rise of authoritarian regimes is often rooted in fear, frustration, and hostility toward weak national systems and the international community, leading to extreme enthusiasm for strong leadership (Fromm, 2013). In

this context, people often surrender personal freedoms and rights, believing it will strengthen their nations though this belief can be an illusion (Fromm, 2013).

Authoritarian regimes frequently rely on overwhelming patriotism and glorifying past achievements to consolidate their power, often pushing nations toward totalitarianism or developing totalitarian characteristics (Linz, 2000). Dictators of authoritarian regimes often favor conflicts with neighboring nations for two primary reasons. First, international conflicts can help resolve internal disputes and foster solidarity, with people prioritizing unity against external enemies over democratic values (Geddes et al., 2018). Second, dictators need to demonstrate power to maintain their regimes and satisfy their people's desire for a nation perceived as stronger than others (Svolik, 2012). Consequently, seizing another nation's land, seas, or valuable resources through conflict can bolster popular support for the regime (Weeks, 2012).

PROXY WARS

Proxy wars are conflicts between two or more powers fought in third countries, often resulting in widespread destruction and significant loss of life for local populations (Mumford, 2013). The Soviet-Afghan War and the Vietnam War were both proxy wars that caused immense loss of life and infrastructure damage (Hughes, 2008; Westad, 2007). The Afghan Mujahideen and the North Vietnamese forces may have been considered victors, but the cost of victory was severe for both sides (Grau & Gress, 2002). Countless soldiers and civilians lost their lives, and survivors were left to rebuild in harsh environments (Barakat, 2002).

Although world powers understand the devastation caused by total wars, proxy wars are likely to persist (Groh, 2019; Mumford, 2013). A "not lose and not win" strategy can prolong the duration of proxy wars, leading to greater destruction and casualties (Fox, 2019; Mumford, 2013). This approach typically involves providing support and resources to weaker parties in the conflicts without direct intervention or committing to clear objectives (Cragin, 2015). While it may appear to be a safer option for intervening powers, it often results in extended conflicts that inflict substantial harm on weaker parties and the surrounding regions (Brown, 2016; Mumford, 2013).

In contrast, a swift resolution to wars can help minimize the damage and sacrifices of the nations involved (Ullman & Wade, 1996). Achieving this may require setting clear objectives and employing military force to secure decisive victories (Ullman & Wade, 1996). Ultimately, the decision to intervene in proxy wars and the strategies adopted will depend on various factors, including political, economic, and military considerations (Groh, 2019; Mumford, 2013). However, prioritizing swift resolutions and minimizing the damage and sacrifices of those involved should be a primary goal for weaker nations.

THE DILEMMA OF THE DEMOCRATIC PARTY FOR INTERVENING IN BLOODY CONFLICTS

The United States (US) and its allies are hesitant to intervene in international conflicts through direct military action due to unfavorable outcomes experienced in past wars such as World War I, World War II, the Vietnam War, the Iraq War, and the Afghanistan War (Berinsky, 2009; Tomz et al., 2018). Unlike totalitarian nations, democratic nations cannot directly control public opinion or force their citizens to make sacrifices against their will (Chan & Safran, 2006). This becomes even more challenging when the trauma of past wars lingers in people's minds (Berinsky, 2009). Therefore, alternative methods to resolve conflicts must be considered (Kinsella & Rousseau, 2009).

The potential for a military conflict between the US, Russia, or China is a significant concern,

as it could escalate into a global war (Bogusz et al., 2021). The US faces additional challenges in intervening due to the mutual support between Russia and China aimed at countering US influence (Bogusz et al., 2021). In the case of Ukraine, China has introduced a geopolitical crux (Bogusz et al., 2021). China's military demonstrations toward Taiwan further complicate the dilemma for the US government (Bogusz et al., 2021). In this context, direct military intervention by the US and its allies is highly unlikely unless the nation being invaded possesses significant resources capable of influencing the international power dynamic (Tomz et al., 2018).

While direct military intervention remains improbable, economic sanctions offer an alternative (Tomz et al., 2018). However, these sanctions can have significant financial implications for the US and its allies and may not yield immediate results due to the interconnected nature of the global economy (Rühl, 2022). Furthermore, powerful nations such as Russia and China may form independent economic alliances to mitigate the effects of such sanctions (Bogusz et al., 2021).

Another option to consider is the use of private military companies (PMCs) to assist weaker nations in urgent situations. PMCs can provide training, strategic support, and resources, and some are capable of carrying out offensive military actions (Fulloon, 2020; Wing, 2010). However, there are doubts about their ability to conduct extensive operations against world powers without the backing of formal armed forces (Wing, 2010). Additionally, PMCs may be reluctant to engage in combat at significant personal risk, unlike the legendary Swiss Guards of the past (Wing, 2010).

ADVANTAGES OF COMBAT ROBOTS IN OPERATION EXECUTION

As previously discussed, the US and its allies are inherently cautious about directly deploying their soldiers into bloody conflicts. This chapter highlights the advantages of combat robots, particularly emphasizing their operational excellence.

Immediate Military Operation

The US and its allies possess the capability to provide advanced weaponry, such as main battle tanks (MBTs), artillery firepower, and fighter aircraft, to support military operations (Ochmanek et al., 2018). However, a significant challenge lies in rapidly finding trained pilots capable of operating these complex systems (Losey, 2018). Combat robots present a potential solution to this issue (Wing, 2010).

A combat robot integrates an armored unit with artificial intelligence (AI) responsible for piloting the system. By supplying combat robots, both the weapon system and its "pilot" are delivered as a single package, enabling immediate deployment to the battlefield. Furthermore, combat robots have the advantage of analyzing terrain and enemy forces before their arrival, facilitating the swift and efficient execution of operations. This pre-deployment analysis allows for real-time adjustments and strategic planning, enhancing mission success rates and reducing the time required to achieve tactical objectives.

Flexibility

Flexibility is a significant advantage of combat robots, stemming from their ability to rapidly upgrade their software. This capability allows a combat robot to transform into an autonomous, veteran armored unit upon deployment.

For instance, imagine a future battlefield where an AI-equipped MBT downloads terrain data and real-time environmental updates through satellite and reconnaissance drone feeds. The MBT could then ambush enemy units using tactics refined to mimic those of seasoned veterans. Similarly, AI-equipped fighters can precisely identify the locations and characteristics of enemy fighters, weapons, raiders, surface-to-air missiles, SAMs, and high-value targets. Engineers can program

various tactics and combat skills into fighter AIs, enabling them to effectively utilize newly-equipped missiles after just one simulated practice.

Furthermore, combat robots share their experiences through an interconnected network, allowing each unit to instantly acquire and integrate the latest tactical data. This shared knowledge ensures that all combat robots remain up-to-date and prepared for evolving battlefield conditions. Such adaptability not only enhances individual unit performance but also ensures cohesive and coordinated operations across the entire robotic force.

Overcoming Population Issue

In future wars, the traditional advantage of a larger population may no longer be as significant due to the deployment of combat robots (Work & Brimley, 2014). By substituting robots for human soldiers, smaller nations could compete effectively against larger nations, despite their smaller populations (Horowitz, 2018). In such scenarios, the productivity and efficiency of robots would outweigh the importance of the number of soldiers a nation could recruit.

Consequently, nations would need to prioritize the development and deployment of advanced robotic technology to secure a strategic advantage in future conflicts. Moreover, the capacity to rapidly produce and repair combat robots would become a critical determinant of military success, allowing nations to sustain their forces and maintain operational readiness in prolonged engagements. This shift would necessitate investments in manufacturing infrastructure, maintenance protocols, and continuous technological advancements to ensure the longevity and effectiveness of robotic forces.

New Tactics

AI-equipped weapon systems have the potential to surpass human strategists, as they can process vast amounts of data in real-time and devise tactics that humans might not consider (Scharre, 2018). This capability was famously demonstrated when the AI program AlphaGo defeated a top human player in the game of Go (Silver et al., 2016). In military contexts, experts often reference the concept of Manned-Unmanned Teaming, MUM-T, where combat robots support manned units. However, whether machines or humans make better decisions in urgent situations remains an open question (Danzig, 2018).

It cannot be definitively concluded that unmanned units should always follow manned units, as machines possess unique advantages: they are fearless, unemotional, and entirely focused on achieving their objectives. These qualities could allow them to make decisions and execute strategies free from the limitations of human hesitation or bias. Ultimately, it will be the responsibility of military leaders and strategists to determine the most effective integration of manned and unmanned units on the battlefield (Danzig, 2018). This integration requires careful consideration of ethical implications, command structures, and the development of protocols that leverage the strengths of both human and robotic forces (Danzig, 2018; Scharre, 2018).

LESS POLITICAL PRESSURE FOR INTERVENING IN BLOODY CONFLICTS

Making the decision to deploy human troops is a challenging task, particularly for the government of a democratic republic. Such decisions often attract significant political pressure, with opposition parties seizing the opportunity to criticize the ruling government. Additionally, anti-war activists frequently organize protests to voice their opposition, further intensifying the political landscape surrounding military interventions (Lieberfeld, 2008; Zunes & Laird, 2010).

A potential solution to alleviate these political pressures is the deployment of combat robots

in place of human soldiers. By utilizing robotic units, governments can reduce the public and political resistance often associated with military interventions. Combat robots can serve as a means to engage in conflict with minimal direct involvement of human personnel, thereby mitigating the backlash from various societal factions opposed to war. This technological approach allows democratic governments to maintain their commitment to international security without facing the same level of scrutiny and dissent that accompanies deploying human troops.

Minimizing Causalities among Human Soldiers

Combat robots have the potential to significantly minimize casualties among human soldiers (Reeves & Johnson, 2014), thereby reducing public backlash and criticism of the government for deploying troops to war. This reduction in human risk can increase public support for the government's decision to employ military force, as the perceived cost of conflict decreases when fewer lives are at stake.

In the context of combat robots, the term "supplying" rather than "dispatching" is more appropriate. While supplying combat robots may still elicit anti-war movements and political pressure, the intensity of such pressure is likely to be significantly lower. Politicians are less burdened by the prospect of risking human lives, as their decisions do not directly result in the loss of their people's blood. Additionally, using robots can present a more technologically advanced and modern image of the military, potentially garnering broader public approval.

Furthermore, by minimizing human casualties, governments can avoid the ethical dilemmas and moral quandaries associated with human loss in warfare. This not only preserves soldiers' lives but also maintains higher morale among the populace, who may otherwise be distressed by the sight of injured or deceased compatriots. Consequently, the strategic deployment of combat robots can serve as a tool for maintaining public trust and support during military engagements.

No War Crimes and No Post-Traumatic Stress Disorder (PTSD)

Harnessing combat robots can significantly reduce the likelihood of war crimes during wartime, as robots lack emotions or biases that can lead to unethical behavior (Arkin, 2009; Umbrello, 2019). Unlike human soldiers, robots are designed to follow strict operational protocols and rules of engagement, reducing the risk of misconduct driven by emotional or biased decisions (Arkin, 2009). Their adherence to pre-defined guidelines helps ensure that military actions align with ethical standards and operational values, thus supporting the integrity of military operations (Umbrello, 2019).

Additionally, combat robots do not experience PTSD, a major issue for soldiers exposed to traumatic events on the battlefield (Cesur et al., 2013). PTSD can lead to long-term psychological issues, affecting not only the individuals directly involved but also their families and communities (Galovski & Lyons, 2004). By eliminating the presence of PTSD-related concerns, societies benefit from lower long-term costs associated with mental health care and support for affected soldiers (Cesur et al., 2013). Moreover, the absence of PTSD reduces the societal burden of reintegrating traumatized veterans, fostering a more resilient and stable post-conflict environment (Elnitsky et al., 2017).

Furthermore, the reduced emotional and ethical toll of military engagements can alleviate political pressure to avoid conflicts that might otherwise result in war crimes or psychological trauma. Governments can maintain a more positive public image by demonstrating a commitment to ethical warfare practices and the well-being of their citizens, thereby strengthening their legitimacy and authority both domestically and internationally.

Lower Cost

The use of combat robots offers a significant advantage for governments and taxpayers by

potentially reducing the duration and cost of military operations. Unlike human soldiers, combat robots do not require food, water, medical care, or other biological necessities, even during non-combat periods. This eliminates the need for transporting and storing consumables, thereby increasing the mobility and flexibility of robot deployment (Francis, 2013).

Moreover, combat robots do not require rest and can operate continuously for extended periods, further lowering the cost and duration of military operations. This continuous operation capability ensures that missions can be carried out more efficiently, reducing the overall time and financial resources required to achieve strategic objectives. The ability to maintain sustained operations without the need for breaks or recuperation enhances the effectiveness of military campaigns and minimizes downtime.

This efficiency not only reduces financial strain but also limits the broader negative impact of war on the economy and society. By leveraging combat robots, governments can conduct military operations in a more cost-effective manner, reallocating resources to other critical areas such as healthcare, education, and infrastructure development. Additionally, the reduced financial burden associated with military engagements can lead to lower taxes and a more stable economic environment for the populace, fostering long-term societal benefits.

Cooperation with Private Military Companies (PMCs)

A potential strategy for leveraging combat robots in military operations is to collaborate with PMCs, which can provide technical support and expertise in operating and managing these robots. This approach could help alleviate political pressure on regular armies, offering a politically safer method for deploying military power. PMCs possess specialized skills and resources that can complement the capabilities of combat robots, enhancing the overall effectiveness of military operations.

By combining the capabilities of combat robots with the specialized knowledge of PMCs, nations can enhance the overall effectiveness of their military forces. PMCs can offer training, maintenance, and strategic planning services that ensure combat robots operate at optimal efficiency. This collaboration also allows for the rapid scaling of military operations without the need for extensive recruitment and training of additional human personnel, further reducing costs and logistical challenges.

Furthermore, this partnership minimizes the risk to human soldiers, creating a more efficient and less controversial means of achieving military objectives. PMCs can operate in roles that are deemed too risky or politically sensitive for regular military units, thereby reducing the visibility and accountability of military actions. This strategic delegation of tasks can lead to more precise and targeted military interventions, enhancing mission success rates while maintaining public support.

However, it is essential to establish clear regulations and oversight mechanisms to ensure that PMCs operate within ethical and legal boundaries. Proper governance of PMC activities can prevent potential abuses and ensure that their involvement aligns with national and international standards. By fostering transparent and accountable collaborations, governments can maximize the benefits of integrating combat robots and PMCs into their military strategies.

ROLES OF COMBAT ROBOTS IN SOCIETAL TRANSFORMATION

Combat robots are poised to have significant collateral effects on society, accelerating the transition to a highly mechanized and technologically advanced system (Singer, 2009). Their integration into military operations is expected to drive substantial advancements in robotics, AI, and automation, which may subsequently spill over into civilian sectors. This technological infusion

has the potential to reshape various industries and alter workforce dynamics, fostering a society increasingly reliant on AI-driven solutions.

Maintaining Human Resources

The deployment of combat robots in military operations offers a strategic advantage by enabling the reallocation of human resources toward economic and other productive activities, rather than being consumed by war efforts. This approach helps preserve the human capital of a society, preventing the severe strain on the economic system often caused by manpower shortages resulting from wartime casualties. By reducing the need for large numbers of human soldiers, nations can maintain a stable and productive workforce, ensuring that their economies remain resilient and capable of growth even during periods of conflict.

Moreover, the use of combat robots drastically decreases the number of wounded soldiers, mitigating the long-term effects on individuals, families, communities, and the nation as a whole. This reduction in casualties can significantly lower societal trauma and reduce the burden of caring for injured veterans, both economically and emotionally. The preservation of human lives not only fosters a healthier society but also maintains higher morale among the populace, who may otherwise be distressed by the loss and injury of their compatriots. Consequently, the strategic deployment of combat robots serves as a tool for maintaining public trust and support during military engagements, while simultaneously safeguarding the nation's human resources.

Upgrading Conventional Systems to Artificial Intelligence (AI)-Based Robot Systems

The global reliance on a diverse arsenal of conventional systems and weapons, which require human soldiers for operation, highlights the necessity of transitioning to AI-based combat robots to modernize military capabilities (Singer, 2009). This evolution is essential not only for enhancing military effectiveness but also for driving societal change by integrating AI into non-military sectors (Singer, 2009). The shift toward AI-robot-driven systems is expected to revolutionize military operations, leading to more efficient and precise engagements while fostering technological innovation across various industries (Singer, 2009).

Transitioning to AI-based combat robots involves the complete overhaul of existing military infrastructure, replacing human-operated systems with autonomous or semi-autonomous units (Singer, 2009). This transformation paves the way for advanced AI-based solutions that can operate independently, reducing the reliance on human oversight and increasing operational efficiency (Singer, 2009). Additionally, the vast amount of data collected by AI-based combat robots, including critical security information, can be leveraged to strengthen and secure civilian systems. For example, advancements in AI-driven data analysis and cybersecurity protocols developed for military applications can enhance the protection of civilian infrastructure against cyber threats.

The integration of AI into conventional systems also promotes the development of smart technologies that can be utilized in various civilian industries, such as manufacturing, healthcare, and transportation (Singer, 2009). This cross-sectoral technological advancement fosters a more interconnected and technologically proficient society, capable of addressing complex challenges with innovative solutions (Singer, 2009). By adopting AI-based robot systems, nations can prepare for a future that prioritizes technological innovation, efficiency, and comprehensive security across both military and civilian sectors.

Developing Downsized Artificial Intelligence (AI)

Specialization is a cornerstone of human society, where individuals are trained for specific roles

and functions. This principle extends to AI, where specialized systems can provide greater value for money and operational efficiency. In the military domain, reliability and simplicity are paramount, and combat robots benefit from AI that is purpose-built for specific functions and streamlined in design. Developing downsized AI, AI systems that are compact, efficient, and tailored for specific tasks, ensures that combat robots operate reliably and cost-effectively.

When transitioning conventional civilian systems to AI-based robots, downsized AI becomes essential to maintain both reliability and affordability. Not every system or unit requires ultra-large or highly complex AI models; instead, focusing on developing specialized AI that meets specific operational needs can facilitate a smoother and more efficient shift toward an AI-based robot infrastructure. This approach ensures that resources are managed effectively, avoiding the unnecessary complexity and cost associated with oversized AI systems.

Furthermore, downsized AI enhances the adaptability and scalability of combat robots, allowing them to be deployed in a variety of environments and missions without the need for extensive modifications. By concentrating on the development of compact and efficient AI technologies, societies can ensure that their robotic forces remain agile and capable of responding to evolving threats and operational demands. This specialization not only improves the functionality of combat robots but also supports the broader goal of integrating AI into everyday life, driving innovation and efficiency in multiple sectors.

CONCLUSION

Political dilemmas often compel the US and its allies to exercise caution when considering intervention in violent international conflicts. This hesitancy has allowed proxy wars to persist, resulting in tragic consequences and the exponential accumulation of damage. Historically, weaker nations have frequently borne the brunt of this repeated victimization, suffering extensive human, economic, and infrastructural losses.

Combat robots offer a potential solution to this imbalance by bridging the power gap between stronger and weaker nations. These robots possess significant advantages over conventional human forces, including immediate deployability without the need for lengthy training, superior flexibility in adapting to diverse terrains and operational scenarios, and the capability to devise and execute complex tactics beyond the capacity of human soldiers. By harnessing these capabilities, combat robots can challenge the prevailing perception that powerful nations can perpetually dominate weaker ones, thereby promoting a more equitable balance of power in international relations.

Moreover, combat robots could alleviate the political pressure associated with military interventions, enabling governments to act with fewer repercussions from both domestic and international audiences. Deploying robotic units reduces the direct risk to human lives, thereby minimizing public and political resistance to military actions. Additionally, the use of combat robots can present a more technologically advanced and modern image of the military, potentially garnering broader public support and enhancing the legitimacy of military engagements.

Their deployment also has the potential to drive societal transformation toward a mechanized and technologically integrated system, facilitating the integration of AI and robotics into both military and civilian infrastructures. This technological infusion can lead to advancements in various sectors, such as manufacturing, healthcare, and transportation, thereby fostering innovation and economic growth. Furthermore, the widespread adoption of combat robots can influence workforce dynamics, shifting the focus toward high-skilled technical roles and reducing the reliance on traditional manual labor.

In this way, combat robots could play a pivotal role in reshaping global power dynamics

and fostering a more balanced international landscape. By mitigating the disparities in military capabilities, reducing political and public resistance to interventions, and driving technological and societal advancements, combat robots represent a transformative force in modern warfare and international relations. However, it is essential to address ethical considerations and establish regulatory frameworks to ensure the responsible deployment and use of combat robots, thereby maximizing their benefits while minimizing potential risks.

"War is a mere continuation of politics by other means"
- Carl von Clausewitz -

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