



The Price of a Digital Mile

by Mr. Jeremy Kofsky

The future of warfare is not coming; it is already here. Across testing grounds and in limited conflicts around the world, robots are increasingly taking the vanguard role once reserved exclusively for human soldiers. As we enter this new era, profound questions emerge about what happens when the first wave of casualties in a conflict is not flesh and blood, but metal and silicon.

What does it mean when war's opening salvos claim no human lives? Does the absence of flag-draped coffins returning home fundamentally change how nations decide to wage war? And perhaps most importantly, what happens to our humanity when warfare becomes, at least initially, a spectator sport of machine versus machine?

When War Loses Its Blood Price

For centuries, Carl von Clausewitz's observation that war exists as "a continuation of politics by other means" has been a cornerstone of military thinking. His concept of war's trinity—balancing passion, chance, and reason—presumed human bodies would pay the ultimate price for political decisions. But what happens when robots absorb those first devastating blows?

A war that begins without immediate human casualties creates a dangerous illusion. The political threshold for engaging in conflict could lower dramatically when leaders believe they can wage war without facing immediate political consequences from grieving families.

This separation between the decision to fight and its human cost creates what military ethicists call a "moral hazard," making it easier for political leaders to initiate conflicts they might otherwise avoid. In a perverse twist, robot-on-robot warfare might make war more likely, not less.

The battlefield's first phase might become increasingly mechanical, but history teaches us that technology rarely keeps war contained. The robots might begin the fighting, but humans inevitably get drawn into the fray. The danger lies in this perceived buffer zone, where decision-makers might miscalculate, believing they can control escalation while their mechanical proxies clash.

Society's Remote-Control Relationship with Conflict

Public perception has always shaped how nations wage war. From Vietnam War protests to the carefully managed media coverage during the Gulf War, civilian tolerance for

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casualties has profoundly influenced military strategy. Robot warfare introduces a new dynamic: the possibility of a population largely disconnected from war's realities.

When the evening news shows footage of destroyed machines rather than fallen soldiers, how will the public engage with distant conflicts? Will the absence of human sacrifice in the early stages of war create a society more willing to support military action without understanding its ultimate human costs?

We already see this disconnect with drone warfare. The further we remove human operators from the battlefield, the more the public views war as an abstraction rather than a human endeavor with real consequences.

This psychological distance does not just affect civilians. Military culture itself faces transformation. What happens to concepts like courage, sacrifice, and warrior ethos when the front line is populated by expendable machines? The traditional bond formed through shared risk may weaken, potentially alienating soldiers from the societies they serve and the conflicts they wage.

Economic Battlefields: The Digital Divide Grows Wider

While the human cost of war's opening stages might decrease, the economic barrier to entry rises dramatically. Modern military robots—from autonomous drones to unmanned ground vehicles—require sophisticated technology, manufacturing capabilities, and expertise that many nations simply cannot afford.

A single advanced military drone can cost tens of millions of dollars. Entire fleets of autonomous systems, along with their support infrastructure, command and control networks, and constant upgrades, could dwarf traditional defense budgets. This creates what military strategists call "capability asymmetry" on an unprecedented scale.

The world is potentially moving toward a reality where only wealthy nations can effectively wage modern war. This doesn't mean conflict disappears elsewhere—it means techno-

logical have-nots will resort to asymmetric tactics, terrorism, or proxy wars against countries with robotic advantages.

The economic implications extend beyond procurement. Nations must now consider the strategic calculus of machine attrition—how many million-dollar robots they can afford to lose before economic pressures force diplomatic solutions. War becomes, in some ways, more transparently transactional: Is achieving this objective worth losing 50 drones? Is that contested territory worth the price of replacing ten autonomous tanks?

Human Nature in the Age of Mechanical Warfare

Perhaps the most profound questions surrounding robot-on-robot warfare concern human nature itself. Throughout history, the terrible human cost of war has served as both a restraint on our worst impulses and a catalyst for our noblest achievements in diplomacy and international cooperation.

There is something deeply concerning about distancing human decision makers from the immediate consequences of war. When we delegate the dying to machines, we risk removing an essential moral weight from decisions to use force.

This distancing effect extends to how societies perceive conflict itself. Military analysts worry about the *gamification* of war, where remote operators and the public alike begin to view combat through interfaces resembling video games. The psychological distance between action and consequence grows wider, potentially nurturing a generation that understands war primarily as a technological contest rather than a human tragedy.

The prospect of autonomous systems making life-or-death targeting decisions raises even more fundamental questions about human agency and responsibility. Who bears moral responsibility when an autonomous weapon selects and engages a target without direct human input? The programmer? The commanding officer? The political leadership? It seems we have created a troubling moral vacuum.

Silver Linings in Silicon Soldiers?

Despite these concerns, proponents of military robotics argue that removing humans from the battlefield's front lines could ultimately prove humanitarian. They suggest that robot-on-robot engagements might serve as a modern equivalent of medieval champions fighting on behalf of armies—a way to resolve conflicts with less bloodshed. In the most optimistic scenario, nations might engage in limited robot wars that serve as demonstrations of capability without escalating to human casualties. This could function as a 21st-century show of force that potentially leads to negotiations before human lives are lost.

Deterrence theory also suggests that nations might be less likely to attack others they perceive as technologically superior, potentially reducing the frequency of conflicts. If war becomes primarily an economic contest in its early stages, diplomatic solutions might become more attractive compared to costly machine attrition. However, these hopeful scenarios depend on rational actors making rational decisions—something history suggests is rarely guaranteed in times of international tension.

Vulnerability in Virtuality

The shift toward autonomous systems introduces new vulnerabilities that could dramatically alter conflict dynamics. As military robots become more sophisticated, they also become more dependent on complex software, communications networks, and data systems—all potential targets for cyberattacks.

The more autonomous our systems become, the more catastrophic software vulnerabilities or hacking become. We could see entirely new forms of warfare where the objective isn't destroying enemy robots but hijacking them. This technological dependency creates strategic vulnerabilities that might not be fully understood until they're exploited in conflict. A military force could find its robotic advantages neutralized not through traditional combat but through electronic warfare, signal jamming, or cyberattacks that render expensive systems useless or, worse, turn them against their operators.

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Navigating the Future of Conflict

As we venture further into the age of autonomous warfare, policymakers, military leaders, and societies face unprecedented challenges requiring new frameworks for thinking about war and peace. International law, largely built around human conflicts, must evolve to address autonomous systems. Military doctrines need updating to incorporate both the capabilities and limitations of robotic warfare. Public discourse must grapple with the ethical implications of removing human combatants from the battlefield's front lines.

The fundamental nature of war—as a contest of wills among societies expressed through violence—remains unchanged even as its participants evolve. Robot-on-robot warfare doesn't eliminate the human element; it merely displaces it temporarily while potentially lowering the perceived costs of initial engagement. Throughout history, new technologies have promised to make war less brutal, more precise, or even obsolete. None have succeeded. The question isn't whether robot warfare will change human conflict—it is whether we will recognize war's enduring human dimensions before we allow machines to make these decisions for us.

The digital mile may indeed come with a different price than the blood-soaked battlefields of the past. But history suggests that humanity will still pay a cost, perhaps in ways we have not yet fully imagined.



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