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# Tragic reflection, political wisdom, and the future of algorithmic war*

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**ABSTRACT**

Artificial intelligence and machine learning techniques are being developed to improve decision making around the resort to force. These technologies are valued for their capacity to rapidly collect and analyse big data, model unique courses of action, offer probabilistic recommendations and predictions regarding the type and degree of force required, and evaluate the benefits, risks, and costs of action and inaction. Those concerned with these developments highlight the possibility of automation bias in human-machine teaming, and the potential de-skilling of individual and institutional decision making. This concern is valid, but too narrow in scope. In addition to human knowledge and skill, wisdom is imperilled by the growing technification of violence and war. Drawing on the lessons of tragedy, I argue that the speed, inflexibility, and false confidence of algorithmically assisted decision making cultivates an insensitivity to the tragic qualities of violence. This dulling of the tragic imagination is likely to lead to more imprudent and immoral uses of force, not less.

**KEYWORDS**

Tragedy; Artificial intelligence (AI); machine learning; armed conflict; violence; war

> [T]o throw the problem of his responsibility on the machine, whether it can learn or not, is to cast his responsibility to the winds, and to find it coming back seated on the whirlwind. Norbert Wiener, 1954.

## Introduction

In April 2023, Palantir Technologies released a demo for the large language model (LLM)-enabled battle management software, Artificial Intelligence Platform (AIP) for Defence. Connecting 'highly sensitive and classified intelligence data to create a real time representation' of the environment, the creators promised to improve military command decisions by enhancing 'reasoning through different scenarios and courses of action safely and at scale' (Palantir 2023).

Artificial intelligence (AI) and machine learning techniques like AIP are being developed to improve decision making around the resort to force. These technologies are

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valued for their capacity to rapidly collect and analyse big data, model unique courses of action, offer probabilistic recommendations and predictions regarding the type and degree of force required, and evaluate the benefits, risks, and costs of action and inaction. This integration of machine learning, it is hoped, will enable more informed, proportionate, and proactive uses of force. Some have gone as far as to propose the incorporation of these technologies into nuclear crisis scenarios. According to these proponents, AI could help filter and prioritise information, allowing decision makers to focus on critical tasks; and enhance communication between adversaries (Holmes and Wheeler 2024).

There are many, however, who fear that the marriage between the computational precision of machine algorithms and the judgement and intuition of human decision makers will be an unhappy one. AI has been hailed as a way to overcome human biases and challenge 'groupthink,' to the benefit of military strategy (Payne 2021, 138–139). This optimism is countered by concerns over automation bias—the ceding of too much authority to computer-generated outputs to the detriment of operator critical thinking (Erskine 2024; Osoba 2024).

We are right to be cautious over automation bias in human-machine teaming, and the potential de-skilling of individual operators, policymakers, and institutions. Our concern, however, should also extend beyond this. The growing technification of violence and war threatens not only our knowledge and skill, but also our wisdom. The uncritical integration of AI and machine-learning into decision making processes cultivates an insensitivity to the tragic qualities of violence. Within such conditions, the quality of resort-to-force decision making is likely to degrade. Violence is sometimes a necessity on the international stage, for prudential and moral reasons. But greater analytical humility is needed in relation to the authorisation and application of violence, a humility imperilled by the ideological drive toward increasingly automated approaches to decision making.

I first outline the value of tragic reflection in clarifying the gravity and limits of violence as a political tool, before highlighting its potential tension with algorithmically assisted decision making. The speed, inflexibility, and false confidence of these systems dulls awareness of the tragic character of violence and make imprudent uses of lethal force more, not less likely.

## The value of tragic reflection

Projecting violence on the international stage is no small matter. Escalatory ladders must be consulted, compared to those of the enemy, and updated where needed. Policymakers must weigh the availability and exhaustion points of a range of measures short of force. The first and second-order effects of violence must also be considered. What is the violence in question likely to achieve? What harms will civilians experience as a result? How is the enemy likely to react? The prevailing geopolitical conditions and conflict environment will shape this analysis—the shift in focus among Western actors from counterterrorism to great power confrontation, for example, necessitates a reevaluation of thresholds for violence, constraints, and risks. Finally, reflection is needed on the fundamental unpredictability of violence; the sheer number of ways it can go awry, and the significant, sometimes ruinous, consequences when it does.

To effectively navigate these questions, information must be collected and knowledge accumulated about politics, technologies, weapon systems, tactics, capacities,

vulnerabilities, etc. More important, however, is the cultivation of wisdom at both the individual and institutional level. If state actors are to learn from, rather than replicate, their military and political failures on the international stage, attitudinal changes are needed regarding the value and limits of violence. One way to habituate this wisdom is through greater reflection on the lessons of tragedy.

At its most basic, tragedy refers to destructive, often agonising outcomes endured by the innocent, or at a minimum, those not manifestly guilty. Greek tragedy, writes Nussbaum, centred on ruination—good people either endured harm or inflicted it, on account of circumstances not fully in their control (1986, 25). Early Modern scholars shared this understanding, regarding *pathos* as the 'indispensable element of tragedy' (Hoxby 2015, 8).

History and fiction has since produced numerous articulations of tragedy: 'tragedies of character,' where individuals fail, and in doing so, bring about their own downfall or the downfall of others; 'tragedies of hard choices,' where competing moral values or demands clash; and 'tragedy as moral dilemma,' episodes involving inescapable wrongdoing (Lu 2012, 161–166).

Today, scholars have re-engaged tragedy as a discourse through which to better comprehend and navigate domestic and global politics (Erskine and Lebow 2012; Lebow 2013; 2020). Among its many insights, tragedy reminds us of the inescapable limits of foresight and the permanence of uncertainty. Tragedy 'shows us that we can initiate a course of action without being able to understand or control it—or adequately calculate its consequences' (Erskine and Lebow 2012, 185). When it comes to violence, this lesson is a critical one. Resort-to-force decision making is a balance between intentionality and foreseeability; tragedy exposes the inadequacy of good intentions and the unreliability of informed prediction. The future is *unknowable*, at least in a probabilistic sense (Kirshner 2023, 32). The practical wisdom earned through tragic reflection can help guide our behaviour within these conditions of uncertainty.

Another key and related insight from tragedy is the danger of unconstrained ambition. The military realm contains an abundance of problems in need of violent solution. Alongside these problems, however, are a range of political and moral *dilemmas*—situations where no desirable outcome is available. It is the arrogance of power that convinces decision makers that the latter is, or can be, dependably transformed into the former. This is a difficult lesson to internalise, particularly for Western actors for whom military overmatch has long been the norm. The radical asymmetry between The United States (U.S.) and those it has warred against over the last seven decades, and the low cost of failure (relative to historical standards) when that asymmetry has been poorly spent, has cultivated a faith in the utility of violence that is difficult to shake. A tragic imagination can help puncture such faith, reminding the powerful of the vicissitudes of fortune, the temptation and hazards of hubris, and how much of war is resistant to technical solution.

It is important to be clear on the benefits and limits of tragic discourse. Tragedy is but one dimension of political life, not its defining feature (Rengger 2012, 59–60). Indeed, tragedy may be drawn upon too heavily in some areas of military policy, to a degree that impairs, rather than encourages, political responsibility and accountability. But the insights of tragedy remain vital in regulating the use and overuse of violence at the international level. An alertness to the tragic qualities of violence is needed, and a scepticism toward conditions that dull our tragic imagination. The autonomisation of resort-to-force decision making, I argue, is one such condition.

## Foolish genius: on the perils of autonomous decision making

The potential reliance on machine-generated predictions and recommendations in resort-to-force decision making has generated understandable controversy. One concern is that an over-dependence on such systems will lead to a 'de-skilling' of the humans, teams, and institutions involved, eroding the very expertise and judgement traditionally valued in such processes. This concern is valid, but too narrow in scope. In addition to human knowledge and skill, *wisdom* is imperilled by the growing technification of violence and war.

### *Speed*

A major appeal of integrating AI into resort-to-force decision making is speed. These systems, it is hoped, will exceed humans in their capacity to gather, analyse, and formulate sound judgements over information relevant to the authorisation of violence. As U.S. Department of Defense officials have argued, 'future conflicts may require decisions to be made within hours, minutes, or potentially seconds compared with the multiday process to analyse the operating environment and issue commands' (Congressional Research Service 2022, 2).

What is often overlooked is that this pursuit of speed has two related but distinct drivers. The first is the perceived inadequacy of current human decision makers (Dear 2019, 22). For as long as violence has been used at the international level, it has been used poorly. Human decision makers are prideful and vengeful; they misinterpret and miscalculate; they overreact to threats and sometimes underreact. The promise of AI systems lies in their potential to not only compress, but improve, decision cycles relating to the authorisation of force.

A second driver is the perceived need to match and outperform geopolitical rivals. As stated plainly in the recent U.S. Marine Corps (USMC) Force Design 2030 update, 'marines must fight at machine speed or face defeat at machine speed.' The same logic underpins the integration of AI systems into resort-to-force decision making. Future warfare will be won, it is believed, not merely by the fast, but by the *fastest*.

Faster-than-human and faster-than-adversary are two distinct objectives, likely to necessitate, at some point at least, two distinct determinations of optimal speed. We must ask ourselves whether either or both of these speeds can accommodate a tragic imagination—the capacity and inclination to properly reflect on how our exercise of force, and the aims and ambition that underpins it, may generate negative outcomes beyond what we intend. Apprehension is needed over speeds that foreclose opportunities for the measured consideration of violence and its attendant uncertainties.

### *Rule inflexibility*

In its 2018 AI Strategy, the U.S. Department of Defense stated that 'AI can generate and help commanders explore new options so that they can select courses of action that best achieve mission outcomes' (2018). AI is framed as a tool of empowerment, widening the scope of strategic decision making. In reality, the opposite is more likely; an artificial narrowing of choice over the decision to use force brought about by the rule inflexibility of AI systems.

In her recent book on the history of rules, Lorraine Daston draws a distinction between an older conception of rules—instructions that admit exception (determined through individual judgement), and the modern, increasingly dominant, algorithmic conception: explicit, unambiguous rules to be mechanically followed. The evolution from the older, 'thicker' conception, to the more recent, 'thinner' conception, Daston writes:

> [H]as in part been driven by growing distrust of discretion, variously impugned as arbitrary, capricious, inconsistent, unpredictable, unfair, opaque, self-serving, and even tyrannical. (2022, 270)

History is replete with examples of violence imposed and intensified by leaders who embody these unwelcome descriptors. We do not want force authorised on impulse, and if algorithmically assisted decision making can mitigate or even transcend this possibility, then should it not be welcomed? As Daston further writes, however, algorithmic rules 'implicitly assume a predictable, stable world in which all possibilities can be foreseen' (Daston 2022, 3). As the insights of tragedy remind us, such conditions do not exist; even rough approximations are elusive in the context of violence.

Decision makers must contend, inescapably, with radical uncertainty, and within such uncertainty, the discretion to do differently or less than recommended is a virtue. AI technologies cannot stand in for such discretion, dependent as they are on calculation within tightly governed settings via quantified rules (Hunter and Bowen 2023, 4). Intuitive judgement is needed. The alternative—a rote programming directive of 'if this, then that'—is likely to leave decision makers flat-footed at critical and novel junctures. Yet this is the direction we are unwittingly moving toward. Mission success, targeting standards, probabilities of failure, adversary actions and counter-actions—all must be digitised and quantified to be rendered comprehensible by the AI systems at work. Such rigidity can only come at the expense of strategic and political freedom.

## *Certainty*

'[T]he history of command in war,' writes van Creveld, 'consists essentially of an endless quest for certainty' (1985, 264). Just as consistent is the failure to obtain it. Perfect certainty in war, as with perfect control, is an illusion, one too often fostered by techno-optimistic accounts of AI-assisted decision making.

If speed and rule inflexibility limit the *capacity* to act wisely in resort-to-force decision making, false certainty in the efficacy of these systems limits the *inclination*. Much is promised by supporters of AI-enabled systems. Machine learning techniques will identify relevant patterns in datasets and clarify strategic variables to enhance the speed and quality of decision making. These same techniques will also be future-directed, with algorithmically-assisted predictive analysis allowing those empowered to head off risks before they manifest into threats. Disjointed and unreliable human action will be augmented, or replaced entirely in some cases, by the cool exactitude of AI.

Such claims should be approached with caution. Firstly, as already argued, fundamental and irresolvable uncertainties cannot be remade into calculable and controllable risks. Strategy and tactics are not commonly, but *invariably*, subject to disruption, from environmental uncertainties, misunderstandings, errors and mischance, and adversarial interference. Too often, these brute facts of war are assumed away by those who

champion a greater integration of AI and machine learning into decision making over the resort to military force. The future, according to the CEO of Anduril Industries, is one where combatants 'have the power of perfect omniscience over their area of operations, where they know where every enemy is, every friend is, every asset is' (cited in Fang 2019). What is being forecasted is a 'vision of utopian war':

> … identifying a future in which advanced technology makes the processes of military decision-making akin to bouncing a few requests for intelligence or courses of action off an AI-enabled chat system. It envisions complete knowledge of the enemy, the capacity for friendly forces to act unburdened by opposition, and the ability to rapidly generate a list of reliable plans of attack in only seconds. (Reynolds and Ahmet Cetin 2023)

This project, to harness AI in the pursuit of utopian, perfect war, is merely the latest iteration of a longstanding and misguided ambition to render the battlefield clean, knowable, and controllable. Like earlier efforts, this project will fail to remake war into something it fundamentally cannot be. Political responsibility lies not in transcending uncertainty, but in navigating through it, as wisely as one can. As British philosopher Carveth Read observed, 'it is a mistake to aim at unattainable precision. It is better to be vaguely right than exactly wrong.'

## Navigating the dilemma of autonomous decision making

In order to mitigate the risks of autonomous decision making, it is necessary to address not only the explicit and direct challenges generated by the technology itself, but also the problematic trends and assumptions that drive the pursuit. This is not a call for an outright prohibition on the use of AI in the authorisation and exercise of force. What is needed, though, is deeper reflection on the values and conditions we wish to cultivate in this space, as well as those we wish to avoid. Responsible control over the resort-to-force demands a refinement in our *disposition* toward violence—at both the individual and institutional level, as well as an improvement in our knowledge, skills, and competencies.

### *Reject the inevitability of AI*

It is firstly necessary to reject the deliberate, politically motivated, framing of military AI and algorithmic war as an inevitability. Even if it proves to be in retrospect, this mindset is an unhealthy one.

According to many, the pursuit of artificial intelligence cannot be stopped, or even slowed, lest supremacy over the technology be ceded to our adversaries. Responding to growing calls to check the growth of AI, Pentagon Chief Information Officer, John Sherman, recently stated: 'I know some have advocated for taking a knee for six months … No. Not at the Department of Defense, not the intelligence community' (cited in Demarest 2023). This framing of AI and machine learning development as an 'imperative imposed by competition' (Osoba 2024) functions to foreclose meaningful discussions over the character and speed of these technological choices.

Returning to tragedy, one of the most important lessons offered relates to the limits of agency. Tragedy reminds us of the frequency and completeness with which good intentions are undone by structural pressures. Critically though, no matter the structural forces that pressure it, human agency remains a key feature of most tragedy. Within

tragedy, agency and structure are an interplay: 'man is free but fated, fated but free' (Sewall 1980, 13). This insight must not be forgotten as we navigate a future relationship with AI technologies.

Whatever the geopolitical incentives going forward, policymakers retain agency over the development and use of AI. If this technology is integrated into areas of resort-to-force decision making where it should not, or at a pace that intensifies, rather than mitigates, the risks of this technology, then those who refused to do otherwise will be morally accountable for the resulting harm. References to AI 'inevitability' need to be counterbalanced by a commitment to abstinence where needed. There are some aspects of decision making that should never be ceded to AI. In such circumstances, the responsibility is to maintain a stark delineation between humans and machines.

### *Value inefficiency*

Where we conclude that AI *can* assist decision makers to authorise (or not authorise) violence more effectively, meaningful limits must still be retained. Human and ethical deliberation in war entails a navigation of trade-offs and dilemmas as often as straightforward problem solving. Some military processes will need to be slowed to afford the time and space necessary for decision makers to appreciate the complexity of the task, the scope of available choices, and the ethical and political weight of potential outcomes. The space, in other words, to foster rather than suppress the tragic imagination. These will be inefficiencies, but meaningful ones; inefficiencies that allow us to retain humans as a cognitively and morally empowered agent, rather than a mere rubber-stamper of algorithmic authority.

Maintaining this space for human judgment and political wisdom is necessarily complicated by narratives that pathologise the imperfect processes of war. The promise of military AI is one of acceleration, compression, and streamlining. Inefficiency and delay is to be identified and eradicated, in the pursuit of ever more optimised military function. What this ideology of acceleration overlooks is that speed is not an unalloyed good; it is a contingent one. It is not an end to be sought in itself; it is a means to an end. It should be pursued in war only to the point where it leaves space for a full expression of human agency in the critical areas where such agency is required; and no further.

Greater emphasis should also be given to the tensions that exist between decision making priorities. Supporters of this technology make a range of commitments—speed and safety; efficiency and effectiveness; inventiveness and precaution. Too often missing is a recognition of potential incompatibilities. Before we even consider the integration of military AI into a decision as profound as when and how to use force on the international stage, an honest account of preferences is needed—when important values clash, which should we prioritise?

### *Resist the lure of anticipatory violence*

A major appeal of this technology is its potential to not only assess but *anticipate* the need and effects of lethal force. This ambition aligns with the 'risk management' approach that has dominated so much of the post-Cold War security agenda of Western states. According to this managerial logic, violence can be used *pre-emptively* to control, police, and eradicate risks before they develop into full-blown threats (Schmitt 2020, 6).

A responsible integration of military AI into resort-to-force decision making should include a recognition of the harmful effects of anticipatory violence. In the U.S. context, this temporal expansion of the boundaries of force has led to a systematic erosion of targeting standards (Ahmad 2016; Renic 2020, 176–177) and incentivised open-ended military actions that lack strategic and moral direction (Sterman 2021). Going forward, decision making—AI-assisted or not—must be anchored to a stronger presumption against violence; especially future-focused, open-ended violence that embeds military conflict as a permanent condition.

## Conclusion

The over privileging of military AI and machine learning in resort-to-force decision making is likely to cognitively and morally disempower the humans and human institutions left in such systems. AI technologies will command, by design or default, deference from operators, commanders, and policymakers who will struggle to understand the processes involved in the computational decisions fed to them. Trust and control, in such instances, must be given over to the presumptively superior character of the technological authority.

At issue is not only an erosion of skills, or a problematic deference to technological recommendations, but also the neglected risk that AI will imperil political wisdom. We risk the creation of human agents and institutions that are temperamentally ill-suited to the exercise of power; humans that lack a tragic imagination and the recognition of the limits and unpredictability of violence that comes with it.

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## Notes on contributor

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