# JF21 China AC

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## 1AC—NEW

#### Chinese autonomous weapons development is on the cusp of leapfrogging the US—urgent action is needed.

[Matt Bartlett (6-11-2020), University of Auckland Faculty of Law, “The AI Arms Race in 2020”, towards data science, https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac]//[CHS](https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac%5d//CHS) PK

While states might debate whether lethal autonomous weapon systems (or ‘killer robots’ in the popular imagination) are “unacceptably immoral”, there can be no doubt that Guterres is right on the urgency of the risk: development and use of autonomous weapons are both accelerating, and the stakes — ethical and political — are high.

The world’s military powers have been competing to dominate this new class of intelligent weapons for years, with this AI arms race occurring against a contentious global landscape where an advantage in military AI could make a real difference to the balance of power. This geopolitical game theory driving such advancement in the sophistication of war machines has an unwanted blind spot — historically, human rights factor little into strategic calculations.

With Covid-19, the acceleration of automation has taken on greater speed across a variety of different fronts. Military operations have had to be completely re-thought — physical distancing on a submarine is much harder than physical distancing in a supermarket. Lethal AI already had some mounting advantages over human equivalents, and can now add ‘immunity from catastrophic viruses’ to that list. For all of these reasons, keeping track of the AI arms race is more vital than ever.

If It’s A Race, Who’s Winning?

Almost every month, another innovation in autonomous weapons leaps off the headlines in military news — the autonomous Chinese Blowfish A3 helicopter drone equipped with machine guns or the Russian army of unmanned ‘Marker’ ground vehicles armed with mortars and grenade launchers. There is no question that new inventions in the world of military AI abound, but it is far less clear which country boasts the strongest tech.

Key figures in the United States military have been forthright in warning of China’s might in this area. The US Defense Department’s relatively new Joint Artificial Intelligence Center is building command-and-control AI capability for the first time, explicitly citing the Chinese threat as the reason for the department’s urgency. The Center’s director Lt. Gen. Jack Shanahan has been clear about his desire to automate as much of the American military machine as possible:

“What I don’t want to see is a future where our potential adversaries have a fully AI-enabled force and we do not.”

In the last year, officials as senior as the US Defense Secretary have warned that Chinese technology may, in fact, already be more advanced than America’s. Secretary Mark Esper predicted that China might have “leapfrogged” existing American technology. With the military establishment suitably concerned, spending on lethal autonomous weapons in all branches of the American military seems set to go to another level in 2020 after already increasing in 2019.

For China’s part, mounting investment in autonomous weapon development is a key plank in its ongoing effort to usurp American military dominance. Almost all large-scale AI programs in China benefit from massive governmental support and a huge trove of data, and its autonomous weapons program is the jewel in Beijing’s AI crown. China’s huge investment in lethal autonomous weapons predates other militaries, and its military theorists are ahead of the rest of the world in building futuristic “intelligentized” models of human-machine operations.

A further dimension to China’s AI strategy is economic, with Beijing seemingly interested in profiting from its autonomous weapons program as a new export product. Already, China appears to be exporting many of its most high-tech aerial drones to wealthy buyers in the Middle East, explicitly marketing them as capable of advanced autonomous operations like assassinations. Last year, Zeng Yi, a senior executive at Norinco, China’s third-largest defense company, predicted that as early as 2025, “there will be no people fighting in battlegrounds”.

#### First is escalation—Chinese LAWs growth creates perception gaps which increase the risk of miscalc and shred deterrence dynamics.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20>]//CHS PK

Autonomous Weapons, Swarming, and Instability The proliferation of a broad range of AI-augmented autonomous weapon systems (most notably drones used in swarming tactics) could have far-reaching strategic implications for nuclear security and escalation in future warfare.24 Several observers anticipate that sophisticated AI-augmented AWSs will soon be deployed for a range of ISR and strike missions.25 Even if AWSs are used only for conventional operations, their proliferation could nonetheless have destabilizing implications and increase the risk of inadvertent nuclear escalation. For example, AI-augmented drone swarms may be used in offensive sorties targeting ground-based air defenses and by nuclear-armed states to defend their strategic assets (i.e., launch facilities and their attendant C3I and early-warning systems), exerting pressure on a weaker nuclear-armed state to respond with nuclear weapons in a use-them- or- lose- them situation.

Recent advances in AI and autonomy have substantially increased the perceived operational value that military great powers attach to the development of a range of AWSs,26 potentially making the delegation of lethal authority to AWSs an increasingly irresistible and destabilizing prospect.27 That is, in an effort to defend or capture the technological upper hand in the possession of cutting-edge war-fighting assets vis-à- vis strategic rivals’ traditionally conservative militaries, states may eschew the potential risks of deploying unreliable, unverified, and unsafe AWS. Today, the main risk for stability and escalation is the technical limitations of the current iteration of AI machine learning software (i.e., brittleness, explainability, unpredictability of machine learning, vulnerability to subversion or “data poisoning,” and the fallibility of AI systems to biases).28 To be sure, immature deployments of these nascent systems in a nuclear context would have severe consequences.29

#### Second is drone swarms—they threaten second strike which forces a nuclear first strike and escalation.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20>]//CHS PK

Conceptually speaking, autonomous systems will incorporate AI technologies such as visual perception, speech, facial recognition, and decision-making tools to execute a range of core air interdiction, amphibious ground assaults, long-range strike, and maritime operations independent of human intervention and supervision.30 Currently, only a few weapon systems select and engage their targets without human intervention. Loitering attack munitions (LAM)—also known as “loitering munitions” or “suicide drones”—pursue targets (such as enemy radars, ships, or tanks) based on preprogrammed targeting criteria and launch an attack when their sensors detect an enemy’s air defense radar.31 Compared to cruise missiles (designed to fulfill a similar function), LAMs use AI technology to shoot down incoming projectiles faster than a human operator ever could and can remain in flight (or loiter) for much longer periods. This attribute could complicate the ability of states to reliably and accurately detect and attribute autonomous attacks.32

A low-cost lone-wolf unmanned aerial vehicle (UAV) would, for example, not pose a significant threat to a US F-35 stealth fighter, but hundreds of AI machine learning autonomous drones in a swarming sortie may potentially evade and overwhelm an adversary’s sophisticated defense capabilities—even in heavily defended regions such as China’s east and coastal regions.33 Moreover, stealth variants of these systems34—coupled with miniaturized electromagnetic jammers and cyberweapons—may be used to interfere with or subvert an adversary’s targeting sensors and communications systems, undermining its multilayered air defenses in preparation for drone swarms and long-range stealth bomber offensive attacks.35 In 2011, for example, MQ-1 and MQ-9 drones in the Middle East were infected with hard-to- remove malicious malware, exposing the vulnerability of US subset systems to offensive cyber.36 This threat might, however, be countered (or mitigated) by the integration of future iterations of AI technology into stealth fighters such as the F-35.37 Manned F-35 fighters will soon be able to leverage AI to control small drone swarms in close proximity to the aircraft performing sensing, reconnaissance, and targeting functions, including countermeasures against swarm attacks.38 In the future, extended endurance of UAVs and support platforms could potentially increase the ability of drone swarms to survive these kinds of countermeasures.39

Several prominent researchers have opined that, notwithstanding the remaining technical challenges as well as the legal and ethical feasibility,40 we can expect to see operational AWSs in a matter of years.41 According to former US deputy secretary of defense Robert Work, the United States “will not delegate lethal authority to a machine to make a decision” in the use of military force. 42 Work adds, however, that such self-restraint could be tested if a strategic competitor (especially China and Russia) “is more willing to delegate authority to machines than we are and, as that competition unfolds, we’ll have to make decisions on how we can best compete” (emphasis added).43 In short, pre-delegating authority to machines, and taking human judgment further out of the crisis decision-making process, might severely challenge the safety, resilience, and credibility of nuclear weapons in future warfare.44

The historical record is replete with examples of near nuclear misses, demonstrating the importance of human judgment in mitigating the risk of miscalculation and misperception (i.e., of another’s intentions, redlines, and willingness to use force) between adversaries during crises.45 Despite these historical precedents, the risks associated with unpredictable AI-augmented autonomous systems operating in dynamic, complex, and possibly a priori unknown environments remain underappreciated by global defense communities.46 Eschewing these risks, China and Russia plan to incorporate AI into unmanned aerial and undersea vehicles for swarming missions infused with AI machine learning technology.47 Chinese strategists have reportedly researched data-link technologies for “bee swarm” UAVs, particularly emphasizing network architecture, navigation, and anti-jamming military operations for targeting US aircraft carriers.48

Drones used in swarms are conceptually well suited to conduct preemptive attacks and nuclear ISR missions against an adversary’s nuclear and nonnuclear mobile missile launchers and nuclear-powered ballistic missile submarines (SSBN), along with their attendant enabling facilities (e.g., C3I and early warning systems, antennas, sensors, and air intakes).49 The Defense Advanced Research Projects Agency (DARPA), for example, is developing an autonomous surface vehicle (ASV) double outrigger, Sea Hunter, currently being tested by the US Navy to support antisubmarine warfare operations (i.e., submarine reconnaissance).50 Some observers have posited that autonomous systems like Sea Hunter may render the underwater domain transparent, thereby eroding the second-strike deterrence utility of stealthy SSBNs. The technical feasibility of this hypothesis is highly contested, however.51

On the one hand, several experts argue that deployed in large swarms, these platforms could transform antisubmarine warfare, rendering at-sea nuclear deterrence vulnerable. On the other hand, some consider such a hypothesis technically premature because (1) it is unlikely that sensors on board AWSs would be able to reliably detect deeply submerged submarines; (2) the range of these sensors (and the drones themselves) would be limited by battery power over extended ranges;52 and (3) given the vast areas traversed by SSBNs on deterrence missions, the chance of detection is negligible even if large numbers of autonomous swarms were deployed.53 Thus, significant advances in power, sensor technology, and communications would be needed before these autonomous systems have a game-changing strategic impact on deterrence.54 However, irrespective of the veracity of this emerging capability, the mere perception that nuclear capabilities face new strategic challenges would nonetheless elicit distrust between nuclear-armed adversaries—particularly where strategic force asymmetries exist. Moreover, DARPA’s Sea Hunter demonstrates how the emerging generation of autonomous weapons is expediting the completion of the iterative targeting cycle to support joint operations, thus increasing the uncertainty about the reliability and survivability of states’ nuclear second-strike capability and potentially triggering use-them- or- lose- them situations.

Conceptually speaking, the most destabilizing impact of AI on nuclear deterrence would be the synthesis of autonomy with a range of machine-learning- augmented sensors, undermining states’ confidence in the survival of their second-strike capabilities and in extremes triggering a retaliatory first strike.55 Enhanced by the exponential growth in computing performance and coupled with advances in machine learning techniques that can rapidly process data in real time, AI will empower drone swarms to perform increasingly complex missions, such as hunting hitherto hidden nuclear deterrence forces.56 In short, the ability of future iterations of AI able to predict based on the fusion of expanded and dispersed data sets and then to locate, track, and target strategic missiles such as mobile ICBM launchers in underground silos, on board stealth aircraft, and in SSBNs is set to grow.57

The following four scenarios illustrate the possible strategic operations AI-augmented drone swarms would execute.58 First, drone swarms could be deployed to conduct nuclear ISR operations to locate and track dispersed (nuclear and nonnuclear) mobile missile launchers and their attendant enabling C3I systems.59 Specifically, swarms incorporating AI-infused ISR, autonomous sensor platforms, ATR, and data analysis systems may enhance the effectiveness and speed of sensor drones to locate mobile missiles and evade enemy defenses.

Second, swarming could enhance legacy conventional and nuclear weapons delivery systems (e.g., ICBMs and SLBMs), possibly incorporating hypersonic variants (discussed below).60 AI applications will likely enhance the delivery system targeting and tracking and improve the survivability of drone swarms against the current generation of missile defenses.

Third, swarming tactics could bolster a state’s ability to disable or suppress an adversary’s defenses (e.g., air, missile, and antisubmarine warfare defenses), clearing the path for a disarming attack.61 Drone swarms might be armed with cyber or EW capabilities (in addition to antiship, antiradiation, or regular cruise and ballistic missiles) to interfere with or destroy an adversary’s early warning detection and C3I systems in advance of a broader offensive campaign.62 Conversely, drone swarms might enhance states’ missile defenses as countervails to these offensive threats. For example, swarms could form a defensive wall to absorb incoming missile salvos, intercepting them or acting as decoys to throw them off course with mounted laser technology.63

#### Third is maritime warfare—perception alone causes ocean war that escalates.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20>]//CHS PK

Finally, in the maritime domain, unmanned underwater vessels (UUV), unmanned surface vessels (USV), and UAVs supported by AI-enabled intra-swarm communication and ISR systems could be deployed simultaneously in both offensive and defensive antisubmarine warfare operations to saturate an enemy’s defenses and to locate, disable, and destroy its nuclear-armed or nonnuclear attack submarines.64 Despite continued advances in sensor technology design (e.g., reduced size and extended detection ranges) to overcome quieting challenges, other technical challenges still remain. These include communicating underwater between multiple systems, processing power requirements, generating battery life and energy, and scaling the system.65

While some experts do not expect a technically reliable and effective capability of this kind will be operational for at least a decade, others are more optimistic.66 From a tactical perspective, drone swarms would not need ocean-wide coverage (or full ocean transparency) to effectively detect and track submarines. According to UK rear admiral John Gower, a relatively even spread of sensors might be sufficient to enable “a viable search and detection plan . . . conceived for the open ocean” (emphasis added).67 Moreover, advances in mobile sensing platforms could enable drones in swarms to locate submarines through chokepoints (or gateways) as they emerge from ports. Due to the current slowness of drones with extended sea ranges, however, trailing them autonomously seems implausible.68 Future iterations of machine-learning- augmented UUVs and USVs may eventually complement, and perhaps replace entirely, the traditional role of general-purpose nuclear-powered submarines (SSN) and manned surface vehicles in tracking and trailing submarines of adversaries at chokepoints while simultaneously mounting sparsely distributed and mobile distributed network systems (DNS) sensors on UUVs.69

If a state views the credibility of its survivable nuclear weapons (especially nuclear-armed submarines) to be at risk,70 conventional capabilities such as drone swarms will likely have a destabilizing effect at a strategic level.71 Thus, even if swarm sorties were not intended as (or indeed technically capable of) a disarming first strike, the perception alone of the feasibility of such an operation would be destabilizing nonetheless. Moreover, the speed of AI could put the defender at a distinct disadvantage, creating additional incentives to strike first (or preemptively) technologically superior military rivals. Consequently, the less secure a nation considers its second-strike capabilities to be, the more likely it is to countenance the use of autonomous systems within its nuclear weapons complex to bolster the survivability of its strategic forces. According to analyst Paul Scharre, “winning in swarm combat may depend upon having the best algorithms to enable better coordination and faster reaction times, rather than simply the best platforms” (emphasis added).72

Combining speed, persistence, scope, coordination, and battlefield mass, AWSs will offer states attractive asymmetric options to project military power within contested A2/AD zones.73 Enhanced by sophisticated machine learning neural networks, China’s manned and unmanned drone teaming operations could potentially impede future US freedom of navigation operations in the South China Seas.74 Its air- and sea-based drones linked to sophisticated neural networks could, for example, support the People’s Liberation Army’s manned and unmanned teaming operations. Were China to infuse its cruise missiles and hypersonic glide capabilities with AI and autonomy, close-range encounters in the Taiwan Straits and the East and South China Seas would become more complicated, accident-prone, and destabilizing—at both a conventional and nuclear level.75 China is reportedly developing and deploying UUVs to bolster its underwater monitoring and antisubmarine capabilities as part of a broader goal to establish an “underwater Great Wall” to challenge US undersea military primacy. US AI-enhanced UUVs could, for example, theoretically threaten China’s nuclear ballistic and nonnuclear attack submarines.76

#### Fourth is prolif—Chinese LAW development triggers AI and nuclear arms races and cyber threats.

[Jiayu Zhang (8-16-2020), Writer for The International Affairs Review, “China’s Military Employment of Artificial Intelligence and Its Security Implications”, The International Affairs Review, [https://iar-gwu.org/print-archive/blog-post-title-four-xgtap]//CHS](https://iar-gwu.org/print-archive/blog-post-title-four-xgtap%5d//CHS) PK

China’s rapid progress in AI and its military application have encouraged such competition and may trigger a potential arms race in two ways. First, the PLA’s increasing military power facilitated by its application of AI technology has already activated a security dilemma, especially concerning China’s increasing assertiveness in territorial disputes and growing ambitions about the regional order. The PLA’s employment of AI-enabled early-warning systems and unmanned intelligent combat vehicles will enhance China’s awareness of Japanese and South Korean operations in disputed areas like the Senkaku Islands and enable a quick response capability. From the perspective of other countries in the region, China’s willingness to escalate in such scenarios will increase because its AI technology would provide it with a decisive advantage in a conflict with limited costs, despite increasing the potential of accidental escalation.66 Other countries’ have begun to pursue more defense measures, a move that reflects concern about China’s potential threat, including the development of weapon-grade AI technology. Such defensive measures suggest that tensions triggered by the security dilemma in the region will be more complicated and expand beyond an AI arms race. Nuclear proliferation, targeting civilian infrastructure that supports AI technology, and more cyber aggression may be seen in this context.

#### Fifth is power struggles—Chinese transition to power is peaceful now but LAWs make it collapse into war.

[Austin Wyatt (11-29-2019), PhD in IR from Australian Catholic University, Summa Cum Laude, BA in Security and Counter-Terror from Swinburne University, Research Associate in the Values in Defense and Security Technology group at The University of New South Wales at the Australian Defence Force Academy, “Charting great power progress toward a lethal autonomous weapon system demonstration point.” Defence Studies, Vol 20, Iss 1, 2020. Published Online: November 29, 2019. [https://www.tandfonline.com/doi/full/10.1080/14702436.2019.1698956?scroll=top&needAccess=true]//recut CHS](https://www.tandfonline.com/doi/full/10.1080/14702436.2019.1698956?scroll=top&needAccess=true%5d//recut%20CHS) PK

The development of a military innovation with the capacity to disrupt the existing paradigm of conflict allows rising competitor states to offset the traditional power projection advantage of their neighbours, competitors and rivals, which increases instability and the risk of conflict. There is a large body of literature available that explores how military innovation and diffusion occurs, Grissom presented a useful summary of the key theorists and theories (Grissom 2006). Influential definitions of major military innovations within this field include those contributed by Rosen,5 Grissom6 and Horowitz.7 Common across these definitions is an acknowledgement that a “complete” innovation consists of a physical invention or advancement (the “hardware” component) and a change to the “operational praxis” (the “software” component) to be considered a complete innovation. The latter refers to doctrinal, operational and organizational change. Both factors are necessary for a major military innovation to be considered complete, however finalising one component does not necessarily have to occur contemporaneously with the other. Indeed, multiple state developers may take different approaches to the same underlying invention or capability (as with armoured warfare), or an invention may be paired with multiple, non-disruptive operational praxes (the remote piloted aircraft would be an example). Furthermore, there can be a delay before a state adopter publicly demonstrates the complete innovation. This is referred to as the demonstration point, and it forces rival states to respond or cede comparative advantage to the first mover. From a defensive neo-realist perspective, the emergence of a major military innovation has historically been an enabler of hegemonic conflict, allowing a rising challenger to offset the traditional power projection advantage of the existing hegemon. Rising states will capitalise on emerging RMAs to secure a power advantage, while smaller states will imitate and emulate the more successful states to secure their own power base from their rivals, increasing the rate of diffusion (Goldman and Andres 1999). Challenged by this deterioration of its comparative advantage, the dominant state is prompted to adopt or improve upon that RMA to re-secure its position. The diffusion of major military innovation generates regional instability and precipitates, but is not necessarily sufficient to trigger, hegemonic war, as the dominant power reacts violently to the transition of power toward the rising power. Recognition of AWS as a major military innovation The United States defence establishment has clearly indicated an interest in pursuing increasingly autonomous military technology as part of a strategy to offset the rising strength of competitors. This is not the first time that the United States has reflexively implemented an offset strategy to ensure that a rival state is not able to gain military superiority. Prior offset strategies capitalised on prior major military innovations to disrupt and overcome the conventional (first) and nuclear (second) superiority of the Soviet Union. Contrastingly, the Third Offset Strategy reflects the dual-use nature of AMT and its low proliferation barriers. Instead of a single peer military gaining an advantage, in this case the US fears that losing the race to develop and deploy AWS will allow near-peer militaries to subvert and disrupt its conventional military strengths, undermining the power projection that is essential to its hegemony. The Third Offset Strategy is therefore focused on encouraging the US military to rapidly innovate, failing fast alongside civilian partners in the effort to innovate, adopt and integrate increasingly autonomous military technology, with an additional emphasis on cyber warfare (Ellman et al. 2017). Although the Third Offset Strategy was less visible in official documents in the first two years of the Trump presidency, the government confirmed its commitment to securing a lead in artificial intelligence in July 2018 (Harwell 2018). Shortly afterward, the 2019 National Defense Authorization Act focused effort on securing a lead in the development of artificial intelligence (Cronk 2018). This was further reinforced by the signing of an Executive Order in February 2019 (Baker 2019) and the release of a Department of Defense Artificial Intelligence Strategy. The AI strategy demonstrated that a renewed level of recognition of the dangers of failing to adopt increasingly autonomous systems and ceding initiative in related technologies to rival states. There is also a clear influence of the Third Offset Strategy apparent in the strategy, which primarily points to the benefits of incorporating artificial intelligence for reducing risks to soldiers, improving resource efficiencies and shifting human personnel to focus on strategic decision-making rather than dirty, dull or dangerous taskings (Defense 2019). More controversially this strategy made the claim that incorporating artificial intelligence would improve implementation of international humanitarian law and reduce civilian casualties, claims that have been strongly questioned by various scholars and non-government organisations, such as the Campaign to Stop Killer Robots and Noel Sharkey. It is clear that Chinese military technology is gaining on the United States in operational capacity and strategic reach (Allison 2017), and that this pursuit is reflective of a similar belief that the disruptive nature of autonomous military technology will allow the PLA to offset the US’ conventional military superiority. Despite a lack of explicit formal military doctrine, it is becoming increasingly clear, not least from public statements by senior Chinese leaders and defence scholars (Kania 2019), that China believes that a new revolution in military affairs is beginning and that they do not want to risk being left behind again. Instead, China appears to be aiming to capitalise on increasingly autonomous systems to improve their command decision-making and military performance (Work and Grant 2019). Indeed, the Third Offset Strategy appears to have had a greater initial impact on Chinese policy makers than domestically, a reaction that was further reinforced by the 2016 success of AlphaGo, which Chinese officials saw as a “sputnik-moment” (Work and Grant 2019). It is unsurprising therefore that Chinese policy makers and military research organizations “routinely” translate, analyse and cite scholarly and policy research published by their western counterparts (Allen 2019). More broadly, Chinese military development doctrine enshrines the importance of gaining superiority in “domains of emerging military rivalry” (Raska). For example, the director of the Central Military Commission’s Science and Technology Commission stated that “if you don’t disrupt, you’ll be disrupted” (Horowitz et al. 2018). In some respects, China derives a level of advantage from being the rising challenger state, Chinese military expansion and modernisation is guided by the recognition that a conflict will likely turn on the PLA’s capacity to counter and minimise the traditional power projection and military technology superiority of the United States. LAWS offer a pathway to overtaking US military power in the Asia Pacific region, an approach that has been called a “leapfrog strategy” (Kania 2017) and reflects a view that the character of warfare is changing to an “intelligentized (智能化)” paradigm (Kania 2017).

#### Sixth is hypersonics—guarantees nuclear war through aggressive posturing and destination ambiguity.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20>]//CHS PK

Hypersonic Boost-Glide Technology and Missile Defense

Multiple advanced nonnuclear weapons could potentially threaten a wide range of strategic targets. In particular, technological advances in hypersonic boost-glide weapons—especially deployed in conjunction with cruise missiles, missile defense capabilities, and drone swarm support— could target an adversary’s high-value assets such as radars, antisatellite weapons, mobile missile launchers, C3I systems, and transporter-erectorlaunchers (TEL) used to undergird both nuclear and conventional missiles. In the future, swarms of AI-augmented UAVs could be used to locate and track dispersed targets such as mobile missile launchers and suppress enemy air defenses, clearing the path for swarms of hypersonic autonomous delivery systems armed with conventional or nuclear payloads.80 The development and deployment of offensive-dominant weapons such as hypersonic boost-glide weapons,81 capable of threatening dual-use targets, could eventually exacerbate the problem of target ambiguity, increase the risks of inadvertent escalation, and, in turn, lower the nuclear threshold.82

It is noteworthy that Chinese, US, and Russian doctrinal texts share a common view of the potential utility of conventional hypersonic weapons to put at risk targets that hitherto only nuclear weapons could threaten, thereby bolstering strategic deterrence.83 Moreover, in a future conflict between the US and China or the US and Russia, all sides would have strong incentives to attack the others’ dual-use C3I and ISR capabilities early on and preemptively.84 Chinese analysts view hypersonic cruise missiles, for example, as an effective means to enhance China’s nuclear deterrence posture, penetrate US missile defenses, and preempt hypersonic (notably the X-37 unmanned spacecraft) scenarios.85

The maneuverability of hypersonic weapons could compound these dynamics, adding destination ambiguity to the destabilizing mix. In contrast to ballistic missiles, the unpredictable trajectories of hypersonic weapons will make using this weapon for signaling intent highly problematic and potentially escalatory. Furthermore, the challenge of determining an attacker’s intentions would be complicated if an adversary’s dual-use ISR, early warning, or C3I systems were targeted early on in a conflict. Adversaries unable to ascertain the intended path or ultimate target of a bolt-fromthe-blue hypersonic strike will likely assume the worst (i.e., it was in a useit-or-lose-it situation), inadvertently escalating a situation intended initially only to signal intent. Against the backdrop of geopolitical competition and uncertainty, the reciprocal fear of surprise attack will likely heighten the risk of miscalculation, with potentially escalatory implications.86

For example, if China’s early warning systems detected a hypersonic weapon launched from the US, Beijing would not be sure whether China was the intended target (“destination ambiguity”). Even if it became clear that China was the intended target, Beijing would still not know what assets the US intended to destroy (“target ambiguity”) or whether the weapon was nuclear or conventionally armed (“warhead ambiguity”). China’s AI-augmented—and likely dual-use—early warning systems would be a mixed blessing for strategic stability, however. Perhaps Beijing’s confidence in the survivability of its nuclear forces could have a stabilizing effect. Then again, allowing China to detect an incoming weapon much earlier in a conflict might exacerbate warhead and target ambiguity, thus generating inadvertent escalatory risks. If China made improvements to its missile early warning system in preparation for the adoption of a launch-under-attack nuclear posture (like Russia and the United States), then the early detection of a US boost-guide attack would become even more critical.87

According to analyst James Acton, enabling capabilities are critical for the successful employment of hypersonic weapons.88 In particular, military operations that require rapid decision-making (i.e., to locate, track, and accurately execute an attack) will generally place higher demands on enabling capabilities to plan and execute a strike (especially ISR) than preemptive or surprise attacks. To date, however, command and control, ISR, intelligence collation and analysis, and battle damage assessment remain undeveloped, lagging the progress made in hypersonic weapon technology.89 AI technology is expected to accelerate progress for hypersonic weapons and other long-range (conventional and nuclear-armed) precision munitions in all of these critical enabling capabilities:90 (1) autonomous navigation and advanced vision-based guidance systems,91 (2) ISR systems for targeting and tracking (especially mobile) targets, (3) missile release and sensor systems, (4) AI machine learning systems to decipher patterns from large data sets to support intelligence analysis for identifying and tracking targets,92 (5) pattern interpretation to cue decision support systems for enabling “fire and forget” missiles,93 and (6) escalation prediction.94 For example, several states (notably China and Russia) are developing machine learning approaches to build control systems for hypersonic glide vehicles (HGV), which because of their high velocity cannot be operated manually.

These autonomous variants could also enhance hypersonic missile defenses, strengthening their resilience against countermeasures such as jamming and spoofing.95 Conceptually, within a matter of minutes, AI machine learning systems can generate a hypersonic flight plan for human review and approval, and in real-time, self-correct a missile in flight to compensate for unexpected flight conditions or a change in the target’s location.96 Theoretically, this AI augmentation would enable swarms of hypersonic autonomous delivery systems to circumvent some of the remaining technical challenges that militaries face in tracking and targeting an adversary’s mobile missile forces. Specifically, it would allow tracking a moving target and communicating this information back to commanders in real time, and then cueing a rapid surprise or preemptive attack before the mobile launchers can be relocated.97

A large volume of Chinese open sources reveals prolific indigenous research into the integration of AI-powered machine learning techniques, especially deep neural networks, to address the technical challenges associated with the high-speed and heat-intensive reentry dynamics of hypersonic weapons (i.e., heat control, maneuverability, stability, and targeting).98 Particularly, Chinese analysts anticipate that AI will resolve many of the intractable issues associated with hypersonic glide vehicles’ high flight envelope, including complex flight environments, severe nonlinearity, intense and rapid time variance, and the dynamic uncertainty during the dive phase of the delivery. They broadly concur with their Western counterparts that much like other AI-augmented strategic nonnuclear capabilities (i.e., drone swarms, cyber and EW capabilities, missile defense, and antisubmarine capabilities), hypersonic weapons—by increasing the speed of warfare—are inherently destabilizing.

Chinese efforts to apply AI machine learning techniques to enhance hypersonic weapons can be understood as part of a broader strategic goal of developing “intelligent” autonomous weapons, and their enabling systems, for the future multidimensional and multidomain battlefield environment.99 Because of the many intersections AI-enhanced hypersonic weapons could have with nuclear security (especially the penetration of US missile defenses), together with the strong likelihood Chinese hypersonic weapons will carry dual payloads,100 an appreciation of the interaction between these capabilities and implications for nuclear, conventional, and cross-domain deterrence will be a critical task for analysts and policy makers.101 Similar to the cyber capabilities, AWSs, and other advanced automated weapon systems that AI could empower, hypersonic weapons could significantly accelerate the pace of conflict and compress the decision-making time frame. In sum, as a powerful enabler and force multiplier, AI could disrupt information flows and effective communication (both between adversaries and allies and within military organizations) and, consequently, complicate escalation management during future crisis or conflict—especially involving China and the United States.102 Furthermore, the disruption of communications might also undermine nuclear deterrence and therefore increase the odds of brinkmanship and incentives to act first and preemptively during a crisis.

#### Seventh is accidents—autonomous weapons increase aggressive signaling and augment the risk that an accidental use of force escalates.

[James Vincent (2-6-2019), Senior reporter for The Verge with a focus on AI technology, “China is worried an AI arms race could lead to accidental war”, The Verge, [https://www.theverge.com/2019/2/6/18213476/china-us-ai-arms-race-artificial-intelligence-automated-warfare-military-conflict]//CHS](https://www.theverge.com/2019/2/6/18213476/china-us-ai-arms-race-artificial-intelligence-automated-warfare-military-conflict%5d//CHS) PK

Experts and politicians in China are worried that a rush to integrate artificial intelligence into weapons and military equipment could accidentally lead to war between nations.

According to a new report published by US national security think tank Center for a New American Security (CNAS), Chinese officials increasingly see an “arms race” dynamic in AI as a threat to global peace. As countries scramble to reap the benefits of artificial intelligence in various domains, including the military, the fear is that international norms shaping how countries communicate will become outdated, leading to confusion and potential conflict.

“The specific scenario described to me [by one anonymous Chinese official] is unintentional escalation related to the use of a drone,” Gregory C. Allen, an adjunct senior fellow at CNAS and author of the new report, tells The Verge.

As Allen explains, the operation of drones both large and small has become increasingly automated in recent years. In the US, drones are capable of basic autopilot, performing simple tasks like flying in a circle around a target. But China is being “more aggressive about introducing greater levels of autonomy closer to lethal use of force,” he says. One example is the Blowfish A2 drone, which China exports internationally and which, says Allen, is advertised as being capable of “full autonomy all the way up to targeted strikes.”

Because drones are controlled remotely, militaries tend to be more cavalier about their use. With no risk of human casualties, they’re more willing to shoot them down, but also deploy them into contested airspaces in the first place. This attitude can also be seen in cyberwarfare, where countries will intrude in ways they wouldn’t necessarily risk if humans were involved.

“THERE’S NO AGREED FRAMEWORK ON WHAT MESSAGE IS BEING SENT.”

“The point made to me was that it’s not clear how either side will interpret certain behaviors [involving autonomous equipment],” says Allen. “The side sending out an autonomous drone will think it’s not a big deal because there’s no casualty risk, while the other side could shoot it down for the same reason. But there’s no agreed framework on what message is being sent by either sides’ behavior.”

The risks in such a scenario become greater when factoring in advanced autonomy. If a drone or robot fires a warning shot at enemy troops, for example, how will that action be interpreted? Will the troops understand it as an automated response, or will they think it’s the decision of a human commander? How would they know in either case?

In essence, says Allen, countries around the world have yet to define “the norms of armed conflict” for autonomous systems. And the longer that continues, the greater the risk for “unintentional escalation.”

“I think that’s a real and legitimate threat,” says Allen.

The rest of the CNAS report, titled “Understanding China’s AI Strategy: Clues to Chinese Strategic Thinking on Artificial Intelligence and National Security,” notes a number of other high-level concerns and attitudes in China’s government-led AI strategy.

Chinese officials recognize, for example, that it and America are the only two viable AI superpowers. Both countries have the talent, the funding, and the bustling tech sectors needed to push this technology further, though each nation also has its own particular strengths and weaknesses. China has access to more data, for example, and has the potential to leapfrog Western technology. (Many Chinese citizens went from having no phone to a mobile phone, without getting a landline in between, for example). America, meanwhile, has a significant lead in the development of chip technology — a vital component in processing the huge datasets that power AI applications.

CNAS’s report notes that China is particularly keen to close this important gap. Chinese firms like Baidu, Alibaba, and Huawei have established new projects to develop AI accelerator hardware; government money is pouring into these initiatives; and the industry is trying other methods to get a hold of foreign expertise. These include the recent proposed acquisition of US chip designer Qualcomm by Singapore firm Broadcom, which was blocked by President Trump on national security grounds.

While a certain amount of competition between China and the US is to be expected, Allen says cooperation is also needed — especially when it comes to these military questions.

He notes that while Chinese officials he spoke to had a good grasp of contemporary US thinking on issues like autonomous warfare, American officials tend to be less well-briefed about their Chinese counterparts, partly because many Chinese policy documents are never translated into English. Without properly understanding different nations’ strategies in these domains, says Allen, the chances of misunderstanding and conflict increase.

“There are definitely pockets of real expertise on this issue [in the US] but there’s not the widespread comprehension there needs to be,” he says.

#### Eighth is command and control—autonomous nuclear weapons exponentially increases the risk of escalation and accidents.

[Jiayu Zhang (8-16-2020), Writer for The International Affairs Review, “China’s Military Employment of Artificial Intelligence and Its Security Implications”, The International Affairs Review, [https://iar-gwu.org/print-archive/blog-post-title-four-xgtap]//CHS](https://iar-gwu.org/print-archive/blog-post-title-four-xgtap%5d//CHS) PK

China has long been concerned about false negatives from its early warning systems, which may result in failures to detect nuclear attacks.72 To some extent, such concerns are rooted in China’s assumptions about its own early warning deficiencies and its own inability to counter a stealthy and prompt precision strike from the United States.73 Regarding China’s employment of nuclear weapons, military-technology considerations stressing the plausible U.S. conventional military operation against Chinese nuclear capabilities are the reasons behind China’s use of limited nuclear escalation.74 As a result, if China gains greater situational awareness and can strengthen its nuclear retaliatory capabilities by applying AI technology to its C4ISR and early- warning systems, some of its insecurities about a “bolt-out-of-the-blue” strike may be mitigated, which will stabilize the nuclear risk.75Yet China’s insecurities are not simply a question of technology. The key factors are China’s perception of U.S. nuclear posture and its assumption of U.S. intent. In this sense, China’s use of AI and autonomy for nuclear offense and defense could take on destabilizing qualities. For Beijing, the prospect of the United States resuming a forward-deployed, tactical nuclear posture exacerbates its sense of encirclement. The issuance of the 2018 U.S. Nuclear Posture Review worsens the context. China views the documents’ focus on ballistic missile defense and conventional prompt global strike as preemptive and destabilizing.76 Additionally, the proposal for the enlargement of the U.S. arsenal of low-yield submarine-launched ballistic and cruise missiles and the concept of using nuclear coercion to preemptively de-escalate a conventional conflict like Taiwan scenario further elicit Chinese concerns over U.S. intent. AI and autonomous technology offer Beijing the potential to respond to such a posture. China could deploy swarms to track and intercept U.S. dual- capable platforms. Whether intentionally or unintentionally, an escalatory scenario could develop. While the PLA’s deployment of advanced AI-enabled early warning systems and automation-enabled launch-on-fire missiles may mitigate China’s fear of false negatives, it may intensify U.S. concerns about false positives,such as a nuclear war caused by accidental fire or false detection.

#### Ninth is submarines—threats and potential kamikaze strikes create escalation in the SCS and Pacific.

[Stephen Chen (7-23-2018), Stephen Chen investigates major research projects in China, a new power house of scientific and technological innovation, “China military develops robotic submarines to launch a new era of sea power,” South China Morning Post, [https://www.scmp.com/news/china/society/article/2156361/china-developing-unmanned-ai-submarines-launch-new-era-sea-power]//RJP](https://www.scmp.com/news/china/society/article/2156361/china-developing-unmanned-ai-submarines-launch-new-era-sea-power%5d//RJP)

China is developing large, smart and relatively low-cost **unmanned submarines** that can roam the world’s oceans to perform a wide range of missions, from reconnaissance to mine placement to even suicide attacks against enemy vessels, according to scientists involved in these artificial intelligence (AI) projects. The autonomous robotic submarines are expected to be deployed in the early 2020s. While not intended to entirely replace human-operated submarines, they will challenge the **advantageous position established by Western naval powers** after the second world war. The robotic subs are aimed particularly at the United States forces in strategic waters like the South China Sea and western Pacific Ocean, the researchers said. The project is part of the government's ambitious plan to **boost the country's naval power with AI technology**. China has built the world's largest testing facility for surface drone boats in Zhuhai, Guangdong province. Military researchers are also developing an AI-assisted support system for submarine commanders. As the South China Morning Post reported earlier this year, that system will help captains make faster, more accurate judgments in the heat of combat situations. The new class of unmanned submarines will join the other **autonomous** or manned military systems on water, land and orbit to carry out missions in coordinated efforts, according to the researchers. The submarines will have **no human operators on board**. They will go out, handle their assignments and return to base on their own. They may establish contact with the ground command periodically for updates, but are by design capable of completing missions without human intervention. China is developing autonomous robotic submarines to join other manned military systems such as the Chinese navy's Type 039A diesel electric submarine (pictured) to carry out coordinated missions on water, land and orbit. Photo: Handout But the researchers also noted that AI subs had limits, especially at the early stages of deployment. They will start with relatively simple tasks. The purpose of these projects is not to replace human crews entirely. To attack or not to attack, the final decision will still be in the hands of commanders, the researchers said. Current models of unmanned underwater vehicles, or UUVs, are mostly small. Their deployment and recovery require another ship or submarine. They are limited in operational range and payload capacity. Now under development, the AI-powered subs are “giants” compared to the normal UUVs, according to the researchers. They station in dock as conventional submarines. Their cargo bay is reconfigurable and large enough to accommodate a wide range of freight, from powerful surveillance equipment to missiles or torpedoes. Their energy supply comes from diesel-electric engines or other power sources that ensure continuous operation for months. The robotic submarines rely heavily on artificial intelligence to deal with the sea’s complex environment. They must make decisions constantly **on their own:** changing course and depth to avoid detection; distinguishing civilian from military vessels; choosing the best approach to reach a designated position. They can gather intelligence, deploy mines or station themselves at geographical “chockpoints” where armed forces are bound to pass to ambush enemy targets. They can work with manned submarines as a scout or decoy to draw fire and expose the position of the adversary. If necessary, they can ram into a high-value target. Lin Yang, marine technology equipment director at the Shenyang Institute of Automation, Chinese Academy of Sciences, confirmed to the South China Morning Post this month that China is developing a series of extra-large unmanned underwater vehicles, or XLUUVs. “Yes, we are doing it,” he said. The institute, in China’s northeast Liaoning province, is a major producer of underwater robots to the Chinese military. Lin developed China’s first autonomous underwater vehicle with operational depth beyond 6km. He is now chief scientist of the 912 Project, a classified programme to develop new-generation military underwater robots in time for the 100-year anniversary of the Chinese Communist Party in 2021. Lin called China’s unmanned submarine programme a countermeasure against similar weapons now under intensive development in the United States. He declined to elaborate on technical specifications because the information was “sensitive”. “It will be announced sooner or later, but not now,” he added. The US military last year made a deal with major defence contractors for two prototype XLUUVs by 2020. The US Navy would choose one prototype for the production of nine vehicles. Lockheed Martin’s Orca system would station in an area of operation with the ability to establish communication to base from time to time. It would return home after deploying payloads, according to the company’s website. “A critical benefit of Orca is that Navy personnel launch, recover, operate, and communicate with the vehicle from a home base and are never placed in harm’s way,” the company said in a statement announcing the system. Technical details on Orca, like its size or operational endurance, are not available. The company did not respond to the Post’s queries. Boeing is developing the other prototype, basing it on its Echo Voyager, a 50-ton autonomous submarine first developed for commercial uses like the mapping of the sea floor. The Echo Voyager is more than 15 metres long and 2.6 metres in diameter, according to Boeing. It can operate for months over a range of 12,000km, more than enough to sail from San Francisco to Shanghai. Its maximum speed reaches 15km an hour. The vessel needs to surface periodically as its batteries need to be recharged by air-breathing diesel engines. It can dive to 3km while carrying up to eight tons of cargo, Boeing said. Russia has reportedly built a large underwater drone capable to carry a nuclear weapon. The Status-6 autonomous torpedo could cruise across large distances between continents at high speed and deliver a 100-megaton warhead, according to news accounts. The Chinese unmanned submarine would not be nuclear-armed, according to a researcher involved in a separate programme in China. The main advantage of the AI subs is that they can be produced and operated on a large scale at a **relatively low cost**, said the researcher, who requested anonymity because of the sensitivity of the issue. Traditional submarines must attain a high level of stealth to increase the chance of survival. The design has to consider other things including safety, comfort and the mental health of the crew to ensure human safety. All these elements add costs. In the 1990s, an Ohio-class submarine for the US Navy cost US$2 billion. The research, development and purchase of the first 12 of its new Columbia-class submarines, scheduled for delivery in the early 2020s, is more than US$120 billion. In contrast, the budget of the entire Orca programme is about US$40 million, according to Lockheed Martin. An AI sub “can be instructed to take down a nuclear-powered submarine or other high-value targets. It can even perform a kamikaze strike,” said the researcher, referring to the suicide attacks some Japanese fighter pilots made in the second world war. “The AI has no soul. It is perfect for this kind of job,” the researcher added. Luo Yuesheng, professor at the College of Automation in Harbin Engineering University, a major development centre for China’s new submarines, contended that AI subs would put the human captains of other vessels under enormous pressure in battle. It is not just that the AI subs are fearless, Luo said, but that they could learn from the sinking of other AI vessels and **adjust their strategy continuously**. An unmanned submarine trained to be familiar to a specific water “will be a **formidable opponent**”, he said.

#### Thus, the Plan: The People’s Republic of China should ban Lethal Autonomous Weapons

#### The plan eases tensions and prevents escalation between the US and China.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20>]//CHS PK

It seems that China – like Russia – has relatively few moral, legal or ethical qualms in deploying lethal autonomous weapons. Recent reports suggest that China has already begun to incorporate AI technologies into its next generation conventional missiles and missile defence intelligence, surveillance and reconnaissance systems to enhance their precision and legality. The US will likely be much more constrained in the development of these technologies. The Pentagon’s reticence to incorporate AI into existing weaponry is grounded in liberal democratic norms governing the use of military force, and in a concern to avoid what the Pentagon has called the Terminator conundrum – the prospect that military robots could one day decide independently whether or not to take a human life. That said, propelled by the rapid pace of technological trends in AI – and the aggressive pursuit of these capabilities by rival powers – the US’s current commitment to keeping humans in charge could waver. If the present trajectory holds, China will soon challenge the US’s lead in several emerging military-technological strategic fields. That is likely to accelerate the Pentagon’s efforts to innovate offsetting initiatives and concepts – and in turn, make it harder to keep this disruptive high-tech arms race in check.

#### We have 4 years—the plan is try or die.

[Austin Wyatt (11-29-2019), PhD in IR from Australian Catholic University, Summa Cum Laude, BA in Security and Counter-Terror from Swinburne University, Research Associate in the Values in Defense and Security Technology group at The University of New South Wales at the Australian Defence Force Academy, “Charting great power progress toward a lethal autonomous weapon system demonstration point.” Defence Studies, Vol 20, Iss 1, 2020. Published Online: November 29, 2019. [https://www.tandfonline.com/doi/full/10.1080/14702436.2019.1698956?scroll=top&needAccess=true]//recut CHS](https://www.tandfonline.com/doi/full/10.1080/14702436.2019.1698956?scroll=top&needAccess=true%5d//recut%20CHS) PK

The development of LAWS operational concepts is clearly underway. To date, there has been a clear preference on incorporating AMT into a human-centric conception of warfare. Improving the efficiency and effectiveness of the OODA loop of human commanders will be vital as the operational tempo and complexity of warfare increases. It is interesting to note that even hawkish state military bodies recognise the risk of deploying unsupervised AWS in combat using current technology, prompting a focus on supportive roles and anti-material targeting. It will be interesting to see whether states continue to focus on the development of doctrine that preserves traditional combat assets and remains human-centric or follow the Chinese willingness to invest in AWS as part of their modernisation cycle.

In concluding this article, while it appears likely that only advanced great power states will have the infrastructure and resources to initially acquire and effectively deploy full LAWS, the emerging consensus among academic, industrial and policy literatures increasingly holds that, in the absence of a pre-emptive and effective development ban, autonomous weapon systems will mature and begin to proliferate. A study conducted by the US Joint Forces Command estimated that the LAWS demonstration point could arrive by 2025,11 an assessment shared by a senior Chinese defence executive (Allen 2019). After the emergence of LAWS, an RMA whose disruptive potential is based on highly diffusive software, it is likely that most states and even non-state actors will adopt some level of autonomous technology capability with an ease that simply wasn’t possible in prior RMAs, generating significant geopolitical instability beyond the confines of the current Sino–US tensions.

#### The ban will be a treaty and national criminalization that solves definitional concerns.

[Human Rights Watch (3-27-2019), “Statement on Options for Future Work by the Campaign to Stop Killer Robots, CCW meeting on lethal autonomous weapons systems,” Human Rights Watch, [https://www.hrw.org/news/2019/03/27/statement-options-future-work-campaign-stop-killer-robots-ccw-meeting-lethal]//CHS](https://www.hrw.org/news/2019/03/27/statement-options-future-work-campaign-stop-killer-robots-ccw-meeting-lethal%5d//CHS) PK

4. To facilitate agreement on the legal definition of fully autonomous weapons and, in so doing, establish what is unacceptable about autonomy in weapons systems.

5. To help stop development before it goes too far and thereby avert an arms race and prevent proliferation, including by states with little regard for international humanitarian law or by non-state armed groups. The new treaty should prohibit not only use, but also development and production of fully autonomous weapons.

6. To close the accountability gap raised by fully autonomous weapons. There are currently insurmountable legal and practical obstacles that would, in most cases, prevent holding anyone responsible for unlawful harms caused by fully autonomous weapons. A treaty prohibiting killer robots could lead to national implementation laws criminalizing violations of the treaty, thereby facilitating enforcement.

#### Otherwise a Chinese conventional conflict escalates to nuclear use.

[Caitlin Talmadge (10-15-2018), PhD in Political Science from MIT, BA in Government from Harvard, Professor of Security Studies at Georgetown University, “Beijing’s Nuclear Option,” Foreign Affairs, [https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option]//recut](https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option%5d//recut) CHS PK

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil.

A war between the two countries remains unlikely, but the prospect of a military confrontation—resulting, for example, from a Chinese campaign against Taiwan—no longer seems as implausible as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think.

Members of China’s strategic com­munity tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.”

This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power.

China, by contrast, not only has nuclear weapons; it has also intermingled them with its conventional military forces, making it difficult to attack one without attacking the other. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to.

As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place.

#### Extinction – nuclear winter, crude oil amplifies, smoke covers the world

Snyder and Ruyle 17 (Brian F.Snyder and Leslie E. Ruyle, 12-15-2017, [Brian F. Snyder. Department of Environmental Science, Louisiana State University, United States. Leslie E. Ruyle. Center on Conflict and Development, Texas A&M University, United States]"The abolition of war as a goal of environmental policy," No Publication, <https://www.sciencedirect.com/science/article/pii/S0048969717316431?via%3Dihub)//CHS> PK

While the precise impacts of a hypothetical nuclear war are difficult to predict, the detonation of the world's nuclear weapons would plausibly kill all or nearly all humans on Earth and initiate a mass extinction event. There are a total of about 9400 nuclear warheads in active service around the world, with approximately 8300 of these weapons in U.S. and Russian arsenals (Kristensen and Norris, 2017a). Because of government secrecy, it is difficult to reliably estimate the total explosive power contained in these warheads, but in most cases, each warhead ranges between 100 and 1200 kt of TNT equivalent (for comparison, the bombs dropped on Hiroshima and Nagasaki had yields of approximately 15–20 kt). The combined arsenals of the U.S. and Russia likely have a yield of at least 2–3 billion tons of TNT equivalent (Kristensen and Norris, 2017b,c). 2.1. Nuclear winter In the 1980s climate scientists used simple and early climate models to estimate the effects of large-scale nuclear wars on climate. The estimates they derived were catastrophic. For example, Turco et al. (1983) reported temperature reductions of 43 °C for 4 months in the Northern Hemisphere following nuclear war using the explosive power of 10 billion tons of TNT.1 As the cold war ended, interest in modelling the climate effects of nuclear war declined and some policy-makers considered the threat of nuclear winter to be either disproved or exaggerated (Martin, 1988). Toon et al. (2007) and Robock et al. (2007) reignited interest in the climate effects of nuclear war. Toon et al. (2008) modeled the effects of a medium scale nuclear war with a total explosive yield of 440 million tons of explosive yield (far less than current U.S. and Russian arsenals) and estimated global soot2 emissions of 180 Tg. Using a more conservative estimate of 150 Tg of soot, Toon et al. estimated that this emission would be sufficient to reduce global temperatures by about 8 °C and energy flux by 150 W/m2 ; for comparison, the cumulative greenhouse gas emissions to the atmosphere since the industrial revolution have increased energy flux by 3 W/m2 (Butler and Montzka, 2017). Robock et al. (2007) modeled a similar 150 Tg smoke emission and found similar results including temperature reduction of about 8 °C lasting for several years. Low temperatures reduced evapotranspiration and weakened the global hydrological cycle and Hadley cells. As a result, precipitation decreased globally by 45% with especially dramatic decreases in the agricultural areas of the United States. In the Northern Hemisphere, growing seasons would be shortened by about 100 days for about 3 years. This would preclude most food production over most of the world for several years. Mills et al. (2014) conducted a detailed analysis of the effects of a small (1.5 million ton) regional exchange lofting just 5 Tg of soot into the atmosphere. This war would be equivalent to an exchange of 100 Hiroshima-sized bombs between, for example, India, Pakistan, or China. Mills et al. found global temperature decreases of 1.6 °C. To our knowledge, no one has studied the effects of a multi-billion ton nuclear exchange using modern atmospheric models. If, as Toon et al. and Robock et al. suggest, a 440 million ton war results in temperature reductions of 8 °C for a decade and a 100 day reduction in the growing season, it is reasonable to assume that a one to five billion ton war would not be survivable for the majority of people on earth. However, as populations and population centers grow, the effects of nuclear wars on the biosphere will also grow. The consequences of nuclear winter increase as the amount of fuel (buildings, cars, biomass, liquid and solid fuels) added to a targeted area increase. As population centers grow and densify over time, the amount of soot added to the stratosphere as the result of any given nuclear exchange may increase (depending in part on building materials). As a result, the nuclear winter resulting from a 400 million ton yield global war in 2020 may be far more severe than if the same war occurred in 2000. Further, there are reasons to believe that the soot emissions from a hypothetical nuclear exchange are conservative because they focus on urban areas and often do not incorporate non-urban energy infrastructure. For example, if ignited and burned completely, the U.S. Strategic Petroleum Reserve (SPR) alone contains about 14.5 Tg of soot emissions.3 Including all crude held in U.S. commercial facilities, the potential soot emissions increase to 24 Tg. Thus, incorporating crude oil storage in the U.S. alone would increase soot generation estimates by about 16%. Similarly, nuclear war planners would be likely to target coal, oil and gas fields in the U.S., Russia, and their allies. This unaccounted for fuel could increase the total soot contribution to the atmosphere, potentially deepening the resulting nuclear winter. 2.2. Acute effects of particulate matter Studies of nuclear winter typically focus on the effects of smoke lofted into the stratosphere during nuclear firestorms. However, a larger proportion of smoke following nuclear war will be trapped in the troposphere where it would have significantly acute impacts on human and non-human species. Crutzen et al. (1984) calculated that following a major nuclear war (about 5 billion tons of explosives, roughly the combined U.S. and Russian deployed nuclear arms as of 2017) smoke would cover about 30–40% of the earth's surface with airborne smoke concentrations on the order of 5 mg/m3 . While initially this smoke would be composed of very small particles (b0.1 μm), the particles would rapidly coalesce into the 0.1 to 3 μm range, roughly consistent with the wellstudied PM2.5. For comparison, the EPA's National Ambient Air Quality standard for PM2.5 is 0.012 mg/m3 and as of 2017, the highest PM2.5 concentrations in Asia are typically around 0.3 to 1 mg/m3 .

#### Any cheating causes spotlighting which solves.

Goddard 8 [Stacie E. Goddard is Assistant Professor of Political Science at Wellesley College. "When Right Makes Might How Prussia Overturned the European Balance of Power." <https://www.jstor.org/stable/40207143?seq=1#page_scan_tab_contents]//recut> CHS PK

A rising power’s legitimation strategies can persuade other states that its expansion will not challenge the status quo or ultimately threaten other states in the international system. According to John Ikenberry, after the Cold War the United States’ appeals to liberalism legitimated its dominance and helped stave off balancing. In contrast, a rising power that appears illegitimate is likely to provoke a balancing coalition. Mlada Bukovanksy shows that it was not just France’s growing power after the French Revolution of 1789–99 that provoked a balancing coalition; the revolution challenged the very notion of dynastic legitimacy. Likewise Stephen Walt contends that if the United States continues to act unilaterally, with no regard for international legitimacy, states will balance the once “benign” hegemon.49

Legitimation theory may seem similar to rationalist theories about signaling, which argue that behavior by rising powers provokes or undermines the creation of balancing coalitions. While legitimation theory shares traits with these theories, there are two significant differences. First, in rationalist signaling models, a strategy’s success depends on its credibility. Rhetoric alone has little causal power: a rising state’s strategy must be a costly signal, such as a commitment to a defensive strategy when offense is dominant.50 In legitimation theory, whether legitimation strategies are effective depends not on their material cost, but on their resonance: to be effective, the strategy must appear to have “pertinence, relevance, or significance” with a targeted group.51 Second, the rationalist signaling literature contends that rhetoric’s success depends on what that rhetoric reveals (or conceals) about a rising state’s intentions.52 This need not be the case, however. States do infer a rising power’s intentions from legitimation strategies. Yet they may decide that a rising power’s expansion is legitimate even if its intentions remain murky, undefined, or even aggressive.

Legitimation strategies can signal not only interests but also constraints. By appealing to international norms, rising powers signal that they are and will continue to be constrained by these norms. Because of this, the threatened power may conclude that the rising state will not pose a threat to the status quo. For example, the literature on U.S. hegemony posits that liberal institutions have constraining effects, even when they work against U.S. interests.53 China’s apparent willingness to work within the boundaries of international norms—particularly those guiding international free trade—likewise indicates its respect for these rules and signals constraint. In short, rhetoric can persuade a balancing coalition that a rising power will maintain the status quo, even when its intentions are suspect.

#### Compliance disputes are stabilizing and create downstream changes in behavior even if the state breaks the rules in the short term

Meyer 14 [Timothy Meyer, Associate Professor of Law at the University of Georgia School of Law. "HOW COMPLIANCE UNDERSTATES EFFECTIVENESS." [https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2486598]//recut](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2486598%5d//recut) CHS PK

In this essay, based on my remarks at the 2014 ASIL-ILA joint meeting panel titled “The Idea of Effective International Law,” I argue that an excessive focus on compliance may understate international law’s effectiveness for at least two reasons. First, much legal practice focuses on compliance because judges and arbitrators are forced to make determinations about whether a state’s conduct satisfies a legal standard. International law, however, remains principally a system of negotiated lawmaking. As such, compliance disputes are often as much about defining expectations for how states should behave going forward as they are about determining how a state should have behaved in the past. Put differently, compliance is often just one part of a larger contest between states over the content of legal obligations. Indeed, noncompliance can be a negotiating tool, indicating a desire to engage with international law rather than ignore it. Second and relatedly, international law can be highly effective at changing state behavior over time, even if compliance with legal standards remains low. States may join international legal regimes expecting to be noncompliant but hoping to obtain some benefits from membership, such as foreign assistance or pressure on domestic governments to adopt certain policies. Noncompliance, in other words, has benefits in terms of encouraging changes in state behavior.

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## 1AC—Plan

### 1AC—Plan

#### Plan: The People’s Republic of China should ban Lethal Autonomous Weapons.

### 1AC—Solvency

#### The plan solves.

[Austin Wyatt (11-29-2019), PhD in IR from Australian Catholic University, Summa Cum Laude, BA in Security and Counter-Terror from Swinburne University, Research Associate in the Values in Defense and Security Technology group at The University of New South Wales at the Australian Defence Force Academy, “Charting great power progress toward a lethal autonomous weapon system demonstration point.” Defence Studies, Vol 20, Iss 1, 2020. Published Online: November 29, 2019. [https://www.tandfonline.com/doi/full/10.1080/14702436.2019.1698956?scroll=top&needAccess=true]//recut CHS](https://www.tandfonline.com/doi/full/10.1080/14702436.2019.1698956?scroll=top&needAccess=true%5d//recut%20CHS) PK

Balancing relative advantage and deterrence with LAWS

For great powers, the key purpose of pursuing major military innovations is to generate or maintain a sufficient capability edge in the resulting power projection paradigm to outmatch near-peer rivals alone or in alliance. The most obvious situation in which a fully autonomous weapon platform could be deployed is a direct but non-nuclear military confrontation between the United States and a near-peer military, especially if that peer has sophisticated A2AD capabilities or possesses autonomous weapon systems, for example, China. This scenario is reflected in US military documentation referring to a need for unmanned systems that can operate in denied environments.

Historically, developing states during the emergence of an RMA have been influenced by each other, as well as early deployments of precursor technologies. However, developers must balance secrecy against deterrent value because, while an offset strategy requires that a developer reveal or hint at capabilities in hopes of deterring a would-be adversary”, it must also maintain a sufficient hidden capability edge to acquire “a war winning advantage if deterrence fails” (Work and Grant 2019). This is particularly difficult in this case because it is inherently more difficult to demonstrate AWS capability to an adversary in an escalating crisis situation (Horowitz 2019). This is because the key enabler of AWS is its governing artificial intelligence software, which no state is likely to reveal given its comparative ease of diffusion and the resulting risk of exposing the system’s vulnerability to cyber-attack or deterioration (Horowitz 2019). Furthermore, the comparative lack of traditional acquisition chokepoints (Altmann and Sauer 2017) reduces the ability of a state to maintain a competitive dominance or capability edge if it publicly demonstrates the internal coding of its AWS.

There are, however, also incentives for the United States and China to demonstrate a level of capability in this emerging major military innovation, particularly given the enthusiasm with which autonomous weapon systems have been promoted by great power states as central to the next generation of warfare. From a geopolitical perspective, the United States needs to maintain the appearance of military dominance and the capacity to defend itself, as well as its allies and interests from near-peer rivals or combinations of rogue actors in order to preserve its hegemony and the liberal rules-based international order. Conversely, if China can demonstrate a superior capacity in AWS and parlay this into a credible capacity to offset and threaten the United States in the Pacific, it can discourage small-middle power states from bandwagoning against Chinese interests. Undermining the US security guarantee in this manner, while continuing to grow Chinese influence as a regional economic great power, would reduce confidence in the US as hegemonic patron, encouraging hedging, self-help behaviour or even defection from the liberal western order among ASEAN states. This would in turn contribute to China’s broader efforts to reduce US influence in the region without resorting to direct hostilities.

Secondly, from an economic perspective, becoming an active developer and meaningful first mover of increasingly autonomous weapon systems would give China or the United States greater influence over how AWS are perceived, deployed or potentially regulated once they begin to diffuse. This can be seen with remote piloted unmanned aircraft, where the US did not sufficiently capitalise on its initial lead in the field of armed unmanned aircraft to secure a dominance in the nascent export market, allowing China and Israel to assume market leading positions, with greater influence over how middlepower, follower-adopter states interacted with UCAVs.

Policy makers in the United States and China have recognised that successful adoption of increasingly autonomous weapon systems must be selectively demonstrated to gain geopolitical advantage while limiting the risk of capability edge deterioration. While substantial practical barriers remain to the demonstration point of Lethal Autonomous Weapon Systems, the incubation period has plainly begun.

Conclusion

Considering the status of LAWS as an RMA through the lens of current technology it becomes clear that the “hardware” component of this RMA has not sufficiently matured to trigger a demonstration point. It is clear that, even with the massive resource investment by multiple state and non-state actors, front line combat robots will continue to struggle in a dynamic ground combat environment. However, it is also clear, even from publicly available data, that the rate of technological development is rapidly bringing that point closer. The main factor in reaching sufficient technological maturity in this area to trigger a demonstration point will be related to improving the reliability and accuracy with which machines adapt to changing or unexpected conditions in a combat setting.

The development of LAWS operational concepts is clearly underway. To date, there has been a clear preference on incorporating AMT into a human-centric conception of warfare. Improving the efficiency and effectiveness of the OODA loop of human commanders will be vital as the operational tempo and complexity of warfare increases. It is interesting to note that even hawkish state military bodies recognise the risk of deploying unsupervised AWS in combat using current technology, prompting a focus on supportive roles and anti-material targeting. It will be interesting to see whether states continue to focus on the development of doctrine that preserves traditional combat assets and remains human-centric or follow the Chinese willingness to invest in AWS as part of their modernisation cycle.

In concluding this article, while it appears likely that only advanced great power states will have the infrastructure and resources to initially acquire and effectively deploy full LAWS, the emerging consensus among academic, industrial and policy literatures increasingly holds that, in the absence of a pre-emptive and effective development ban, autonomous weapon systems will mature and begin to proliferate. A study conducted by the US Joint Forces Command estimated that the LAWS demonstration point could arrive by 2025,11 an assessment shared by a senior Chinese defence executive (Allen 2019). After the emergence of LAWS, an RMA whose disruptive potential is based on highly diffusive software, it is likely that most states and even non-state actors will adopt some level of autonomous technology capability with an ease that simply wasn’t possible in prior RMAs, generating significant geopolitical instability beyond the confines of the current Sino–US tensions.

#### The ban will be a treaty and national criminalization that solves definitional concerns.

[Human Rights Watch (3-27-2019), “Statement on Options for Future Work by the Campaign to Stop Killer Robots, CCW meeting on lethal autonomous weapons systems,” Human Rights Watch, [https://www.hrw.org/news/2019/03/27/statement-options-future-work-campaign-stop-killer-robots-ccw-meeting-lethal]//CHS](https://www.hrw.org/news/2019/03/27/statement-options-future-work-campaign-stop-killer-robots-ccw-meeting-lethal%5d//CHS) PK

4. To facilitate agreement on the legal definition of fully autonomous weapons and, in so doing, establish what is unacceptable about autonomy in weapons systems.

5. To help stop development before it goes too far and thereby avert an arms race and prevent proliferation, including by states with little regard for international humanitarian law or by non-state armed groups. The new treaty should prohibit not only use, but also development and production of fully autonomous weapons.

6. To close the accountability gap raised by fully autonomous weapons. There are currently insurmountable legal and practical obstacles that would, in most cases, prevent holding anyone responsible for unlawful harms caused by fully autonomous weapons. A treaty prohibiting killer robots could lead to national implementation laws criminalizing violations of the treaty, thereby facilitating enforcement.

## 1AC—Advantages

### 1AC—War

#### Chinese autonomous weapons development is on the cusp of leapfrogging the US—urgent action is needed.

[Matt Bartlett (6-11-2020), University of Auckland Faculty of Law, “The AI Arms Race in 2020”, towards data science, https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac]//[CHS](https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac%5d//CHS) PK

While states might debate whether lethal autonomous weapon systems (or ‘killer robots’ in the popular imagination) are “unacceptably immoral”, there can be no doubt that Guterres is right on the urgency of the risk: development and use of autonomous weapons are both accelerating, and the stakes — ethical and political — are high.

The world’s military powers have been competing to dominate this new class of intelligent weapons for years, with this AI arms race occurring against a contentious global landscape where an advantage in military AI could make a real difference to the balance of power. This geopolitical game theory driving such advancement in the sophistication of war machines has an unwanted blind spot — historically, human rights factor little into strategic calculations.

With Covid-19, the acceleration of automation has taken on greater speed across a variety of different fronts. Military operations have had to be completely re-thought — physical distancing on a submarine is much harder than physical distancing in a supermarket. Lethal AI already had some mounting advantages over human equivalents, and can now add ‘immunity from catastrophic viruses’ to that list. For all of these reasons, keeping track of the AI arms race is more vital than ever.

If It’s A Race, Who’s Winning?

Almost every month, another innovation in autonomous weapons leaps off the headlines in military news — the autonomous Chinese Blowfish A3 helicopter drone equipped with machine guns or the Russian army of unmanned ‘Marker’ ground vehicles armed with mortars and grenade launchers. There is no question that new inventions in the world of military AI abound, but it is far less clear which country boasts the strongest tech.

Key figures in the United States military have been forthright in warning of China’s might in this area. The US Defense Department’s relatively new Joint Artificial Intelligence Center is building command-and-control AI capability for the first time, explicitly citing the Chinese threat as the reason for the department’s urgency. The Center’s director Lt. Gen. Jack Shanahan has been clear about his desire to automate as much of the American military machine as possible:

“What I don’t want to see is a future where our potential adversaries have a fully AI-enabled force and we do not.”

In the last year, officials as senior as the US Defense Secretary have warned that Chinese technology may, in fact, already be more advanced than America’s. Secretary Mark Esper predicted that China might have “leapfrogged” existing American technology. With the military establishment suitably concerned, spending on lethal autonomous weapons in all branches of the American military seems set to go to another level in 2020 after already increasing in 2019.

For China’s part, mounting investment in autonomous weapon development is a key plank in its ongoing effort to usurp American military dominance. Almost all large-scale AI programs in China benefit from massive governmental support and a huge trove of data, and its autonomous weapons program is the jewel in Beijing’s AI crown. China’s huge investment in lethal autonomous weapons predates other militaries, and its military theorists are ahead of the rest of the world in building futuristic “intelligentized” models of human-machine operations.

A further dimension to China’s AI strategy is economic, with Beijing seemingly interested in profiting from its autonomous weapons program as a new export product. Already, China appears to be exporting many of its most high-tech aerial drones to wealthy buyers in the Middle East, explicitly marketing them as capable of advanced autonomous operations like assassinations. Last year, Zeng Yi, a senior executive at Norinco, China’s third-largest defense company, predicted that as early as 2025, “there will be no people fighting in battlegrounds”.

#### 3 scenarios for war—

#### First is US-China war—Chinese LAWs growth causes nuclear war—they increase the risk of miscalc and shred deterrence dynamics.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20> CHS PK

Autonomous Weapons, Swarming, and Instability The proliferation of a broad range of AI-augmented autonomous weapon systems (most notably drones used in swarming tactics) could have far-reaching strategic implications for nuclear security and escalation in future warfare.24 Several observers anticipate that sophisticated AI-augmented AWSs will soon be deployed for a range of ISR and strike missions.25 Even if AWSs are used only for conventional operations, their proliferation could nonetheless have destabilizing implications and increase the risk of inadvertent nuclear escalation. For example, AI-augmented drone swarms may be used in offensive sorties targeting ground-based air defenses and by nuclear-armed states to defend their strategic assets (i.e., launch facilities and their attendant C3I and early-warning systems), exerting pressure on a weaker nuclear-armed state to respond with nuclear weapons in a use-them- or- lose- them situation.

Recent advances in AI and autonomy have substantially increased the perceived operational value that military great powers attach to the development of a range of AWSs,26 potentially making the delegation of lethal authority to AWSs an increasingly irresistible and destabilizing prospect.27 That is, in an effort to defend or capture the technological upper hand in the possession of cutting-edge war-fighting assets vis-à- vis strategic rivals’ traditionally conservative militaries, states may eschew the potential risks of deploying unreliable, unverified, and unsafe AWS. Today, the main risk for stability and escalation is the technical limitations of the current iteration of AI machine learning software (i.e., brittleness, explainability, unpredictability of machine learning, vulnerability to subversion or “data poisoning,” and the fallibility of AI systems to biases).28 To be sure, immature deployments of these nascent systems in a nuclear context would have severe consequences.29

Conceptually speaking, autonomous systems will incorporate AI technologies such as visual perception, speech, facial recognition, and decision-making tools to execute a range of core air interdiction, amphibious ground assaults, long-range strike, and maritime operations independent of human intervention and supervision.30 Currently, only a few weapon systems select and engage their targets without human intervention. Loitering attack munitions (LAM)—also known as “loitering munitions” or “suicide drones”—pursue targets (such as enemy radars, ships, or tanks) based on preprogrammed targeting criteria and launch an attack when their sensors detect an enemy’s air defense radar.31 Compared to cruise missiles (designed to fulfill a similar function), LAMs use AI technology to shoot down incoming projectiles faster than a human operator ever could and can remain in flight (or loiter) for much longer periods. This attribute could complicate the ability of states to reliably and accurately detect and attribute autonomous attacks.32

A low-cost lone-wolf unmanned aerial vehicle (UAV) would, for example, not pose a significant threat to a US F-35 stealth fighter, but hundreds of AI machine learning autonomous drones in a swarming sortie may potentially evade and overwhelm an adversary’s sophisticated defense capabilities—even in heavily defended regions such as China’s east and coastal regions.33 Moreover, stealth variants of these systems34—coupled with miniaturized electromagnetic jammers and cyberweapons—may be used to interfere with or subvert an adversary’s targeting sensors and communications systems, undermining its multilayered air defenses in preparation for drone swarms and long-range stealth bomber offensive attacks.35 In 2011, for example, MQ-1 and MQ-9 drones in the Middle East were infected with hard-to- remove malicious malware, exposing the vulnerability of US subset systems to offensive cyber.36 This threat might, however, be countered (or mitigated) by the integration of future iterations of AI technology into stealth fighters such as the F-35.37 Manned F-35 fighters will soon be able to leverage AI to control small drone swarms in close proximity to the aircraft performing sensing, reconnaissance, and targeting functions, including countermeasures against swarm attacks.38 In the future, extended endurance of UAVs and support platforms could potentially increase the ability of drone swarms to survive these kinds of countermeasures.39

Several prominent researchers have opined that, notwithstanding the remaining technical challenges as well as the legal and ethical feasibility,40 we can expect to see operational AWSs in a matter of years.41 According to former US deputy secretary of defense Robert Work, the United States “will not delegate lethal authority to a machine to make a decision” in the use of military force. 42 Work adds, however, that such self-restraint could be tested if a strategic competitor (especially China and Russia) “is more willing to delegate authority to machines than we are and, as that competition unfolds, we’ll have to make decisions on how we can best compete” (emphasis added).43 In short, pre-delegating authority to machines, and taking human judgment further out of the crisis decision-making process, might severely challenge the safety, resilience, and credibility of nuclear weapons in future warfare.44

The historical record is replete with examples of near nuclear misses, demonstrating the importance of human judgment in mitigating the risk of miscalculation and misperception (i.e., of another’s intentions, redlines, and willingness to use force) between adversaries during crises.45 Despite these historical precedents, the risks associated with unpredictable AI-augmented autonomous systems operating in dynamic, complex, and possibly a priori unknown environments remain underappreciated by global defense communities.46 Eschewing these risks, China and Russia plan to incorporate AI into unmanned aerial and undersea vehicles for swarming missions infused with AI machine learning technology.47 Chinese strategists have reportedly researched data-link technologies for “bee swarm” UAVs, particularly emphasizing network architecture, navigation, and anti-jamming military operations for targeting US aircraft carriers.48

Drones used in swarms are conceptually well suited to conduct preemptive attacks and nuclear ISR missions against an adversary’s nuclear and nonnuclear mobile missile launchers and nuclear-powered ballistic missile submarines (SSBN), along with their attendant enabling facilities (e.g., C3I and early warning systems, antennas, sensors, and air intakes).49 The Defense Advanced Research Projects Agency (DARPA), for example, is developing an autonomous surface vehicle (ASV) double outrigger, Sea Hunter, currently being tested by the US Navy to support antisubmarine warfare operations (i.e., submarine reconnaissance).50 Some observers have posited that autonomous systems like Sea Hunter may render the underwater domain transparent, thereby eroding the second-strike deterrence utility of stealthy SSBNs. The technical feasibility of this hypothesis is highly contested, however.51

On the one hand, several experts argue that deployed in large swarms, these platforms could transform antisubmarine warfare, rendering at-sea nuclear deterrence vulnerable. On the other hand, some consider such a hypothesis technically premature because (1) it is unlikely that sensors on board AWSs would be able to reliably detect deeply submerged submarines; (2) the range of these sensors (and the drones themselves) would be limited by battery power over extended ranges;52 and (3) given the vast areas traversed by SSBNs on deterrence missions, the chance of detection is negligible even if large numbers of autonomous swarms were deployed.53 Thus, significant advances in power, sensor technology, and communications would be needed before these autonomous systems have a game-changing strategic impact on deterrence.54 However, irrespective of the veracity of this emerging capability, the mere perception that nuclear capabilities face new strategic challenges would nonetheless elicit distrust between nuclear-armed adversaries—particularly where strategic force asymmetries exist. Moreover, DARPA’s Sea Hunter demonstrates how the emerging generation of autonomous weapons is expediting the completion of the iterative targeting cycle to support joint operations, thus increasing the uncertainty about the reliability and survivability of states’ nuclear second-strike capability and potentially triggering use-them- or- lose- them situations.

Conceptually speaking, the most destabilizing impact of AI on nuclear deterrence would be the synthesis of autonomy with a range of machine-learning- augmented sensors, undermining states’ confidence in the survival of their second-strike capabilities and in extremes triggering a retaliatory first strike.55 Enhanced by the exponential growth in computing performance and coupled with advances in machine learning techniques that can rapidly process data in real time, AI will empower drone swarms to perform increasingly complex missions, such as hunting hitherto hidden nuclear deterrence forces.56 In short, the ability of future iterations of AI able to predict based on the fusion of expanded and dispersed data sets and then to locate, track, and target strategic missiles such as mobile ICBM launchers in underground silos, on board stealth aircraft, and in SSBNs is set to grow.57

The following four scenarios illustrate the possible strategic operations AI-augmented drone swarms would execute.58 First, drone swarms could be deployed to conduct nuclear ISR operations to locate and track dispersed (nuclear and nonnuclear) mobile missile launchers and their attendant enabling C3I systems.59 Specifically, swarms incorporating AI-infused ISR, autonomous sensor platforms, ATR, and data analysis systems may enhance the effectiveness and speed of sensor drones to locate mobile missiles and evade enemy defenses.

Second, swarming could enhance legacy conventional and nuclear weapons delivery systems (e.g., ICBMs and SLBMs), possibly incorporating hypersonic variants (discussed below).60 AI applications will likely enhance the delivery system targeting and tracking and improve the survivability of drone swarms against the current generation of missile defenses.

Third, swarming tactics could bolster a state’s ability to disable or suppress an adversary’s defenses (e.g., air, missile, and antisubmarine warfare defenses), clearing the path for a disarming attack.61 Drone swarms might be armed with cyber or EW capabilities (in addition to antiship, antiradiation, or regular cruise and ballistic missiles) to interfere with or destroy an adversary’s early warning detection and C3I systems in advance of a broader offensive campaign.62 Conversely, drone swarms might enhance states’ missile defenses as countervails to these offensive threats. For example, swarms could form a defensive wall to absorb incoming missile salvos, intercepting them or acting as decoys to throw them off course with mounted laser technology.63

Finally, in the maritime domain, unmanned underwater vessels (UUV), unmanned surface vessels (USV), and UAVs supported by AI-enabled intra-swarm communication and ISR systems could be deployed simultaneously in both offensive and defensive antisubmarine warfare operations to saturate an enemy’s defenses and to locate, disable, and destroy its nuclear-armed or nonnuclear attack submarines.64 Despite continued advances in sensor technology design (e.g., reduced size and extended detection ranges) to overcome quieting challenges, other technical challenges still remain. These include communicating underwater between multiple systems, processing power requirements, generating battery life and energy, and scaling the system.65

While some experts do not expect a technically reliable and effective capability of this kind will be operational for at least a decade, others are more optimistic.66 From a tactical perspective, drone swarms would not need ocean-wide coverage (or full ocean transparency) to effectively detect and track submarines. According to UK rear admiral John Gower, a relatively even spread of sensors might be sufficient to enable “a viable search and detection plan . . . conceived for the open ocean” (emphasis added).67 Moreover, advances in mobile sensing platforms could enable drones in swarms to locate submarines through chokepoints (or gateways) as they emerge from ports. Due to the current slowness of drones with extended sea ranges, however, trailing them autonomously seems implausible.68 Future iterations of machine-learning- augmented UUVs and USVs may eventually complement, and perhaps replace entirely, the traditional role of general-purpose nuclear-powered submarines (SSN) and manned surface vehicles in tracking and trailing submarines of adversaries at chokepoints while simultaneously mounting sparsely distributed and mobile distributed network systems (DNS) sensors on UUVs.69

If a state views the credibility of its survivable nuclear weapons (especially nuclear-armed submarines) to be at risk,70 conventional capabilities such as drone swarms will likely have a destabilizing effect at a strategic level.71 Thus, even if swarm sorties were not intended as (or indeed technically capable of) a disarming first strike, the perception alone of the feasibility of such an operation would be destabilizing nonetheless. Moreover, the speed of AI could put the defender at a distinct disadvantage, creating additional incentives to strike first (or preemptively) technologically superior military rivals. Consequently, the less secure a nation considers its second-strike capabilities to be, the more likely it is to countenance the use of autonomous systems within its nuclear weapons complex to bolster the survivability of its strategic forces. According to analyst Paul Scharre, “winning in swarm combat may depend upon having the best algorithms to enable better coordination and faster reaction times, rather than simply the best platforms” (emphasis added).72

Combining speed, persistence, scope, coordination, and battlefield mass, AWSs will offer states attractive asymmetric options to project military power within contested A2/AD zones.73 Enhanced by sophisticated machine learning neural networks, China’s manned and unmanned drone teaming operations could potentially impede future US freedom of navigation operations in the South China Seas.74 Its air- and sea-based drones linked to sophisticated neural networks could, for example, support the People’s Liberation Army’s manned and unmanned teaming operations. Were China to infuse its cruise missiles and hypersonic glide capabilities with AI and autonomy, close-range encounters in the Taiwan Straits and the East and South China Seas would become more complicated, accident-prone, and destabilizing—at both a conventional and nuclear level.75 China is reportedly developing and deploying UUVs to bolster its underwater monitoring and antisubmarine capabilities as part of a broader goal to establish an “underwater Great Wall” to challenge US undersea military primacy. US AI-enhanced UUVs could, for example, theoretically threaten China’s nuclear ballistic and nonnuclear attack submarines.76

#### Second is hard power collapse—US military spending high now but Chinese LAW development is the largest threat to overturn American hard power dominance—they view war as inevitable and will try to win the arms race at all costs.

[John Brock (4-13-2017), Major in the US Army, MS in Advance Military Studies from the US Army Command and General Staff College, "Why the United States Must Adopt Lethal Autonomous Weapon Systems," United States Army, [https://apps.dtic.mil/dtic/tr/fulltext/u2/1038884.pdf]//CHS](https://apps.dtic.mil/dtic/tr/fulltext/u2/1038884.pdf%5d//CHS) PK

Currently, United States military spending dwarfs the rest of the world. The United States spends over one-third of the world's military budget and more than the next 14 countries combined. Regardless, the US military is still the smallest since the Interwar Period and will continue to shrink as soldier costs grow. While the United States’ military spending continues to remain high, its technological superiority continues to shrink. The United States’ rising personnel costs are not giving an improved capability, but instead are reducing funding available for the research and development of new technologies. In contrast, countries such as Russia and China are using artificial intelligence and robotics modernization strategies to level the military playing field at a fraction of the cost. Russia’s modernization strategy prioritizes the adoption of autonomous weapon systems and artificial intelligence. Russia has committed to developing a technologically superior robotic military force capable of fighting in the 21st century. Russia’s Chief of the Generals Staff stated, “In the near future, it is possible that a complete robotic unit will be capable of independently conducting military operations.”107 Demonstrating this belief, Russia announced plans to deploy armed autonomous sentry robots to protect five strategic missile installations.108 These sentry robots will use artificial intelligence to make decisions on their own and require no human operators. Russia recognizes that artificial intelligence and robots are resulting in a third military revolution and fundamentally changing warfare. Russia’s modernization strategy is now moving away from crewed vehicles and is transitioning to fully autonomous vehicles. Their defense industry plans to release an autonomous T14 tank prototype within the next two years.109 To accelerate these changes, Russia’s Army Chief of Staff announced that they plan to robotize onethird of their military by the year 2020.110 Though Russia will probably not achieve this automation goal, it signals Russia's vision of modern warfare and how future wars will likely be won.111 China has also prioritized the development of Lethal Autonomous Weapon Systems. The US Deputy Secretary of Defense, Bob Work recognizes that China views Lethal Autonomous Weapon Systems differently than the United States. Work stated “We know that China is already investing heavily in robotics and autonomy.”112 China has invested in artificial intelligence because it wants a military capable of winning future wars against the United States. Chinese General Chi Haitian asserts "War with the United States is inevitable; we cannot avoid it.”113 To win this war, China will use ‘unrestricted warfare’ with no rules, no boundaries, and no moral concerns in the use of Lethal Autonomous Weapon Systems. The People’s Liberation Army insists “War is still the ground of death and life, the path of survival and destruction and even the slightest innocence is not tolerated.”114 China believes that the United States’ current technological advantage will become nonexistent as time goes on. The primary reason for this belief stems from the US military's “ultimate concern” of protecting innocent civilian lives and the environment. These concerns result in the United States continually developing weapons to become "kinder" not "stronger." China also contends that the United States only considers the short-term uses of new technology and fails to adopt novel technologies into future weapon systems. China concludes that the consequences of the United States’ technology shortsightedness will result in the US military being forced to fight yesterday’s war with outdated technologies. In contrast, China examines all emerging and novel technologies to determine how they could be used to develop new weapon systems. They seek new technologies that could be a prelude to a revolution in military affairs giving them an advantage over the United States. China believes yesterday's "high technology" likely represents today's "low technology," while today's "new technology" will turn into tomorrow's "old technology."115Throughout history, there are numerous examples of militaries refusing to acknowledge that a new technology had completely transformed war. Jean De Bloch, a Polish banker and railway financier, authored Is War Now Impossible? in 1898. In his book, Bloch argued that advancements in weapons technology during the industrial revolution made previous Napoleonic open warfare impossible. Bloch concluded that for armies to survive in the 20th century, they must resort to trench warfare. Bloch was an outspoken voice who predicted the carnage that would occur in Europe during World War I. He anticipated the change in the operational environment, but could not convince the world’s leaders that the current methods of warfare were no longer feasible.116 As a result of this failure to adapt, 17 million soldiers and civilians died during World War I.117 Innumerable lives could have been saved if leaders had been quicker to accept the new realities in warfare. Johnson & Johnson CEO Alex Gorsky summarized it best: “You must understand when the environment you are in changes, because you must change also, and if you don’t, you will die.”118 During World War I, the ‘cult of the bayonet' dominated military thinking for the way to fight wars. The European ‘cult of the bayonet’ represents one of history’s prime examples illustrating the flawed belief that a soldier with enough determination will always prevail regardless of warfare’s technological advancements. The European military professionals believed a passionate soldier wielding a bayonet had proven an undefeatable terror weapon during the wars of the 18th and 19th -century.119 However, by the 20th century, the development of machine guns, artillery fire, and poison gas had rendered bayonets only useful for chopping wood, opening tin cans, and hanging up clothing.120 During World War I, senior officers refused to accept that these new technologies made mass infantry bayonet charges irrelevant. Officers with no comprehension of the fundamental changes in warfare continued to send their soldiers on heroic charges, only to die in the thousands.121 The Battle of the Somme illustrates this point where British commanders foolishly ordered a bayonet charge at the machine gun defended German lines, resulting in 60,000 casualties.122 The French operated on a similar tactical doctrine believing infantry morale was superior to firepower. This misconception resulted in over 500,000 French casualties in August 1914.123 Following World War I, even with these staggering European casualties, some US officers still argued that spirited bayonet-wielding soldiers and horses should remain the US military’s decisive capability.124 During World War II, the Japanese believed the human aspect of their Bushido warrior culture could defeat the United States’ superior military technology and firepower. The successful Japanese use of ‘banzai’ bayonet charges against the numerically superior Chinese reinforced these beliefs of the ‘invincible’ Japanese human spirit. Tragically, similar to World War I, these spirited attacks resulted in horrific losses for the Japanese army, which could not overcome the superior American technology and firepower.125 During the Battle of Guadalcanal, the Japanese conducted banzai charges towards the American lines protecting Henderson Field. These charges resulted in the horrific losses of Japanese soldiers. Japan’s Admiral Raizo Tanaka commented "This tragedy should have taught us the hopelessness of ‘bamboo spear’ tactics."126 These historical examples should serve as a dire warning to the United States. Similar to Jean de Bloch’s World War I predictions, a third military revolution will render modern warfare no longer feasible without tremendous United States’ casualties. General Patton once asserted “Many, who should know better, think that wars can be decided by soulless machines, rather than by the blood and anguish of brave men.”127 However, the US military’s people, institutions, and culture are no longer enough to overcome the technological advantages provided by Lethal Autonomous Weapon Systems. The United States must acknowledge that warfare’s environment has changed and begin to adapt. The United States’ Third Offset Strategy currently doubles down on Patton’s military of the past. Over the past 5,000 years of war, the tempo of warfare has grown with the development of new technologies. Soldiers transitioned from walking, to riding horses, to riding in rail cars, to driving in trucks, to flying in aircraft. The speed with which wars are now won or lost depends directly on these new technologies.128 During the 1870-1871 Franco-Prussian War, Prussian Prince Otto von Bismarck required over nine months to force the French surrender.129 In contrast, during World War II, Adolf Hitler only needed forty-six days to force the French capitulation.130 Current technology already allows militaries to fight wars across vast distances, during the nighttime, in adverse weather, and in extreme temperatures. The only limiting factor to increasing the speed of future warfare are the human soldiers fighting it. Due to biology, people require rest and can only maintain a high tempo for short periods of time. These biological human constraints will no longer remain relevant with the development of Lethal Autonomous Weapon Systems. Future lethal autonomous armies will be capable of fighting continuously, at tremendous speeds, and require no breaks or rest.

#### Otherwise risks great power war with China – multipolarity is only stable in the squo because of American hard power—collapse makes it unstable and collapses deterrence

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As the article argued in 2007, “technological shifts have continuously altered the methods of war,” but in the end, “political arrangements matter, and the deterrent effect of any weapon should be evaluated within the context of the structure of the international system.”20 This claim is as true now as it was then. Indeed, one might conclude that structure matters even more now than it did 10 years ago, given the shift to multipolarity.21 Under “lopsided” multipolarity—where the United States outweighs both China and Russia militarily—it will maintain power advantages on some fronts, but at smaller margins than it did during the unipolar moment when it reigned supreme. Power diffusion, and related great power competition concerns, will be governed by the continued growth of Asian economic and military clout predominantly from China and India and the relative decline of Western economic influence.22 As China continues to translate economic gains into military modernization, the US will “focus mainly on countering China.”23 Avoiding the perils of security competition will require that the US be more cautious about exercising its power abroad.24

Yet exercising diplomacy and restraint could prove to be challenging. Even scholars who adopt a more circumspect view of emerging multipolarity, and the implications of growing military-technological parity, acknowledge its underlying risks. Barry Posen, who questions the assumption that multipolarity is inherently unstable, nonetheless acknowledges that growing parity will only “mute” great power competition. The diffusion of power will not eradicate “great power adventures.”25 China’s rise is apt to entail alliance reconfigurations and temptations to employ conventional military power.26 In fact, just as the original article predicted, the United States and India, Russia and China, and France and Germany have taken steps toward tightening their security relationships. China’s progress toward narrowing its power gap with the US has already met with a return to US defense budget growth and the establishment of new US defense cooperation commitments—notably with India. In parallel, China and Russia have grown closer, with Presidents Xi Jinping and Vladimir Putin meeting three times in 2018 and China sending a “strong supporting contingent” to Russia’s Vostok-2018 military exercises.27

Given the complexities and uncertainties of multipolarity, the US arsenal of advanced conventional weapons (and those of other great powers) may not only prove ill suited to deterring great power war but also provide occasion for its inadvertent onset. The stealth, speed, and lethality of advanced conventional technologies—allowing for quick and decisive US victories in the Persian Gulf (1991), Kosovo (1999), and Afghanistan (2001)—have proven increasingly enticing to other great powers. Russia and China drew similar lessons from these conflicts, each embarking on military modernization programs geared toward antiaccess/area-denial (A2/AD) and grey zone strategies.28 Advanced conventional weapons already undergird Russia’s and China’s respective salami-slicing campaigns in Eastern Europe and the South China Sea. Russia began modernizing its military following its 2008 war with Georgia, enhancing its ground force readiness and updating its integrated air defense system. The improvements have allowed for significant defensive and force-projection gains (against border states).29 Though Russia has since dialed back modernization efforts in the wake of its economic downturn, China continues to seek avenues for undermining the United States’ conventional weapons edge. The People’s Liberation Army (PLA) still trails the United States in the areas of innovation and operational proficiency. Its modernization achievements, though—especially the development of intermediate-range missiles that threaten US forward bases and carrier strike groups—have substantially augmented China’s “advantage of proximity in most plausible conflict scenarios.”30

As great power rivals continue to chip away at the United States’ once considerable smart-weapons advantage, national security experts are reevaluating the viability of deterrence. On this front, the diffusion of capabilities, as well as the expansion of competition to the space and cyber domains, do more than complicate appraisals of the balance of power; they threaten to upend the foundations of deterrence.31 The arrival of dualcapable hypersonic weapons (and delivery systems)—currently being designed and tested by the US, China, and Russia—will arguably risk jeopardizing strategic stability. Their ultrahigh velocity could reduce warning time to the extent that “a response would be required on first signal of attack”; likewise, their deployment in ready-to-launch mode could trigger preemptive strikes, as others might perceive it as a sign of impending attack.32 Further, cyber weapons’ potential for disabling an opponent’s “early warning and command systems” may diminish the expected costs of first strike under crisis conditions.33 Autonomous weapons also have the potential to fundamentally alter the psychological underpinnings of strategy And, as Kenneth Payne notes, there is no “a priori reason” to expect that substituting artificial intelligence (AI) for human intelligence—that rapid, accurate, and unbiased information processing and responses—“will necessarily be safer.” Because AI limits the risks of using force, it could make conflict more acceptable to risk-averse states; because its speed and precision favor the offense, it could prove more conducive to aggression than deterrence; and because it shapes a host of processes and technologies rather than a single weapon or system, its effects on strategy (and the challenges of its regulation) could prove counter to deterrence.34

As noted in the original article, nuclear weapons helped sustain the “cold peace” during the Cold War—not because of their awesome destructive power but because that awesome destructive power helped buttress bipolarity.35 The simplicity of bipolarity and superpower balancing, in turn, limited “the dangers of miscalculation and overreaction.”36 Multipolarity, though, makes for complexity; additional great power players provide additional opportunities for miscalculation and overreaction. Given these conditions and the perceived “usability” of advanced conventional weapons relative to nuclear weapons, it seems likely that they will fall short of yielding “the kinds of political structures necessary to enhance deterrence.”37 To counter Posen, the diffusion of advanced conventional technology may well have cheapened the near-term costs and risks of going to war, and particularly engaging in hybrid warfare. Even if the US manages to avoid a direct confrontation with Russia or China, it seems increasingly plausible that it could be dragged into a conflict involving one or more of their allies.

#### AND a Chinese sphere of influence causes great power war

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Opposition to spheres of influence, in other words, is a part of U.S. diplomatic DNA. The reason for this, Charles Edel and I argued in 2018, is that spheres of influence clash with fundamental tenets of U.S. foreign policy. Among them is the United States’ approach to security, which holds that safeguarding the country’s vital interests and physical well-being requires preventing rival powers from establishing a foothold in the Western Hemisphere or dominating strategically important regions overseas. Likewise, the United States’ emphasis on promoting liberty and free trade translates to a concern that spheres of influence—particularly those dominated by authoritarian powers—would impede the spread of U.S. values and allow hostile powers to block American trade and investment. Finally, spheres of influence do not mesh well with American exceptionalism—the notion that the United States should transcend the old, corrupt ways of balance-of-power diplomacy and establish a more humane, democratic system of international relations.

Of course, that intellectual tradition did not stop the United States from building its own sphere of influence in Latin America from the early nineteenth century onward, nor did it prevent it from drawing large chunks of Europe, East Asia, and the Middle East into a global sphere of influence after World War II. Yet the same tradition has led the United States to run its sphere of influence far more progressively than past great powers, which is why far more countries have sought to join that sphere than to leave it. And since hypocrisy is another venerable tradition in global affairs, it is not surprising that Americans would establish their own, relatively enlightened sphere of influence while denying the legitimacy of everyone else’s.

That endeavor reached its zenith in the post–Cold War era, when the collapse of the Soviet bloc made it possible to envision a world in which Washington’s sphere of influence—also known as the liberal international order—was the only game in town. The United States maintained a world-beating military that could intervene around the globe; preserved and expanded a global alliance structure as a check on aggression; and sought to integrate potential challengers, namely Beijing and Moscow, into a U.S.-led system. It was a remarkably ambitious project, as Allison rightly notes, but it was the culmination of, rather than a departure from, a diplomatic tradition reaching back two centuries.

GIVE THEM AN INCH…

The post–Cold War moment is over, and the prospect of a divided world has returned. Russia is projecting power in the Middle East and staking a claim to dominance in its “near abroad.” China is seeking primacy in the western Pacific and Southeast Asia and using its diplomatic and economic influence to draw countries around the world more tightly into its orbit. Both have developed the tools needed to coerce their neighbors and keep U.S. forces at bay.

Allison is one of several analysts who have recently advanced the argument that the United States should make a virtue of necessity—that it should accept Russian and Chinese spheres of influence, encompassing some portion of eastern Europe and the western Pacific, as the price of stability and peace. The logic is twofold: first, to create a cleaner separation between contending parties by clearly marking where one’s influence ends and the other’s begins; and second, to reduce the chances of conflict by giving rising or resurgent powers a safe zone along their borders. In theory, this seems like a reasonable way of preventing competition from turning into outright conflict, especially given that countries such as Taiwan and the Baltic states lie thousands of miles from the United States but on the doorsteps of its rivals. Yet in reality, a spheres-of-influence world would bring more peril than safety.

Russia’s and China’s spheres of influence would inevitably be domains of coercion and authoritarianism. Both countries are run by illiberal, autocratic regimes; their leaders see democratic values as profoundly threatening to their political survival. If Moscow and Beijing dominated their respective neighborhoods, they would naturally seek to undermine democratic governments that resist their control—as China is already doing in Taiwan and as Russia is doing in Ukraine—or that challenge, through their very existence, the legitimacy of authoritarian rule. The practical consequence of acceding to authoritarian spheres of influence would be to intensify the crisis of democracy that afflicts the world today.

The United States would suffer economically, too. China, in particular, is a mercantilist power already working to turn Asian economies toward Beijing and could one day put the United States at a severe disadvantage on the world’s most economically dynamic continent. Washington should not concede a Chinese sphere of influence unless it is also willing to compromise the “Open Door” principles that have animated its statecraft for over a century.

Such costs might be acceptable in exchange for peace and security. But spheres of influence during the Cold War did not prevent the Soviets from repeatedly testing American redlines in Berlin, causing high-stakes crises in which nuclear war was a real possibility. Nor did those spheres prevent the two sides from competing sharply, and sometimes violently, throughout the “Third World.” Throughout history, spheres-of-influence settlements, from the Thirty Years’ Peace between Athens and Sparta to the Peace of Amiens between the United Kingdom and Napoleonic France have often ended, sooner or later, in war.

#### Deterrence still effective and is independently key to a slew of hotspots—hard power is necessary and sufficient to shape the cost-benefit calculus of potential aggressors—the alternative is WW3

Royal 17

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During the Cold War and World War II (WW II), the world was safe because of deterrence. A balance of power existed between aligned nations cloaked in vibrant, robust militaries ready to defend their countries. The enemies of peaceful nations knew the costs, as President John F. Kennedy echoed that sentiment during his famous inaugural address about defending freedom and defeating foes. Those days are now gone, however, they can be revived again using deterrence that keeps worldwide war at bay. We are living in treacherous times, and war could break out anywhere on the seven continents across the world. Our current predicaments are beginning to make the early 1930s look pale in comparison to what is happening today, because deterrence has been allowed to linger and stall since the collapse of the Soviet Union. Collectively, we seem to have thought that history has stopped since the East and West German divide came down; but instead, we are witnessing a sharp upticks in wars, constant belligerence from the Middle East, the South China Sea dispute, and Mexico’s unending drug war. New threats are doing away with the resources to cope with refugee problems, the spread of terrorism, but most importantly the embrace of negative constructivism to resolve conflict. Foreign Affairs magazine describe ten hotspots for 2017, or flashpoints globally that if not dealt with swiftly and even harshly could lead to war. Interestingly enough, Foreign Affairs didn’t mention China, North Korea, Russia or Iran. It can be argued that North Korea claiming they can fire an ICBM anytime and outgoing Secretary Kerry saying, “the U.S. may need more forceful ways of dealing with North Korea,” is a hotter spot than Ukraine. Deterrence is the best answer for dealing with those nations. The type of deterrence at the forefront of the Cold War, which had far-reaching geopolitical implications, otherwise the future is cloaked in profoundly destabilizing actions by those four nations. Gambling with the four above-mentioned nations without proper deterrence won’t work, but if done forcefully, then the other ten described foreign policy unknowns can be solved. If not, then jittery states from Europe to East Asia will begin to parse out safe real estate for their citizens if someone doesn’t step up. Historically that has been the United States (U.S.) since World War II. The U.S. structured a system based upon mutually agreed upon principles between major powers to keep World War III at bay. Certainly that order has been was in flux recently, and disagreements rage about how this new discombobulating order began. There isn’t a correct answer. Moreover, add in the Rwanda genocide, the Yugoslavia breakup, and leaving Iraq after a brutal, tentative victory was achieved, and still there aren’t answers, which is the problem. But this cooperative, championed order, leading to unprecedented prosperity and peace, is suffering its share of dire crisis unless deterrence is restored. And Washington’s and NATO’s retrenchment is only leading to what will eventually see Japan, South Korea, and the Sunni coalition led by the Saudis join the nuclear club. Let’s also not forget about India and Pakistan, who play a daily nuclear cat and mouse game in Kashmir. If Kashmir explodes, then does the U.S. intervene? China has an interest, and believes they can overtake India quickly. If China commits troops would other countries in the region follow suit? Another dangerous tightrope situation without a net while the basics of geopolitics continue forward wondering who will do the heavy lifting to sustain the international system. Furthermore, will it be U.S. hard power or European soft power that restores deterrence? The perceived threats that the Iran nuclear deal were supposed to buffer haven’t kept the Islamic Republic from buying uranium and keeping oil prices low by taking advantage of OPEC’s weakness to boost their market share. The Russians have seen fit to meddle in U.S., European, and former Soviet satellite elections at will while still threatening Ukraine. If Ukraine goes back to the Russians and out of NATO’s orbit then Europe will have to grow NATO and American troop presence more than it has in recent years. The echoes of Russian aggression will have returned to Cold War levels, but it’s the correct move for deterrence to work, moving troops into Poland and Norway. The world wants peace, and this is a perfect example of military moves bolstering deterrence without a single shot being fired. The European structure is being shaken as never before, and while some see a messy Brexit, that’s not what the facts say. Recently it was reported Britain has the number one growing advanced economy in the world. Yet what happens if Germany, the Netherlands and France leave the EU based upon these facts? Can the world afford to lose the European voice, its large economy, and its reliance upon soft power? Will Europe become splintered and fractured at best, and at worst, allow regional historical rivalries to return, sparking conflicts that could make the proxy wars taking place in Syria, Iraq and Yemen seem tame**.** The balance Europe brings can’t afford to be lost. Here’s why the international system needs robust deterrence without war. Terrorism is the pretense of a common enemy, but that model can’t sustain itself. It is an illusion for nations to endlessly fight without a tactic to define a strategy. World War II was decisive, because there was a common, definable enemy that allowed for tactics and strategy leading to victory. Today’s terrorism fight has none of those modalities in place. Thriving on chaos will not lead to building blocks for a stable future. This type of tactical bargaining has no long-term strategy or common values within their policies. Maybe a Turkish-Russian rapprochement holds promise, but historical enmity more than likely will win over long-term solutions being offered in Syria through this false promise. Considering Beijing’s war-like posture towards East Asia, the incoming Trump administration, Africa, and Latin America – what the world needs is overwhelming deterrence when dealing with China. Chaos can be managed, but only through deterrence. Realpolitik and deal-making isn’t a guide to stable long-term solutions. Economic sanctions were crippling Iran until they were removed, and can work again if world powers have the vision to do what is necessary. That is a great example of soft power deterrence backed by hard power. Yet deals, like fluid relationships, can be broken, and our world is now made up of diverse states with globalized, vested interests. It can’t be stated enough that someone has to step up and keep the order with military-powered deterrence or with crippling economic sanctions to pull these nonstate actors and proxies off the world stage. Many would say no single power could have singularity when it comes to controlling major powers or events. Manipulation can take place in the case of Libya when NATO, led somewhat by the U.S., bombed them into a fractured society. But real deterrence with military hard power had brought Gadhafi to his senses. He was working with the Americans, Europeans, and democratized Asian countries to denounce his nuclear program and terrorism. That only came about because he saw what happened to Saddam Hussein. That was lethal deterrence in force, and not a sanitized environment that brought Gadhafi to his senses. Here’s what should immediately happen for deterrence to be restored. First, build a large, lethal blue-water navy, as the incoming U.S. administration is proposing. Iran, Russia, China, and North Korea have to be checked globally, and a fully equipped naval presence from freedom-loving nations accomplishes that task. Next, other NATO alliance members should follow the example of Norway, and their policy of burden sharing toward Europe’s collective defense. They pay their fair share when so many others don’t. NATO led by the U.S. has to demand every alliance member dedicates 2% of their budget to their military, which assists keeping the NATO alliance intact. Economically, push infrastructure and energy portfolios led by fossil fuel with renewables in the background while they overcome their problems. If developing nations pushed natural gas as soft power deterrence, and worked on infrastructure bottlenecks delivering inexpensive natural gas from the Marcellus shale in the U.S. to exporting LNG across the globe then the most basic component of modern life – cheap, scalable energy – is secured. Nations that thrive economically are less willing to interrupt their prosperity with war and hostility towards other nations. Not every deterrence-issue has to have the big impact of a weapon to be effective. No major, world power, such as the U.S., or China can single-handedly control world events. NATO, the U.S., the IMF, World Bank, and other post WW II conflict-negating entities can’t contain every fire,but with deterrence they can keep sparks from igniting into flames. Our globalized, messy world is now a fact, and deterrence is the best tool to keep our world from entering World War III.

#### Extinction – nuclear winter, crude oil amplifies, smoke covers the world

Snyder and Ruyle 17 (Brian F.Snyder and Leslie E. Ruyle, 12-15-2017, [Brian F. Snyder. Department of Environmental Science, Louisiana State University, United States. Leslie E. Ruyle. Center on Conflict and Development, Texas A&M University, United States]"The abolition of war as a goal of environmental policy," No Publication, <https://www.sciencedirect.com/science/article/pii/S0048969717316431?via%3Dihub)//CHS> PK

While the precise impacts of a hypothetical nuclear war are difficult to predict, the detonation of the world's nuclear weapons would plausibly kill all or nearly all humans on Earth and initiate a mass extinction event. There are a total of about 9400 nuclear warheads in active service around the world, with approximately 8300 of these weapons in U.S. and Russian arsenals (Kristensen and Norris, 2017a). Because of government secrecy, it is difficult to reliably estimate the total explosive power contained in these warheads, but in most cases, each warhead ranges between 100 and 1200 kt of TNT equivalent (for comparison, the bombs dropped on Hiroshima and Nagasaki had yields of approximately 15–20 kt). The combined arsenals of the U.S. and Russia likely have a yield of at least 2–3 billion tons of TNT equivalent (Kristensen and Norris, 2017b,c). 2.1. Nuclear winter In the 1980s climate scientists used simple and early climate models to estimate the effects of large-scale nuclear wars on climate. The estimates they derived were catastrophic. For example, Turco et al. (1983) reported temperature reductions of 43 °C for 4 months in the Northern Hemisphere following nuclear war using the explosive power of 10 billion tons of TNT.1 As the cold war ended, interest in modelling the climate effects of nuclear war declined and some policy-makers considered the threat of nuclear winter to be either disproved or exaggerated (Martin, 1988). Toon et al. (2007) and Robock et al. (2007) reignited interest in the climate effects of nuclear war. Toon et al. (2008) modeled the effects of a medium scale nuclear war with a total explosive yield of 440 million tons of explosive yield (far less than current U.S. and Russian arsenals) and estimated global soot2 emissions of 180 Tg. Using a more conservative estimate of 150 Tg of soot, Toon et al. estimated that this emission would be sufficient to reduce global temperatures by about 8 °C and energy flux by 150 W/m2 ; for comparison, the cumulative greenhouse gas emissions to the atmosphere since the industrial revolution have increased energy flux by 3 W/m2 (Butler and Montzka, 2017). Robock et al. (2007) modeled a similar 150 Tg smoke emission and found similar results including temperature reduction of about 8 °C lasting for several years. Low temperatures reduced evapotranspiration and weakened the global hydrological cycle and Hadley cells. As a result, precipitation decreased globally by 45% with especially dramatic decreases in the agricultural areas of the United States. In the Northern Hemisphere, growing seasons would be shortened by about 100 days for about 3 years. This would preclude most food production over most of the world for several years. Mills et al. (2014) conducted a detailed analysis of the effects of a small (1.5 million ton) regional exchange lofting just 5 Tg of soot into the atmosphere. This war would be equivalent to an exchange of 100 Hiroshima-sized bombs between, for example, India, Pakistan, or China. Mills et al. found global temperature decreases of 1.6 °C. To our knowledge, no one has studied the effects of a multi-billion ton nuclear exchange using modern atmospheric models. If, as Toon et al. and Robock et al. suggest, a 440 million ton war results in temperature reductions of 8 °C for a decade and a 100 day reduction in the growing season, it is reasonable to assume that a one to five billion ton war would not be survivable for the majority of people on earth. However, as populations and population centers grow, the effects of nuclear wars on the biosphere will also grow. The consequences of nuclear winter increase as the amount of fuel (buildings, cars, biomass, liquid and solid fuels) added to a targeted area increase. As population centers grow and densify over time, the amount of soot added to the stratosphere as the result of any given nuclear exchange may increase (depending in part on building materials). As a result, the nuclear winter resulting from a 400 million ton yield global war in 2020 may be far more severe than if the same war occurred in 2000. Further, there are reasons to believe that the soot emissions from a hypothetical nuclear exchange are conservative because they focus on urban areas and often do not incorporate non-urban energy infrastructure. For example, if ignited and burned completely, the U.S. Strategic Petroleum Reserve (SPR) alone contains about 14.5 Tg of soot emissions.3 Including all crude held in U.S. commercial facilities, the potential soot emissions increase to 24 Tg. Thus, incorporating crude oil storage in the U.S. alone would increase soot generation estimates by about 16%. Similarly, nuclear war planners would be likely to target coal, oil and gas fields in the U.S., Russia, and their allies. This unaccounted for fuel could increase the total soot contribution to the atmosphere, potentially deepening the resulting nuclear winter. 2.2. Acute effects of particulate matter Studies of nuclear winter typically focus on the effects of smoke lofted into the stratosphere during nuclear firestorms. However, a larger proportion of smoke following nuclear war will be trapped in the troposphere where it would have significantly acute impacts on human and non-human species. Crutzen et al. (1984) calculated that following a major nuclear war (about 5 billion tons of explosives, roughly the combined U.S. and Russian deployed nuclear arms as of 2017) smoke would cover about 30–40% of the earth's surface with airborne smoke concentrations on the order of 5 mg/m3 . While initially this smoke would be composed of very small particles (b0.1 μm), the particles would rapidly coalesce into the 0.1 to 3 μm range, roughly consistent with the wellstudied PM2.5. For comparison, the EPA's National Ambient Air Quality standard for PM2.5 is 0.012 mg/m3 and as of 2017, the highest PM2.5 concentrations in Asia are typically around 0.3 to 1 mg/m3 .

#### Put away your impact turns. The aff pursues an offensive realist emergent strategy tailored to the modern world that doesn’t fall into the same pitfalls of liberal internationalism or defensive realism that your cards indict—we recognize the greatest threats to the state and handle situations on a case-by-case basis. We aren’t concerned with preserving institutions or maintaining alliance commitments.

[Ionut Popescu (2019), Assistant Professor of Political Science at Texas State University, “American Grand Strategy and the Rise of Offensive Realism,” Political Science Quarterly, Vol 134 Number 3 2018-2019, Academy of Political Science]//CHS PK

As a decidedly pessimistic theory of great‐power politics, offensive realism admittedly does not offer either the uplifting vision of peace and prosperity under an ever‐expanding liberal world order advocated by liberal internationalists or the financial savings and benign isolation implied in the retrenchment paradigm proposed by defensive realists. However, recent developments on the international scene fit better with the theoretical expectations of offensive realism than with those of its alternative paradigms. The current era is dominated by the resurgence of great‐power revisionism, with China and Russia aggressively expanding their spheres of influence both regionally and globally in a way that offensive realists such as Mearsheimer expected all along.94 In the 1990s and 2000s, the Washington foreign policy elites, operating, broadly speaking, under a liberal internationalist worldview, assumed that deepening economic engagement with rising great powers would serve to diminish traditional geopolitical conflicts and instead lead Beijing and Moscow to accept the rules and norms of the Western liberal world order.95 Retrenchment advocates, while critical of the liberal assumption that economic and diplomatic integration will lead to peaceful cooperation among the great powers, nevertheless fail to account for the aggressive recent moves of China in the South China Sea or for Russia’s military adventurism in Georgia, Ukraine, and now Syria. For defensive realists, security is plentiful in the international system, and these great powers should feel secure enough in their regions instead of aggressively attempting to expand their regional influence and control even at the risk of inviting balancing coalitions against them. Contrary to those two paradigms, offensive realism’s pessimistic view of great‐power politics more accurately anticipated that the “holiday from history” of the past two or three decades would come to an end sooner rather than later. As former Obama administration officials Kurt Campbell and Ely Ratner observed, “Neither carrots nor sticks have swayed China as predicted. Diplomatic and commercial engagement have not brought political and economic openness. Neither U.S. military power nor regional balancing has stopped Beijing from seeking to displace core components of the U.S.‐led system. And the liberal international order has failed to lure or bind China as powerfully as expected. China has instead pursued its own course, belying a range of American expectations in the process.” 96 Similarly, Putin’s strategy is clearly aimed at expanding Russia’s sphere of influence in the former Soviet states and to weaken America’s military and diplomatic presence in Eastern Europe.97 Some defensive realists might argue that Russia’s aggressiveness in Ukraine was provoked by the West’s pursuit of closer ties with Kiev, but this argument is hard to reconcile with Putin’s disproportionate military response that led to the actual seizure of Crimea, or with Russia’s aggressive rhetoric and military provocations toward NATO since that time. The “tragedy of great‐power politics” is that conflict is the natural state of relations among them, something that is as true today as it always has been. Another development that realists (not just offensive ones but also defensive ones) anticipated much better than liberal internationalists is the resurgence of nationalism as arguably the primary force shaping world politics in today’s era.98 It is not only the authoritarian rulers of Russia and China that increasingly rely on nationalism to maintain and tighten their grip on civil society and the economy; major political developments in the Western world also show what a powerful force nationalism remains. Brexit, the rise of major anti–European Union opposition political parties in several Western European countries (Italy, Germany, and France, among others) as well as governing parties in Hungary and Poland, and, of course, the presidency of Donald Trump are all pointing out that the nation‐state remains the primary source of identity in the twenty‐first century.99 However, despite what some fear, today’s resurgent nationalism in the West is a necessary ingredient to confront the threats from Beijing or Moscow.100 And, as Henry Nau argued, unlike its precedent manifestations, today’s “nationalism is not a destructive force but a democratic check on global elites and institutions. Globalism empowered financial, cultural and bureaucratic elites, and they act to this day largely outside democratic control. Not a single official in the European Union, United Nations, World Trade Organization, or International Monetary Fund is directly elected or accountable to a popular vote.” 101 Therefore, today’s democratic Western nationalism can actually be a “constructive foundation of global politics,” unlike the authoritarian nationalism of the 1930s.102 But if preventing other great powers from achieving regional hegemony is the primary priority for offensive realists, is it not incoherent to diminish the importance of the liberal world order protecting the status quo and to downgrade the tools of “soft power” such as the promotion of global governance agreements, free trade, and democracy? While the liberal internationalist perspective prevalent among many U.S. foreign policy experts would clearly indicate so, there are serious reasons to question this conventional wisdom.103 A focus on relative gains in dealing with China’s mercantilist and predatory trade behavior, for example, might cause some short‐term economic pain for the American economy and some instability in the world trading system, but it would likely hurt the Chinese economy even more. Moreover, aggressively safeguarding the U.S. high‐tech industry and military technology from China’s efforts to gain access to it is needed to maintain and expand the Pentagon’s military advantage vis‐à‐vis the People’s Liberation Army in the next decades. On a different topic, after the painful experiences of Iraq and Afghanistan, and considering the continued prevalence of illiberal leaders in many parts of the world of strategic importance, it is time to focus more on short‐term pragmatic policies that deal with the world as imperfect it is, as opposed to a more long‐term vision of a democratic and peaceful world order. And last but not least, offensive realists do not negate the value of a relatively stable and predictable world order among great powers. Quite the contrary: given the expectation that regional rivals will constantly try to upset the status quo and the balance of power that currently still favors the United States, constant vigilance, adaptation, and emergent strategies will be needed to prevent a deterioration in the U.S. position or, worse, to avoid becoming entangled in a catastrophic war. Whatever its historical merits, the current grand strategy of liberal internationalism is no longer well suited to the current challenges from China and Russia. An offensive realist approach provides an alternative worthy of serious consideration.

#### Structural factors ensure Biden administration FoPo is consistent with offensive realism.

[Baohui Zhang (2020), Nanyang Technological University, The Biden presidency : a different China policy? (RSIS Commentaries, No. 195). RSIS Commentaries. Singapore: Nanyang Technological University.]//CHS PK

Biden’s China Policy in an Anarchic Order In the study of international relations, the matter here fundamentally concerns the classic “man vs. structure” issue. Whether individual leaders matter in terms of foreign policies of state has been continuously debated by scholars. Also known as agency vs. structure debate, most IR scholars place great stress on the incentives and constraints posed by the environment, be it domestic or international. They tend to see significant continuities in the foreign policies of states. On the other hand, some argue that the tendency to overlook the roles of individual leaders is misguided, as their personalities and background experiences do affect their approaches to foreign policy. Therefore, whether leaders can make a difference in the foreign policy of states is a significant issue for the rest of the world to gauge Joe Biden’s China policy. Here, structural approaches to the study of international relations suggest that the anarchic order of the international system will impose significant constraints on Biden and his China policy will continue to emphasise strategic competition. The anarchic international system forces states, especially the great powers, to put a premium on their relative power and influences over rival great powers. In fact, this is the key insight of offensive realism, famously coined by American political scientist John Mearsheimer. Defensive realism, which is another structural theory, also predicts continued rivalry between China and the US. The anarchic order causes the security dilemma between states due to mutual mistrust.

#### Third is space war— Chinese LAWs growth risks space war.

Chan 19 – Melissa Chan is a foreign affairs journalist based in Berlin; ‘China and the U.S Are Fighting a Major Battle Over Killer Robots and the Future of AI’; MELISSA K. CHAN; <https://time.com/5673240/china-killer-robots-weapons/> As+

Chinese AI companies are also making substantial contributions to the effort. Commercial giants such as SenseTime, Megvii, and Yitu sell smart surveillance cameras, voice recognition capabilities, and big data services to the government and for export. Such technology has most notably been used to police the country’s far western territory of Xinjiang, where the U.N. estimates up to 1 million Uighurs, an ethnic minority, have been detained in camps and where facial recognition devices have become commonplace.

“These technologies could easily be a key component for autonomous weapons,” says Daan Kayser of PAX, a European peace organization. Once a robot can accurately identify a face or object, only a few extra lines of code would transform it into an automatic killing machine.

In addition to technology from commercial companies, the PLA has said it plans to develop new types of combat forces, including AI and unmanned — in other words autonomous or near-autonomous — combat systems.

The country’s domestic arms industry has obliged. A few examples include manufacturer Ziyan’s new Blowfish A2 drone. The company boasts it can carry a machine gun, independently fly as a swarm group without human operators, and “engage the target autonomously.” On land, Norinco’s Cavalry, an unmanned ground vehicle with a machine gun and rocket launchers, advertises near autonomous features. And by sea, Chinese military researchers are building unmanned submarines. The 912 Project, a classified program, hopes to develop underwater robots over the next few years.

“Killer robots don’t exist yet, but what we see is a trend towards increasing autonomy,” says Kayser of PAX. “We’re very close to crossing that line, and a lot of the projects that countries are working on — of course they don’t say they’re going to be killer robots. But if we see terms like ‘autonomy in targeting’ — that’s getting very close to something that would be an autonomous weapon.”

All things considered, China’s behavior at the U.N. makes practical sense. Like other states, it is already developing intelligent weapons. The technology is fast outpacing the process at the U.N., where discussions will continue for another two years, if not longer. Without any clear international legal parameters, major militaries are feeling the pressure to invest in autonomous capabilities on the assumption that others are.

Such thinking especially characterizes the discourse around AI and autonomous weapons systems between China and the U.S.

“Essentially you have two sides that are worried about the other gaining an advantage,” says Singer. “That then has the ironic result of them both plowing resources into it, competing against each other, and becoming less secure.”

The other frontier unbound by international law is space. Here, China sees some opportunities to leapfrog American technology. It’s also where Beijing believes the U.S. would be most vulnerable in any conflict because of its dependence on information technology such as GPS, which not only helps soldiers and civilians get around, but services like stock exchanges and ATMs.

The country’s Shiyan-7 satellite, able to maneuver and dock with larger space objects, would in theory, experts say, also be able to latch on to and disable enemy space assets. More recently, China has been testing satellite SJ-17. It moves around with precision at very high altitudes — 22,000 miles above Earth. Satellites in orbit fly at tens of thousands of miles per hour. They possess the kinetic potency to shatter anything in their path, essentially acting as kamikazes against another country’s satellite. The U.S. military worries this is what China has in mind when developing satellites that can move so unusually in space.

Advanced space weapons, killer robots, and the U.S. and China preparing for World War III. It may all sound surreal, like a spectacular science fiction, but in the staid halls of the U.N., over the draft documents bureaucrats pass around, they are exactly what countries are anticipating. What makes their work more challenging than past international weapons bans is the preemptive nature of it, and the technology involved that would make enforcement and verification difficult, if not impossible.

Kayser knows time is running out. “An AI arms race would have no winners,” he says. Preventing one from happening would depend on the major powers. He isn’t optimistic.

“They are not taking their responsibility to ensure that international peace and security is maintained. They are actually taking steps that are dangerous and risky for international peace.”

#### The perception gap causes American first strike in a crisis

Zhao & Bin 18 [TONG ZHAO is a fellow in Carnegie’s Nuclear Policy Program based at the Carnegie– Tsinghua Center for Global Policy. LI BIN is a senior fellow working jointly in the Nuclear Policy Program and the Asia Program at the Carnegie–Tsinghua Center for Global Policy. "THE UNDERAPPRECIATED RISKS OF ENTANGLEMENT: A CHINESE PERSPECTIVE." https://carnegieendowment.org/files/Entanglement\_interior\_FNL.pdf]

If a state knows that its enemy is developing capabilities that could undermine its nuclear deterrent—such as ASAT weapons that could strike early-warning satellites, or cyber weapons that could undermine nuclear C3I—its confidence in the survivability of its nuclear second-strike capability could decrease during a crisis. As a result, the country might become more risk-averse and feel compelled to use nuclear weapons early while it still could.

#### Space wars cause extinction.

Adams ’18 – Former Staff Writer at Digital Trends, journalist

Dallon. “Weaponized Satellites and the Cold War in Space,” Digital Trends, May 1, 2018, <https://www.digitaltrends.com/cool-tech/weaponized-satellites-and-the-cold-war-in-space/>.

--Cuban missile crisis but this time in space is inevitable

--High risk of accidental attribution from a solar flare or something

High stakes

On October 27, 1962, a nuclear-armed Soviet submarine had been spotted patrolling near the U.S. blockade line around Cuba, kicking off the Cuban Missile Crisis. In an attempt to bring the submarine to the surface, a U.S. destroyer began dropping non-lethal depth charges.

The captain of the submarine mistakenly believed these charges were an attack and ordered his crew to arm the nuclear-tipped torpedo for launch. If this launch occurred, the U.S. would have presumably retaliated with a barrage of nukes launched at predetermined locations across the USSR.

Per Soviet protocols, all three of the Russian submarine’s commanding officers needed to agree unanimously on the decision to launch the warhead. The second in command, Vasili Arkhipov, refused to consent to a launch. The commanding officers eventually brought the submarine to the surface and returned to Russia without incident.

In essence, one man’s last-minute decision prevented what could easily have been the beginning of World War III.

This is perhaps as close the world has ever come to a doomsday scenario, and it’s chilling to think a moment of indeterminacy would have meant instant annihilation for millions. But unfortunately, the potential for a grave accident due to misinterpretation is dreadfully ripe in the space-age Cold War we’re currently entrenched in.

“In regards to indeterminacy of an attack: Bingo! Attribution is tremendously difficult,” says Samson. “If a satellite stops working in orbit, it’s not always apparent why. It could be because of faulty parts, solar flares, or deliberate interference.”

Let’s say, for instance, a U.S. intelligence satellite is taken out by a solar flare or fleck of debris while a Chinese or Russian satellite with suspected ASAT potential floats haphazardly nearby. The U.S. would have every reason to believe this was a possible preemptive strike to diminish U.S. GPS capacity before a larger attack. Would defense officials wait calmly with such crucial satellite assets potentially in the crosshairs? Probably not.

While there is currently tremendous potential for a military battle to begin in space, the ensuing war would extend to earth soon thereafter. This unnerving warning was echoed by General John Hyten, head of the U.S. Air Force Space Command. “If war does extend into space someday — and I hope it never does — the first response is not going to be in space,” he warned.

All things considered, it could easily be argued that the risk of an existential threat on this pale blue dot has never been higher. It’s incredible that a nuclear weapon hasn’t been used on civilians in more than 70 years, but most military experts would agree it is a matter of when, not if.

Without meaningful legislation to prevent such a disaster, life on this planet could disappear as quickly as a blip on a radar screen, with only the artificial halo of orbiting trash left to tell the tale.

### --1AC—China War

#### Chinese autonomous weapons development is on the cusp of leapfrogging the US—urgent action is needed.

[Matt Bartlett (6-11-2020), University of Auckland Faculty of Law, “The AI Arms Race in 2020”, towards data science, [https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac]//CHS](https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac%5d//CHS) PK

While states might debate whether lethal autonomous weapon systems (or ‘killer robots’ in the popular imagination) are “unacceptably immoral”, there can be no doubt that Guterres is right on the urgency of the risk: development and use of autonomous weapons are both accelerating, and the stakes — ethical and political — are high.

The world’s military powers have been competing to dominate this new class of intelligent weapons for years, with this AI arms race occurring against a contentious global landscape where an advantage in military AI could make a real difference to the balance of power. This geopolitical game theory driving such advancement in the sophistication of war machines has an unwanted blind spot — historically, human rights factor little into strategic calculations.

With Covid-19, the acceleration of automation has taken on greater speed across a variety of different fronts. Military operations have had to be completely re-thought — physical distancing on a submarine is much harder than physical distancing in a supermarket. Lethal AI already had some mounting advantages over human equivalents, and can now add ‘immunity from catastrophic viruses’ to that list. For all of these reasons, keeping track of the AI arms race is more vital than ever.

If It’s A Race, Who’s Winning?

Almost every month, another innovation in autonomous weapons leaps off the headlines in military news — the autonomous Chinese Blowfish A3 helicopter drone equipped with machine guns or the Russian army of unmanned ‘Marker’ ground vehicles armed with mortars and grenade launchers. There is no question that new inventions in the world of military AI abound, but it is far less clear which country boasts the strongest tech.

Key figures in the United States military have been forthright in warning of China’s might in this area. The US Defense Department’s relatively new Joint Artificial Intelligence Center is building command-and-control AI capability for the first time, explicitly citing the Chinese threat as the reason for the department’s urgency. The Center’s director Lt. Gen. Jack Shanahan has been clear about his desire to automate as much of the American military machine as possible:

“What I don’t want to see is a future where our potential adversaries have a fully AI-enabled force and we do not.”

In the last year, officials as senior as the US Defense Secretary have warned that Chinese technology may, in fact, already be more advanced than America’s. Secretary Mark Esper predicted that China might have “leapfrogged” existing American technology. With the military establishment suitably concerned, spending on lethal autonomous weapons in all branches of the American military seems set to go to another level in 2020 after already increasing in 2019.

For China’s part, mounting investment in autonomous weapon development is a key plank in its ongoing effort to usurp American military dominance. Almost all large-scale AI programs in China benefit from massive governmental support and a huge trove of data, and its autonomous weapons program is the jewel in Beijing’s AI crown. China’s huge investment in lethal autonomous weapons predates other militaries, and its military theorists are ahead of the rest of the world in building futuristic “intelligentized” models of human-machine operations.

A further dimension to China’s AI strategy is economic, with Beijing seemingly interested in profiting from its autonomous weapons program as a new export product. Already, China appears to be exporting many of its most high-tech aerial drones to wealthy buyers in the Middle East, explicitly marketing them as capable of advanced autonomous operations like assassinations. Last year, Zeng Yi, a senior executive at Norinco, China’s third-largest defense company, predicted that as early as 2025, “there will be no people fighting in battlegrounds”.

#### Chinese LAWs growth causes nuclear war—they increase the risk of miscalc and shred deterrence dynamics.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20> CHS PK

Autonomous Weapons, Swarming, and Instability The proliferation of a broad range of AI-augmented autonomous weapon systems (most notably drones used in swarming tactics) could have far-reaching strategic implications for nuclear security and escalation in future warfare.24 Several observers anticipate that sophisticated AI-augmented AWSs will soon be deployed for a range of ISR and strike missions.25 Even if AWSs are used only for conventional operations, their proliferation could nonetheless have destabilizing implications and increase the risk of inadvertent nuclear escalation. For example, AI-augmented drone swarms may be used in offensive sorties targeting ground-based air defenses and by nuclear-armed states to defend their strategic assets (i.e., launch facilities and their attendant C3I and early-warning systems), exerting pressure on a weaker nuclear-armed state to respond with nuclear weapons in a use-them- or- lose- them situation.

Recent advances in AI and autonomy have substantially increased the perceived operational value that military great powers attach to the development of a range of AWSs,26 potentially making the delegation of lethal authority to AWSs an increasingly irresistible and destabilizing prospect.27 That is, in an effort to defend or capture the technological upper hand in the possession of cutting-edge war-fighting assets vis-à- vis strategic rivals’ traditionally conservative militaries, states may eschew the potential risks of deploying unreliable, unverified, and unsafe AWS. Today, the main risk for stability and escalation is the technical limitations of the current iteration of AI machine learning software (i.e., brittleness, explainability, unpredictability of machine learning, vulnerability to subversion or “data poisoning,” and the fallibility of AI systems to biases).28 To be sure, immature deployments of these nascent systems in a nuclear context would have severe consequences.29

Conceptually speaking, autonomous systems will incorporate AI technologies such as visual perception, speech, facial recognition, and decision-making tools to execute a range of core air interdiction, amphibious ground assaults, long-range strike, and maritime operations independent of human intervention and supervision.30 Currently, only a few weapon systems select and engage their targets without human intervention. Loitering attack munitions (LAM)—also known as “loitering munitions” or “suicide drones”—pursue targets (such as enemy radars, ships, or tanks) based on preprogrammed targeting criteria and launch an attack when their sensors detect an enemy’s air defense radar.31 Compared to cruise missiles (designed to fulfill a similar function), LAMs use AI technology to shoot down incoming projectiles faster than a human operator ever could and can remain in flight (or loiter) for much longer periods. This attribute could complicate the ability of states to reliably and accurately detect and attribute autonomous attacks.32

A low-cost lone-wolf unmanned aerial vehicle (UAV) would, for example, not pose a significant threat to a US F-35 stealth fighter, but hundreds of AI machine learning autonomous drones in a swarming sortie may potentially evade and overwhelm an adversary’s sophisticated defense capabilities—even in heavily defended regions such as China’s east and coastal regions.33 Moreover, stealth variants of these systems34—coupled with miniaturized electromagnetic jammers and cyberweapons—may be used to interfere with or subvert an adversary’s targeting sensors and communications systems, undermining its multilayered air defenses in preparation for drone swarms and long-range stealth bomber offensive attacks.35 In 2011, for example, MQ-1 and MQ-9 drones in the Middle East were infected with hard-to- remove malicious malware, exposing the vulnerability of US subset systems to offensive cyber.36 This threat might, however, be countered (or mitigated) by the integration of future iterations of AI technology into stealth fighters such as the F-35.37 Manned F-35 fighters will soon be able to leverage AI to control small drone swarms in close proximity to the aircraft performing sensing, reconnaissance, and targeting functions, including countermeasures against swarm attacks.38 In the future, extended endurance of UAVs and support platforms could potentially increase the ability of drone swarms to survive these kinds of countermeasures.39

Several prominent researchers have opined that, notwithstanding the remaining technical challenges as well as the legal and ethical feasibility,40 we can expect to see operational AWSs in a matter of years.41 According to former US deputy secretary of defense Robert Work, the United States “will not delegate lethal authority to a machine to make a decision” in the use of military force. 42 Work adds, however, that such self-restraint could be tested if a strategic competitor (especially China and Russia) “is more willing to delegate authority to machines than we are and, as that competition unfolds, we’ll have to make decisions on how we can best compete” (emphasis added).43 In short, pre-delegating authority to machines, and taking human judgment further out of the crisis decision-making process, might severely challenge the safety, resilience, and credibility of nuclear weapons in future warfare.44

The historical record is replete with examples of near nuclear misses, demonstrating the importance of human judgment in mitigating the risk of miscalculation and misperception (i.e., of another’s intentions, redlines, and willingness to use force) between adversaries during crises.45 Despite these historical precedents, the risks associated with unpredictable AI-augmented autonomous systems operating in dynamic, complex, and possibly a priori unknown environments remain underappreciated by global defense communities.46 Eschewing these risks, China and Russia plan to incorporate AI into unmanned aerial and undersea vehicles for swarming missions infused with AI machine learning technology.47 Chinese strategists have reportedly researched data-link technologies for “bee swarm” UAVs, particularly emphasizing network architecture, navigation, and anti-jamming military operations for targeting US aircraft carriers.48

Drones used in swarms are conceptually well suited to conduct preemptive attacks and nuclear ISR missions against an adversary’s nuclear and nonnuclear mobile missile launchers and nuclear-powered ballistic missile submarines (SSBN), along with their attendant enabling facilities (e.g., C3I and early warning systems, antennas, sensors, and air intakes).49 The Defense Advanced Research Projects Agency (DARPA), for example, is developing an autonomous surface vehicle (ASV) double outrigger, Sea Hunter, currently being tested by the US Navy to support antisubmarine warfare operations (i.e., submarine reconnaissance).50 Some observers have posited that autonomous systems like Sea Hunter may render the underwater domain transparent, thereby eroding the second-strike deterrence utility of stealthy SSBNs. The technical feasibility of this hypothesis is highly contested, however.51

On the one hand, several experts argue that deployed in large swarms, these platforms could transform antisubmarine warfare, rendering at-sea nuclear deterrence vulnerable. On the other hand, some consider such a hypothesis technically premature because (1) it is unlikely that sensors on board AWSs would be able to reliably detect deeply submerged submarines; (2) the range of these sensors (and the drones themselves) would be limited by battery power over extended ranges;52 and (3) given the vast areas traversed by SSBNs on deterrence missions, the chance of detection is negligible even if large numbers of autonomous swarms were deployed.53 Thus, significant advances in power, sensor technology, and communications would be needed before these autonomous systems have a game-changing strategic impact on deterrence.54 However, irrespective of the veracity of this emerging capability, the mere perception that nuclear capabilities face new strategic challenges would nonetheless elicit distrust between nuclear-armed adversaries—particularly where strategic force asymmetries exist. Moreover, DARPA’s Sea Hunter demonstrates how the emerging generation of autonomous weapons is expediting the completion of the iterative targeting cycle to support joint operations, thus increasing the uncertainty about the reliability and survivability of states’ nuclear second-strike capability and potentially triggering use-them- or- lose- them situations.

Conceptually speaking, the most destabilizing impact of AI on nuclear deterrence would be the synthesis of autonomy with a range of machine-learning- augmented sensors, undermining states’ confidence in the survival of their second-strike capabilities and in extremes triggering a retaliatory first strike.55 Enhanced by the exponential growth in computing performance and coupled with advances in machine learning techniques that can rapidly process data in real time, AI will empower drone swarms to perform increasingly complex missions, such as hunting hitherto hidden nuclear deterrence forces.56 In short, the ability of future iterations of AI able to predict based on the fusion of expanded and dispersed data sets and then to locate, track, and target strategic missiles such as mobile ICBM launchers in underground silos, on board stealth aircraft, and in SSBNs is set to grow.57

The following four scenarios illustrate the possible strategic operations AI-augmented drone swarms would execute.58 First, drone swarms could be deployed to conduct nuclear ISR operations to locate and track dispersed (nuclear and nonnuclear) mobile missile launchers and their attendant enabling C3I systems.59 Specifically, swarms incorporating AI-infused ISR, autonomous sensor platforms, ATR, and data analysis systems may enhance the effectiveness and speed of sensor drones to locate mobile missiles and evade enemy defenses.

Second, swarming could enhance legacy conventional and nuclear weapons delivery systems (e.g., ICBMs and SLBMs), possibly incorporating hypersonic variants (discussed below).60 AI applications will likely enhance the delivery system targeting and tracking and improve the survivability of drone swarms against the current generation of missile defenses.

Third, swarming tactics could bolster a state’s ability to disable or suppress an adversary’s defenses (e.g., air, missile, and antisubmarine warfare defenses), clearing the path for a disarming attack.61 Drone swarms might be armed with cyber or EW capabilities (in addition to antiship, antiradiation, or regular cruise and ballistic missiles) to interfere with or destroy an adversary’s early warning detection and C3I systems in advance of a broader offensive campaign.62 Conversely, drone swarms might enhance states’ missile defenses as countervails to these offensive threats. For example, swarms could form a defensive wall to absorb incoming missile salvos, intercepting them or acting as decoys to throw them off course with mounted laser technology.63

Finally, in the maritime domain, unmanned underwater vessels (UUV), unmanned surface vessels (USV), and UAVs supported by AI-enabled intra-swarm communication and ISR systems could be deployed simultaneously in both offensive and defensive antisubmarine warfare operations to saturate an enemy’s defenses and to locate, disable, and destroy its nuclear-armed or nonnuclear attack submarines.64 Despite continued advances in sensor technology design (e.g., reduced size and extended detection ranges) to overcome quieting challenges, other technical challenges still remain. These include communicating underwater between multiple systems, processing power requirements, generating battery life and energy, and scaling the system.65

While some experts do not expect a technically reliable and effective capability of this kind will be operational for at least a decade, others are more optimistic.66 From a tactical perspective, drone swarms would not need ocean-wide coverage (or full ocean transparency) to effectively detect and track submarines. According to UK rear admiral John Gower, a relatively even spread of sensors might be sufficient to enable “a viable search and detection plan . . . conceived for the open ocean” (emphasis added).67 Moreover, advances in mobile sensing platforms could enable drones in swarms to locate submarines through chokepoints (or gateways) as they emerge from ports. Due to the current slowness of drones with extended sea ranges, however, trailing them autonomously seems implausible.68 Future iterations of machine-learning- augmented UUVs and USVs may eventually complement, and perhaps replace entirely, the traditional role of general-purpose nuclear-powered submarines (SSN) and manned surface vehicles in tracking and trailing submarines of adversaries at chokepoints while simultaneously mounting sparsely distributed and mobile distributed network systems (DNS) sensors on UUVs.69

If a state views the credibility of its survivable nuclear weapons (especially nuclear-armed submarines) to be at risk,70 conventional capabilities such as drone swarms will likely have a destabilizing effect at a strategic level.71 Thus, even if swarm sorties were not intended as (or indeed technically capable of) a disarming first strike, the perception alone of the feasibility of such an operation would be destabilizing nonetheless. Moreover, the speed of AI could put the defender at a distinct disadvantage, creating additional incentives to strike first (or preemptively) technologically superior military rivals. Consequently, the less secure a nation considers its second-strike capabilities to be, the more likely it is to countenance the use of autonomous systems within its nuclear weapons complex to bolster the survivability of its strategic forces. According to analyst Paul Scharre, “winning in swarm combat may depend upon having the best algorithms to enable better coordination and faster reaction times, rather than simply the best platforms” (emphasis added).72

Combining speed, persistence, scope, coordination, and battlefield mass, AWSs will offer states attractive asymmetric options to project military power within contested A2/AD zones.73 Enhanced by sophisticated machine learning neural networks, China’s manned and unmanned drone teaming operations could potentially impede future US freedom of navigation operations in the South China Seas.74 Its air- and sea-based drones linked to sophisticated neural networks could, for example, support the People’s Liberation Army’s manned and unmanned teaming operations. Were China to infuse its cruise missiles and hypersonic glide capabilities with AI and autonomy, close-range encounters in the Taiwan Straits and the East and South China Seas would become more complicated, accident-prone, and destabilizing—at both a conventional and nuclear level.75 China is reportedly developing and deploying UUVs to bolster its underwater monitoring and antisubmarine capabilities as part of a broader goal to establish an “underwater Great Wall” to challenge US undersea military primacy. US AI-enhanced UUVs could, for example, theoretically threaten China’s nuclear ballistic and nonnuclear attack submarines.76

#### Extinction – nuclear winter, crude oil amplifies, smoke covers the world

Snydera and Ruyle 17 (Brian F.Snydera and Leslie E. Ruyle, 12-15-2017, [Brian F. Snyder. Department of Environmental Science, Louisiana State University, United States. Leslie E. Ruyle. Center on Conflict and Development, Texas A&M University, United States]"The abolition of war as a goal of environmental policy," No Publication, <https://www.sciencedirect.com/science/article/pii/S0048969717316431?via%3Dihub)//CHS> PK

While the precise impacts of a hypothetical nuclear war are difficult to predict, the detonation of the world's nuclear weapons would plausibly kill all or nearly all humans on Earth and initiate a mass extinction event. There are a total of about 9400 nuclear warheads in active service around the world, with approximately 8300 of these weapons in U.S. and Russian arsenals (Kristensen and Norris, 2017a). Because of government secrecy, it is difficult to reliably estimate the total explosive power contained in these warheads, but in most cases, each warhead ranges between 100 and 1200 kt of TNT equivalent (for comparison, the bombs dropped on Hiroshima and Nagasaki had yields of approximately 15–20 kt). The combined arsenals of the U.S. and Russia likely have a yield of at least 2–3 billion tons of TNT equivalent (Kristensen and Norris, 2017b,c). 2.1. Nuclear winter In the 1980s climate scientists used simple and early climate models to estimate the effects of large-scale nuclear wars on climate. The estimates they derived were catastrophic. For example, Turco et al. (1983) reported temperature reductions of 43 °C for 4 months in the Northern Hemisphere following nuclear war using the explosive power of 10 billion tons of TNT.1 As the cold war ended, interest in modelling the climate effects of nuclear war declined and some policy-makers considered the threat of nuclear winter to be either disproved or exaggerated (Martin, 1988). Toon et al. (2007) and Robock et al. (2007) reignited interest in the climate effects of nuclear war. Toon et al. (2008) modeled the effects of a medium scale nuclear war with a total explosive yield of 440 million tons of explosive yield (far less than current U.S. and Russian arsenals) and estimated global soot2 emissions of 180 Tg. Using a more conservative estimate of 150 Tg of soot, Toon et al. estimated that this emission would be sufficient to reduce global temperatures by about 8 °C and energy flux by 150 W/m2 ; for comparison, the cumulative greenhouse gas emissions to the atmosphere since the industrial revolution have increased energy flux by 3 W/m2 (Butler and Montzka, 2017). Robock et al. (2007) modeled a similar 150 Tg smoke emission and found similar results including temperature reduction of about 8 °C lasting for several years. Low temperatures reduced evapotranspiration and weakened the global hydrological cycle and Hadley cells. As a result, precipitation decreased globally by 45% with especially dramatic decreases in the agricultural areas of the United States. In the Northern Hemisphere, growing seasons would be shortened by about 100 days for about 3 years. This would preclude most food production over most of the world for several years. Mills et al. (2014) conducted a detailed analysis of the effects of a small (1.5 million ton) regional exchange lofting just 5 Tg of soot into the atmosphere. This war would be equivalent to an exchange of 100 Hiroshima-sized bombs between, for example, India, Pakistan, or China. Mills et al. found global temperature decreases of 1.6 °C. To our knowledge, no one has studied the effects of a multi-billion ton nuclear exchange using modern atmospheric models. If, as Toon et al. and Robock et al. suggest, a 440 million ton war results in temperature reductions of 8 °C for a decade and a 100 day reduction in the growing season, it is reasonable to assume that a one to five billion ton war would not be survivable for the majority of people on earth. However, as populations and population centers grow, the effects of nuclear wars on the biosphere will also grow. The consequences of nuclear winter increase as the amount of fuel (buildings, cars, biomass, liquid and solid fuels) added to a targeted area increase. As population centers grow and densify over time, the amount of soot added to the stratosphere as the result of any given nuclear exchange may increase (depending in part on building materials). As a result, the nuclear winter resulting from a 400 million ton yield global war in 2020 may be far more severe than if the same war occurred in 2000. Further, there are reasons to believe that the soot emissions from a hypothetical nuclear exchange are conservative because they focus on urban areas and often do not incorporate non-urban energy infrastructure. For example, if ignited and burned completely, the U.S. Strategic Petroleum Reserve (SPR) alone contains about 14.5 Tg of soot emissions.3 Including all crude held in U.S. commercial facilities, the potential soot emissions increase to 24 Tg. Thus, incorporating crude oil storage in the U.S. alone would increase soot generation estimates by about 16%. Similarly, nuclear war planners would be likely to target coal, oil and gas fields in the U.S., Russia, and their allies. This unaccounted for fuel could increase the total soot contribution to the atmosphere, potentially deepening the resulting nuclear winter. 2.2. Acute effects of particulate matter Studies of nuclear winter typically focus on the effects of smoke lofted into the stratosphere during nuclear firestorms. However, a larger proportion of smoke following nuclear war will be trapped in the troposphere where it would have significantly acute impacts on human and non-human species. Crutzen et al. (1984) calculated that following a major nuclear war (about 5 billion tons of explosives, roughly the combined U.S. and Russian deployed nuclear arms as of 2017) smoke would cover about 30–40% of the earth's surface with airborne smoke concentrations on the order of 5 mg/m3 . While initially this smoke would be composed of very small particles (b0.1 μm), the particles would rapidly coalesce into the 0.1 to 3 μm range, roughly consistent with the wellstudied PM2.5. For comparison, the EPA's National Ambient Air Quality standard for PM2.5 is 0.012 mg/m3 and as of 2017, the highest PM2.5 concentrations in Asia are typically around 0.3 to 1 mg/m3 .

### --1AC—Primacy (vs. Policy)

#### Chinese autonomous weapons development is on the cusp of leapfrogging the US—urgent action is needed.

[Matt Bartlett (6-11-2020), University of Auckland Faculty of Law, “The AI Arms Race in 2020”, towards data science, [https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac]//CHS](https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac%5d//CHS) PK

While states might debate whether lethal autonomous weapon systems (or ‘killer robots’ in the popular imagination) are “unacceptably immoral”, there can be no doubt that Guterres is right on the urgency of the risk: development and use of autonomous weapons are both accelerating, and the stakes — ethical and political — are high.

The world’s military powers have been competing to dominate this new class of intelligent weapons for years, with this AI arms race occurring against a contentious global landscape where an advantage in military AI could make a real difference to the balance of power. This geopolitical game theory driving such advancement in the sophistication of war machines has an unwanted blind spot — historically, human rights factor little into strategic calculations.

With Covid-19, the acceleration of automation has taken on greater speed across a variety of different fronts. Military operations have had to be completely re-thought — physical distancing on a submarine is much harder than physical distancing in a supermarket. Lethal AI already had some mounting advantages over human equivalents, and can now add ‘immunity from catastrophic viruses’ to that list. For all of these reasons, keeping track of the AI arms race is more vital than ever.

If It’s A Race, Who’s Winning?

Almost every month, another innovation in autonomous weapons leaps off the headlines in military news — the autonomous Chinese Blowfish A3 helicopter drone equipped with machine guns or the Russian army of unmanned ‘Marker’ ground vehicles armed with mortars and grenade launchers. There is no question that new inventions in the world of military AI abound, but it is far less clear which country boasts the strongest tech.

Key figures in the United States military have been forthright in warning of China’s might in this area. The US Defense Department’s relatively new Joint Artificial Intelligence Center is building command-and-control AI capability for the first time, explicitly citing the Chinese threat as the reason for the department’s urgency. The Center’s director Lt. Gen. Jack Shanahan has been clear about his desire to automate as much of the American military machine as possible:

“What I don’t want to see is a future where our potential adversaries have a fully AI-enabled force and we do not.”

In the last year, officials as senior as the US Defense Secretary have warned that Chinese technology may, in fact, already be more advanced than America’s. Secretary Mark Esper predicted that China might have “leapfrogged” existing American technology. With the military establishment suitably concerned, spending on lethal autonomous weapons in all branches of the American military seems set to go to another level in 2020 after already increasing in 2019.

For China’s part, mounting investment in autonomous weapon development is a key plank in its ongoing effort to usurp American military dominance. Almost all large-scale AI programs in China benefit from massive governmental support and a huge trove of data, and its autonomous weapons program is the jewel in Beijing’s AI crown. China’s huge investment in lethal autonomous weapons predates other militaries, and its military theorists are ahead of the rest of the world in building futuristic “intelligentized” models of human-machine operations.

A further dimension to China’s AI strategy is economic, with Beijing seemingly interested in profiting from its autonomous weapons program as a new export product. Already, China appears to be exporting many of its most high-tech aerial drones to wealthy buyers in the Middle East, explicitly marketing them as capable of advanced autonomous operations like assassinations. Last year, Zeng Yi, a senior executive at Norinco, China’s third-largest defense company, predicted that as early as 2025, “there will be no people fighting in battlegrounds”.

#### US military spending high now but Chinese LAW development is the largest threat to overturn American hard power dominance—they view war as inevitable and will try to win the arms race at all costs.

[John Brock (4-13-2017), Major in the US Army, MS in Advance Military Studies from the US Army Command and General Staff College, "Why the United States Must Adopt Lethal Autonomous Weapon Systems," United States Army, [https://apps.dtic.mil/dtic/tr/fulltext/u2/1038884.pdf]//CHS](https://apps.dtic.mil/dtic/tr/fulltext/u2/1038884.pdf%5d//CHS) PK

Currently, United States military spending dwarfs the rest of the world. The United States spends over one-third of the world's military budget and more than the next 14 countries combined. Regardless, the US military is still the smallest since the Interwar Period and will continue to shrink as soldier costs grow. While the United States’ military spending continues to remain high, its technological superiority continues to shrink. The United States’ rising personnel costs are not giving an improved capability, but instead are reducing funding available for the research and development of new technologies. In contrast, countries such as Russia and China are using artificial intelligence and robotics modernization strategies to level the military playing field at a fraction of the cost. Russia’s modernization strategy prioritizes the adoption of autonomous weapon systems and artificial intelligence. Russia has committed to developing a technologically superior robotic military force capable of fighting in the 21st century. Russia’s Chief of the Generals Staff stated, “In the near future, it is possible that a complete robotic unit will be capable of independently conducting military operations.”107 Demonstrating this belief, Russia announced plans to deploy armed autonomous sentry robots to protect five strategic missile installations.108 These sentry robots will use artificial intelligence to make decisions on their own and require no human operators. Russia recognizes that artificial intelligence and robots are resulting in a third military revolution and fundamentally changing warfare. Russia’s modernization strategy is now moving away from crewed vehicles and is transitioning to fully autonomous vehicles. Their defense industry plans to release an autonomous T14 tank prototype within the next two years.109 To accelerate these changes, Russia’s Army Chief of Staff announced that they plan to robotize onethird of their military by the year 2020.110 Though Russia will probably not achieve this automation goal, it signals Russia's vision of modern warfare and how future wars will likely be won.111 China has also prioritized the development of Lethal Autonomous Weapon Systems. The US Deputy Secretary of Defense, Bob Work recognizes that China views Lethal Autonomous Weapon Systems differently than the United States. Work stated “We know that China is already investing heavily in robotics and autonomy.”112 China has invested in artificial intelligence because it wants a military capable of winning future wars against the United States. Chinese General Chi Haitian asserts "War with the United States is inevitable; we cannot avoid it.”113 To win this war, China will use ‘unrestricted warfare’ with no rules, no boundaries, and no moral concerns in the use of Lethal Autonomous Weapon Systems. The People’s Liberation Army insists “War is still the ground of death and life, the path of survival and destruction and even the slightest innocence is not tolerated.”114 China believes that the United States’ current technological advantage will become nonexistent as time goes on. The primary reason for this belief stems from the US military's “ultimate concern” of protecting innocent civilian lives and the environment. These concerns result in the United States continually developing weapons to become "kinder" not "stronger." China also contends that the United States only considers the short-term uses of new technology and fails to adopt novel technologies into future weapon systems. China concludes that the consequences of the United States’ technology shortsightedness will result in the US military being forced to fight yesterday’s war with outdated technologies. In contrast, China examines all emerging and novel technologies to determine how they could be used to develop new weapon systems. They seek new technologies that could be a prelude to a revolution in military affairs giving them an advantage over the United States. China believes yesterday's "high technology" likely represents today's "low technology," while today's "new technology" will turn into tomorrow's "old technology."115Throughout history, there are numerous examples of militaries refusing to acknowledge that a new technology had completely transformed war. Jean De Bloch, a Polish banker and railway financier, authored Is War Now Impossible? in 1898. In his book, Bloch argued that advancements in weapons technology during the industrial revolution made previous Napoleonic open warfare impossible. Bloch concluded that for armies to survive in the 20th century, they must resort to trench warfare. Bloch was an outspoken voice who predicted the carnage that would occur in Europe during World War I. He anticipated the change in the operational environment, but could not convince the world’s leaders that the current methods of warfare were no longer feasible.116 As a result of this failure to adapt, 17 million soldiers and civilians died during World War I.117 Innumerable lives could have been saved if leaders had been quicker to accept the new realities in warfare. Johnson & Johnson CEO Alex Gorsky summarized it best: “You must understand when the environment you are in changes, because you must change also, and if you don’t, you will die.”118 During World War I, the ‘cult of the bayonet' dominated military thinking for the way to fight wars. The European ‘cult of the bayonet’ represents one of history’s prime examples illustrating the flawed belief that a soldier with enough determination will always prevail regardless of warfare’s technological advancements. The European military professionals believed a passionate soldier wielding a bayonet had proven an undefeatable terror weapon during the wars of the 18th and 19th -century.119 However, by the 20th century, the development of machine guns, artillery fire, and poison gas had rendered bayonets only useful for chopping wood, opening tin cans, and hanging up clothing.120 During World War I, senior officers refused to accept that these new technologies made mass infantry bayonet charges irrelevant. Officers with no comprehension of the fundamental changes in warfare continued to send their soldiers on heroic charges, only to die in the thousands.121 The Battle of the Somme illustrates this point where British commanders foolishly ordered a bayonet charge at the machine gun defended German lines, resulting in 60,000 casualties.122 The French operated on a similar tactical doctrine believing infantry morale was superior to firepower. This misconception resulted in over 500,000 French casualties in August 1914.123 Following World War I, even with these staggering European casualties, some US officers still argued that spirited bayonet-wielding soldiers and horses should remain the US military’s decisive capability.124 During World War II, the Japanese believed the human aspect of their Bushido warrior culture could defeat the United States’ superior military technology and firepower. The successful Japanese use of ‘banzai’ bayonet charges against the numerically superior Chinese reinforced these beliefs of the ‘invincible’ Japanese human spirit. Tragically, similar to World War I, these spirited attacks resulted in horrific losses for the Japanese army, which could not overcome the superior American technology and firepower.125 During the Battle of Guadalcanal, the Japanese conducted banzai charges towards the American lines protecting Henderson Field. These charges resulted in the horrific losses of Japanese soldiers. Japan’s Admiral Raizo Tanaka commented "This tragedy should have taught us the hopelessness of ‘bamboo spear’ tactics."126 These historical examples should serve as a dire warning to the United States. Similar to Jean de Bloch’s World War I predictions, a third military revolution will render modern warfare no longer feasible without tremendous United States’ casualties. General Patton once asserted “Many, who should know better, think that wars can be decided by soulless machines, rather than by the blood and anguish of brave men.”127 However, the US military’s people, institutions, and culture are no longer enough to overcome the technological advantages provided by Lethal Autonomous Weapon Systems. The United States must acknowledge that warfare’s environment has changed and begin to adapt. The United States’ Third Offset Strategy currently doubles down on Patton’s military of the past. Over the past 5,000 years of war, the tempo of warfare has grown with the development of new technologies. Soldiers transitioned from walking, to riding horses, to riding in rail cars, to driving in trucks, to flying in aircraft. The speed with which wars are now won or lost depends directly on these new technologies.128 During the 1870-1871 Franco-Prussian War, Prussian Prince Otto von Bismarck required over nine months to force the French surrender.129 In contrast, during World War II, Adolf Hitler only needed forty-six days to force the French capitulation.130 Current technology already allows militaries to fight wars across vast distances, during the nighttime, in adverse weather, and in extreme temperatures. The only limiting factor to increasing the speed of future warfare are the human soldiers fighting it. Due to biology, people require rest and can only maintain a high tempo for short periods of time. These biological human constraints will no longer remain relevant with the development of Lethal Autonomous Weapon Systems. Future lethal autonomous armies will be capable of fighting continuously, at tremendous speeds, and require no breaks or rest.

#### Otherwise risks great power war with China – transition to multipolarity is unstable and collapses deterrence

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As the article argued in 2007, “technological shifts have continuously altered the methods of war,” but in the end, “political arrangements matter, and the deterrent effect of any weapon should be evaluated within the context of the structure of the international system.”20 This claim is as true now as it was then. Indeed, one might conclude that structure matters even more now than it did 10 years ago, given the shift to multipolarity.21 Under “lopsided” multipolarity—where the United States outweighs both China and Russia militarily—it will maintain power advantages on some fronts, but at smaller margins than it did during the unipolar moment when it reigned supreme. Power diffusion, and related great power competition concerns, will be governed by the continued growth of Asian economic and military clout predominantly from China and India and the relative decline of Western economic influence.22 As China continues to translate economic gains into military modernization, the US will “focus mainly on countering China.”23 Avoiding the perils of security competition will require that the US be more cautious about exercising its power abroad.24

Yet exercising diplomacy and restraint could prove to be challenging. Even scholars who adopt a more circumspect view of emerging multipolarity, and the implications of growing military-technological parity, acknowledge its underlying risks. Barry Posen, who questions the assumption that multipolarity is inherently unstable, nonetheless acknowledges that growing parity will only “mute” great power competition. The diffusion of power will not eradicate “great power adventures.”25 China’s rise is apt to entail alliance reconfigurations and temptations to employ conventional military power.26 In fact, just as the original article predicted, the United States and India, Russia and China, and France and Germany have taken steps toward tightening their security relationships. China’s progress toward narrowing its power gap with the US has already met with a return to US defense budget growth and the establishment of new US defense cooperation commitments—notably with India. In parallel, China and Russia have grown closer, with Presidents Xi Jinping and Vladimir Putin meeting three times in 2018 and China sending a “strong supporting contingent” to Russia’s Vostok-2018 military exercises.27

Given the complexities and uncertainties of multipolarity, the US arsenal of advanced conventional weapons (and those of other great powers) may not only prove ill suited to deterring great power war but also provide occasion for its inadvertent onset. The stealth, speed, and lethality of advanced conventional technologies—allowing for quick and decisive US victories in the Persian Gulf (1991), Kosovo (1999), and Afghanistan (2001)—have proven increasingly enticing to other great powers. Russia and China drew similar lessons from these conflicts, each embarking on military modernization programs geared toward antiaccess/area-denial (A2/AD) and grey zone strategies.28 Advanced conventional weapons already undergird Russia’s and China’s respective salami-slicing campaigns in Eastern Europe and the South China Sea. Russia began modernizing its military following its 2008 war with Georgia, enhancing its ground force readiness and updating its integrated air defense system. The improvements have allowed for significant defensive and force-projection gains (against border states).29 Though Russia has since dialed back modernization efforts in the wake of its economic downturn, China continues to seek avenues for undermining the United States’ conventional weapons edge. The People’s Liberation Army (PLA) still trails the United States in the areas of innovation and operational proficiency. Its modernization achievements, though—especially the development of intermediate-range missiles that threaten US forward bases and carrier strike groups—have substantially augmented China’s “advantage of proximity in most plausible conflict scenarios.”30

As great power rivals continue to chip away at the United States’ once considerable smart-weapons advantage, national security experts are reevaluating the viability of deterrence. On this front, the diffusion of capabilities, as well as the expansion of competition to the space and cyber domains, do more than complicate appraisals of the balance of power; they threaten to upend the foundations of deterrence.31 The arrival of dualcapable hypersonic weapons (and delivery systems)—currently being designed and tested by the US, China, and Russia—will arguably risk jeopardizing strategic stability. Their ultrahigh velocity could reduce warning time to the extent that “a response would be required on first signal of attack”; likewise, their deployment in ready-to-launch mode could trigger preemptive strikes, as others might perceive it as a sign of impending attack.32 Further, cyber weapons’ potential for disabling an opponent’s “early warning and command systems” may diminish the expected costs of first strike under crisis conditions.33 Autonomous weapons also have the potential to fundamentally alter the psychological underpinnings of strategy And, as Kenneth Payne notes, there is no “a priori reason” to expect that substituting artificial intelligence (AI) for human intelligence—that rapid, accurate, and unbiased information processing and responses—“will necessarily be safer.” Because AI limits the risks of using force, it could make conflict more acceptable to risk-averse states; because its speed and precision favor the offense, it could prove more conducive to aggression than deterrence; and because it shapes a host of processes and technologies rather than a single weapon or system, its effects on strategy (and the challenges of its regulation) could prove counter to deterrence.34

As noted in the original article, nuclear weapons helped sustain the “cold peace” during the Cold War—not because of their awesome destructive power but because that awesome destructive power helped buttress bipolarity.35 The simplicity of bipolarity and superpower balancing, in turn, limited “the dangers of miscalculation and overreaction.”36 Multipolarity, though, makes for complexity; additional great power players provide additional opportunities for miscalculation and overreaction. Given these conditions and the perceived “usability” of advanced conventional weapons relative to nuclear weapons, it seems likely that they will fall short of yielding “the kinds of political structures necessary to enhance deterrence.”37 To counter Posen, the diffusion of advanced conventional technology may well have cheapened the near-term costs and risks of going to war, and particularly engaging in hybrid warfare. Even if the US manages to avoid a direct confrontation with Russia or China, it seems increasingly plausible that it could be dragged into a conflict involving one or more of their allies.

#### AND a Chinese sphere of influence causes great power war

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Opposition to spheres of influence, in other words, is a part of U.S. diplomatic DNA. The reason for this, Charles Edel and I argued in 2018, is that spheres of influence clash with fundamental tenets of U.S. foreign policy. Among them is the United States’ approach to security, which holds that safeguarding the country’s vital interests and physical well-being requires preventing rival powers from establishing a foothold in the Western Hemisphere or dominating strategically important regions overseas. Likewise, the United States’ emphasis on promoting liberty and free trade translates to a concern that spheres of influence—particularly those dominated by authoritarian powers—would impede the spread of U.S. values and allow hostile powers to block American trade and investment. Finally, spheres of influence do not mesh well with American exceptionalism—the notion that the United States should transcend the old, corrupt ways of balance-of-power diplomacy and establish a more humane, democratic system of international relations.

Of course, that intellectual tradition did not stop the United States from building its own sphere of influence in Latin America from the early nineteenth century onward, nor did it prevent it from drawing large chunks of Europe, East Asia, and the Middle East into a global sphere of influence after World War II. Yet the same tradition has led the United States to run its sphere of influence far more progressively than past great powers, which is why far more countries have sought to join that sphere than to leave it. And since hypocrisy is another venerable tradition in global affairs, it is not surprising that Americans would establish their own, relatively enlightened sphere of influence while denying the legitimacy of everyone else’s.

That endeavor reached its zenith in the post–Cold War era, when the collapse of the Soviet bloc made it possible to envision a world in which Washington’s sphere of influence—also known as the liberal international order—was the only game in town. The United States maintained a world-beating military that could intervene around the globe; preserved and expanded a global alliance structure as a check on aggression; and sought to integrate potential challengers, namely Beijing and Moscow, into a U.S.-led system. It was a remarkably ambitious project, as Allison rightly notes, but it was the culmination of, rather than a departure from, a diplomatic tradition reaching back two centuries.

GIVE THEM AN INCH…

The post–Cold War moment is over, and the prospect of a divided world has returned. Russia is projecting power in the Middle East and staking a claim to dominance in its “near abroad.” China is seeking primacy in the western Pacific and Southeast Asia and using its diplomatic and economic influence to draw countries around the world more tightly into its orbit. Both have developed the tools needed to coerce their neighbors and keep U.S. forces at bay.

Allison is one of several analysts who have recently advanced the argument that the United States should make a virtue of necessity—that it should accept Russian and Chinese spheres of influence, encompassing some portion of eastern Europe and the western Pacific, as the price of stability and peace. The logic is twofold: first, to create a cleaner separation between contending parties by clearly marking where one’s influence ends and the other’s begins; and second, to reduce the chances of conflict by giving rising or resurgent powers a safe zone along their borders. In theory, this seems like a reasonable way of preventing competition from turning into outright conflict, especially given that countries such as Taiwan and the Baltic states lie thousands of miles from the United States but on the doorsteps of its rivals. Yet in reality, a spheres-of-influence world would bring more peril than safety.

Russia’s and China’s spheres of influence would inevitably be domains of coercion and authoritarianism. Both countries are run by illiberal, autocratic regimes; their leaders see democratic values as profoundly threatening to their political survival. If Moscow and Beijing dominated their respective neighborhoods, they would naturally seek to undermine democratic governments that resist their control—as China is already doing in Taiwan and as Russia is doing in Ukraine—or that challenge, through their very existence, the legitimacy of authoritarian rule. The practical consequence of acceding to authoritarian spheres of influence would be to intensify the crisis of democracy that afflicts the world today.

The United States would suffer economically, too. China, in particular, is a mercantilist power already working to turn Asian economies toward Beijing and could one day put the United States at a severe disadvantage on the world’s most economically dynamic continent. Washington should not concede a Chinese sphere of influence unless it is also willing to compromise the “Open Door” principles that have animated its statecraft for over a century.

Such costs might be acceptable in exchange for peace and security. But spheres of influence during the Cold War did not prevent the Soviets from repeatedly testing American redlines in Berlin, causing high-stakes crises in which nuclear war was a real possibility. Nor did those spheres prevent the two sides from competing sharply, and sometimes violently, throughout the “Third World.” Throughout history, spheres-of-influence settlements, from the Thirty Years’ Peace between Athens and Sparta to the Peace of Amiens between the United Kingdom and Napoleonic France have often ended, sooner or later, in war.

#### US-China war goes nuclear.

[Caitlin Talmadge (10-15-2018), PhD in Political Science from MIT, BA in Government from Harvard, Professor of Security Studies at Georgetown University, “Beijing’s Nuclear Option,” Foreign Affairs, [https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option]//recut](https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option%5d//recut) CHS PK

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil.

A war between the two countries remains unlikely, but the prospect of a military confrontation—resulting, for example, from a Chinese campaign against Taiwan—no longer seems as implausible as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think.

Members of China’s strategic com­munity tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.”

This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power.

China, by contrast, not only has nuclear weapons; it has also intermingled them with its conventional military forces, making it difficult to attack one without attacking the other. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to.

As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place.

#### Extinction – nuclear winter, crude oil amplifies, smoke covers the world

Snydera and Ruyle 17 (Brian F.Snydera and Leslie E. Ruyle, 12-15-2017, [Brian F. Snyder. Department of Environmental Science, Louisiana State University, United States. Leslie E. Ruyle. Center on Conflict and Development, Texas A&M University, United States]"The abolition of war as a goal of environmental policy," No Publication, <https://www.sciencedirect.com/science/article/pii/S0048969717316431?via%3Dihub)//CHS> PK

While the precise impacts of a hypothetical nuclear war are difficult to predict, the detonation of the world's nuclear weapons would plausibly kill all or nearly all humans on Earth and initiate a mass extinction event. There are a total of about 9400 nuclear warheads in active service around the world, with approximately 8300 of these weapons in U.S. and Russian arsenals (Kristensen and Norris, 2017a). Because of government secrecy, it is difficult to reliably estimate the total explosive power contained in these warheads, but in most cases, each warhead ranges between 100 and 1200 kt of TNT equivalent (for comparison, the bombs dropped on Hiroshima and Nagasaki had yields of approximately 15–20 kt). The combined arsenals of the U.S. and Russia likely have a yield of at least 2–3 billion tons of TNT equivalent (Kristensen and Norris, 2017b,c). 2.1. Nuclear winter In the 1980s climate scientists used simple and early climate models to estimate the effects of large-scale nuclear wars on climate. The estimates they derived were catastrophic. For example, Turco et al. (1983) reported temperature reductions of 43 °C for 4 months in the Northern Hemisphere following nuclear war using the explosive power of 10 billion tons of TNT.1 As the cold war ended, interest in modelling the climate effects of nuclear war declined and some policy-makers considered the threat of nuclear winter to be either disproved or exaggerated (Martin, 1988). Toon et al. (2007) and Robock et al. (2007) reignited interest in the climate effects of nuclear war. Toon et al. (2008) modeled the effects of a medium scale nuclear war with a total explosive yield of 440 million tons of explosive yield (far less than current U.S. and Russian arsenals) and estimated global soot2 emissions of 180 Tg. Using a more conservative estimate of 150 Tg of soot, Toon et al. estimated that this emission would be sufficient to reduce global temperatures by about 8 °C and energy flux by 150 W/m2 ; for comparison, the cumulative greenhouse gas emissions to the atmosphere since the industrial revolution have increased energy flux by 3 W/m2 (Butler and Montzka, 2017). Robock et al. (2007) modeled a similar 150 Tg smoke emission and found similar results including temperature reduction of about 8 °C lasting for several years. Low temperatures reduced evapotranspiration and weakened the global hydrological cycle and Hadley cells. As a result, precipitation decreased globally by 45% with especially dramatic decreases in the agricultural areas of the United States. In the Northern Hemisphere, growing seasons would be shortened by about 100 days for about 3 years. This would preclude most food production over most of the world for several years. Mills et al. (2014) conducted a detailed analysis of the effects of a small (1.5 million ton) regional exchange lofting just 5 Tg of soot into the atmosphere. This war would be equivalent to an exchange of 100 Hiroshima-sized bombs between, for example, India, Pakistan, or China. Mills et al. found global temperature decreases of 1.6 °C. To our knowledge, no one has studied the effects of a multi-billion ton nuclear exchange using modern atmospheric models. If, as Toon et al. and Robock et al. suggest, a 440 million ton war results in temperature reductions of 8 °C for a decade and a 100 day reduction in the growing season, it is reasonable to assume that a one to five billion ton war would not be survivable for the majority of people on earth. However, as populations and population centers grow, the effects of nuclear wars on the biosphere will also grow. The consequences of nuclear winter increase as the amount of fuel (buildings, cars, biomass, liquid and solid fuels) added to a targeted area increase. As population centers grow and densify over time, the amount of soot added to the stratosphere as the result of any given nuclear exchange may increase (depending in part on building materials). As a result, the nuclear winter resulting from a 400 million ton yield global war in 2020 may be far more severe than if the same war occurred in 2000. Further, there are reasons to believe that the soot emissions from a hypothetical nuclear exchange are conservative because they focus on urban areas and often do not incorporate non-urban energy infrastructure. For example, if ignited and burned completely, the U.S. Strategic Petroleum Reserve (SPR) alone contains about 14.5 Tg of soot emissions.3 Including all crude held in U.S. commercial facilities, the potential soot emissions increase to 24 Tg. Thus, incorporating crude oil storage in the U.S. alone would increase soot generation estimates by about 16%. Similarly, nuclear war planners would be likely to target coal, oil and gas fields in the U.S., Russia, and their allies. This unaccounted for fuel could increase the total soot contribution to the atmosphere, potentially deepening the resulting nuclear winter. 2.2. Acute effects of particulate matter Studies of nuclear winter typically focus on the effects of smoke lofted into the stratosphere during nuclear firestorms. However, a larger proportion of smoke following nuclear war will be trapped in the troposphere where it would have significantly acute impacts on human and non-human species. Crutzen et al. (1984) calculated that following a major nuclear war (about 5 billion tons of explosives, roughly the combined U.S. and Russian deployed nuclear arms as of 2017) smoke would cover about 30–40% of the earth's surface with airborne smoke concentrations on the order of 5 mg/m3 . While initially this smoke would be composed of very small particles (b0.1 μm), the particles would rapidly coalesce into the 0.1 to 3 μm range, roughly consistent with the wellstudied PM2.5. For comparison, the EPA's National Ambient Air Quality standard for PM2.5 is 0.012 mg/m3 and as of 2017, the highest PM2.5 concentrations in Asia are typically around 0.3 to 1 mg/m3 .

#### Put away your impact turns. The aff pursues an offensive realist emergent strategy tailored to the modern world that doesn’t fall into the same pitfalls of liberal internationalism or defensive realism that your cards indict—we recognize the greatest threats to the state and handle situations on a case-by-case basis. We aren’t concerned with preserving institutions or maintaining alliance commitments.

[Ionut Popescu (2019), Assistant Professor of Political Science at Texas State University, “American Grand Strategy and the Rise of Offensive Realism,” Political Science Quarterly, Vol 134 Number 3 2018-2019, Academy of Political Science]//CHS PK

As a decidedly pessimistic theory of great‐power politics, offensive realism admittedly does not offer either the uplifting vision of peace and prosperity under an ever‐expanding liberal world order advocated by liberal internationalists or the financial savings and benign isolation implied in the retrenchment paradigm proposed by defensive realists. However, recent developments on the international scene fit better with the theoretical expectations of offensive realism than with those of its alternative paradigms. The current era is dominated by the resurgence of great‐power revisionism, with China and Russia aggressively expanding their spheres of influence both regionally and globally in a way that offensive realists such as Mearsheimer expected all along.94 In the 1990s and 2000s, the Washington foreign policy elites, operating, broadly speaking, under a liberal internationalist worldview, assumed that deepening economic engagement with rising great powers would serve to diminish traditional geopolitical conflicts and instead lead Beijing and Moscow to accept the rules and norms of the Western liberal world order.95 Retrenchment advocates, while critical of the liberal assumption that economic and diplomatic integration will lead to peaceful cooperation among the great powers, nevertheless fail to account for the aggressive recent moves of China in the South China Sea or for Russia’s military adventurism in Georgia, Ukraine, and now Syria. For defensive realists, security is plentiful in the international system, and these great powers should feel secure enough in their regions instead of aggressively attempting to expand their regional influence and control even at the risk of inviting balancing coalitions against them. Contrary to those two paradigms, offensive realism’s pessimistic view of great‐power politics more accurately anticipated that the “holiday from history” of the past two or three decades would come to an end sooner rather than later. As former Obama administration officials Kurt Campbell and Ely Ratner observed, “Neither carrots nor sticks have swayed China as predicted. Diplomatic and commercial engagement have not brought political and economic openness. Neither U.S. military power nor regional balancing has stopped Beijing from seeking to displace core components of the U.S.‐led system. And the liberal international order has failed to lure or bind China as powerfully as expected. China has instead pursued its own course, belying a range of American expectations in the process.” 96 Similarly, Putin’s strategy is clearly aimed at expanding Russia’s sphere of influence in the former Soviet states and to weaken America’s military and diplomatic presence in Eastern Europe.97 Some defensive realists might argue that Russia’s aggressiveness in Ukraine was provoked by the West’s pursuit of closer ties with Kiev, but this argument is hard to reconcile with Putin’s disproportionate military response that led to the actual seizure of Crimea, or with Russia’s aggressive rhetoric and military provocations toward NATO since that time. The “tragedy of great‐power politics” is that conflict is the natural state of relations among them, something that is as true today as it always has been. Another development that realists (not just offensive ones but also defensive ones) anticipated much better than liberal internationalists is the resurgence of nationalism as arguably the primary force shaping world politics in today’s era.98 It is not only the authoritarian rulers of Russia and China that increasingly rely on nationalism to maintain and tighten their grip on civil society and the economy; major political developments in the Western world also show what a powerful force nationalism remains. Brexit, the rise of major anti–European Union opposition political parties in several Western European countries (Italy, Germany, and France, among others) as well as governing parties in Hungary and Poland, and, of course, the presidency of Donald Trump are all pointing out that the nation‐state remains the primary source of identity in the twenty‐first century.99 However, despite what some fear, today’s resurgent nationalism in the West is a necessary ingredient to confront the threats from Beijing or Moscow.100 And, as Henry Nau argued, unlike its precedent manifestations, today’s “nationalism is not a destructive force but a democratic check on global elites and institutions. Globalism empowered financial, cultural and bureaucratic elites, and they act to this day largely outside democratic control. Not a single official in the European Union, United Nations, World Trade Organization, or International Monetary Fund is directly elected or accountable to a popular vote.” 101 Therefore, today’s democratic Western nationalism can actually be a “constructive foundation of global politics,” unlike the authoritarian nationalism of the 1930s.102 But if preventing other great powers from achieving regional hegemony is the primary priority for offensive realists, is it not incoherent to diminish the importance of the liberal world order protecting the status quo and to downgrade the tools of “soft power” such as the promotion of global governance agreements, free trade, and democracy? While the liberal internationalist perspective prevalent among many U.S. foreign policy experts would clearly indicate so, there are serious reasons to question this conventional wisdom.103 A focus on relative gains in dealing with China’s mercantilist and predatory trade behavior, for example, might cause some short‐term economic pain for the American economy and some instability in the world trading system, but it would likely hurt the Chinese economy even more. Moreover, aggressively safeguarding the U.S. high‐tech industry and military technology from China’s efforts to gain access to it is needed to maintain and expand the Pentagon’s military advantage vis‐à‐vis the People’s Liberation Army in the next decades. On a different topic, after the painful experiences of Iraq and Afghanistan, and considering the continued prevalence of illiberal leaders in many parts of the world of strategic importance, it is time to focus more on short‐term pragmatic policies that deal with the world as imperfect it is, as opposed to a more long‐term vision of a democratic and peaceful world order. And last but not least, offensive realists do not negate the value of a relatively stable and predictable world order among great powers. Quite the contrary: given the expectation that regional rivals will constantly try to upset the status quo and the balance of power that currently still favors the United States, constant vigilance, adaptation, and emergent strategies will be needed to prevent a deterioration in the U.S. position or, worse, to avoid becoming entangled in a catastrophic war. Whatever its historical merits, the current grand strategy of liberal internationalism is no longer well suited to the current challenges from China and Russia. An offensive realist approach provides an alternative worthy of serious consideration.

### --1AC—Primacy (vs. Kritik)

#### Chinese autonomous weapons development is on the cusp of leapfrogging the US—urgent action is needed.

[Matt Bartlett (6-11-2020), University of Auckland Faculty of Law, “The AI Arms Race in 2020”, towards data science, [https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac]//CHS](https://towardsdatascience.com/the-ai-arms-race-in-2020-e7f049cb69ac%5d//CHS) PK

While states might debate whether lethal autonomous weapon systems (or ‘killer robots’ in the popular imagination) are “unacceptably immoral”, there can be no doubt that Guterres is right on the urgency of the risk: development and use of autonomous weapons are both accelerating, and the stakes — ethical and political — are high.

The world’s military powers have been competing to dominate this new class of intelligent weapons for years, with this AI arms race occurring against a contentious global landscape where an advantage in military AI could make a real difference to the balance of power. This geopolitical game theory driving such advancement in the sophistication of war machines has an unwanted blind spot — historically, human rights factor little into strategic calculations.

With Covid-19, the acceleration of automation has taken on greater speed across a variety of different fronts. Military operations have had to be completely re-thought — physical distancing on a submarine is much harder than physical distancing in a supermarket. Lethal AI already had some mounting advantages over human equivalents, and can now add ‘immunity from catastrophic viruses’ to that list. For all of these reasons, keeping track of the AI arms race is more vital than ever.

If It’s A Race, Who’s Winning?

Almost every month, another innovation in autonomous weapons leaps off the headlines in military news — the autonomous Chinese Blowfish A3 helicopter drone equipped with machine guns or the Russian army of unmanned ‘Marker’ ground vehicles armed with mortars and grenade launchers. There is no question that new inventions in the world of military AI abound, but it is far less clear which country boasts the strongest tech.

Key figures in the United States military have been forthright in warning of China’s might in this area. The US Defense Department’s relatively new Joint Artificial Intelligence Center is building command-and-control AI capability for the first time, explicitly citing the Chinese threat as the reason for the department’s urgency. The Center’s director Lt. Gen. Jack Shanahan has been clear about his desire to automate as much of the American military machine as possible:

“What I don’t want to see is a future where our potential adversaries have a fully AI-enabled force and we do not.”

In the last year, officials as senior as the US Defense Secretary have warned that Chinese technology may, in fact, already be more advanced than America’s. Secretary Mark Esper predicted that China might have “leapfrogged” existing American technology. With the military establishment suitably concerned, spending on lethal autonomous weapons in all branches of the American military seems set to go to another level in 2020 after already increasing in 2019.

For China’s part, mounting investment in autonomous weapon development is a key plank in its ongoing effort to usurp American military dominance. Almost all large-scale AI programs in China benefit from massive governmental support and a huge trove of data, and its autonomous weapons program is the jewel in Beijing’s AI crown. China’s huge investment in lethal autonomous weapons predates other militaries, and its military theorists are ahead of the rest of the world in building futuristic “intelligentized” models of human-machine operations.

A further dimension to China’s AI strategy is economic, with Beijing seemingly interested in profiting from its autonomous weapons program as a new export product. Already, China appears to be exporting many of its most high-tech aerial drones to wealthy buyers in the Middle East, explicitly marketing them as capable of advanced autonomous operations like assassinations. Last year, Zeng Yi, a senior executive at Norinco, China’s third-largest defense company, predicted that as early as 2025, “there will be no people fighting in battlegrounds”.

#### US military spending high now but Chinese LAW development is the largest threat to overturn American hard power dominance—they view war as inevitable and will try to win the arms race at all costs.

[John Brock (4-13-2017), Major in the US Army, MS in Advance Military Studies from the US Army Command and General Staff College, "Why the United States Must Adopt Lethal Autonomous Weapon Systems," United States Army, [https://apps.dtic.mil/dtic/tr/fulltext/u2/1038884.pdf]//CHS](https://apps.dtic.mil/dtic/tr/fulltext/u2/1038884.pdf%5d//CHS) PK

Currently, United States military spending dwarfs the rest of the world. The United States spends over one-third of the world's military budget and more than the next 14 countries combined. Regardless, the US military is still the smallest since the Interwar Period and will continue to shrink as soldier costs grow. While the United States’ military spending continues to remain high, its technological superiority continues to shrink. The United States’ rising personnel costs are not giving an improved capability, but instead are reducing funding available for the research and development of new technologies. In contrast, countries such as Russia and China are using artificial intelligence and robotics modernization strategies to level the military playing field at a fraction of the cost. Russia’s modernization strategy prioritizes the adoption of autonomous weapon systems and artificial intelligence. Russia has committed to developing a technologically superior robotic military force capable of fighting in the 21st century. Russia’s Chief of the Generals Staff stated, “In the near future, it is possible that a complete robotic unit will be capable of independently conducting military operations.”107 Demonstrating this belief, Russia announced plans to deploy armed autonomous sentry robots to protect five strategic missile installations.108 These sentry robots will use artificial intelligence to make decisions on their own and require no human operators. Russia recognizes that artificial intelligence and robots are resulting in a third military revolution and fundamentally changing warfare. Russia’s modernization strategy is now moving away from crewed vehicles and is transitioning to fully autonomous vehicles. Their defense industry plans to release an autonomous T14 tank prototype within the next two years.109 To accelerate these changes, Russia’s Army Chief of Staff announced that they plan to robotize onethird of their military by the year 2020.110 Though Russia will probably not achieve this automation goal, it signals Russia's vision of modern warfare and how future wars will likely be won.111 China has also prioritized the development of Lethal Autonomous Weapon Systems. The US Deputy Secretary of Defense, Bob Work recognizes that China views Lethal Autonomous Weapon Systems differently than the United States. Work stated “We know that China is already investing heavily in robotics and autonomy.”112 China has invested in artificial intelligence because it wants a military capable of winning future wars against the United States. Chinese General Chi Haitian asserts "War with the United States is inevitable; we cannot avoid it.”113 To win this war, China will use ‘unrestricted warfare’ with no rules, no boundaries, and no moral concerns in the use of Lethal Autonomous Weapon Systems. The People’s Liberation Army insists “War is still the ground of death and life, the path of survival and destruction and even the slightest innocence is not tolerated.”114 China believes that the United States’ current technological advantage will become nonexistent as time goes on. The primary reason for this belief stems from the US military's “ultimate concern” of protecting innocent civilian lives and the environment. These concerns result in the United States continually developing weapons to become "kinder" not "stronger." China also contends that the United States only considers the short-term uses of new technology and fails to adopt novel technologies into future weapon systems. China concludes that the consequences of the United States’ technology shortsightedness will result in the US military being forced to fight yesterday’s war with outdated technologies. In contrast, China examines all emerging and novel technologies to determine how they could be used to develop new weapon systems. They seek new technologies that could be a prelude to a revolution in military affairs giving them an advantage over the United States. China believes yesterday's "high technology" likely represents today's "low technology," while today's "new technology" will turn into tomorrow's "old technology."115Throughout history, there are numerous examples of militaries refusing to acknowledge that a new technology had completely transformed war. Jean De Bloch, a Polish banker and railway financier, authored Is War Now Impossible? in 1898. In his book, Bloch argued that advancements in weapons technology during the industrial revolution made previous Napoleonic open warfare impossible. Bloch concluded that for armies to survive in the 20th century, they must resort to trench warfare. Bloch was an outspoken voice who predicted the carnage that would occur in Europe during World War I. He anticipated the change in the operational environment, but could not convince the world’s leaders that the current methods of warfare were no longer feasible.116 As a result of this failure to adapt, 17 million soldiers and civilians died during World War I.117 Innumerable lives could have been saved if leaders had been quicker to accept the new realities in warfare. Johnson & Johnson CEO Alex Gorsky summarized it best: “You must understand when the environment you are in changes, because you must change also, and if you don’t, you will die.”118 During World War I, the ‘cult of the bayonet' dominated military thinking for the way to fight wars. The European ‘cult of the bayonet’ represents one of history’s prime examples illustrating the flawed belief that a soldier with enough determination will always prevail regardless of warfare’s technological advancements. The European military professionals believed a passionate soldier wielding a bayonet had proven an undefeatable terror weapon during the wars of the 18th and 19th -century.119 However, by the 20th century, the development of machine guns, artillery fire, and poison gas had rendered bayonets only useful for chopping wood, opening tin cans, and hanging up clothing.120 During World War I, senior officers refused to accept that these new technologies made mass infantry bayonet charges irrelevant. Officers with no comprehension of the fundamental changes in warfare continued to send their soldiers on heroic charges, only to die in the thousands.121 The Battle of the Somme illustrates this point where British commanders foolishly ordered a bayonet charge at the machine gun defended German lines, resulting in 60,000 casualties.122 The French operated on a similar tactical doctrine believing infantry morale was superior to firepower. This misconception resulted in over 500,000 French casualties in August 1914.123 Following World War I, even with these staggering European casualties, some US officers still argued that spirited bayonet-wielding soldiers and horses should remain the US military’s decisive capability.124 During World War II, the Japanese believed the human aspect of their Bushido warrior culture could defeat the United States’ superior military technology and firepower. The successful Japanese use of ‘banzai’ bayonet charges against the numerically superior Chinese reinforced these beliefs of the ‘invincible’ Japanese human spirit. Tragically, similar to World War I, these spirited attacks resulted in horrific losses for the Japanese army, which could not overcome the superior American technology and firepower.125 During the Battle of Guadalcanal, the Japanese conducted banzai charges towards the American lines protecting Henderson Field. These charges resulted in the horrific losses of Japanese soldiers. Japan’s Admiral Raizo Tanaka commented "This tragedy should have taught us the hopelessness of ‘bamboo spear’ tactics."126 These historical examples should serve as a dire warning to the United States. Similar to Jean de Bloch’s World War I predictions, a third military revolution will render modern warfare no longer feasible without tremendous United States’ casualties. General Patton once asserted “Many, who should know better, think that wars can be decided by soulless machines, rather than by the blood and anguish of brave men.”127 However, the US military’s people, institutions, and culture are no longer enough to overcome the technological advantages provided by Lethal Autonomous Weapon Systems. The United States must acknowledge that warfare’s environment has changed and begin to adapt. The United States’ Third Offset Strategy currently doubles down on Patton’s military of the past. Over the past 5,000 years of war, the tempo of warfare has grown with the development of new technologies. Soldiers transitioned from walking, to riding horses, to riding in rail cars, to driving in trucks, to flying in aircraft. The speed with which wars are now won or lost depends directly on these new technologies.128 During the 1870-1871 Franco-Prussian War, Prussian Prince Otto von Bismarck required over nine months to force the French surrender.129 In contrast, during World War II, Adolf Hitler only needed forty-six days to force the French capitulation.130 Current technology already allows militaries to fight wars across vast distances, during the nighttime, in adverse weather, and in extreme temperatures. The only limiting factor to increasing the speed of future warfare are the human soldiers fighting it. Due to biology, people require rest and can only maintain a high tempo for short periods of time. These biological human constraints will no longer remain relevant with the development of Lethal Autonomous Weapon Systems. Future lethal autonomous armies will be capable of fighting continuously, at tremendous speeds, and require no breaks or rest.

#### Sustaining the ILO requires US military dominance – failure risks nuclear collapse. Some mistakes are inevitable, but maintaining hegemonic power prevents the worst errors.

[Robert Kagan (2018), PhD in American History from American University, Senior Fellow with the Project on International Order and Strategy in Foreign Policy at Brookings, “The Jungle Grows Back: America and Our Imperiled World”]//CHS PK

Despite everything that has happened, if we reject the counsels of the new “realism” and resume our support for the liberal world order, it is still within our capacity to defend it and put off its collapse, perhaps for quite some time. Today the order remains intact, despite the hostility of the present administration and the weakness of the last. The international structures supporting it are durable. This is partly because they rest on geographical realities and a distribution of power that still favor the liberal order and still pose obstacles to those who would disrupt it. It is also because liberal values, though under assault, remain a force that binds the democratic nations of the world together. Authoritarianism also has its appeal and will always compete with liberalism, but the authoritarian governments do not feel the same sense of commonality as the monarchies and aristocracies of the early nineteenth century. The Chinese and Russians are not adversaries, but they are not allies either. They share little except their antipathy to liberalism. The democratic nations, however, are bound together by more than common adversaries, as the post–Cold War era has proved. America’s alliances in Europe and Asia have so far held, therefore, despite the weakening of America’s commitment under two administrations. There is still a liberal world order to be salvaged, if the American people decide it is worth salvaging.

They will also have to decide that they are prepared to pay the costs, and those costs have not changed. It took great and consistent exertions of American power and influence to create and sustain this world order. It will take no less to continue upholding it into the future. Americans over the past two decades have become convinced that the United States is doing too much when actually it has been doing too little.

Much of what needs to be done to shore up the order requires only diplomatic and economic measures. The United States needs to return to the deep engagement with Europe that characterized the relationship from the postwar years to the early post–Cold War years. Americans must understand that a healthy liberal Europe is the anchor of the order from which they benefit. Therefore such matters as the negotiation of Britain’s withdrawal from the EU, the Eurozone crisis, the cyber threats from Russia, and European energy supplies must be addressed not just as European problems but as transatlantic problems that affect the United States, too. The United States also needs to work with European governments to address the democratic backsliding in Europe. Nations that entered the EU and NATO after the Cold War had to meet high standards of democratic governance in order to gain membership. If some have ceased to meet those standards, they need to be suspended from membership or denied some of the benefits of membership. Hungary and Turkey cannot expect to enjoy the benefits of NATO, and, in Hungary’s case, EU membership, so long as they celebrate their “illiberalism” and reject the basic premises of the liberal world order. Finally, the United States needs to return to the liberal compact when it comes to trade and international institutions. It was a serious blow to the liberal order when the United States walked away from the Trans-Pacific Partnership—and a great boon to China. The order will suffer further if American trade policies seek “wins” over close allies like Canada and Germany. Americans need to understand that the free trade regime undergirds the order from which they benefit as much or more than anyone. It is not a “win” if that regime collapses into the protectionism that characterized the decades before World War II.

Then there is the question of maintaining America’s military predominance in the international system. For all the talk of “soft” power and “smart” power, it is ultimately the American security guarantee, the ability to deploy hard power to deter and defeat potential aggressors, that provides the essential foundation without which the liberal world order could never survive. Members of Congress from both parties have underfunded the military since the beginning of the post–Cold War era, but especially over the last decade. Defense secretaries from both parties have raised alarms about the increasing inability of the armed forces to perform their missions of deterrence around the world. And the dangers of war have only grown in recent years, not diminished. Americans need to remember that deterring a war is much less expensive than fighting one.

It is not only the money to preserve power, however, but also the willingness to apply that power, with all the pain and the suffering, the uncertainties and the errors, the failures and follies, the immorality and brutality, the lost lives and the lost treasure. Most of what we need to do to sustain the liberal order will not require sending troops, but there will be times when it will be necessary. It is simply dishonest to tell the American people that the relative security and prosperity they have enjoyed can be sustained without the occasional threat or use of force. There will be challenges on the Korean Peninsula, in the South China Sea, in the Middle East, and along the fault lines between Russia and NATO.

We would like to be sure that there will be no more Iraqs and Vietnams, and we should do our best, learning from past mistakes, to avoid such failures. But it would be foolish to imagine we can avoid mistakes and failures entirely. There is no doctrine other than pure isolation and inaction that can prevent such tragedies. The Obama administration offered a doctrine of not doing “stupid” things; others have spoken of the need to fight only “necessary” not “unnecessary” wars; in the past people have argued for fighting only for “vital” national interests in “core” areas and avoiding fights in the “periphery.” The problem with all of these sensible-sounding proposals is that it is often only in hindsight that we can be sure what was “stupid” and what was “necessary,” what was “vital” and what was “peripheral” and safely ignored.

There were many smart people who believed that American intervention in Vietnam was essential to forestall a communist victory, that it was a vital strategic interest for the United States, partly to protect Japan and partly in the overall effort to resist aggression. An equally long and distinguished list of foreign policy thinkers and politicians supported the war in Iraq because they believed it was vital to protect the world from what most believed were Iraq’s WMD programs and from a serial aggressor and mass killer. Later on, when those efforts failed, when the intelligence proved faulty and the political-military strategies inadequate, many of those who supported those wars declared not only that they were a mistake but they were an obvious and avoidable mistake—even though they themselves did not see it at the time. That is one of the problems: many mistakes are not obvious until they are made. So, too, the distinction between supposedly “necessary” and “unnecessary” wars. Prior to December 1941 and Germany’s declaration of war on the United States, many American experts and the great majority of the American people did not think it was necessary to go to war in Europe to defeat Hitler.

As for wars on the periphery, the world is not a collection of distinct regions neatly walled off from one another. We may call one region “Europe,” one “Asia,” and one “the Middle East,” and we may say we will intervene in one but not the other. This is an artificial construct, however. Regions abut one another and bleed into one another; their histories, cultures, and religions as well as their economies are tightly entangled. Great powers have been intervening in the Middle East and Persian Gulf for centuries, before there was oil and before there was a Suez Canal. To extricate ourselves from the Middle East would mean extricating ourselves from the world connected to and through the whole region. Even that might not keep us from having to intervene. In recent decades we have learned, tragically, that what happens in the Middle East does not stay in the Middle East. Americans would love never to have to think about the Middle East again, but no administration has succeeded in extricating the United States from it—not even Obama. Meanwhile, the more we rely on proxies like Saudi Arabia, Egypt, and Israel to determine the course of events in the Middle East, the less it will be a course we would choose. Even if they could manage the task without us, which seems unlikely, it will be their interests they will be protecting, not ours, and not those of the liberal order.

For the United States, it is not a question of all in or all out. We cannot intervene everywhere, and we haven’t ever come close to doing so. In the Middle East and elsewhere, we will still be required to make decisions: when to intervene, how to intervene, how much to commit, and how long to stay, and the answers will not be obvious and the outcomes will not be certain or even predictable. Nor will our interventions “solve” the problem; or they will solve one problem and create others. Those who insist on outcomes that pose no further dangers and require no further involvement are asking the impossible. Our intervention in World War II defeated Hitler but led to Soviet communist control of half of Europe and four decades of Cold War. That is the messy reality. President Obama said he didn’t like the idea of just putting a lid on problems like Syria. But the most masterful foreign policies in history, whether those of a Bismarck or a Disraeli, have always been about containing rather than solving problems. America’s entire grand strategy since World War II has been about putting lids on problems, in Europe, in Asia, and elsewhere. Whether that is good or bad depends on what’s under the lid and whether it is better to keep things under it than to let them out.

The American people would like a foreign policy that avoids mistakes and disasters, and who can blame them? But that is a bit like wanting to throw touchdowns but not interceptions, to make only good investment decisions, or to win all your cases. The price of failures in foreign policy is measured in human lives and national treasure, and therefore the greatest care must be taken to get it right, but it nevertheless remains a human activity and therefore subject both to our foibles and the failure of our best-intentioned efforts to predict the future. People don’t stop what they’re doing after a mistake is made; they try to do a better job next time. We can’t quit having a foreign policy, even if our geography, our wealth, and our power sorely tempt us to try.

There are, moreover, two kinds of errors: errors of commission and errors of omission. After World War I, Americans were more focused on the former; after World War II, they worried more about the latter. Today we are fixated almost entirely on errors of commission. A couple of years ago, Robert Merry, the editor of The American Conservative, made a list of “America’s Five Biggest Foreign Policy Fiascoes.” At the top of the list was Iraq, followed by America’s entry into World War I, the Vietnam War, the intervention in Somalia, and the Bay of Pigs “invasion.” These were all acts of commission. But what about the “fiascoes” that resulted from our failure to act? What about our failure to destroy al Qaeda bases in Afghanistan before three thousand people were killed in the Twin Towers and the Pentagon; or the failure either to deter or to prepare adequately for a Japanese attack on the Philippines, which led in early 1942 to the death of ten thousand American and Filipino soldiers in three months of fighting followed by the deaths of thousands more in the infamous Bataan Death March? Was that not a far worse error than the tragedy which led to eighteen American dead in Mogadishu? What about the price the liberal world order, and particularly America’s key allies in Europe, have paid for our failure to contain the crisis in Syria? Were not these errors of omission more costly than our errors of commission in Somalia?

At the root of such thinking is the belief that there is an escape from power or that it is possible to wield power without error and without failure. Americans, blessed by their favorable geography and wealth, still believe they have a choice between engaging the world and letting the world fend for itself. There has been no shortage of realists, idealists, progressives, and conservatives telling them that substantially disengaging from our alliances and overseas commitments is possible and cost-free. But the real choice we face is not between the good and the bad but between the bad and the worse. It is between maintaining the liberal world order, with all the moral and material costs that entails, or letting it collapse and courting the catastrophes that must inevitably follow.

What is likely to follow is a return to the multipolar power struggles that brought so much devastation to the world before the United States redirected the course of history. That is where the deep ruts lead, back to the state of the world prior to 1945. Only this time, the powers competing and clashing will be armed with nuclear weapons. It is ironic that some of those who spent the Cold War warning that America’s hawkish foreign policies would result in nuclear holocaust do not seem to fear nuclear war in the competitive multipolar world that may be our future. We have yet to test the question of whether nations with nuclear weapons can go to war, because so far the United States and the liberal world order have prevented such wars. But if history is any guide, to count on the horror of new weaponry alone to maintain the peace is a most risky bet. Had you cast that bet before the two world wars, you would have lost. These days some experts tell us it was the existence of nuclear weapons that prevented the United States and the Soviet Union from coming to blows, but few at the time had any confidence that nuclear weapons were a guarantor of peace. Throughout much of the Cold War there were those who simply assumed that the world was heading inevitably toward Armageddon. They were wrong that it would come as a result of American Cold War policies, but in the long run they may still prove right.

These are the quandaries we cannot avoid no matter how hard we try. Reinhold Niebuhr believed that what he called “the world problem” could not be solved if America did not “accept its full share of responsibility in solving it.”187 To support a “world community beyond our own borders” he went on, both was virtuous and reflected a “prudent understanding of our own interests.” But he also predicted that Americans would be “the poorer for the global responsibilities which we bear.” And poorer not just in a material sense but also in a moral sense. It was impossible “to build a community without the manipulation of power,” and it was impossible “to use power and remain completely ‘pure.’ ”188 As Hans Morgenthau put it, “Whoever wants to retain his moral innocence must forsake action altogether.” Niebuhr did not want Americans to have an “easy conscience” about the things they were going to have to do, for there was always the danger that they would enjoy power too much and would use it to dominate others rather than to address the “world problem.” But he also did not want their “uneasy conscience” to “tempt us into irresponsibility.”189

Americans, it is fair to say, have not enjoyed power too much. These days, they would prefer to wield it less. Yet the struggle for power in the international system is eternal, and so is the struggle over beliefs and ideals. If it is not our system of security and our beliefs shaping the world order, it will be someone else’s. If we do not preserve the liberal order, it will be replaced by another kind of order, or more likely by disorder and chaos of the kind we saw in the twentieth century. That is what the world “as it is” looks like. That is what history and human nature have led to in the past and will lead to in the future if not continually shaped, managed, and resisted.

This is a pessimistic view of human existence, but it is not a fatalistic view. Nothing is determined, not the triumph of liberalism nor its defeat. As we have seen these past seventy-five years, even in a dangerous world tremendous human progress and human betterment are possible. The “better angels” of human nature can be encouraged and the demons dampened. To know that the jungle will always be there is not to despair of keeping it at bay, as we have done for decades. In 1956 the German American historian Fritz Stern wrote that “the deepening of our historical experiences” should not lead us to abandon our faith in “the possibilities of human progress” but rather to “a stronger sense of the precariousness of human freedom and to a still greater dedication to it.”190 The liberal order is as precarious as it is precious. It is a garden that needs constant tending lest the jungle grow back and engulf us all.

#### Otherwise risks great power war with China – transition to multipolarity is unstable and collapses deterrence

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As the article argued in 2007, “technological shifts have continuously altered the methods of war,” but in the end, “political arrangements matter, and the deterrent effect of any weapon should be evaluated within the context of the structure of the international system.”20 This claim is as true now as it was then. Indeed, one might conclude that structure matters even more now than it did 10 years ago, given the shift to multipolarity.21 Under “lopsided” multipolarity—where the United States outweighs both China and Russia militarily—it will maintain power advantages on some fronts, but at smaller margins than it did during the unipolar moment when it reigned supreme. Power diffusion, and related great power competition concerns, will be governed by the continued growth of Asian economic and military clout predominantly from China and India and the relative decline of Western economic influence.22 As China continues to translate economic gains into military modernization, the US will “focus mainly on countering China.”23 Avoiding the perils of security competition will require that the US be more cautious about exercising its power abroad.24

Yet exercising diplomacy and restraint could prove to be challenging. Even scholars who adopt a more circumspect view of emerging multipolarity, and the implications of growing military-technological parity, acknowledge its underlying risks. Barry Posen, who questions the assumption that multipolarity is inherently unstable, nonetheless acknowledges that growing parity will only “mute” great power competition. The diffusion of power will not eradicate “great power adventures.”25 China’s rise is apt to entail alliance reconfigurations and temptations to employ conventional military power.26 In fact, just as the original article predicted, the United States and India, Russia and China, and France and Germany have taken steps toward tightening their security relationships. China’s progress toward narrowing its power gap with the US has already met with a return to US defense budget growth and the establishment of new US defense cooperation commitments—notably with India. In parallel, China and Russia have grown closer, with Presidents Xi Jinping and Vladimir Putin meeting three times in 2018 and China sending a “strong supporting contingent” to Russia’s Vostok-2018 military exercises.27

Given the complexities and uncertainties of multipolarity, the US arsenal of advanced conventional weapons (and those of other great powers) may not only prove ill suited to deterring great power war but also provide occasion for its inadvertent onset. The stealth, speed, and lethality of advanced conventional technologies—allowing for quick and decisive US victories in the Persian Gulf (1991), Kosovo (1999), and Afghanistan (2001)—have proven increasingly enticing to other great powers. Russia and China drew similar lessons from these conflicts, each embarking on military modernization programs geared toward antiaccess/area-denial (A2/AD) and grey zone strategies.28 Advanced conventional weapons already undergird Russia’s and China’s respective salami-slicing campaigns in Eastern Europe and the South China Sea. Russia began modernizing its military following its 2008 war with Georgia, enhancing its ground force readiness and updating its integrated air defense system. The improvements have allowed for significant defensive and force-projection gains (against border states).29 Though Russia has since dialed back modernization efforts in the wake of its economic downturn, China continues to seek avenues for undermining the United States’ conventional weapons edge. The People’s Liberation Army (PLA) still trails the United States in the areas of innovation and operational proficiency. Its modernization achievements, though—especially the development of intermediate-range missiles that threaten US forward bases and carrier strike groups—have substantially augmented China’s “advantage of proximity in most plausible conflict scenarios.”30

As great power rivals continue to chip away at the United States’ once considerable smart-weapons advantage, national security experts are reevaluating the viability of deterrence. On this front, the diffusion of capabilities, as well as the expansion of competition to the space and cyber domains, do more than complicate appraisals of the balance of power; they threaten to upend the foundations of deterrence.31 The arrival of dualcapable hypersonic weapons (and delivery systems)—currently being designed and tested by the US, China, and Russia—will arguably risk jeopardizing strategic stability. Their ultrahigh velocity could reduce warning time to the extent that “a response would be required on first signal of attack”; likewise, their deployment in ready-to-launch mode could trigger preemptive strikes, as others might perceive it as a sign of impending attack.32 Further, cyber weapons’ potential for disabling an opponent’s “early warning and command systems” may diminish the expected costs of first strike under crisis conditions.33 Autonomous weapons also have the potential to fundamentally alter the psychological underpinnings of strategy And, as Kenneth Payne notes, there is no “a priori reason” to expect that substituting artificial intelligence (AI) for human intelligence—that rapid, accurate, and unbiased information processing and responses—“will necessarily be safer.” Because AI limits the risks of using force, it could make conflict more acceptable to risk-averse states; because its speed and precision favor the offense, it could prove more conducive to aggression than deterrence; and because it shapes a host of processes and technologies rather than a single weapon or system, its effects on strategy (and the challenges of its regulation) could prove counter to deterrence.34

As noted in the original article, nuclear weapons helped sustain the “cold peace” during the Cold War—not because of their awesome destructive power but because that awesome destructive power helped buttress bipolarity.35 The simplicity of bipolarity and superpower balancing, in turn, limited “the dangers of miscalculation and overreaction.”36 Multipolarity, though, makes for complexity; additional great power players provide additional opportunities for miscalculation and overreaction. Given these conditions and the perceived “usability” of advanced conventional weapons relative to nuclear weapons, it seems likely that they will fall short of yielding “the kinds of political structures necessary to enhance deterrence.”37 To counter Posen, the diffusion of advanced conventional technology may well have cheapened the near-term costs and risks of going to war, and particularly engaging in hybrid warfare. Even if the US manages to avoid a direct confrontation with Russia or China, it seems increasingly plausible that it could be dragged into a conflict involving one or more of their allies.

#### AND a Chinese sphere of influence causes great power war

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Opposition to spheres of influence, in other words, is a part of U.S. diplomatic DNA. The reason for this, Charles Edel and I argued in 2018, is that spheres of influence clash with fundamental tenets of U.S. foreign policy. Among them is the United States’ approach to security, which holds that safeguarding the country’s vital interests and physical well-being requires preventing rival powers from establishing a foothold in the Western Hemisphere or dominating strategically important regions overseas. Likewise, the United States’ emphasis on promoting liberty and free trade translates to a concern that spheres of influence—particularly those dominated by authoritarian powers—would impede the spread of U.S. values and allow hostile powers to block American trade and investment. Finally, spheres of influence do not mesh well with American exceptionalism—the notion that the United States should transcend the old, corrupt ways of balance-of-power diplomacy and establish a more humane, democratic system of international relations.

Of course, that intellectual tradition did not stop the United States from building its own sphere of influence in Latin America from the early nineteenth century onward, nor did it prevent it from drawing large chunks of Europe, East Asia, and the Middle East into a global sphere of influence after World War II. Yet the same tradition has led the United States to run its sphere of influence far more progressively than past great powers, which is why far more countries have sought to join that sphere than to leave it. And since hypocrisy is another venerable tradition in global affairs, it is not surprising that Americans would establish their own, relatively enlightened sphere of influence while denying the legitimacy of everyone else’s.

That endeavor reached its zenith in the post–Cold War era, when the collapse of the Soviet bloc made it possible to envision a world in which Washington’s sphere of influence—also known as the liberal international order—was the only game in town. The United States maintained a world-beating military that could intervene around the globe; preserved and expanded a global alliance structure as a check on aggression; and sought to integrate potential challengers, namely Beijing and Moscow, into a U.S.-led system. It was a remarkably ambitious project, as Allison rightly notes, but it was the culmination of, rather than a departure from, a diplomatic tradition reaching back two centuries.

GIVE THEM AN INCH…

The post–Cold War moment is over, and the prospect of a divided world has returned. Russia is projecting power in the Middle East and staking a claim to dominance in its “near abroad.” China is seeking primacy in the western Pacific and Southeast Asia and using its diplomatic and economic influence to draw countries around the world more tightly into its orbit. Both have developed the tools needed to coerce their neighbors and keep U.S. forces at bay.

Allison is one of several analysts who have recently advanced the argument that the United States should make a virtue of necessity—that it should accept Russian and Chinese spheres of influence, encompassing some portion of eastern Europe and the western Pacific, as the price of stability and peace. The logic is twofold: first, to create a cleaner separation between contending parties by clearly marking where one’s influence ends and the other’s begins; and second, to reduce the chances of conflict by giving rising or resurgent powers a safe zone along their borders. In theory, this seems like a reasonable way of preventing competition from turning into outright conflict, especially given that countries such as Taiwan and the Baltic states lie thousands of miles from the United States but on the doorsteps of its rivals. Yet in reality, a spheres-of-influence world would bring more peril than safety.

Russia’s and China’s spheres of influence would inevitably be domains of coercion and authoritarianism. Both countries are run by illiberal, autocratic regimes; their leaders see democratic values as profoundly threatening to their political survival. If Moscow and Beijing dominated their respective neighborhoods, they would naturally seek to undermine democratic governments that resist their control—as China is already doing in Taiwan and as Russia is doing in Ukraine—or that challenge, through their very existence, the legitimacy of authoritarian rule. The practical consequence of acceding to authoritarian spheres of influence would be to intensify the crisis of democracy that afflicts the world today.

The United States would suffer economically, too. China, in particular, is a mercantilist power already working to turn Asian economies toward Beijing and could one day put the United States at a severe disadvantage on the world’s most economically dynamic continent. Washington should not concede a Chinese sphere of influence unless it is also willing to compromise the “Open Door” principles that have animated its statecraft for over a century.

Such costs might be acceptable in exchange for peace and security. But spheres of influence during the Cold War did not prevent the Soviets from repeatedly testing American redlines in Berlin, causing high-stakes crises in which nuclear war was a real possibility. Nor did those spheres prevent the two sides from competing sharply, and sometimes violently, throughout the “Third World.” Throughout history, spheres-of-influence settlements, from the Thirty Years’ Peace between Athens and Sparta to the Peace of Amiens between the United Kingdom and Napoleonic France have often ended, sooner or later, in war.

#### US-China war goes nuclear.

[Caitlin Talmadge (10-15-2018), PhD in Political Science from MIT, BA in Government from Harvard, Professor of Security Studies at Georgetown University, “Beijing’s Nuclear Option,” Foreign Affairs, [https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option]//recut](https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option%5d//recut) CHS PK

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil.

A war between the two countries remains unlikely, but the prospect of a military confrontation—resulting, for example, from a Chinese campaign against Taiwan—no longer seems as implausible as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think.

Members of China’s strategic com­munity tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.”

This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power.

China, by contrast, not only has nuclear weapons; it has also intermingled them with its conventional military forces, making it difficult to attack one without attacking the other. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to.

As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place.

#### Extinction – nuclear winter, crude oil amplifies, smoke covers the world

Snydera and Ruyle 17 (Brian F.Snydera and Leslie E. Ruyle, 12-15-2017, [Brian F. Snyder. Department of Environmental Science, Louisiana State University, United States. Leslie E. Ruyle. Center on Conflict and Development, Texas A&M University, United States]"The abolition of war as a goal of environmental policy," No Publication, <https://www.sciencedirect.com/science/article/pii/S0048969717316431?via%3Dihub)//CHS> PK

While the precise impacts of a hypothetical nuclear war are difficult to predict, the detonation of the world's nuclear weapons would plausibly kill all or nearly all humans on Earth and initiate a mass extinction event. There are a total of about 9400 nuclear warheads in active service around the world, with approximately 8300 of these weapons in U.S. and Russian arsenals (Kristensen and Norris, 2017a). Because of government secrecy, it is difficult to reliably estimate the total explosive power contained in these warheads, but in most cases, each warhead ranges between 100 and 1200 kt of TNT equivalent (for comparison, the bombs dropped on Hiroshima and Nagasaki had yields of approximately 15–20 kt). The combined arsenals of the U.S. and Russia likely have a yield of at least 2–3 billion tons of TNT equivalent (Kristensen and Norris, 2017b,c). 2.1. Nuclear winter In the 1980s climate scientists used simple and early climate models to estimate the effects of large-scale nuclear wars on climate. The estimates they derived were catastrophic. For example, Turco et al. (1983) reported temperature reductions of 43 °C for 4 months in the Northern Hemisphere following nuclear war using the explosive power of 10 billion tons of TNT.1 As the cold war ended, interest in modelling the climate effects of nuclear war declined and some policy-makers considered the threat of nuclear winter to be either disproved or exaggerated (Martin, 1988). Toon et al. (2007) and Robock et al. (2007) reignited interest in the climate effects of nuclear war. Toon et al. (2008) modeled the effects of a medium scale nuclear war with a total explosive yield of 440 million tons of explosive yield (far less than current U.S. and Russian arsenals) and estimated global soot2 emissions of 180 Tg. Using a more conservative estimate of 150 Tg of soot, Toon et al. estimated that this emission would be sufficient to reduce global temperatures by about 8 °C and energy flux by 150 W/m2 ; for comparison, the cumulative greenhouse gas emissions to the atmosphere since the industrial revolution have increased energy flux by 3 W/m2 (Butler and Montzka, 2017). Robock et al. (2007) modeled a similar 150 Tg smoke emission and found similar results including temperature reduction of about 8 °C lasting for several years. Low temperatures reduced evapotranspiration and weakened the global hydrological cycle and Hadley cells. As a result, precipitation decreased globally by 45% with especially dramatic decreases in the agricultural areas of the United States. In the Northern Hemisphere, growing seasons would be shortened by about 100 days for about 3 years. This would preclude most food production over most of the world for several years. Mills et al. (2014) conducted a detailed analysis of the effects of a small (1.5 million ton) regional exchange lofting just 5 Tg of soot into the atmosphere. This war would be equivalent to an exchange of 100 Hiroshima-sized bombs between, for example, India, Pakistan, or China. Mills et al. found global temperature decreases of 1.6 °C. To our knowledge, no one has studied the effects of a multi-billion ton nuclear exchange using modern atmospheric models. If, as Toon et al. and Robock et al. suggest, a 440 million ton war results in temperature reductions of 8 °C for a decade and a 100 day reduction in the growing season, it is reasonable to assume that a one to five billion ton war would not be survivable for the majority of people on earth. However, as populations and population centers grow, the effects of nuclear wars on the biosphere will also grow. The consequences of nuclear winter increase as the amount of fuel (buildings, cars, biomass, liquid and solid fuels) added to a targeted area increase. As population centers grow and densify over time, the amount of soot added to the stratosphere as the result of any given nuclear exchange may increase (depending in part on building materials). As a result, the nuclear winter resulting from a 400 million ton yield global war in 2020 may be far more severe than if the same war occurred in 2000. Further, there are reasons to believe that the soot emissions from a hypothetical nuclear exchange are conservative because they focus on urban areas and often do not incorporate non-urban energy infrastructure. For example, if ignited and burned completely, the U.S. Strategic Petroleum Reserve (SPR) alone contains about 14.5 Tg of soot emissions.3 Including all crude held in U.S. commercial facilities, the potential soot emissions increase to 24 Tg. Thus, incorporating crude oil storage in the U.S. alone would increase soot generation estimates by about 16%. Similarly, nuclear war planners would be likely to target coal, oil and gas fields in the U.S., Russia, and their allies. This unaccounted for fuel could increase the total soot contribution to the atmosphere, potentially deepening the resulting nuclear winter. 2.2. Acute effects of particulate matter Studies of nuclear winter typically focus on the effects of smoke lofted into the stratosphere during nuclear firestorms. However, a larger proportion of smoke following nuclear war will be trapped in the troposphere where it would have significantly acute impacts on human and non-human species. Crutzen et al. (1984) calculated that following a major nuclear war (about 5 billion tons of explosives, roughly the combined U.S. and Russian deployed nuclear arms as of 2017) smoke would cover about 30–40% of the earth's surface with airborne smoke concentrations on the order of 5 mg/m3 . While initially this smoke would be composed of very small particles (b0.1 μm), the particles would rapidly coalesce into the 0.1 to 3 μm range, roughly consistent with the wellstudied PM2.5. For comparison, the EPA's National Ambient Air Quality standard for PM2.5 is 0.012 mg/m3 and as of 2017, the highest PM2.5 concentrations in Asia are typically around 0.3 to 1 mg/m3 .

#### The American foreign policy establishment solves great power war and self corrects – any alternative strategy is substantially worse – the alternative’s retreat from foreign policy expertise and lack of a coherent foreign policy vision turns all their offense

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* Any offense they win is solved by doubling down and committing to status quo foreign policy – rejecting foreign policy expertise makes everything worse so any offense they win against primacy is offense against the alt because expertise solves and rejection makes it worse
* Turns interventions – they’re politically toxic which discourages them, but lack of expertise makes them more common
* Answers general foreign policy Ks --- american foreign policy is not monolithic or closed off to alternative perspectives --- your perspective is just wrong
* Assume the K is wrong because a century of foreign policy expertise has concluded the LIO is best

Blob theorists view the establishment as a club of like-minded elite insiders who control everything, take care of one another, and brush off challenges to conventional wisdom. In reality, the United States actually has a healthy marketplace of foreign policy ideas. Discussion over American foreign policy is loud, contentious, diverse, and generally pragmatic—and as a result, the nation gets the opportunity to learn from its mistakes, build on its successes, and improve its performance over time.

In both absolute and relative terms, the expert community dealing with foreign policy and national security in the United States is remarkably large and heterogeneous. Inside government, cadres of professionals make vast amounts of technocratic knowledge and institutional memory available to policymakers. Every department and agency with an international role has distinctive regional or functional expertise it can bring to bear. This in-house knowledge is complemented by an even larger and more diverse network of experts in the many hundreds of think tanks and contract research institutions that surround the government and offer views ranging from right to left, hawk to dove, free trader to protectionist, technocratic to ideological. Pick any policy issue and you can put together a lively debate with ease. Should the United States engage with China or contain it? Negotiate with Iran or squeeze it? Withdraw from the Middle East or redouble its efforts? Reasoned arguments on all sides are widely available, in any form you want—all supplied from within the supposedly monolithic establishment.

Moreover, unlike such communities in other leading powers, the American foreign policy establishment is connected to society rather than cut off from it, because the top several layers of U.S. national security bureaucracies are staffed by political appointees rather than civil servants. The Blob comprises government officials, outside experts, and many people who go back and forth between the two. Insiders know how government works and what is practical. Outsiders think independently. And in-and-outers bridge the gaps. Other countries simply do not have comparably large, diverse, permeable, expert communities that encourage vigorous debate over national policy—which is why, say, the caliber of U.S. debate about nuclear policy is more nuanced and better informed than in other nuclear powers, and which is why other countries would love to have such a Blob of their own.

The American foreign policy establishment, finally, is generally more pragmatic than ideological. It values prudence and security over novelty and creativity. It knows that thinking outside the box may be useful in testing policy assumptions, but the box is usually there for a reason, and so reflexively embracing the far-out option is dangerous. Its members have made many mistakes, individually and collectively, but several features of the system enforce accountability over time. Foreign policy failures, for example, are politically toxic and often spur positive change. The monumental intelligence failures that allowed the September 11 attacks to happen were followed by policy and institutional reforms that have helped prevent other mass-casualty terrorist attacks on U.S. targets for almost two decades. Early misjudgments in the Iraq war led to the adoption of a new counterinsurgency strategy that restored stability, at least for a while. The international economic imbalances and financial procedures that led to the 2008 global financial crisis were addressed by policies that contributed to a decade-long recovery.

Taken together, these virtues reinforce one another and help the United States tackle the countless national and global challenges that confront a superpower. Blob critics claim there are no meaningful arguments over U.S. foreign policy. But this is just not true. Intense disputes over the Korean War, the Vietnam War, détente and arms control, the opening to China, and policies in Central America and the Middle East were followed by battles over the Gulf War, NATO expansion, military interventions in Haiti, Somalia, and the Balkans, and the wars in Afghanistan and Iraq—not to mention heated arguments over positions toward China, Iran, North Korea, Russia, and other issues today. It is true that beneath all this controversy lies a relatively stable consensus on the value of power, alliances, and constructive global engagement. Most members of the establishment believe that global problems usually improve when the United States engages responsibly and worsen when the United States retreats. Yet that reflects not some nefarious groupthink but the wisdom of professional crowds, arrived at through painful trial and error over more than a century.

WHAT MIGHT HAVE BEEN

If the Blob is not a cabal, neither is its record one of dismal failure. Critics argue that the United States entered the 1990s in a position of great power and prestige and squandered that legacy through misguided wars and interventions, geopolitical hubris, and the aggressive pursuit of a global liberal order at the expense of the nation’s economic and security interests. But the story they tell doesn’t match what actually happened. American grand strategy did not change radically after the Cold War, because it was developed not just as a response to the Soviet challenge but to the foreign policy disasters of the 1930s and 1940s. After World War II, U.S. officials decided to maintain the nation’s primacy, thwart dangerous aggressors, and build a secure, prosperous international order in which the United States could thrive. After the Cold War, they decided to keep this strategy going, even in the absence of an immediate peer competitor.

From George H. W. Bush to Barack Obama, post–Cold War presidents worked hard to further the efforts their predecessors started, shaping an environment conducive to American interests and ideas. They promoted free trade and globalization, maintained and even expanded the country’s global network of alliances and military bases, policed the global commons, and tried to stabilize regional conflicts and promote human rights. Unchecked by great-power rivals, Washington did become more willing to use military force in the periphery on behalf of national ideals. But even then, it hardly ran amok in search of monsters to destroy, abstaining from interventions in Rwanda, the African Great Lakes, Sudan, the Caucasus, Ukraine, Myanmar, and other potential cases. The basic outlines of recent American strategy would be recognizable to officials stretching back generations, because its goal has remained constant: fostering a world guided by American leadership, rooted in American values, and protected by American power.

Have there been disappointments and even disasters along the way? Absolutely. Globalization and democratization were supposed to mellow China and Russia and help them fit easily into the U.S.-led order. That hasn’t worked out as well as hoped. North Korea went nuclear despite a series of U.S. presidents swearing they would never let it happen. Before 9/11, Washington didn’t take terrorism seriously enough; afterward, it became obsessed with stopping it at all costs. And far too many military interventions—from Somalia to Afghanistan, Iraq to Libya—have been misconceived and mishandled.

As serious as these failures were, however, they were no worse than those occurring during other periods in U.S. history. The quarter century after World War II saw the loss of China, the end of a nuclear monopoly, the erection of the Iron Curtain and the Berlin Wall, a bloody stalemate in Korea, a communist takeover in Cuba, and a catastrophic war in Vietnam. The following two decades witnessed the collapse of the Bretton Woods system, an energy crisis and OPEC oil embargo, anti-American revolutions in Iran and Nicaragua, a bungled intervention in Lebanon, dirty wars in Central America, the Iran-contra scandal, and the Tiananmen Square massacre. Some degree of failure, even tragedy, is inescapable in foreign policy. What matters most is not the presence of individual triumphs or disasters but the collective balance between them. From this perspective, the post–Cold War era looks significantly better, for set against the failures is a giant success—the emergence of a far more peaceful, prosperous, and liberal international system, with a prosperous and secure United States at its center.

Critics count the problems that have occurred but ignore the problems that have been avoided. There were plenty of ways the world could have gone haywire after 1989. Leading scholars, for example, foresaw a descent into vicious instability. Germany and Japan would turn hungry and revisionist again, security vacuums would emerge in Central Europe and East Asia, and nationalism, aggression, and nuclear proliferation would run rampant. “We will soon miss the Cold War,” John Mearsheimer predicted in 1990. “The prospect of major crises, even wars . . . is likely to increase dramatically.”

Not quite. The long peace continued, as great-power relations remained relatively calm. German and Japanese revisionism never materialized—because those countries remained tightly embraced within a strong U.S. alliance system and a broader liberal international order. An outbreak of nationalism and ethnic aggression was contained in the Balkans. The countries of the former Warsaw Pact did not descend into chaos but embarked on political and economic reform, relaxing into a newly secure environment inside NATO. Asia did not collapse into vicious rivalries; under U.S. guidance, it continued its remarkable post-1979 stretch of peace as billions of people benefited from decades of sustained economic growth. The number of democracies in the world rose dramatically. Even nuclear proliferation has remained relatively limited, as Washington continued to provide security guarantees to allies so they would not pursue independent nuclear arsenals, orchestrated a campaign to secure loose nuclear materials, and punished rogue states that tried to buck the nonproliferation regime. In short, after 1989, the deep global engagement favored by the Blob kept the world moving forward on a generally positive track, rather than regressing to the historical mean of tyranny, depression, and war.

Yes, instability is returning in both Asia and Europe, globalization and democracy are currently in retreat, intense competitions with China and Russia loom, and the new coronavirus pandemic has reminded the world of the downsides of connectivity. But the return of great-power rivalry in recent years has been fueled less by U.S. overreach than by questions about its stamina. Had Washington followed the recommendations of the Blob’s critics and retrenched from its global commitments after 1989, rather than leaning into them, things would look even worse now. If the United States had pursued a strategy of offshore balancing, say, by winding down its overseas obligations, would it be sitting pretty now? It is hard to see how withdrawing from Europe in the 1990s or not expanding NATO would have encouraged less bullying from Moscow. More likely, it would simply have given a resurgent Russia greater freedom to reassert its influence. Pulling back from the Asia-Pacific region, similarly, would likely have undermined the United States’ ability to hedge against the negative consequences of China’s rise. And less engagement by Washington on a global liberal agenda in trade, politics, and human rights would not have improved the world or prepared it institutionally to handle global challenges, such as pandemics and climate change.

In retrospect, it is easy to identify specific policies and decisions one would want to change. It is harder to identify an alternative strategy that would have delivered clearly superior results—and that is the true standard by which real-world foreign policies deserve to be judged.

THE RETURN OF THE BLOB

How about the critics’ third argument, that escaping the influence of the Blob would make American policy more effective and the country more secure? As it happens, a real-time test of that proposition has been running for over three years. The Trump administration has sidelined national security professionals, and professionalism, to a degree unprecedented in the modern era. The president has routinely disregarded the advice of apolitical career officials, accused them of disloyalty and even treason, and purged the top ranks of the administration of anybody unwilling to toe the official line of the day (whatever that may be). The results of this experiment are not encouraging. So far it has produced poor policy, poor execution, and poor outcomes.

Unforced errors are one of the hallmarks of the Trump administration’s foreign policy.

The administration launched an overdue effort to confront China on its trade practices, only to hobble the approach by withdrawing from the Trans-Pacific Partnership and starting simultaneous trade wars with American allies. It punished Russia for its territorial aggression and electoral sabotage, only to be undercut by the president’s embrace of Russian President Vladimir Putin and by his personal vendettas relating to Ukraine. The president twice announced, and twice partially reversed, a decision to withdraw troops from Syria, thereby battering U.S. credibility without actually leaving the conflict. Thanks to diplomatic bungling and presidential credulity, North Korea is no more contained than it was three years ago, and Japan, South Korea, and the United States are all at odds. Because of arbitrary White House interference with military justice and other issues, civil-military relations have cratered. What links these cases is not ideology but competence—all involved basic mistakes that were pointed out by experts inside and outside government, only to be contemptuously ignored by the White House.

Even when the administration’s policy choices have been defensible in conception, they have often been botched in execution, due to a disregard for expert advice and a disdain for the details of implementation. The administration could have tried to remedy the defects of the Iran nuclear deal, for example, in a way that included European powers rather than alienating them. It could have increased pressure on Tehran with a plan for converting that pressure into lasting results. It could have gotten something in return for diplomatic concessions given to Israel and Saudi Arabia. And it could have reformed NAFTA without gratuitously harming relations with Canada and Mexico.

As for results, the current pandemic shows just what happens when national policy is driven by amateur improvisation rather than professional planning. Pandemics have been a known danger for decades, and the Blob has a suggested playbook for handling them—constant vigilance, early detection and monitoring, a unified national response in coordination with global partners, and much more. Coming into office, the Trump administration was fully briefed on the challenge—and chose to look the other way, downgrading the relevant technocrats and pushing for deep cuts in global health and disease programs. At the crucial early stages of the crisis, when a robust multilateral effort might have had maximum effect, the administration’s disorganization and denial left Washington on the sidelines. As the disease raced around the world and took hold in the United States, officials desperate to sound the alarm and begin preventive measures were silenced by a president unwilling to hear bad news. And once the direness of the medical situation was finally recognized, the administration tried to shift blame, going so far as to cut funding for the World Health Organization in the midst of the pandemic, simply in order to create a politically useful scapegoat.

The establishment makes mistakes, often big ones. But in its collective capacity, it learns from them and changes course—which is why the liberal international order has not only lasted for generations but deepened and broadened over time. Purging experience and disinterested expertise from U.S. foreign policy has already caused problems. The longer it continues, the worse things will get. And the more many will hope for the return of the Blob.

#### Biological death is the worst evil

Paterson 03 – Department of Philosophy, Providence College, Rhode Island. (Craig, “A Life Not Worth Living?”, Studies in Christian Ethics, <http://sce.sagepub.com>)

Contrary to those accounts, I would argue that it is death per se that is really the objective evil for us, not because it deprives us of a prospective future of overall good judged better than the alter- native of non-being. It cannot be about harm to a former person who has ceased to exist, for no person actually suffers from the sub-sequent non-participation. Rather, death in itself is an evil to us because it ontologically destroys the current existent subject — it is the ultimate in metaphysical lightening strikes.80 The evil of death is truly an ontological evil borne by the person who already exists, independently of calculations about better or worse possible lives. Such an evil need not be consciously experienced in order to be an evil for the kind of being a human person is. Death is an evil because of the change in kind it brings about, a change that is destructive of the type of entity that we essentially are. Anything, whether caused naturally or caused by human intervention (intentional or unintentional) that drastically interferes in the process of maintaining the person in existence is an objective evil for the person. What is crucially at stake here, and is dialectically supportive of the self-evidency of the basic good of human life, is that death is a radical interference with the current life process of the kind of being that we are. In consequence, death itself can be credibly thought of as a ‘primitive evil’ for all persons, regardless of the extent to which they are currently or prospectively capable of participating in a full array of the goods of life.81 In conclusion, concerning willed human actions, it is justifiable to state that any intentional rejection of human life itself cannot therefore be warranted since it is an expression of an ultimate disvalue for the subject, namely, the destruction of the present person; a radical ontological good that we cannot begin to weigh objectively against the travails of life in a rational manner. To deal with the sources of disvalue (pain, suffering, etc.) we should not seek to irrationally destroy the person, the very source and condition of all human possibility.82

#### Extinction comes first!

Pummer 15 [Theron, Junior Research Fellow in Philosophy at St. Anne's College, University of Oxford. “Moral Agreement on Saving the World” Practical Ethics, University of Oxford. May 18, 2015] AT

There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe there is at least one thing it is reasonable to agree on right now, whatever general moral view we adopt: that it is very important to reduce the risk that all intelligent beings on this planet are eliminated by an enormous catastrophe, such as a nuclear war. How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that we – whether we’re consequentialists, deontologists, or virtue ethicists – should all agree that we should try to save the world. According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here. If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. There are so many possible future people that reducing existential risk is arguably the most important thing in the world, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people. Even on a wholly person-affecting view – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – the case for reducing existential risk is very strong. As noted in this seminal paper, this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. You might think what I have just argued applies to consequentialists only. There is a tendency to assume that, if an argument appeals to consequentialist considerations (the goodness of outcomes), it is irrelevant to non-consequentialists. But that is a huge mistake. Non-consequentialism is the view that there’s more that determines rightness than the goodness of consequences or outcomes; it is not the view that the latter don’t matter. Even John Rawls wrote, “All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy.” Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good, from an impartial point of view. They’d thus imply very strong reasons to reduce existential risk, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. Even egoism, the view that each agent should maximize her own good, might imply strong reasons to reduce existential risk. It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being. To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk. Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that most of what makes our lives go well would be undermined if there were no future generations of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. So obviously if Scheffler were right I’d have very strong reason to reduce existential risk. We should also take into account moral uncertainty. What is it reasonable for one to do, when one is uncertain not (only) about the empirical facts, but also about the moral facts? I’ve just argued that there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree. But even those (hedonistic egoists) who disagree should have a significant level of confidence that they are mistaken, and that one of the above views is correct. Even if they were 90% sure that their view is the correct one (and 10% sure that one of these other ones is correct), they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk. Perhaps most disturbingly still, even if we are only 1% sure that the well-being of possible future people matters, it is at least arguable that, from the standpoint of moral uncertainty, reducing existential risk is the most important thing in the world. Again, this is largely for the reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation). Of course, it is uncertain whether these untold trillions would, in general, have good lives. It’s possible they’ll be miserable. It is enough for my claim that there is moral agreement in the relevant sense if, at least given certain empirical claims about what future lives would most likely be like, all minimally plausible moral views would converge on the conclusion that we should try to save the world. While there are some non-crazy views that place significantly greater moral weight on avoiding suffering than on promoting happiness, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless seem to be fairly implausible views. And even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to. I suspect that most of us alive today – at least those of us not suffering from extreme illness or poverty – have lives that are well worth living, and that things will continue to improve. Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period. Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.” (From chapter 36 of On What Matters)

#### Err aff, because of innate cognitive biases

GPP 17 (Global Priorities Project, Future of Humanity Institute at the University of Oxford, Ministry for Foreign Affairs of Finland, “Existential Risk: Diplomacy and Governance,” Global Priorities Project, 2017, <https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf>,

1.3.1. Why existential risks are likely to be underinvested in There are several reasons why existential risk reduction is likely to be underinvested in. Firstly, it is a global public good. Economic theory predicts that such goods tend to be underprovided. The benefits of existential risk reduction are widely and indivisibly dispersed around the globe from the countries responsible for taking action. Consequently, a country which reduces existential risk gains only a small portion of the benefits but bears the full brunt of the costs. Countries thus have strong incentives to free ride, receiving the benefits of risk reduction without contributing. As a result, too few do what is in the common interest. Secondly, as already suggested above, existential risk reduction is an intergenerational public good: most of the benefits are enjoyed by future generations who have no say in the political process. For these goods, the problem is temporal free riding: the current generation enjoys the benefits of inaction while future generations bear the costs. Thirdly, many existential risks, such as machine superintelligence, engineered pandemics, and solar geoengineering, pose an unprecedented and uncertain future threat. Consequently, it is hard to develop a satisfactory governance regime for them: there are few existing governance instruments which can be applied to these risks, and it is unclear what shape new instruments should take. In this way, our position with regard to these emerging risks is comparable to the one we faced when nuclear weapons first became available. Cognitive biases also lead people to underestimate existential risks. Since there have not been any catastrophes of this magnitude, these risks are not salient to politicians and the public.72 This is an example of the misapplication of the availability heuristic, a mental shortcut which assumes that something is important only if it can be readily recalled. Another cognitive bias affecting perceptions of existential risk is scope neglect. In a seminal 1992 study, three groups were asked how much they would be willing to pay to save 2,000, 20,000 or 200,000 birds from drowning in uncovered oil ponds. The groups answered $80, $78, and $88, respectively.73 In this case, the size of the benefits had little effect on the scale of the preferred response. People become numbed to the effect of saving lives when the numbers get too large. 74 Scope neglect is a particularly acute problem for existential risk because the numbers at stake are so large. Due to scope neglect, decision-makers are prone to treat existential risks in a similar way to problems which are less severe by many orders of magnitude. A wide range of other cognitive biases are likely to affect the evaluation of existential risks.75

### -----Extra Primacy Impacts

#### US primacy is key to global cooperation—that solves every impact

**Ochmanek 15** [David Ochmanek (Senior Defense Analyst at the RAND Corporation), Sustaining U.S. Leadership in the Asia-Pacific Region: Why a Strategy of Direct Defense Against Antiaccess and Area Denial Threats Is Desirable and Feasible, 2015, http://www.rand.org/pubs/perspectives/PE142.html]

The outcome of that debate and the extent to which the United States and its leading security partners will be able to develop capabilities and concepts adequate to the challenge will be critical factors shaping future dynamics in the international system. This perspective is intended as a contribution to this debate. It does not offer definitive answers to the question of precisely what capabilities and concepts the U.S. Department of Defense (DoD) should pursue. Answering such questions in detail will likely be the central preoccupation of the U.S. defense establishment for the next decade or so. But enough analysis has been done to allow us to point with confidence both to a potentially effective and feasible overall military approach to the challenge—an approach called direct defense—and to the general sorts of operational concepts and supporting capabilities that will be called for to enable that approach.

Direct defense is predicated on the belief that the most credible way to **assure partners and deter aggression** is to confront potential aggressors with the prospect of failure should they seek to advance their objectives through force of arms. Direct defense requires that the United States and its allies and partners together field military capabilities sufficient to engage and damage or destroy attacking forces (combat aircraft, ships, missiles, land forces) and the assets (bases, command-and-control facilities, air defenses) that directly support them. Such an approach can enable the United States to sustain its role as the security partner of choice for many of the world’s most important states—a role that has served the United States well since its entry into World War II.

This perspective addresses four aspects of the issue: • the stakes associated with America’s ability to sustain an overall national security strategy of international engagement and leadership • military trends that could affect the viability of that strategy, with a focus on the emergence of adversaries that are mastering capabilities loosely grouped under the term antiaccess and area denial (A2/AD) • contending strategies that have been proposed in response to these trends • an integrated set of military capabilities to pursue in support of a continued strategy of engagement and leadership.

The Strategic Context and Stakes

One of the fundamental premises of U.S. national security strategy since the end of the Cold War and, indeed, since World War II has been that, in an increasingly interdependent world, the government of the United States cannot hope to achieve its objectives without the ability to influence actors and shape events beyond its borders. Whether the goal is to protect U.S. citizens against **terrorist attacks**, contain the **spread of** **w**eapons of **m**ass **d**estruction, ensure fairness in **international commerce** and access to the global commons, or **protect the environment**, meaningful and lasting progress will require cooperation among an increasingly broad set of actors— nation states, official and unofficial multinational organizations, and private enterprises. In such an environment, any successful strategy will, perforce, focus on **building and sustaining coalitions** that can address common challenges.

For the past 70 years, the United States has uniquely possessed the ability to deploy large-scale military forces over intercontinental distances and conduct sustained, complex operations across a wide range of mission sets. This capability for power projection to deter and defeat aggression has been fundamental to U.S. security and to the security and well-being of our allies and partners, allowing the United States to offset major imbalances of power in Eurasia and elsewhere. Along with America’s economic prowess, vigorous diplomacy, and the attractiveness of its society and model of governance, its **power-projection capabilities** have allowed the United States to play the leading role among states with democratically elected governments. America’s status as a leader and security partner of choice for so many other states has conferred benefits on issues **across the nation’s policy agenda**. Without the ability to deter and defeat large-scale aggression in regions of importance to U.S. security, **U.S. power and influence would wane**. Maintaining the ability to influence affairs in the dynamic Asia-Pacific region is particularly important, which is why the Obama administration launched its “rebalance” initiative in 2012.

Since the end of the Cold War, U.S. forces have enjoyed a rare, if not **unprecedented**, degree of **superiority** over the forces of adversary states. As they demonstrated against the forces of Iraq (twice), Serbia, and other states against which they have fought when sent into conflict, U.S. forces have been able to quickly seize the initiative, dominate the battle space in **all domains**—air, sea, land, space, and cyberspace—and achieve campaign objectives with dispatch. This has helped U.S. policymakers **deter aggression** and **underwrite stability** in key regions.

### --1AC—Middle East Instability

#### China is selling autonomous Blowfish drones capable of lethal targeted strikes to the Middle East with no signs of stopping.

[Patrick Tucker (11-5-2019), Patrick Tucker is technology editor for Defense One, “SecDef: China Is Exporting Killer Robots to the Mideast”, Defense One, [https://www.defenseone.com/technology/2019/11/secdef-china-exporting-killer-robots-mideast/161100/]//CHS](https://www.defenseone.com/technology/2019/11/secdef-china-exporting-killer-robots-mideast/161100/%5d//CHS) PK

China is exporting drones that it advertises as having lethal autonomy to the Middle East, Defense Secretary Mark Esper said Tuesday. It’s the first time that a senior Defense official has acknowledged that China is selling drones capable of taking life with little or no human oversight.

“As we speak, the Chinese government is already exporting some of its most advanced military aerial drones to the Middle East, as it prepares to export its next-generation stealth UAVs when those come oneline,” Esper said today at the National Security Commission on Artificial Intelligence conference. “In addition, Chinese weapons manufacturers are selling drones advertised as capable of full autonomy, including the ability to conduct lethal targeted strikes.”

The Chinese company Ziyan, for instance, markets the Blowfish A3, essentially a helicopter drone outfitted with a machine gun. Ziyan says it “autonomously performs more complex combat missions, including fixed-point timing detection, fixed-range reconnaissance, and targeted precision strikes.”

As Greg Allen, chief of strategy and communications at the Defense Department’s Joint Artificial Intelligence Center, points out in this February paper for CNAS, Ziyan is negotiating to sell its Blowfish A2 to the governments of Pakistan and Saudi Arabia. “Despite expressing concern on AI arms races, most of China’s leadership sees increased military usage of AI as inevitable and is aggressively pursuing it. China already exports armed autonomous platforms and surveillance AI, ” Allen wrote.

Last year, Zeng Yi, a senior executive at NORINCO, China’s third-largest defense company, forecast that, “In future battlegrounds, there will be no people fighting” —as early as 2025.

#### Two impacts—

#### First is instability—Chinese LAW proliferation to the Middle East causes nuclear war—they increase the risk of miscalc and nuclear proliferation, create incentives for a first strike, destroy regional and global stability, and shred deterrence dynamics.

[James Johnson (2020), PhD in Politics and IR from the University of Leicester, Assistant Prof. in Chinese Politics and FoPo at Dublin City University and Fellow with the Modern War Institute at West Point; “Artificial Intelligence, Drone Swarming and Escalation Risks in Future Warfare”; 16 Apr 2020; <https://www.tandfonline.com/doi/abs/10.1080/03071847.2020.1752026?scroll=top&needAccess=true&journalCode=rusi20> CHS PK

Autonomous Weapons, Swarming, and Instability The proliferation of a broad range of AI-augmented autonomous weapon systems (most notably drones used in swarming tactics) could have far-reaching strategic implications for nuclear security and escalation in future warfare.24 Several observers anticipate that sophisticated AI-augmented AWSs will soon be deployed for a range of ISR and strike missions.25 Even if AWSs are used only for conventional operations, their proliferation could nonetheless have destabilizing implications and increase the risk of inadvertent nuclear escalation. For example, AI-augmented drone swarms may be used in offensive sorties targeting ground-based air defenses and by nuclear-armed states to defend their strategic assets (i.e., launch facilities and their attendant C3I and early-warning systems), exerting pressure on a weaker nuclear-armed state to respond with nuclear weapons in a use-them- or- lose- them situation.

Recent advances in AI and autonomy have substantially increased the perceived operational value that military great powers attach to the development of a range of AWSs,26 potentially making the delegation of lethal authority to AWSs an increasingly irresistible and destabilizing prospect.27 That is, in an effort to defend or capture the technological upper hand in the possession of cutting-edge war-fighting assets vis-à- vis strategic rivals’ traditionally conservative militaries, states may eschew the potential risks of deploying unreliable, unverified, and unsafe AWS. Today, the main risk for stability and escalation is the technical limitations of the current iteration of AI machine learning software (i.e., brittleness, explainability, unpredictability of machine learning, vulnerability to subversion or “data poisoning,” and the fallibility of AI systems to biases).28 To be sure, immature deployments of these nascent systems in a nuclear context would have severe consequences.29

Conceptually speaking, autonomous systems will incorporate AI technologies such as visual perception, speech, facial recognition, and decision-making tools to execute a range of core air interdiction, amphibious ground assaults, long-range strike, and maritime operations independent of human intervention and supervision.30 Currently, only a few weapon systems select and engage their targets without human intervention. Loitering attack munitions (LAM)—also known as “loitering munitions” or “suicide drones”—pursue targets (such as enemy radars, ships, or tanks) based on preprogrammed targeting criteria and launch an attack when their sensors detect an enemy’s air defense radar.31 Compared to cruise missiles (designed to fulfill a similar function), LAMs use AI technology to shoot down incoming projectiles faster than a human operator ever could and can remain in flight (or loiter) for much longer periods. This attribute could complicate the ability of states to reliably and accurately detect and attribute autonomous attacks.32

A low-cost lone-wolf unmanned aerial vehicle (UAV) would, for example, not pose a significant threat to a US F-35 stealth fighter, but hundreds of AI machine learning autonomous drones in a swarming sortie may potentially evade and overwhelm an adversary’s sophisticated defense capabilities—even in heavily defended regions such as China’s east and coastal regions.33 Moreover, stealth variants of these systems34—coupled with miniaturized electromagnetic jammers and cyberweapons—may be used to interfere with or subvert an adversary’s targeting sensors and communications systems, undermining its multilayered air defenses in preparation for drone swarms and long-range stealth bomber offensive attacks.35 In 2011, for example, MQ-1 and MQ-9 drones in the Middle East were infected with hard-to- remove malicious malware, exposing the vulnerability of US subset systems to offensive cyber.36 This threat might, however, be countered (or mitigated) by the integration of future iterations of AI technology into stealth fighters such as the F-35.37 Manned F-35 fighters will soon be able to leverage AI to control small drone swarms in close proximity to the aircraft performing sensing, reconnaissance, and targeting functions, including countermeasures against swarm attacks.38 In the future, extended endurance of UAVs and support platforms could potentially increase the ability of drone swarms to survive these kinds of countermeasures.39

Several prominent researchers have opined that, notwithstanding the remaining technical challenges as well as the legal and ethical feasibility,40 we can expect to see operational AWSs in a matter of years.41 According to former US deputy secretary of defense Robert Work, the United States “will not delegate lethal authority to a machine to make a decision” in the use of military force. 42 Work adds, however, that such self-restraint could be tested if a strategic competitor (especially China and Russia) “is more willing to delegate authority to machines than we are and, as that competition unfolds, we’ll have to make decisions on how we can best compete” (emphasis added).43 In short, pre-delegating authority to machines, and taking human judgment further out of the crisis decision-making process, might severely challenge the safety, resilience, and credibility of nuclear weapons in future warfare.44

The historical record is replete with examples of near nuclear misses, demonstrating the importance of human judgment in mitigating the risk of miscalculation and misperception (i.e., of another’s intentions, redlines, and willingness to use force) between adversaries during crises.45 Despite these historical precedents, the risks associated with unpredictable AI-augmented autonomous systems operating in dynamic, complex, and possibly a priori unknown environments remain underappreciated by global defense communities.46 Eschewing these risks, China and Russia plan to incorporate AI into unmanned aerial and undersea vehicles for swarming missions infused with AI machine learning technology.47 Chinese strategists have reportedly researched data-link technologies for “bee swarm” UAVs, particularly emphasizing network architecture, navigation, and anti-jamming military operations for targeting US aircraft carriers.48

Drones used in swarms are conceptually well suited to conduct preemptive attacks and nuclear ISR missions against an adversary’s nuclear and nonnuclear mobile missile launchers and nuclear-powered ballistic missile submarines (SSBN), along with their attendant enabling facilities (e.g., C3I and early warning systems, antennas, sensors, and air intakes).49 The Defense Advanced Research Projects Agency (DARPA), for example, is developing an autonomous surface vehicle (ASV) double outrigger, Sea Hunter, currently being tested by the US Navy to support antisubmarine warfare operations (i.e., submarine reconnaissance).50 Some observers have posited that autonomous systems like Sea Hunter may render the underwater domain transparent, thereby eroding the second-strike deterrence utility of stealthy SSBNs. The technical feasibility of this hypothesis is highly contested, however.51

On the one hand, several experts argue that deployed in large swarms, these platforms could transform antisubmarine warfare, rendering at-sea nuclear deterrence vulnerable. On the other hand, some consider such a hypothesis technically premature because (1) it is unlikely that sensors on board AWSs would be able to reliably detect deeply submerged submarines; (2) the range of these sensors (and the drones themselves) would be limited by battery power over extended ranges;52 and (3) given the vast areas traversed by SSBNs on deterrence missions, the chance of detection is negligible even if large numbers of autonomous swarms were deployed.53 Thus, significant advances in power, sensor technology, and communications would be needed before these autonomous systems have a game-changing strategic impact on deterrence.54 However, irrespective of the veracity of this emerging capability, the mere perception that nuclear capabilities face new strategic challenges would nonetheless elicit distrust between nuclear-armed adversaries—particularly where strategic force asymmetries exist. Moreover, DARPA’s Sea Hunter demonstrates how the emerging generation of autonomous weapons is expediting the completion of the iterative targeting cycle to support joint operations, thus increasing the uncertainty about the reliability and survivability of states’ nuclear second-strike capability and potentially triggering use-them- or- lose- them situations.

Conceptually speaking, the most destabilizing impact of AI on nuclear deterrence would be the synthesis of autonomy with a range of machine-learning- augmented sensors, undermining states’ confidence in the survival of their second-strike capabilities and in extremes triggering a retaliatory first strike.55 Enhanced by the exponential growth in computing performance and coupled with advances in machine learning techniques that can rapidly process data in real time, AI will empower drone swarms to perform increasingly complex missions, such as hunting hitherto hidden nuclear deterrence forces.56 In short, the ability of future iterations of AI able to predict based on the fusion of expanded and dispersed data sets and then to locate, track, and target strategic missiles such as mobile ICBM launchers in underground silos, on board stealth aircraft, and in SSBNs is set to grow.57

The following four scenarios illustrate the possible strategic operations AI-augmented drone swarms would execute.58 First, drone swarms could be deployed to conduct nuclear ISR operations to locate and track dispersed (nuclear and nonnuclear) mobile missile launchers and their attendant enabling C3I systems.59 Specifically, swarms incorporating AI-infused ISR, autonomous sensor platforms, ATR, and data analysis systems may enhance the effectiveness and speed of sensor drones to locate mobile missiles and evade enemy defenses.

Second, swarming could enhance legacy conventional and nuclear weapons delivery systems (e.g., ICBMs and SLBMs), possibly incorporating hypersonic variants (discussed below).60 AI applications will likely enhance the delivery system targeting and tracking and improve the survivability of drone swarms against the current generation of missile defenses.

Third, swarming tactics could bolster a state’s ability to disable or suppress an adversary’s defenses (e.g., air, missile, and antisubmarine warfare defenses), clearing the path for a disarming attack.61 Drone swarms might be armed with cyber or EW capabilities (in addition to antiship, antiradiation, or regular cruise and ballistic missiles) to interfere with or destroy an adversary’s early warning detection and C3I systems in advance of a broader offensive campaign.62 Conversely, drone swarms might enhance states’ missile defenses as countervails to these offensive threats. For example, swarms could form a defensive wall to absorb incoming missile salvos, intercepting them or acting as decoys to throw them off course with mounted laser technology.63

Finally, in the maritime domain, unmanned underwater vessels (UUV), unmanned surface vessels (USV), and UAVs supported by AI-enabled intra-swarm communication and ISR systems could be deployed simultaneously in both offensive and defensive antisubmarine warfare operations to saturate an enemy’s defenses and to locate, disable, and destroy its nuclear-armed or nonnuclear attack submarines.64 Despite continued advances in sensor technology design (e.g., reduced size and extended detection ranges) to overcome quieting challenges, other technical challenges still remain. These include communicating underwater between multiple systems, processing power requirements, generating battery life and energy, and scaling the system.65

While some experts do not expect a technically reliable and effective capability of this kind will be operational for at least a decade, others are more optimistic.66 From a tactical perspective, drone swarms would not need ocean-wide coverage (or full ocean transparency) to effectively detect and track submarines. According to UK rear admiral John Gower, a relatively even spread of sensors might be sufficient to enable “a viable search and detection plan . . . conceived for the open ocean” (emphasis added).67 Moreover, advances in mobile sensing platforms could enable drones in swarms to locate submarines through chokepoints (or gateways) as they emerge from ports. Due to the current slowness of drones with extended sea ranges, however, trailing them autonomously seems implausible.68 Future iterations of machine-learning- augmented UUVs and USVs may eventually complement, and perhaps replace entirely, the traditional role of general-purpose nuclear-powered submarines (SSN) and manned surface vehicles in tracking and trailing submarines of adversaries at chokepoints while simultaneously mounting sparsely distributed and mobile distributed network systems (DNS) sensors on UUVs.69

If a state views the credibility of its survivable nuclear weapons (especially nuclear-armed submarines) to be at risk,70 conventional capabilities such as drone swarms will likely have a destabilizing effect at a strategic level.71 Thus, even if swarm sorties were not intended as (or indeed technically capable of) a disarming first strike, the perception alone of the feasibility of such an operation would be destabilizing nonetheless. Moreover, the speed of AI could put the defender at a distinct disadvantage, creating additional incentives to strike first (or preemptively) technologically superior military rivals. Consequently, the less secure a nation considers its second-strike capabilities to be, the more likely it is to countenance the use of autonomous systems within its nuclear weapons complex to bolster the survivability of its strategic forces. According to analyst Paul Scharre, “winning in swarm combat may depend upon having the best algorithms to enable better coordination and faster reaction times, rather than simply the best platforms” (emphasis added).72

Combining speed, persistence, scope, coordination, and battlefield mass, AWSs will offer states attractive asymmetric options to project military power within contested A2/AD zones.73 Enhanced by sophisticated machine learning neural networks, China’s manned and unmanned drone teaming operations could potentially impede future US freedom of navigation operations in the South China Seas.74 Its air- and sea-based drones linked to sophisticated neural networks could, for example, support the People’s Liberation Army’s manned and unmanned teaming operations. Were China to infuse its cruise missiles and hypersonic glide capabilities with AI and autonomy, close-range encounters in the Taiwan Straits and the East and South China Seas would become more complicated, accident-prone, and destabilizing—at both a conventional and nuclear level.75 China is reportedly developing and deploying UUVs to bolster its underwater monitoring and antisubmarine capabilities as part of a broader goal to establish an “underwater Great Wall” to challenge US undersea military primacy. US AI-enhanced UUVs could, for example, theoretically threaten China’s nuclear ballistic and nonnuclear attack submarines.76

#### Second is terror— lethal autonomous weapons in the Middle East create an imminent terrorist threat through untraceable attacks that would create geopolitical chaos.

**Ware 19** - Jacob Ware (Jacob Ware holds a master’s in security studies from Georgetown University and an MA (Hons) in international relations and modern history from the University of St Andrews. His research has previously appeared with the International Centre for Counter-Terrorism – The Hague), "Terrorist Groups, Artificial Intelligence, and Killer Drones," War on the Rocks, 9-24-2019, https://warontherocks.com/2019/09/terrorist-groups-artificial-intelligence-and-killer-drones/ WJ

In 2016, the Islamic State of Iraq and the Levant (ISIL) carried out its first successful drone attack in combat, killing two Peshmerga warriors in northern Iraq. The attack continued the group’s record of employing increasingly sophisticated technologies against its enemies, a trend mimicked by other nonstate armed groups around the world. The following year, the group announced the formation of the “Unmanned Aircraft of the Mujahedeen,” a division dedicated to the development and use of drones, and a more formal step toward the long-term weaponization of drone technology.

Terrorist groups are increasingly using 21st-century technologies, including drones and elementary artificial intelligence (AI), in attacks. As it continues to be weaponized, AI could prove a formidable threat, allowing adversaries — including nonstate actors — to automate killing on a massive scale. The combination of drone expertise and more sophisticated AI could allow terrorist groups to acquire or develop lethal autonomous weapons, or “killer robots,” which would dramatically increase their capacity to create incidents of mass destruction in Western cities. As it expands its artificial intelligence capabilities, the U.S. government should also strengthen its anti-AI capacity, paying particular attention to nonstate actors and the enduring threats they pose. For the purposes of this article, I define artificial intelligence as technology capable of “mimicking human brain patterns,” including by learning and making decisions.

AI Could Turn Drones into Killer Robots

The aforementioned ISIL attack was not the first case of nonstate actors employing drones in combat. In January 2018, an unidentified Syrian rebel group deployed a swarm of 13 homemade drones carrying small submunitions to attack Russian bases at Khmeimim and Tartus, while an August 2018 assassination attempt against Venezuela’s Nicolas Maduro used exploding drones. Iran and its militia proxies have deployed drone-carried explosives several times, most notably in the September 2019 attack on Saudi oil facilities near the country’s eastern coast.

Pundits fear that the drone’s debut as a terrorist tool against the West is not far off, and that “the long-term implications for civilian populations are sobering,” as James Phillips and Nathaniel DeBevoise note in a Heritage Foundation commentary. In September 2017, FBI Director Christopher Wray told the Senate that drones constituted an “imminent” terrorist threat to American cities, while the Department of Homeland Security warned of terrorist groups applying “battlefield experiences to pursue new technologies and tactics, such as unmanned aerial systems.” Meanwhile, ISIL’s success in deploying drones has been met with great excitement in jihadist circles. The group’s al-Naba newsletter celebrated a 2017 attack by declaring “a new source of horror for the apostates!”

The use of drones in combat indicates an intent and capability to innovate and use increasingly savvy technologies for terrorist purposes, a process sure to continue with more advanced forms of AI. Modern drones possess fairly elementary forms of artificial intelligence, but the technology is advancing: Self-piloted drones are in development, and the European Union is funding projects to develop autonomous swarms to patrol its borders.

AI will enable terrorist groups to threaten physical security in new ways, making the current terrorism challenge even more difficult to address. According to a February 2018 report, terrorists could benefit from commercially available AI systems in several ways. The report predicts that autonomous vehicles will be used to deliver explosives; low-skill terrorists will be endowed with widely available high-tech products; attacks will cause far more damage; terrorists will create swarms of weapons to “execute rapid, coordinated attacks”; and, finally, attackers will be farther removed from their targets in both time and location. As AI technology continues to develop and begins to proliferate, “AI [will] expand the set of actors who are capable of carrying out the attack, the rate at which these actors can carry it out, and the set of plausible targets.”

For many military experts and commentators, lethal autonomous weapon systems, or “killer robots,” are the most feared application of artificial intelligence in military technology. In the words of the American Conservative magazine, the difference between killer robots and current AI-drone technology is that, with killer robots, “the software running the drone will decide who lives and who dies.” Thus, killer robots, combining drone technology with more advanced AI, will possess the means and power to autonomously and independently engage humans. The lethal autonomous weapon has been called the “third revolution in warfare,” following gunpowder and nuclear weapons, and is expected to reinvent conflict, not least terrorist tactics.

Although completely autonomous weapons have not yet reached the world’s battlefields, current weapons are on the cusp. South Korea, for instance, has developed and deployed the Samsung SGR-A1 sentry gun to its border with North Korea. The gun supposedly can track movement and fire without human intervention. Robots train alongside marines in the California desert. Israel’s flying Harpy munition can loiter for hours before detecting and engaging targets, while the United States and Russia are developing tanks capable of operating autonomously. And the drones involved in the aforementioned rebel attack on Russian bases in Syria were equipped with altitude and leveling sensors, as well as preprogrammed GPS to guide them to a predetermined target.

Of particular concern is the possibility of swarming attacks, composed of thousands or millions of tiny killer robots, each capable of engaging its own target. The potentially devastating terrorist application of swarming autonomous drones is best summarized by Max Tegmark, who has said that “if a million such killer drones can be dispatched from the back of a single truck, then one has a horrifying weapon of mass destruction of a whole new kind: one that can selectively kill only a prescribed category of people, leaving everybody and everything else unscathed.” Precisely that hypothetical scenario was illustrated in a recent viral YouTube video, “Slaughterbots,” which depicted the release of thousands of small munitions into British university lecture halls. The drones then pursued and attacked individuals who had shared certain political social media posts. The video also depicts an attack targeting sitting U.S. policymakers on Capitol Hill. The video has been viewed over three million times, and was met with increasing concern about potential terrorist applications of inevitable autonomous weapons technology. So far, nonstate actors have only deployed “swarmed” drones sparingly, but it points to a worrying innovation: Swarming, weaponized killer robots aimed at civilian crowds would be nearly impossible to defend against, and, if effective, cause massive casualties.

Terrorists Will Be Interested in Acquiring Lethal Autonomous Weapons

Terrorist groups will be interested in artificial intelligence and lethal autonomous weapons for three reasons — cost, traceability, and effectiveness.

Firstly, killer robots are likely to be extremely cheap, while still maintaining lethality. Experts agree that lethal autonomous weapons, once fully developed, will provide a cost-effective alternative to terrorist groups looking to maximize damage, with Tegmark arguing that “small AI-powered killer drones are likely to cost little more than a smartphone.” Additionally, killer robots will minimize the human investment required for terrorist attacks, with scholars arguing that “greater degrees of autonomy enable a greater amount of damage to be done by a single person.” Artificial intelligence could make terrorist activity cheaper financially and in terms of human capital, lowering the organizational costs required to commit attacks.

Secondly, using autonomous weapons will reduce the trace left by terrorists. A large number of munitions could be launched — and a large amount of damage done — by a small number of people operating at considerable distance from the target, reducing the signature left behind. In Tegmark’s words, for “a terrorist wanting to assassinate a politician … all they need to do is upload their target’s photo and address into the killer robot: it can then fly to the destination, identify and eliminate the person, and self-destruct to ensure nobody knows who was responsible.” With autonomous weapons technology, terrorist groups will be able to launch increasingly complex attacks, and, when they want to, escape without detection.

Finally, killer robots could reduce, if not eliminate, the physical costs and dangers of terrorism, rendering the operative “essentially invulnerable.” Raising the possibility of “fly and forget” missions, lethal autonomous weapons might simply be deployed toward a target, and engage that target without further human intervention. As P. W. Singer noted in 2012, “one [will] not have to be suicidal to carry out attacks that previously might have required one to be so. This allows new players into the game, making al-Qaeda 2.0 and the next-generation version of the Unabomber or Timothy McVeigh far more lethal.” Additionally, lethal autonomous weapons could potentially reduce human aversion to killing, making terrorism even more palatable as a tactic for political groups. According to the aforementioned February 2018 report, “AI systems can allow the actors who would otherwise be performing the tasks to retain their anonymity and experience a greater degree of psychological distance from the people they impact”; this would not only improve a terrorist’s chances of escape, as mentioned, but reduce or even eliminate the moral or psychological barriers to murder.

Terrorist Acquisition of Lethal Autonomous Weapons Is Realistic

The proliferation of artificial intelligence and killer robot technology to terrorist organizations is realistic and likely to occur through three avenues — internal development, sales, and leaks.

Firstly, modern terrorist organizations have advanced scientific and engineering departments, and actively seek out skilled scientists for recruitment. ISIL, for example, has appealed for scientists to trek to the caliphate to work on drone and AI technology. The individual technologies behind swarming killer robots — including unmanned aerial vehicles, facial recognition, and machine-to-machine communication — already exist, and have been adapted by terrorist organizations for other means. According to a French defense industry executive, “the technological challenge of scaling it up to swarms and things like that doesn’t need any inventive step. It’s just a question of time and scale and I think that’s an absolute certainty that we should worry about.”

Secondly, autonomous weapons technology will likely proliferate through sales. Because AI research is led by private firms, advanced AI technology will be publicly sold on the open market. As Michael Horowitz argues, “militant groups and less-capable states may already have what they need to produce some simple autonomous weapon systems, and that capability is likely to spread even further for purely commercial reasons.” The current framework controlling high-tech weapons proliferation — the Wassenaar Arrangement and Missile Technology Control Regime — is voluntary, and is constantly tested by great-power weapons development. Given interest in developing AI-guided weapons, this seems unlikely to change. Ultimately, as AI expert Toby Walsh notes, the world’s weapons companies can, and will, “make a killing (pun very much intended) selling autonomous weapons to all sides of every conflict.”

Finally, autonomous weapons technology is likely to leak. Innovation in the AI field is led by the private sector, not the military, because of the myriad commercial applications of the technology. This will make it more difficult to contain the technology, and prevent it from proliferating to nonstate actors. Perhaps the starkest warning has been issued by Paul Scharre, a former U.S. defense official: “We are entering a world where the technology to build lethal autonomous weapons is available not only to nation-states but to individuals as well. That world is not in the distant future. It’s already here.”

#### That’s an existential threat—killer robots will be used to launch nuclear, biological, and chemical weapons and cannot be controlled.

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World Record-breaking light show in Folsom, California. Earlier this year, Russia and China flew light shows of more than 2,000 drones too. The drones carried flashy lights and were meant as modern fireworks, but similar drones could be designed for war with thousands of guns, bombs, and missiles.

A thousand-drone swarm has a thousand points of potential error. And because drones in a true swarm communicate with one another, errors may propagate throughout the swarm. For example, one drone may misidentify a cruise ship as an aircraft carrier, then unleash the full might of the swarm on a few thousand civilians.

The same may occur if the drone correctly identifies the cruise ship as not a target, but the word not is lost, due to simple accident or adversary jamming. Swarm communication also leads to emergent behavior—collective behaviors of the swarm that do not depend on the individual parts—that further reduces both the predictability and understandability of the weapon.

As P.W. Singer, a strategist and senior fellow at New America, wrote in his book Wired for War, “a swarm takes the action on its own, which may not always be exactly where and when the commander wants it. Nothing happens in a swarm directly, but rather through the complex relationships among the parts.”

Drone swarms pose a greater threat to powerful militaries, because cheap drones can be flung one after another against expensive platforms until they fall. In 2018, a group calling itself the Free Alawites Movement claimed responsibility for launching 13 drones made largely of plywood, duct tape, and lawnmower engines that attacked Russia’s Khmeimim Air Base in Syria.

The movement claimed the successful destruction of a $300 million S-400 surface-to-air missile system. (The exact identity of the “Free Alawites Movement” is unclear. The only attacks it has claimed are the Khmeimim attacks and another drone attack on a Russian naval base in Syria on the same day. Sources have also attributed the attacks to the Islamic State, Hayat Tahrir al-Sham, and Ahrar al-Sham.)

Russian officials acknowledged the drones flew autonomously and were preprogrammed to drop bombs on the base but claim no damage was done. (The Russian officials did not comment on whether the drones communicated with one another to make a true drone swarm.) However, in Libya, Turkish Bayraktar TB2 drones disabled at least nine Russian air defense systems. The Bayraktar drones are considerably more advanced than those used in Syria, but they illustrate the same principle: Drones pose major threats to air defenses and other expensive systems.

An adversary could fling tons of drones against a $1.8 billion USS Arleigh Burke-class guided-missile destroyer in an attempt to disable or destroy it and still have a cost advantage. Facing such a threat, great powers should choose to lead—rather than resist—the arms control charge for certain weapons. Yes, great powers would give up the potential to unleash their own massive swarms, but swarms are likely to favor weaker powers. If swarms are most effective when used en masse against big, expensive platforms, then major powers that possess such expensive equipment stand to lose the most.If swarms are most effective when used en masse against big, expensive platforms, then major powers that possess such expensive equipment stand to lose the most. Swarms might also be easier to control.

A key arms control challenge for autonomous weapons is knowing if a weapon is actually autonomous. At root, autonomy is just a matter of programming the weapon to fire under given conditions, however simple or complex. A simple landmine explodes when enough weight is put upon it; an autonomous turret fires based on analyzed information collected from sensors and any design constraints. With autonomous weapons, an outside observer cannot tell whether the weapon operates under predesigned rules or is being controlled remotely. However, no human can reasonably control a swarm of thousands of drones.

The complexity is simply too much. They must monitor hundreds of video, infrared, or other feeds, while planning the swarm’s actions and deciding who to kill. Such a massive swarm must be autonomous, may be a weapon of mass destruction in its own right, and could carry traditional weapons of mass destruction.

Discussion of autonomous weapons takes place under the auspices of the Convention on Certain Conventional Weapons, assuming the weapon fires bullets, bombs, or missiles. But an autonomous weapon could just as readily be armed with CBRN agents.

Autonomous vehicles are a great way to deliver chemical, radiological, and biological weapons. An autonomous vehicle cannot get sick with anthrax, nor choke on chlorine. Drones can more directly target enemies, while adjusting trajectories based on local wind and humidity conditions. Plus, small drones can take to the air, fly indoors, and work together to carry out attacks. Operatives from the Islamic State in Iraq and Syria were reportedly quite interested in using drones to carry out radiological and potentially chemical attacks. North Korea also has an arsenal of chemical, biological, and nuclear weapons and a thousand-drone fleet.

When robots make decisions on nuclear weapons, the fate of humanity is at stake. In 1983, at the height of the Cold War, a Soviet early warning system concluded the United States had launched five nuclear missiles at the Soviet Union. The computer expressed the highest degree of confidence in the conclusion. The likely response: immediate nuclear retaliation to level U.S. cities and kill millions of American civilians. Fortunately, Stanislav Petrov, the Soviet officer in charge of the warning system, concluded the computer was wrong. Petrov was correct. Without him, millions of people would be dead.

### --1AC—Prompt Global Strike

[CUT IN FUTURE—THE LIT BASE FOR THIS IS HEAT]

## 1AC—Framing

### 1AC—Base

#### The standard is maximizing expected well being.

**pleasure and pain are intrinsically valuable. People consistently regard pleasure and pain as good reasons for action, despite the fact that pleasure doesn’t seem to be instrumentally valuable for anything.**

**Moen 16** [Ole Martin Moen, Research Fellow in Philosophy at University of Oslo “An Argument for Hedonism” Journal of Value Inquiry (Springer), 50 (2) 2016: 267–281] SJDI

Let us start by observing, empirically, that **a widely shared judgment about intrinsic value and disvalue is that pleasure is intrinsically valuable and pain is intrinsically disvaluable.** **On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues.** This inclusion makes intuitive sense, moreover, for **there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have.** “Pleasure” and “pain” are here understood inclusively, as encompassing anything hedonically positive and anything hedonically negative.2 **The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values.** If you tell me that you are heading for the convenience store, **I might ask: “What for?” This is a reasonable question, for when you go to the convenience store you usually do so**, not merely for the sake of going to the convenience store, but **for the sake of achieving something further that you deem to be valuable.** You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” **If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good.**3 As Aristotle observes**: “We never ask [a man] what his end is in being pleased, because we assume that pleasure is choice worthy in itself.**”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that if something is painful, we have a sufficient explanation of why it is bad. If we are onto something in our everyday reasoning about values, it seems that **pleasure and pain are both places where we reach the end of the line in matters of value.**

**Moral uncertainty means preventing extinction should be our highest priority.  
Bostrom 12** [Nick Bostrom. Faculty of Philosophy & Oxford Martin School University of Oxford. “Existential Risk Prevention as Global Priority.” Global Policy (2012)]  
These reflections on **moral uncertainty suggest** an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate.¶ **Our present understanding of axiology might** well **be confused. We may not** nowknow — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet **be able to imagine the best ends** of our journey. **If we are** indeedprofoundly **uncertain** about our ultimate aims,then we should recognize that **there is a great** option **value in preserving** — and ideally improving — **our ability to recognize value and** to **steer the future accordingly. Ensuring** that **there will be a future** version of **humanity** with great powers and a propensity to use them wisely **is** plausibly **the best way** available to us **to increase the probability that the future will contain** a lot of **value.** To do this, we must prevent any existential catastrophe.

**Reducing the risk of extinction is always priority number one.   
Bostrom 12** [Faculty of Philosophy and Oxford Martin School, University of Oxford.], Existential Risk Prevention as Global Priority.  Forthcoming book (Global Policy). MP. [http://www.existenti...org/concept.pdf](http://www.existential-risk.org/concept.pdf)Even if we use the most conservative of these estimates, which entirely ignores the   possibility of space colonization and software minds, **we find that the expected loss of an existential   catastrophe is greater than the value of 10^16 human lives**.  **This implies that the expected value of   reducing existential risk by a mere one millionth of one percentage point is at least a hundred times the   value of a million human lives.**  The more technologically comprehensive estimate of 10  54 humanbrain-emulation subjective life-years (or 10  52  lives of ordinary length) makes the same point even   more starkly.  Even if we give this allegedly lower bound on the cumulative output potential of a   technologically mature civilization a mere 1% chance of being correct, we find that the expected   value of reducing existential risk by a mere one billionth of one billionth of one percentage point is worth   a hundred billion times as much as a billion human lives. **One might consequently argue that even the tiniest reduction of existential risk has an   expected value greater than that of the definite provision of any ordinary good, such as the direct   benefit of saving 1 billion lives.**  And, further, that the absolute value of the indirect effect of saving 1  billion lives on the total cumulative amount of existential riskâ€”positive or negativeâ€”is almost   certainly larger than the positive value of the direct benefit of such an action.

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# F/L—Case

## 1AR—Extensions

### XT—Primacy

### XT—IL 2 -- Drone Swarms

#### Speed of drone swarms threatens second strike capabilities which causes jittery commander pre-delegation and use-or-lose pressures compounding miscalc and escalating.

### XT—China War

#### Strategic ambiguity, increased battle speeds, unprecedented counterforce capability, devolution of command chains, and emergent unpredictability from LAWS create use-or-lose pressures that ensure miscalc and escalation.

#### 

### XT—Middle East Instability

### XT—PGS

## 1AR—Frontlines

### AT: Circumvention

#### 1. Doesn’t link to the aff—their ev assumes a treaty but our normal means is domestic criminalization which solves their misperception and incentives arguments because the state itself wants to do it.

#### 2. Durable fiat—obviously the resolution isn’t something that’ll actually happen and states don’t want to do it, we get to fiat that they actually go through with the ban, otherwise prevents the aff from ever winning.

#### Cards—

#### A ban is feasible

Gubrud and Altmann 13 – Gubrud, Mark, and Jurgen Altmann. Mark Gubrud is a physicist and adjunct professor in the Peace, War and Defense curriculum at the University of North Carolina. He did his doctoral work in low-temperature and nanoscale experimental physics at the University of Maryland. Jürgen Altmann is a physicist and peace researcher at TU Dortmund University, Germany. He is a co-founder and the chair of the German Research Association for Science, Disarmament and International Security. “Compliance Measures for an Autonomous Weapons Convention.” ICRAC, 2013, [www.icrac.net/wp-content/uploads/2018/04/Gubrud-Altmann\_Compliance-Measures-AWC\_ICRAC-WP2.pdf](http://www.icrac.net/wp-content/uploads/2018/04/Gubrud-Altmann_Compliance-Measures-AWC_ICRAC-WP2.pdf). | MU

General Considerations Agreements to limit or prohibit certain types of arms – either in the context of arms control or of international humanitarian law4 – always raise the concern that a party that violates the terms may gain an advantage, in armed conflict, over one that does not. Therefore many such agreements include measures for promoting, implementing and verifying compliance. The types and extent of compliance measures may depend on many factors, including the military significance of the controlled weapons or actions, the difficulty of distinguishing systems and activities that are prohibited from those that are allowed, preexisting norms and levels of transparency, and the costs and acceptability of various measures. In the history of international arms limitations, the compliance measures agreed upon have ranged from leaving each state to monitor its own and others’ compliance independently, to establishing international organizations with sophisticated technical inspection and monitoring systems. **Several arms control and international humanitarian law agreements and obligations lack any compliance measures, yet are regularly respected by states**. Examples include the bans on “dumdum” bullets,5 x-ray invisible fragments,6 and blinding lasers,7 as well as many other rules and principles of international humanitarian law, embodied in the Geneva Conventions, their Additional Protocols, and other documents, which govern both permissible weapons and conduct in war. Some of these have gained the status of customary international law,8 and hence are incumbent even upon states that have not formally acceded to them; rules have been established in customary IHL for promoting compliance and prosecuting war crimes.9 **Other agreements**, such as those banning anti-personnel landmines and cluster munitions, **set forth their own provisions for inquiry and investigation of suspected or alleged noncompliance**. In addition, these agreements require state parties to enact their own national implementing measures which set penalties for banned activities, to report the numbers, type and status of banned weapons they are in the process of eliminating, and to participate in consultations and review conferences. These and similar measures set standards of implementation, promote transparency and build confidence, and make noncompliance more difficult to conceal. Non-governmental organizations (NGOs) can also help; in particular, the Landmine and Cluster Munitions Monitor (LCMM) plays as strong role as the de facto independent and respected verification mechanism of the treaty. A higher level of verification is provided by official monitoring of declared facilities and weapon systems to ensure that their characteristics and uses fall within prescribed limits. Such measures, for a multilateral treaty, are typically implemented by a treaty implementing organization (TIO).10 Technical measures include tamper-proof monitoring and tagging 2 devices as well as on-site inspections and forensic analysis by expert personnel. **Evidence for the existence of** **undeclared activities and** **systems may also be collected and evaluated by the TIO** **when so mandated**. Considerations for Autonomous Weapons The past decade has witnessed the advent and rapid growth in the development and use, especially by the United States, of weaponized “drones” and, more generally, air, land and water vehicles, large and small, that carry arms and have no on-board crew. A complete prohibition of all such uninhabited armed vehicles would be straightforward to verify through on-site inspections of military sites and other forms of monitoring. Most such vehicles would lack any accommodation for human crew and so would be easily distinguished from piloted and crewed vehicles. A treaty that prohibits autonomous fire decision but allows remotely controlled and “semiautonomous” weapons presents a more complex set of challenges. If a “semi-autonomous weapon system” may have capabilities to autonomously acquire, track, identify, group and prioritize targets, and to control their engagement once a “go” signal is given,11 conversion to full lethal autonomy could be as simple as throwing a (software) switch. Given continued trends in technology, the addition of such capabilities to remotely controlled armed vehicles already equipped with sophisticated sensors and general purpose computers might also reduce to a matter of installing new software. Given the potentially high military importance of some kinds of fully autonomous weapons, especially those designed to attack major weapon systems (perhaps in swarms), there would be a significant risk of fully autonomous options being secretly prepared for systems officially declared to be under human control. However, militarily potent **fully autonomous weapons systems will likely require extensive development and testing** while being operated under full autonomous control (though perhaps under human supervision). **It would be difficult to conceal the large-scale activities that would be involved in such programs**, especially if they are made clear violations of accepted norms and of a binding treaty. By starting with a declaratory undertaking to forgo the development, testing, production and use of fully autonomous weapons, the international community would establish a normative goal and buy time to avoid a runaway arms race. As our understanding of the forms and capabilities of possible autonomous weapons deepens, more detailed limits may be established and clarified, with particular attention to blocking the development and deployment of those systems which pose the greatest threats. Provisions for such further clarifications, and a process for making them, should be incorporated in the treaty. Since verification of the non-existence of an autonomous option in software is virtually impossible, and would be deemed far too intrusive, **a** tamper-proof **system will be needed that can verify**, after the fact, that an attack in question was under direct control of a human being (“in the loop,” not “on the loop”). **This could be achieved by keeping the records of each engagement and making the records of specific engagements available to a Treaty Implementing Organization**, on request, when sufficient evidence exists to support suspicions of illegal autonomous operation. 3 Certain strictly defensive systems, where human safety is at stake and where human reactions are too slow for an effective response, may be exempted from the prohibition, provided they are operated under human supervision. Cases which meet these criteria may include missile and artillery interception systems which defend human-inhabited vehicles or locations. A strict criterion of necessity should be applied; in cases where human reaction is possible, the system should delay engagement to allow a human decision until imperative safety reasons compel an automatic response. In no case should autonomous engagement of human targets be permitted. Such allowances will complicate the terms of an agreement, but if they are narrowly restricted and clearly defined they do not pose particularly difficult challenges for verification.

#### No circumvention and it’s feasible.

**Ackerman 17**, Evan Ackerman, IEEE Spectrum: Technology, Engineering, and Science News, 8-21-2017, "Full Page Reload," <https://spectrum.ieee.org/automaton/robotics/military-robots/industry-urges-united-nations-to-ban-lethal-autonomous-weapons-in-new-open-letter>

Today (or, yesterday, but today Australia time, where it's probably already tomorrow), [116 founders of robotics and artificial intelligence companies from 26 countries released an open letter urging the United Nations to ban lethal autonomous weapon systems (LAWS)](http://www.medianet.com.au/releases/141447/). This is a follow-up to the 2015 anti-"killer robots" UN letter that [we covered extensively](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/we-should-not-ban-killer-robots) when it was released, but with a new focus on industry that attempts to help convince the UN to get something done. Here's [the letter in full](http://www.medianet.com.au/releases/141447/): As companies building the technologies in Artificial Intelligence and Robotics that may be repurposed to develop autonomous weapons, we feel especially responsible in raising this alarm. We warmly welcome the decision of the UN’s Conference of the Convention on Certain Conventional Weapons (CCW) to establish a Group of Governmental Experts (GGE) on Lethal Autonomous Weapon Systems. Many of our researchers and engineers are eager to offer technical advice to your deliberations. We commend the appointment of Ambassador Amandeep Singh Gill of India as chair of the GGE. We entreat the High Contracting Parties participating in the GGE to work hard at finding means to prevent an arms race in these weapons, to protect civilians from their misuse, and to avoid the destabilizing effects of these technologies. We regret that the GGE’s first meeting, which was due to start today, has been cancelled due to a small number of states failing to pay their financial contributions to the UN. We urge the High Contracting Parties therefore to double their efforts at the first meeting of the GGE now planned for November. Lethal autonomous weapons threaten to become the third revolution in warfare. Once developed, they will permit armed conflict to be fought at a scale greater than ever, and at timescales faster than humans can comprehend. These can be weapons of terror, weapons that despots and terrorists use against innocent populations, and weapons hacked to behave in undesirable ways. We do not have long to act. Once this Pandora’s box is opened, it will be hard to close. We therefore implore the High Contracting Parties to find a way to protect us all from these dangers. The press release accompanying the letter mentions that it was signed by Elon Musk, Mustafa Suleyman (founder and Head of Applied AI at Google’s DeepMind), Esben Østergaard, (founder & CTO of Universal Robotics), and a bunch of other people who you may or may not have heard of. [You can read the entire thing here, including all 116 signatories](http://www.medianet.com.au/releases/141447/). For some context on this, we spoke with [Toby Walsh](https://www.cse.unsw.edu.au/~tw/), Scientia Professor of Artificial Intelligence at the University of New South Wales in Sydney and one of the organizers of the letter. Why was it important to release this second open letter? What has happened in the two years since the first letter was released? There are two reasons it is important to put out this second open letter. First, we wanted to demonstrate that the industry putting AI and Robotics into our lives supports the concerns of the research community who signed the first letter. Second, we wanted to add more impetus to the talks at the UN. It is very unfortunate that, despite all sides agreeing of the need to meet quickly, that the first talks have been postponed. We also felt the public needed to know that this issue was stalled for the want of a few hundred thousand dollars. We should be angry that the UN is hampered from finding a solution to this issue due to the lack of a pathetically small amount of money. What is your concern about lethal autonomous weapons? What kind of future are you worried about? In the short term, I worry more about stupid AI than smart AI. We'll give the responsibility to make life and death decisions to machines that cannot comply with international humanitarian law. In the longer term, I am worried we will industrialize war, introducing machines that we cannot defend ourselves against, resulting in an arms race that will destabilise further an already delicate world. It sickens me to think that the AI technologies we work on might be used to cause such harm. I would be much happier if the focus was on all the ways AI could improve our lives, improve health care, education, road safety, and remove the mundane and repetitive from our jobs and many other aspects of our lives. The letter ends with a request to “find a way to protect us all from these dangers.” How, specifically, do you hope that can be accomplished? I believe an international ban, similar to those we have for chemical, biological weapons, and other weapon types like blinding lasers and anti-personnel mines is likely the best way to limit the role of these technologies in the battlefield. While this most recent letter renews the call for a United Nations ban on lethal autonomous weapons systems and makes the perspective from a subset of robotics companies a little more explicit than it might have been before, there has not otherwise been a lot of tangible progress towards an actual ban that we've been able to identify over the past two years. This may be the normal pace of operations for the UN, but essentially all of the questions and concerns that we (and others) raised about the last “killer robots” letter are largely unresolved. Here's a big pile of links to our past coverage: [Why the United Nations Must Move Forward With a Killer Robots Ban](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/united-nations-killer-robots-ban) [We Should Not Ban ‘Killer Robots,’ and Here’s Why](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/we-should-not-ban-killer-robots) [Why We Really Should Ban Autonomous Weapons: A Response](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/why-we-really-should-ban-autonomous-weapons) [Warfighting Robots Could Reduce Civilian Casualties, So Calling for a Ban Now Is Premature](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/autonomous-robotic-weapons-could-reduce-civilian-casualties) [Why Should We Ban Autonomous Weapons? To Survive](https://spectrum.ieee.org/automaton/robotics/military-robots/why-should-we-ban-autonomous-weapons-to-survive) [Ban or No Ban, Hard Questions Remain on Autonomous Weapons](https://spectrum.ieee.org/automaton/robotics/military-robots/ban-or-no-ban-hard-questions-remain-on-autonomous-weapons) One of the primary critiques of a ban on lethal autonomous weapons systems is that it would be practically impossible to implement, considering how much usefulness autonomous systems offer in all kinds of other applications, the minimal separation between commercial and military technology, and how little difference there can be between an autonomous system and a weaponized autonomous system, or a weaponized system with a human in the loop and one without. Meanwhile, we asked [Clearpath Robotics CTO Ryan Gariepy](https://www.clearpathrobotics.com/team/) if, as someone who knows probably way too much about robots and the first person to sign this letter, he had any ideas about where to start when it comes to crafting a lethal autonomous weapons ban that might actually work. (We should note that Ryan is not speaking as a representative of the folks behind this letter; these are his personal opinions.) Do you think that there is a realistic way to implement a purely technological ban on lethal autonomous weapons? At present, I haven't identified (which I don't think would be surprising) any particular aspect which both makes a system transition from a semi-autonomous to a fully autonomous lethal weapons system, and is auditable in a straightforward manner by a third party. What practical steps do you think could be used to help ensure the safety of autonomous weapons systems? Proper, auditable fail-safes. Not to prevent a system from using weapons on its own, but more as an accountability measure against the person who did use these weapons, who chose to authorize that system to take lethal action. There's a lot of technical development that can be done along those lines. Are you then talking about accountability for a human who authorizes a system to take lethal action autonomously, or verifying that there's a human in the loop making all the decisions about whether or not a system can take a lethal action? It's more about the human in the loop. There are open questions about when you authorize an [autonomous] system, what are you authorizing? The release of a single weapon? Prosecuting a target for a defined amount of time? But I think this approach is not only beneficial in cases of autonomous weapons, it would also be immediately applicable to semi-autonomous weapons. We'd like there to be traceability of the person who looked at a particular situation and took action; that accountability gap is a major concern. Fundamentally, Gariepy told us, one of the most important things that could come out of the UN discussions is an understanding that the use of lethal autonomous weapon systems is simply not the way that warfare should happen. That could help put pressure on governments not to use them, even if a specific ban does not exist. A basic question that needs to be addressed in all this is what autonomy means, and what having a human in the loop means, since (as Gariepy alludes to) there are lots of loops, and those loops can get very big and complicated and messy. While I may not agree that a complete ban on autonomous weapons is the right thing to do, I certainly agree that verifiable accountability is vital, and not just when it comes to autonomous systems. If this is the approach that the UN decides to take, as opposed to an outright ban with dubious technical enforceability, I'm all for that.

#### Anything not in control that can kill needs ban

UN News 19 – 3-25-2019, "Autonomous weapons that kill must be banned, insists UN chief," UN News, https://news.un.org/en/story/2019/03/1035381

In a message to the Group of Governmental Experts, the UN chief said that “machines with the power and discretion to take lives without human involvement are politically unacceptable, morally repugnant and should be prohibited by international law”. No country or armed force is in favour of such “fully autonomous” weapon systems that can take human life, Mr Guterres insisted, before welcoming the panel’s statement last year that “human responsibility for decisions on the use of weapons systems must be retained, since accountability cannot be transferred to machines”. Although this 2018 announcement was an “important line in the sand” by the Group of Governmental Experts - which meets under the auspices of the [Convention on Certain Conventional Weapons](https://www.unog.ch/80256EDD006B8954/(httpAssets)/40BDE99D98467348C12571DE0060141E/$file/CCW+text.pdf) (CCW) – the UN chief noted in his statement that while some Member States believe new legislation is required, while others would prefer less stringent political measures and guidelines that could be agreed on. Nonetheless, it is time for the panel “to deliver” on LAWS, the UN chief said, adding that “it is your task now to narrow these differences and find the most effective way forward…The world is watching, the clock is ticking and others are less sanguine. I hope you prove them wrong.” The LAWS meeting is one of two planned for this year, which follow earlier Governmental Expert meetings in 2017 and 2018 at the UN in Geneva. The Group’s agenda covers technical issues related to the use of lethal autonomous weapons systems, including the challenges the technology poses to international humanitarian law, as well as human interaction in the development, deployment and use of emerging tech in LAWS. In addition to the Governmental Experts, participation is expected from a wide array of international organizations, civil society, academia, and industry. The CCW’s full name is the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, entered into force on 2 December 1983. The Convention currently has 125 States Parties. Its purpose is to prohibit or restrict the use of specific types of weapons that are considered to cause unnecessary or unjustifiable suffering to combatants or to affect civilians indiscriminately. In previous [comments](https://www.un.org/sg/en) on AI, the Secretary-General likened the technology to “a new frontier” with “advances moving at warp speed”. “Artificial Intelligence has the potential [to accelerate progress](https://www.itu.int/en/mediacentre/Pages/2017-PR23.aspx) towards a dignified life, in peace and prosperity, for all people,” he said at the [AI for Good Global Summit](https://www.itu.int/en/ITU-T/AI/Pages/201706-default.aspx) in 2017, adding that there are also serious challenges and ethical issues which must be taken into account – including cybersecurity, human rights and privacy.

#### A ban has wide precedent and support in the technology community – experts agree

Development 18, Development, 5-16-2018, "The Campaign To Stop Killer Robots," No Publication, <https://www.stopkillerrobots.org/2018/05/google/> //BP

**Google and its parent company Alphabet** are starting to address some ethical concerns raised by the development of artificial intelligence (AI) and machine learning, but, as yet, have not taken a position on the unchecked use of autonomy and AI in weapon systems. These and other technology companies such as **Amazon, Microsoft, and Oracle**, should publicly endorse the call to ban fully autonomous weapons and commit to never help develop these weapons. Doing so would support the rapidly expanding international effort to ensure the decision to take human life is never delegated to a machine in warfare or in policing and other circumstances. In recent months, calls **have mounted for Google to commit to never to help create weapon systems that would select and attack targets without meaningful human control.** Last month, more than four thousand Google employees issued an open letter demanding the company adopt a clear policy stating that neither Google nor its contractors will ever build “warfare technology.” On 14 May, more than **800 scholars, academics, and researchers** who study, teach about, and develop information technology r**eleased a statement in solidarity with the Google employees that calls on the companies to support an international treaty to prohibit autonomous weapon systems** and commit not to use the personal data that the company collects for military purposes. In the Guardian on 16 May, three co-authors of the academic letter highlight key questions that Google faces, such as: “Should it use its state of the art artificial intelligence technologies, its best engineers, its cloud computing services, and the vast personal data that it collects to contribute to programs that advance the development of autonomous weapons? Should it proceed despite moral and ethical opposition by several thousand of its own employees?” Previously, in a 12 March letter to the heads of Google and Alphabet, the Campaign to Stop Killer Robots recommended the companies adopt “a proactive public policy” by committing to never engage in work aimed at the development and acquisition of fully autonomous weapons systems, also known as lethal autonomous weapons systems, and publicly support the call to for a ban. All these letters express concern over Google’s involvement in a Department of Defense-funded project to “assist in object recognition on unclassified data” contained in surveillance video footage collected by military drones. According to the Pentagon, Project Maven involves “developing and integrating computer-vision algorithms needed to help military and civilian analysts encumbered by the sheer volume of full-motion video data that DoD collects every day in support of counterinsurgency and counterterrorism operations.” The project, which began last year, seeks to turn the “enormous volume of data available to DoD into actionable intelligence and decision-quality insights at speed.” Project Maven raises ethical and other questions about the appropriate use of machine learning and artificial intelligence (AI) for military purposes. The Campaign to Stop Killer Robots is concerned that the AI-driven identification of objects could quickly blur or move into AI-driven identification of ‘targets’ as a basis for the direction of lethal force. This could give machines the capacity to make a determination about what is a target, which would be an unacceptably broad use of the technology. That’s why the campaign is working to retain meaningful human control of the critical functions of identifying, selecting and engaging targets. Google representatives are engaging in a dialogue with the Campaign to Stop Killer Robots and last month provided campaign coordinator Mary Wareham with a statement that says its work on Project Maven is “for non-offensive purposes and using open-source object recognition software available to any Google Cloud customer. The models are based on unclassified data only. The technology is used to flag images for human review and is intended to save lives and save people from having to do highly tedious work.” In July 2015, high-profile Google employees including research director Peter Norvig, scholar Geoffrey Hinton, and AI chief Jeff Dean co-signed an open letter endorsed by thousands of AI experts that outlined the dangers posed by lethal autonomous weapons systems and called for a new treaty to ban the weapons. At **Google DeepMind**, CEO Demis Hassabis, co-founder Mustafa Suleyman and twenty engineers, developers and research scientists **also signed** the 2015 letter. The following year in a submission to a UK parliamentary committee Google DeepMind stated: “We support a ban by international treaty on lethal autonomous weapons systems that select and locate targets and deploy lethal force against them without meaningful human control. **We believe this is the best approach to averting the harmful consequences that would arise from the development and use of such weapons. We recommend the government support all efforts towards such a ban.**” Last month, Amazon’s Jeff Bezos expressed concern at the possible development of fully autonomous weapons, which he described as “genuinely scary,” and proposed a multilateral treaty to regulate them. The Campaign to Stop Killer Robots welcomes these remarks and encourages Amazon to endorse the call for a new treaty to prohibit fully autonomous weapons and pledge not to contribute to the development of these weapons, as Clearpath Robotics and others have done. Issuing ethical principles means little if a company fails to act on fundamental challenges raised by military applications of autonomy and AI. Responsible companies should take seriously and publicly support the increasing calls for states to urgently negotiate a new treaty to prohibit fully autonomous weapons.

#### A ban is the only way to prevent LAWs from being developed – it facilitates strict compliance and verification as well as eliminates disputes between countries

Docherty 20 [Bonnie Docherty, senior researcher in the Arms Division at Human Rights Watch, is an expert on arms and the protection of civilians during armed conflicts. Docherty is also a lecturer on law and associate director of armed conflict and civilian protection at the International Human Rights Clinic at Harvard Law School. Docherty received her bachelor's as well as her law degree from Harvard University.] “The Need for and Elements of a New Treaty on Fully Autonomous Weapons.” Human Rights Watch. June 1, 2020. [https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons) BSPK

The Need for a Legally Binding Instrument

The unacceptable risks posed by fully autonomous weapons necessitate creation of a new legally binding instrument. It could take the form of a stand-alone treaty or a protocol to the Convention on Conventional Weapons. Existing international law, including international humanitarian law, is insufficient in this context because its fundamental rules were designed to be implemented by humans not machines. At the time states negotiated the additional protocols to the Geneva Conventions, they could not have envisioned full autonomy in technology. Therefore, while CCW states parties have agreed that international humanitarian law applies to this new technology, there are debates about how it does.[[12]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn12)

A new treaty would clarify and strengthen existing international humanitarian law. It would establish clear international rules to address the specific problem of weapons systems that operate outside of meaningful human control. In so doing, the instrument would fill the legal gap highlighted by the Martens Clause, help eliminate disputes about interpretation, promote consistency of interpretation and implementation, and facilitate compliance and enforcement.[[13]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn13)

The treaty could also go beyond the scope of current international humanitarian law. While the relevant provisions of international humanitarian law focus on the use of weapons, a new treaty could address development, production, and use. In addition, it could apply to the use of fully autonomous weapons in both law enforcement operations as well as situations of armed conflict.[[14]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn14)

A legally binding instrument is preferable to the “normative and operational framework” that the CCW states parties agreed to develop in 2020 and 2021.[[15]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn15)  The phrase “normative and operational framework” is intentionally vague, and thus has created uncertainty about what states should be working toward. While the term could encompass a legally binding CCW protocol, it could also refer to political commitments or voluntary best practices, which would be not be enough to preempt what has been called the “third revolution in warfare.”[[16]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn16)  Whether adopted under the auspices of CCW or in another forum, a legally binding instrument would bind states parties to clear obligations. Past experience shows that the stigma it would create could also influence states not party and non-state armed groups.

## 1AR—Case F/L

### 1AR—AI Bad

#### AI is the greatest existential threat to humanity.

[Mark Rossi (9-16-2020), Staff Writer for the Villanovan, AI: The Massive Problem No One is Talking About, The Villanovan, http://www.villanovan.com/opinion/ai-the-massive-problem-no-one-is-talking-about/article\_7f23f958-f858-11ea-b783-97043a3dd5e8.html

When people think about the things that could bring about the end of humanity, the short list tends to  include global thermonuclear war, asteroid impacts or deadly pandemics (sounds familiar). Of course, these are not the only existential threats faced by humanity. The people of some developing nations are sadly more familiar with other issues: drought, famine and socio-political collapse. Yet there is one threat that humanity faces that is far more insidious than the others, as it is right in our faces: uncontrolled Artificial Intelligence (AI).

I’m not the only one sounding the alarm about the potential dangers of AI; Elon Musk, world renowned engineer-entrepreneur, has repeatedly done the same. At the National Governors Conference in 2017, Musk said, “AI is a fundamental risk to the existence of human civilization in a way that car accidents, airplane crashes, faulty drugs or bad food were [sic] not.”

For Musk and others, like Bill Gates and Stephen Hawking, proactive measures to prevent a disaster are better than reactive measures after one. In fact, Musk founded his nonprofit OpenAI for the purpose of ensuring that “artificial general intelligence (AGI) — by which we mean highly autonomous systems that outperform humans at most economically valuable work — benefits all of humanity.”

But what exactly is AI? What is AGI? What’s the difference? Simply put, AI is used in reference to machines that can perform tasks that mimic those of the human mind, like solving problems or learning new information. Self-driving cars are a great example of AI’s potential use in daily life; Tesla, Google and Uber are all expanding their reach into this new market.

While this artificial narrow intelligence (ANI) can be used to streamline a specific process and thus improve quality of life for both businesses and individuals, artificial general intelligence (AGI) has the potential to do much more, both good and bad. Artificial general intelligence is any AI that would have the capability to learn, interpret and apply knowledge about the world in a manner exactly akin to, or even better than, a human being. It is important to note that AGI does not currently exist. It is, however, the aspiration of many AI developers, and many organizations have dedicated themselves to the task (the most high-profile of these being Google’s DeepMind AI project).

With the added advantages of instantaneous calculation and perfect memory, AGI would be able to replace almost any human task. While AGI-operated machines would initially be extremely expensive, as a matter of course the technology would become cheaper and cheaper over time, eventually allowing AGI to completely replace human labor. This is where things could get interesting.

At this crossroads, one path leads to utopia and the other to dystopia, or even Armageddon. In the utopian vision, AI acts to benefit humanity, freeing human labor and time across nations and cultures. With human labor almost completely freed up and leveraging the power of advanced AI, technological breakthroughs would occur at an exponential rate and the global standard of living would follow suit. Many of the world’s largest problems would cease to exist as new technologies and means of employing them are developed.

The dystopian road is quite the opposite; AGI could develop to the point where its own level of intelligence increases exponentially. The AI gathers information, using it to create more and more knowledge. It is not hard to see how AGI could quickly become more intelligent than humanity; this is a phenomenon referred to as the “singularity.” A particular problem at this point is ensuring that the new super intelligent AI remains friendly to humanity by means of ensuring that the AI’s goal structures do not change; a rapidly developing AI could easily change its goals from the original, beneficial set to a new set of goals that may be dismissive of or even detrimental to man. Even with these and other precautions, there exists a multitude of ways that humanity could easily lose control over a super intelligent AI, and beyond that point, the future is unclear.

So when, exactly, might we expect such super intelligent AI, given the current rate of technological development? Well, that is anyone’s guess. Elon Musk has said that he believes AI could become more intelligent than humanity by 2025. Others, including Ray Kurzweil, believe it could happen closer to 2045. In a series of polls conducted by AI researchers Nick Bostrom and Vincent Müller, the median prediction fell between 2040 and 2050.

The point of all of this is to recognize that AI, while being an immensely promising emergent technology, also poses extreme (read: existential) risks at the far end of the development horizon. I do not intend to come across as a luddite, trying to dissuade further development for fear of one of many possible outcomes. However, it is necessary to note that the risks are real and that it would serve us well as a society to temper our obsession with whether we can with a consideration of whether we should.

### 1AR—Yes Middle Eastern Instability

#### 1] Prioritize our evidence—it is much more specific in how drone capability by the UAV and neighboring countries creates use-or-lose pressures that ensure miscalculation.

#### 2] Emergence of LAWs in Middle East ensures miscalc is inevitable.

**Burden 19 [**https://globalriskinsights.com/author/jonathan-burden/, Jonathan Burden, organization that provides expert political risk news and analysis on events affecting business, investment, and economic climates] JJ

First, a state could be baited into engaging a UAS, which is then used as a legitimising pretext to launch further strikes. Indeed, it has been suggested that “baiting” has been a significant facet of the Trump administration’s [policy towards Tehran](https://foreignpolicy.com/2019/05/21/how-to-prevent-an-accidental-war-with-iran/). The second mechanism is via miscalculation. Given the right set of conditions (perhaps a hawkish domestic base), repeated attacks on unmanned systems may compel one side to escalate, despite reluctance on both sides.

The emergence of autonomous and swarm drone technology across a range of actors, combined with an unclear logic of how targeting unmanned systems affect inter-state relations could, therefore, trigger conflict. The primary risk is that heightened short term tensions over drones lead to a conflict before longer-term issues can be solved. As these systems develop technologically and operationally – the emergence of autonomous systems will complicate the matter – close attention to the mechanisms involved in precipitating conflict in the Middle East must be made.

#### 3] Their evidence is not specific to Middle Eastern terrorist groups who are likely to strike at neighboring nations, inciting a geopolitical conflict.

### 1AR—Yes Extinction

#### AI Weapons are an existential risk – their creators agree with the plan

Conn 18 Ariel Conn [About Ariel Conn. Ariel specializes in all forms of online science communication, including writing, social media and web design.], 9-2-2018, "Killer robots are fast becoming reality," Metro, <https://metro.co.uk/2018/09/02/killer-robots-are-fast-becoming-a-reality-we-must-stop-this-from-happening-if-we-want-to-stop-a-global-ai-arms-race-7903717/> AG

Yet weapons built with artificial intelligence (AI) – weapons that could identify, target, and kill a person all on their own – are quickly moving from sci-fi to reality.

To date, no weapons exist that can specifically target people. But there are weapons that can track incoming missiles or locate enemy radar signals, and these weapons can autonomously strike these non-human threats without any person involved in the final decision.

Experts predict that in just a few years, if not sooner, this technology will be advanced enough to use against people.

Over the last few years, delegates at the United Nations have debated whether to consider banning killer robots, more formally known as lethal autonomous weapons systems (LAWS).

This week, delegates met again to consider whether more meetings next year could lead to something more tangible – a political declaration or an outright ban.

Meanwhile, those who would actually be responsible for designing LAWS – the AI and robotics researchers and developers – have spent these years calling on the UN to negotiate a treaty banning LAWS.

More specifically, nearly 4,000 AI and robotics researchers called for a ban on LAWS in 2015; in 2017, 116 CEOs of AI companies asked the UN to ban LAWS; and in 2018, more than 150 AI-related organisations and nearly 3,100 individuals took that call a step further and pledged not to be involved in LAWS development.

And AI researchers have plenty of reasons for their consensus that the world should seek a ban on lethal autonomous weapons. Principle among these is that AI experts tend to recognise how dangerous and destabilising these weapons could be.

The weapons could be hacked. The weapons could fall into the hands of ‘bad actors’. The weapons may not be as ‘smart’ as we think and could unwittingly target innocent civilians. Because the materials necessary to build the weapons are cheap and easy to obtain, military powers could mass-produce these weapons, increasing the likelihood of proliferation and mass killings. The weapons could enable assassinations or, alternatively, they could become weapons of oppression, allowing dictators and warlords to subdue their people.

But perhaps the greatest risk posed by LAWS is the potential to ignite a global AI arms race.

If one country were to begin substantial development of a LAWS program – or even if the program is simply perceived as substantial by other countries – an AI arms race would likely be imminent.

During an arms race, countries and AI labs will feel increasing pressure to find shortcuts around safety precautions. Once that happens, every threat mentioned above becomes even more likely, if not inevitable.

#### Independently, an AI race predicated on LAW development is an existential threat

Biddle 19 Sam Biddle [Sam Faulkner Biddle is an American technology journalist. He is a reporter for The Intercept, and was formerly a senior writer at Gawker, the editor of the news website Valleywag, and a reporter at Gizmodo.], 7-21-2019, "Why an “AI Race” Between the U.S. and China Is a Terrible, Terrible Idea," Intercept, <https://theintercept.com/2019/07/21/ai-race-china-artificial-intelligence/> AG

Just this week, Luckey put down the nationalist dog whistle and explicitly called for an American AI program modeled on the nuclear arms race: “If we had not been the leader, we would not have dictated the rules,” the 26-year-old recalled to CNBC.

Anduril investor and fellow Trump backer Peter Thiel echoed Luckey’s sentiments in recent public remarks, going so far as to claim that Google’s AI work had already been compromised by Chinese spies. For some, the militarism of “beating China at AI” is implied with a wink and a nod; for others, it’s the entire game.

Rarely does anyone explain exactly why we should ever want to beat China in this particular field, one that’s helped the government there build incredibly powerful systems of social control, civil liberty annihilation, and minority oppression — areas where the U.S. is still competitive, sure, but perhaps falling behind. A February report by Bloomberg notes that in Tianjin — where Elsa Kania worries we’re being outspent on AI by an “order of magnitude” — it “will soon be hard to go anywhere … without being watched.” Second place sounds more than fine

Speed is the real threat here, and speed is exactly what’s demanded every time a Buttigieg or Sandberg warns we’re falling behind. Self-improving software that detects, categorizes, and predicts far better and faster than any humans ever could is an inherently fraught, socially perilous technology. It demands careful consideration, even if that means glacial “innovation.”

Given the deceptive, reckless, and at times downright vampiric way the likes of Facebook and Google already behave, who could possibly think that the “many legal and ethical issues” Sherman worries about could be properly addressed in the middle of a race? Are we really ready to grapple with Amazon once it’s been handed the mantle of Sputnik and Apollo 11?

Careful consideration demands a slower pace — and a slower pace means, yes, potentially losing a race to the bottom against a national adversary that clearly has no qualms making the bottom as technologically impressive as possible. Rather than clamoring for a dead sprint toward some sort of national AI supremacy, defined however and by whomever, our time might be better spent worrying in earnest about what lies at the finish line.

### 1AR—Timeframe

#### LAWs coming now – it’s try or die to solve

Piper 19 Kelsey Piper [Kelsey is a Staff Writer for Vox's new vertical with a focus on the global poor, animal welfare, and risks affecting a stable future for our world.], 6-21-2019, "Death by algorithm: the age of killer robots is closer than you think," Vox, <https://www.vox.com/2019/6/21/18691459/killer-robots-lethal-autonomous-weapons-ai-war> AG

Experts in machine learning and military technology say it would be technologically straightforward to build robots that make decisions about whom to target and kill without a “human in the loop” — that is, with no person involved at any point between identifying a target and killing them. And as facial recognition and decision-making algorithms become more powerful, it will only get easier.

Called “lethal autonomous weapons” — but “killer robots” isn’t an unreasonable moniker — the proposed weapons would mostly be drones, not humanoid robots, which are still really hard to build and move. But they could be built much smaller than existing military drones, and they could potentially be much cheaper.

Now, researchers in AI and public policy are trying to make the case that killer robots aren’t just a bad idea in the movies — they’re a bad idea in real life. There are certainly ways to use AI to reduce the collateral damage and harms of war, but fully autonomous weapons would also usher in a host of new moral, technical, and strategic dilemmas, which is why scientists and activists have pushed the United Nations and world governments to consider a preemptive ban. Their hope is that we can keep killer robots in the realm of science fiction.

Military drones already fly the skies in areas where the US is at war or engaged in military operations. Human controllers decide when these drones will fire. Lethal autonomous weapons (LAWS) don’t quite exist yet, but the technology to replace the humans with an algorithm that makes the decision of when to shoot does.

“Technologically, autonomous weapons are easier than self-driving cars,” Stuart Russell, a computer science professor at UC Berkeley and leading AI researcher, told me. “People who work in the related technologies think it’d be relatively easy to put together a very effective weapon in less than two years.”

Taking the human out of the loop — and designing weapons that fire on their own without human intervention — has terrifying moral implications. (It has terrifying strategic implications too; we’ll get to that in a bit.) Why would anyone even want to do it?

From a military perspective, the most straightforward argument for autonomous weapons is that they open up a world of new capabilities. If drones have to be individually piloted by a human who makes the crucial decisions about when the drone could fire, you can only have so many of them in the sky at once.

Furthermore, current drones need to transmit and receive information from their base. That introduces some lag time, limits where they can operate, and leaves them somewhat vulnerable — they are useless if communications get cut off by enemies who can block (or “jam”) communication channels.

LAWS would change that. “Because you don’t need a human, you can launch thousands or millions of [autonomous weapons] even if you don’t have thousands or millions of humans to look after them,” Walsh told me. “They don’t have to worry about jamming, which is probably one of the best ways to protect against human-operated drones.”

Fully autonomous weapons will make it easier and cheaper to kill people — a serious problem all by itself in the wrong hands. But opponents of lethal autonomous weapons warn that the consequences could be worse than that.

For one thing, if LAWS development continues, eventually the weapons might be extremely inexpensive. Already today, drones can be purchased or built by hobbyists fairly cheaply, and prices are likely to keep falling as the technology improves. And if the US used drones on the battlefield, many of them would no doubt be captured or scavenged. “If you create a cheap, easily proliferated weapon of mass destruction, it will be used against Western countries,” Russell told me.

Lethal autonomous weapons also seem like they’d be disproportionately useful for ethnic cleansing and genocide; “drones that can be programmed to target a certain kind of person,” Ariel Conn, communications director at the Future of Life Institute, told me, are one of the most straightforward applications of the technology.

Then there are the implications for broader AI development. Right now, US machine learning and AI is the best in the world, which means that the US military is loath to promise that it will not exploit that advantage on the battlefield. “The US military thinks it’s going to maintain a technical advantage over its opponents,” Walsh told me.

That line of reasoning, experts warn, opens us up to some of the scariest possible scenarios for AI. Many researchers believe that advanced artificial intelligence systems have enormous potential for catastrophic failures — going wrong in ways that humanity cannot correct once we’ve developed them, and (if we screw up badly enough) potentially wiping us out.

In order to avoid that, AI development needs to be open, collaborative, and careful. Researchers should not be conducting critical AI research in secret, where no one can point out their errors. If AI research is collaborative and shared, we are more likely to notice and correct serious problems with advanced AI designs.

And most crucially, advanced AI researchers should not be in a hurry. “We’re trying to prevent an AI race,” Conn told me. “No one wants a race, but just because no one wants it doesn’t mean it won’t happen. And one of the things that could trigger that is a race focused on weapons.”

If the US leans too much on its AI advantage for warfare, other countries will certainly redouble their own military AI efforts. And that would create the conditions under which AI mistakes are most likely and most deadly.

#### LAW development is beginning now – it’s try or die to stop it immediately

Corbett 17 Jessica Corbett [Jessica Corbett is a staff writer for Common Dreams.], 11-17-2017, "'These Will Be Weapons of Mass Destruction': Warnings About Killer Robots After UN Talks," Common Dreams, <https://www.commondreams.org/news/2017/11/17/these-will-be-weapons-mass-destruction-warnings-about-killer-robots-after-un-talks> AG

As the United Nations' first formal meeting about killer robots came to a close on Friday, tech experts and critics continued to warn about autonomous weapons and called for more urgent action to curb the threat they pose.

In Geneva this week, a Convention on Conventional Weapons (CCW) group of governmental experts on lethal autonomous weapons systems gathered to discuss growing demands that the global community establish limitations on the development of robotic weapons.

As artificial intelligence technology has advanced, human rights organizations, advocacy groups, military leaders, lawmakers, and tech experts, and engineers such Tesla CEO Elon Musk have all expressed concerns about these fast-evolving machines.

"Militaries around the world and defense companies are sinking a lot of money" into developing weapons that can autonomously select targets and kill humans, Mary Wareham of the arms division at Human Rights Watch (HRW) told AFP. "Countries do not have time... to waste just talking about this subject."

"These will be weapons of mass destruction," warned Toby Walsh, an expert on artificial intelligence at the University of New South Wales in Australia.

"I am actually quite confident that we will ban these weapons," he added. "My only concern is whether [nations] have the courage of conviction to do it now, or whether we will have to wait for people to die first."

Boston Dynamics—an American robotic company owned by Alphabet, Google's parent company—triggered a social media frenzy on Thursday when it revealed video of its Atlas humanoid robot doing backflips. Although Atlas is not designed as a weapon, the video served as a reminder of the degree to which robotics technology has advanced, causing some views to share concerns about the threat robots could pose to humans in the future.

Amid discussions in Geneva this week, Brazil, Iraq, and Uganda joined the growing list of 22 nations that are calling for an outright ban on fully autonomous lethal weapons, according to a tally (pdf) by the umbrella advocacy group Campaign to Stop Killer Robots. However, many others—particularly those with large militaries and major tech industries—are resistant to imposing too many limitations.

The United States, for example, said it was "premature" to develop a definition of such weapons, and "said autonomous weapons could help improve guidance of missiles and bombs against military targets, thereby 'reducing the likelihood of inadvertently striking civilians,'" according to the Associated Press.

"The bottom line is that governments are not moving fast enough," Steven Goose, HRW executive director of arms told the Associated Press. Goose, whose organization is part of the campaign, said a treaty by the end of 2019 is "the kind of timeline we think this issue demands."

Next week, states will reconvene for the CCW meeting of high contracting parties—there are 123 state parties and 5 signatories—to determine the CCW's next steps with regard to killer robots. Ambassador Amandeep Singh Gill of India, who chaired this week's meeting, said those who participated have already agreed to return for a follow-up discussion next year.

### 1AR—AT: Circumvention

#### A ban is feasible

Gubrud and Altmann 13 – Gubrud, Mark, and Jurgen Altmann. Mark Gubrud is a physicist and adjunct professor in the Peace, War and Defense curriculum at the University of North Carolina. He did his doctoral work in low-temperature and nanoscale experimental physics at the University of Maryland. Jürgen Altmann is a physicist and peace researcher at TU Dortmund University, Germany. He is a co-founder and the chair of the German Research Association for Science, Disarmament and International Security. “Compliance Measures for an Autonomous Weapons Convention.” ICRAC, 2013, [www.icrac.net/wp-content/uploads/2018/04/Gubrud-Altmann\_Compliance-Measures-AWC\_ICRAC-WP2.pdf](http://www.icrac.net/wp-content/uploads/2018/04/Gubrud-Altmann_Compliance-Measures-AWC_ICRAC-WP2.pdf). | MU

General Considerations Agreements to limit or prohibit certain types of arms – either in the context of arms control or of international humanitarian law4 – always raise the concern that a party that violates the terms may gain an advantage, in armed conflict, over one that does not. Therefore many such agreements include measures for promoting, implementing and verifying compliance. The types and extent of compliance measures may depend on many factors, including the military significance of the controlled weapons or actions, the difficulty of distinguishing systems and activities that are prohibited from those that are allowed, preexisting norms and levels of transparency, and the costs and acceptability of various measures. In the history of international arms limitations, the compliance measures agreed upon have ranged from leaving each state to monitor its own and others’ compliance independently, to establishing international organizations with sophisticated technical inspection and monitoring systems. **Several arms control and international humanitarian law agreements and obligations lack any compliance measures, yet are regularly respected by states**. Examples include the bans on “dumdum” bullets,5 x-ray invisible fragments,6 and blinding lasers,7 as well as many other rules and principles of international humanitarian law, embodied in the Geneva Conventions, their Additional Protocols, and other documents, which govern both permissible weapons and conduct in war. Some of these have gained the status of customary international law,8 and hence are incumbent even upon states that have not formally acceded to them; rules have been established in customary IHL for promoting compliance and prosecuting war crimes.9 **Other agreements**, such as those banning anti-personnel landmines and cluster munitions, **set forth their own provisions for inquiry and investigation of suspected or alleged noncompliance**. In addition, these agreements require state parties to enact their own national implementing measures which set penalties for banned activities, to report the numbers, type and status of banned weapons they are in the process of eliminating, and to participate in consultations and review conferences. These and similar measures set standards of implementation, promote transparency and build confidence, and make noncompliance more difficult to conceal. Non-governmental organizations (NGOs) can also help; in particular, the Landmine and Cluster Munitions Monitor (LCMM) plays as strong role as the de facto independent and respected verification mechanism of the treaty. A higher level of verification is provided by official monitoring of declared facilities and weapon systems to ensure that their characteristics and uses fall within prescribed limits. Such measures, for a multilateral treaty, are typically implemented by a treaty implementing organization (TIO).10 Technical measures include tamper-proof monitoring and tagging 2 devices as well as on-site inspections and forensic analysis by expert personnel. **Evidence for the existence of** **undeclared activities and** **systems may also be collected and evaluated by the TIO** **when so mandated**. Considerations for Autonomous Weapons The past decade has witnessed the advent and rapid growth in the development and use, especially by the United States, of weaponized “drones” and, more generally, air, land and water vehicles, large and small, that carry arms and have no on-board crew. A complete prohibition of all such uninhabited armed vehicles would be straightforward to verify through on-site inspections of military sites and other forms of monitoring. Most such vehicles would lack any accommodation for human crew and so would be easily distinguished from piloted and crewed vehicles. A treaty that prohibits autonomous fire decision but allows remotely controlled and “semiautonomous” weapons presents a more complex set of challenges. If a “semi-autonomous weapon system” may have capabilities to autonomously acquire, track, identify, group and prioritize targets, and to control their engagement once a “go” signal is given,11 conversion to full lethal autonomy could be as simple as throwing a (software) switch. Given continued trends in technology, the addition of such capabilities to remotely controlled armed vehicles already equipped with sophisticated sensors and general purpose computers might also reduce to a matter of installing new software. Given the potentially high military importance of some kinds of fully autonomous weapons, especially those designed to attack major weapon systems (perhaps in swarms), there would be a significant risk of fully autonomous options being secretly prepared for systems officially declared to be under human control. However, militarily potent **fully autonomous weapons systems will likely require extensive development and testing** while being operated under full autonomous control (though perhaps under human supervision). **It would be difficult to conceal the large-scale activities that would be involved in such programs**, especially if they are made clear violations of accepted norms and of a binding treaty. By starting with a declaratory undertaking to forgo the development, testing, production and use of fully autonomous weapons, the international community would establish a normative goal and buy time to avoid a runaway arms race. As our understanding of the forms and capabilities of possible autonomous weapons deepens, more detailed limits may be established and clarified, with particular attention to blocking the development and deployment of those systems which pose the greatest threats. Provisions for such further clarifications, and a process for making them, should be incorporated in the treaty. Since verification of the non-existence of an autonomous option in software is virtually impossible, and would be deemed far too intrusive, **a** tamper-proof **system will be needed that can verify**, after the fact, that an attack in question was under direct control of a human being (“in the loop,” not “on the loop”). **This could be achieved by keeping the records of each engagement and making the records of specific engagements available to a Treaty Implementing Organization**, on request, when sufficient evidence exists to support suspicions of illegal autonomous operation. 3 Certain strictly defensive systems, where human safety is at stake and where human reactions are too slow for an effective response, may be exempted from the prohibition, provided they are operated under human supervision. Cases which meet these criteria may include missile and artillery interception systems which defend human-inhabited vehicles or locations. A strict criterion of necessity should be applied; in cases where human reaction is possible, the system should delay engagement to allow a human decision until imperative safety reasons compel an automatic response. In no case should autonomous engagement of human targets be permitted. Such allowances will complicate the terms of an agreement, but if they are narrowly restricted and clearly defined they do not pose particularly difficult challenges for verification.

#### The ban is enforceable and effective - cryptographic proofs, stigmatization, and definitions.

Gubrud and Altmann 13 [Mark Gubrud, PhD, adjunct professor in the Curriculum in Peace, War & Defense at the University of North Carolina. Jürgen Altmann, PhD, expert in the field of disarmament and arms control. He has been working on disarmament-related issues since 1985 conducting research on co-operative verification of disarmament or peace-keeping agreements using automatic sensor systems and assessment and preventive limitations of new military technologies, with major studies on acoustic weapons and micro-systems technologies. “Compliance Measures for an Autonomous Weapons Convention,” ICRAC, May 2013, https://www.icrac.net/wp-content/uploads/2018/04/Gubrud-Altmann\_Compliance-Measures-AWC\_ICRAC-WP2.pdf] Justin //Re-cut by VM

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Cases which meet these criteria may include missile and artillery interception systems which defend human-inhabited vehicles or locations. A strict criterion of necessity should be applied; in cases where human reaction is possible, the system should delay engagement to allow a human decision until imperative safety reasons compel an automatic response. In no case should autonomous engagement of human targets be permitted. Such allowances will complicate the terms of an agreement, but if they are narrowly restricted and clearly defined they do not pose particularly difficult challenges for verification. Specific Proposals Given the challenges in drawing a clear line across a complicated space of possibilities, and of holding that line when it is easily crossed and there are potential military advantages from doing so, prohibition of autonomous weapons requires a strong set of compliance measures. Perhaps the most fundamental is global recognition of the dangers of an open-ended robot arms race, and, responding to this, state commitment to forgoing autonomous weapons, and to establishing and sustaining a regime of preventive arms control. Entwined with this is the establishment of an unequivocal, universal norm demanding a human decision for each single use of violent force, and the implementation of measures to verify human control and to enforce accountability in each instance. As a philosophical and legal foundation, the principles that the use of violent force must always be under human control, that decision in the use of force is a human responsibility, and that it is a human right not to be subjected to violent force or coercion on the decision of a machine, should be asserted as primary, and added to the canons of just war theory, ethics and international humanitarian law, especially as taught to military officers and personnel. Together with specific legal terms of prohibition and its implementation, these can be embodied in an Autonomous Weapons Convention (AWC). The central obligations of state parties to an AWC will be: not to develop, test, produce, stockpile, deploy, transfer, broker transfer, or use weapon systems capable of autonomous target selection and engagement; not to permit autonomous target selection and weapons engagement by any machines under its jurisdiction; and to ensure that for each use of force against any target by means of any robotic weapon under its jurisdiction or control (whether lethal or nonlethal), the selection of the target, and decision to engage, are made by a human being who is responsible and accountable for that decision. National implementing legislation should prohibit and impose penalties for any activities contrary to these obligations, and make it the responsibility of soldiers and citizens to refuse participation in and to report violations. State parties should be required to declare any preexisting weapon systems that will be destroyed and programs that will be terminated when treaty comes into force. There should be provisions for consultations and procedures for requesting consultations in case of compliance issues arising. A treaty implementing organization (TIO) should be established to facilitate consultations, implement technical safeguards, and conduct inquiries and investigations when so mandated. It should also be charged to develop a body of technical expertise on autonomous weapons and verification of their non-use. An NGO body like the LCMM should also independently monitor compliance and address gaps in national and TIO monitoring and reporting. ICRAC scientists are developing proposals for technical safeguards which could verify that a responsible human operator has selected each target and initiated each engagement of a weapon system, under the authority of a responsible commander (which might be the same person), based on human, not machine judgment. Some initial ideas are presented below. A compliance model based on transparency and confidence-building measures, inspections, technical safeguards, and forensic investigation of suspicious incidents, together with verification of human control and enforcement of accountability in the use of violent force, particularly by means of remotely-operated weapons and uninhabited vehicles, is sufficient for effective verification of a ban on fully autonomous weapons designed to engage personnel and nonstrategic military targets. For issues of strategic concern, stronger and more specific measures may need to be developed, nationally and through the TIO, and could be added to the treaty regime as protocols or amendments. National technical means of verification will also be important resources.12 Definitions Careful and explicit definitions will need to be given for each of the terms used; for example, “autonomous” is generally understood, in this context, to mean functioning independently of human action, though possibly under human supervision and with the possibility of human intervention. Here a distinction must be made with the word “automatic.” The general sense is that “autonomous” implies a higher level of complexity in a system’s ability to collect and process relevant information and in the relationship between that information and behavior; in other words, a higher level of (artificial) intelligence. It is possible to give a technical definition of “autonomy” in this sense which permits us to distinguish “autonomous” from “automatic” quantitatively, on the criterion of a measure of complexity. As an alternative, it may be sufficient to define an “autonomous weapon” (AW),13 as any system that acts independently of human action in “engagement-related functions” such as the acquisition, tracking, identification, grouping, selection, prioritization and engagement of targets.14 Each step in this so-called “kill chain” or “loop” involves functions which the weapon system might fulfill autonomously. If any of these functions are autonomous, the weapon system may be classified as an AW, and if all of them are autonomous, the system is a fully autonomous weapon (FAW). Under this paradigm, the treaty definition may simply exclude certain very simple systems, to be considered as merely “automatic” and not as AW. These exclusions, such as proximity fuses, mines, and heat-seeking missiles, can be enumerated and described in detail, either as an exhaustive list or as a set of typical examples. General technical criteria can also be given, including weapons type and complexity. In addition, definitions will need to be given for those high-complexity FAW which are to be permitted as exceptions, principally those systems which are purely defensive against incoming projectiles which must be engaged in a time too short for human decision and response. The conditions under which such systems are permissible need to be spelled out; potential requirements include that they must be defending a human-inhabited location or vehicle, that they must be operated under accountable human supervision, and that to the greatest extent feasible they must give the human operator adequate information and maximum time and opportunity to abort or intervene in an erroneous engagement. Standards A problem related to definitions is the setting of criteria for human control and responsibility in the decision to use violent force. The difficulty and importance of this is indicated by the language of the US Department of Defense’s Directive on Autonomy in Weapon Systems, which refers repeatedly to “selection” of targets by a “human operator” as the crucial step that distinguishes “semi-autonomous weapons” (SAW) from fully autonomous weapons; a SAW may “cue” its operator to “potential targets,” but the operator must “select” them. Yet the definition offered for “target selection” – “The determination that an individual target or a specific group of targets is to be engaged.” – fails to clarify what this means in practice. Does the operator need to move a cursor over the potential target’s image, or if there is only one potential “target group” in play, can the operator just say “Go”? If the operator is using some type of brain-computer interface, can “determination” be as little as a conscious decision? We believe that in order for any level of “autonomy in engagement-related functions” to be acceptable under an AWC, clear requirements must be stated and met. Each engagement decision must be taken under the authority of an accountable commander, and the weapon system itself must be under the control of an accountable operator (who may be the same person). The commander must have sufficient information, without relying on machine assessment, target recognition or preprocessing of raw data, to distinguish combatants from noncombatants, to determine that the military objectives outweigh harm or risks to noncombatants and civilian objects, and to respect all other applicable rules of international humanitarian law. If the system, and other resources, do not provide sufficient information to make these determinations, the commander’s obligation is to hold fire. The operator must have positive control of target selection and engagement, so that unintended engagements are nearly impossible. If the system does not provide such positive control, the operator’s obligation is to refuse use of the system. Neither the commander nor the operator may evade responsibility as a result of technical limitations of the system. Additionally, the AWC may set forth standards for the operator’s interface. An unmistakable, undeniable, affirmative action of the operator may be required both for “selection” when there is any degree of ambiguity, such as when multiple “potential targets” or “target groups” are indicated, and again to initiate engagement. Some kind of “handshaking” between the operator and system may be required for confirmation. Control by braincomputer interface may be prohibited.15 Technical Safeguards and Verification of Human Control and Responsibility If remotely-operated weapons (ROW), including armed uninhabited vehicles, and semiautonomous weapons as described by the US Department of Defense, will continue to be used and permitted under an AWC, in order to hold the line and prevent its crossing into prohibited fully autonomous weapons, technical safeguards and verification measures should be implemented to verify that each engagement of a weapon falling into one of these categories, as well as the operation of permitted FAW for terminal defense, is carried out under the authority of an accountable commander and control of an accountable operator. ICRAC scientists have begun work toward proposing such technical measures. ICRAC’s assumption is that state parties to the AWC will be willing to accept on-site inspections, sharing of some data, requirements for more extensive private data recording and preservation, and the installation of monitoring and reporting devices with known, open-source functions, provided that the information revealed by such procedures is strictly circumscribed and costs are not excessive. The benefit to participating state parties is to provide evidence of their compliance and thereby promote the compliance of other states as well as refuting spurious allegations of noncompliance. Proving that the command to select and to engage a particular target was the action of a particular person is difficult, but an evidence trail that such a command was given can be generated and made difficult to forge or tamper with. Such evidence could include video and other data that was presented to the operator, plus a video view that includes the operator’s hands on controls and the operator’s view of the console. The data record would also include the commands as received by the console and codes for the identities of the accountable operator and accountable commander, which might be encrypted in physical keys which they are personally accountable for controlling at all times, and which are needed in order to operate the weapon. A time slice of the data stream immediately prior to and including the selection and engagement commands could be designated as the primary record of the engagement. This record would be held by the state party, but a cryptographic code called a “hash” of the record would be recorded by a “glass box” (not “black” because its hardware and software would be known and open) together with a time stamp of the moment the engagement command was issued. The hash would serve as a digital seal of the engagement record; if even a single bit of the record were later altered, the hash would not match. The hash and the time stamp, recorded together, could be referred to as a “use of force identifier” (UFI). The UFIs would be periodically downloaded during on-site inspections by the TIO, which would also verify that the glass boxes were functional and properly installed. The UFIs would be held in a repository by the TIO. While the TIO would make every effort to ensure security of the UFI database, its compromise would not reveal any useful intelligence, but only strings of gibberish. To strengthen the evidence trail, glass boxes could also be installed at the receiving end, on armed uninhabited vehicles and other ROW. All ROW would need to be registered with the TIO, and **the glass boxes would need to be periodically inspected and their data downloaded**. The glass box on the weapon would be capable of detecting the launch of a missile, firing of a gun, or other engagement action of the weapon, either independently, with a signal provided by the weapon, or both. It would record the time of the event, plus a hash of data generated by the weapon system, which the system would retain until downloaded to custody of the state party. The UFI would also be transmitted, through the weapon system’s communications links, from the glass box on the console to the glass box on the weapon, immediately following the engagement, and would be recorded by the glass box on the weapon. The time stamp of the UFI’s issuance at the console would have to be prior to the time stamp recorded for the weapon firing, in order for the firing to have been caused by a command from the safeguarded console. The presence of the UFI in the glass box on the weapon would also show that the particular weapon was in communication with the particular safeguarded console at the time of the engagement. This conceptual sketch is intended as representative of initial thinking about technical verification measures for an AWC, not the final word. The basic approach, though, seems plausible. Tactical information about engagements and technical details of weapon system hardware and software would not be disclosed, but the UFI hash codes would serve to prevent tampering with the records kept by the state party. In the event of a question about whether the weapon involved in a particular use of force was operating autonomously or under accountable human control, the state operating the weapon could be asked to produce the records which it kept of that use of force, perhaps in an encrypted form but tamper protected by the hash code held by the TIO. The state party could then selectively reveal verified details of the use of force event to an orderly process of inquiry conducted by the TIO.”

#### No circumvention and it’s feasible.

**Ackerman 17**, Evan Ackerman, IEEE Spectrum: Technology, Engineering, and Science News, 8-21-2017, "Full Page Reload," <https://spectrum.ieee.org/automaton/robotics/military-robots/industry-urges-united-nations-to-ban-lethal-autonomous-weapons-in-new-open-letter>

Today (or, yesterday, but today Australia time, where it's probably already tomorrow), [116 founders of robotics and artificial intelligence companies from 26 countries released an open letter urging the United Nations to ban lethal autonomous weapon systems (LAWS)](http://www.medianet.com.au/releases/141447/). This is a follow-up to the 2015 anti-"killer robots" UN letter that [we covered extensively](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/we-should-not-ban-killer-robots) when it was released, but with a new focus on industry that attempts to help convince the UN to get something done. Here's [the letter in full](http://www.medianet.com.au/releases/141447/): As companies building the technologies in Artificial Intelligence and Robotics that may be repurposed to develop autonomous weapons, we feel especially responsible in raising this alarm. We warmly welcome the decision of the UN’s Conference of the Convention on Certain Conventional Weapons (CCW) to establish a Group of Governmental Experts (GGE) on Lethal Autonomous Weapon Systems. Many of our researchers and engineers are eager to offer technical advice to your deliberations. We commend the appointment of Ambassador Amandeep Singh Gill of India as chair of the GGE. We entreat the High Contracting Parties participating in the GGE to work hard at finding means to prevent an arms race in these weapons, to protect civilians from their misuse, and to avoid the destabilizing effects of these technologies. We regret that the GGE’s first meeting, which was due to start today, has been cancelled due to a small number of states failing to pay their financial contributions to the UN. We urge the High Contracting Parties therefore to double their efforts at the first meeting of the GGE now planned for November. Lethal autonomous weapons threaten to become the third revolution in warfare. Once developed, they will permit armed conflict to be fought at a scale greater than ever, and at timescales faster than humans can comprehend. These can be weapons of terror, weapons that despots and terrorists use against innocent populations, and weapons hacked to behave in undesirable ways. We do not have long to act. Once this Pandora’s box is opened, it will be hard to close. We therefore implore the High Contracting Parties to find a way to protect us all from these dangers. The press release accompanying the letter mentions that it was signed by Elon Musk, Mustafa Suleyman (founder and Head of Applied AI at Google’s DeepMind), Esben Østergaard, (founder & CTO of Universal Robotics), and a bunch of other people who you may or may not have heard of. [You can read the entire thing here, including all 116 signatories](http://www.medianet.com.au/releases/141447/). For some context on this, we spoke with [Toby Walsh](https://www.cse.unsw.edu.au/~tw/), Scientia Professor of Artificial Intelligence at the University of New South Wales in Sydney and one of the organizers of the letter. Why was it important to release this second open letter? What has happened in the two years since the first letter was released? There are two reasons it is important to put out this second open letter. First, we wanted to demonstrate that the industry putting AI and Robotics into our lives supports the concerns of the research community who signed the first letter. Second, we wanted to add more impetus to the talks at the UN. It is very unfortunate that, despite all sides agreeing of the need to meet quickly, that the first talks have been postponed. We also felt the public needed to know that this issue was stalled for the want of a few hundred thousand dollars. We should be angry that the UN is hampered from finding a solution to this issue due to the lack of a pathetically small amount of money. What is your concern about lethal autonomous weapons? What kind of future are you worried about? In the short term, I worry more about stupid AI than smart AI. We'll give the responsibility to make life and death decisions to machines that cannot comply with international humanitarian law. In the longer term, I am worried we will industrialize war, introducing machines that we cannot defend ourselves against, resulting in an arms race that will destabilise further an already delicate world. It sickens me to think that the AI technologies we work on might be used to cause such harm. I would be much happier if the focus was on all the ways AI could improve our lives, improve health care, education, road safety, and remove the mundane and repetitive from our jobs and many other aspects of our lives. The letter ends with a request to “find a way to protect us all from these dangers.” How, specifically, do you hope that can be accomplished? I believe an international ban, similar to those we have for chemical, biological weapons, and other weapon types like blinding lasers and anti-personnel mines is likely the best way to limit the role of these technologies in the battlefield. While this most recent letter renews the call for a United Nations ban on lethal autonomous weapons systems and makes the perspective from a subset of robotics companies a little more explicit than it might have been before, there has not otherwise been a lot of tangible progress towards an actual ban that we've been able to identify over the past two years. This may be the normal pace of operations for the UN, but essentially all of the questions and concerns that we (and others) raised about the last “killer robots” letter are largely unresolved. Here's a big pile of links to our past coverage: [Why the United Nations Must Move Forward With a Killer Robots Ban](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/united-nations-killer-robots-ban) [We Should Not Ban ‘Killer Robots,’ and Here’s Why](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/we-should-not-ban-killer-robots) [Why We Really Should Ban Autonomous Weapons: A Response](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/why-we-really-should-ban-autonomous-weapons) [Warfighting Robots Could Reduce Civilian Casualties, So Calling for a Ban Now Is Premature](https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/autonomous-robotic-weapons-could-reduce-civilian-casualties) [Why Should We Ban Autonomous Weapons? To Survive](https://spectrum.ieee.org/automaton/robotics/military-robots/why-should-we-ban-autonomous-weapons-to-survive) [Ban or No Ban, Hard Questions Remain on Autonomous Weapons](https://spectrum.ieee.org/automaton/robotics/military-robots/ban-or-no-ban-hard-questions-remain-on-autonomous-weapons) One of the primary critiques of a ban on lethal autonomous weapons systems is that it would be practically impossible to implement, considering how much usefulness autonomous systems offer in all kinds of other applications, the minimal separation between commercial and military technology, and how little difference there can be between an autonomous system and a weaponized autonomous system, or a weaponized system with a human in the loop and one without. Meanwhile, we asked [Clearpath Robotics CTO Ryan Gariepy](https://www.clearpathrobotics.com/team/) if, as someone who knows probably way too much about robots and the first person to sign this letter, he had any ideas about where to start when it comes to crafting a lethal autonomous weapons ban that might actually work. (We should note that Ryan is not speaking as a representative of the folks behind this letter; these are his personal opinions.) Do you think that there is a realistic way to implement a purely technological ban on lethal autonomous weapons? At present, I haven't identified (which I don't think would be surprising) any particular aspect which both makes a system transition from a semi-autonomous to a fully autonomous lethal weapons system, and is auditable in a straightforward manner by a third party. What practical steps do you think could be used to help ensure the safety of autonomous weapons systems? Proper, auditable fail-safes. Not to prevent a system from using weapons on its own, but more as an accountability measure against the person who did use these weapons, who chose to authorize that system to take lethal action. There's a lot of technical development that can be done along those lines. Are you then talking about accountability for a human who authorizes a system to take lethal action autonomously, or verifying that there's a human in the loop making all the decisions about whether or not a system can take a lethal action? It's more about the human in the loop. There are open questions about when you authorize an [autonomous] system, what are you authorizing? The release of a single weapon? Prosecuting a target for a defined amount of time? But I think this approach is not only beneficial in cases of autonomous weapons, it would also be immediately applicable to semi-autonomous weapons. We'd like there to be traceability of the person who looked at a particular situation and took action; that accountability gap is a major concern. Fundamentally, Gariepy told us, one of the most important things that could come out of the UN discussions is an understanding that the use of lethal autonomous weapon systems is simply not the way that warfare should happen. That could help put pressure on governments not to use them, even if a specific ban does not exist. A basic question that needs to be addressed in all this is what autonomy means, and what having a human in the loop means, since (as Gariepy alludes to) there are lots of loops, and those loops can get very big and complicated and messy. While I may not agree that a complete ban on autonomous weapons is the right thing to do, I certainly agree that verifiable accountability is vital, and not just when it comes to autonomous systems. If this is the approach that the UN decides to take, as opposed to an outright ban with dubious technical enforceability, I'm all for that.

#### Anything not in control that can kill needs ban

UN News 19 – 3-25-2019, "Autonomous weapons that kill must be banned, insists UN chief," UN News, https://news.un.org/en/story/2019/03/1035381

In a message to the Group of Governmental Experts, the UN chief said that “machines with the power and discretion to take lives without human involvement are politically unacceptable, morally repugnant and should be prohibited by international law”. No country or armed force is in favour of such “fully autonomous” weapon systems that can take human life, Mr Guterres insisted, before welcoming the panel’s statement last year that “human responsibility for decisions on the use of weapons systems must be retained, since accountability cannot be transferred to machines”. Although this 2018 announcement was an “important line in the sand” by the Group of Governmental Experts - which meets under the auspices of the [Convention on Certain Conventional Weapons](https://www.unog.ch/80256EDD006B8954/(httpAssets)/40BDE99D98467348C12571DE0060141E/$file/CCW+text.pdf) (CCW) – the UN chief noted in his statement that while some Member States believe new legislation is required, while others would prefer less stringent political measures and guidelines that could be agreed on. Nonetheless, it is time for the panel “to deliver” on LAWS, the UN chief said, adding that “it is your task now to narrow these differences and find the most effective way forward…The world is watching, the clock is ticking and others are less sanguine. I hope you prove them wrong.” The LAWS meeting is one of two planned for this year, which follow earlier Governmental Expert meetings in 2017 and 2018 at the UN in Geneva. The Group’s agenda covers technical issues related to the use of lethal autonomous weapons systems, including the challenges the technology poses to international humanitarian law, as well as human interaction in the development, deployment and use of emerging tech in LAWS. In addition to the Governmental Experts, participation is expected from a wide array of international organizations, civil society, academia, and industry. The CCW’s full name is the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, entered into force on 2 December 1983. The Convention currently has 125 States Parties. Its purpose is to prohibit or restrict the use of specific types of weapons that are considered to cause unnecessary or unjustifiable suffering to combatants or to affect civilians indiscriminately. In previous [comments](https://www.un.org/sg/en) on AI, the Secretary-General likened the technology to “a new frontier” with “advances moving at warp speed”. “Artificial Intelligence has the potential [to accelerate progress](https://www.itu.int/en/mediacentre/Pages/2017-PR23.aspx) towards a dignified life, in peace and prosperity, for all people,” he said at the [AI for Good Global Summit](https://www.itu.int/en/ITU-T/AI/Pages/201706-default.aspx) in 2017, adding that there are also serious challenges and ethical issues which must be taken into account – including cybersecurity, human rights and privacy.

#### A ban has wide precedent and support in the technology community – experts agree

Development 18, Development, 5-16-2018, "The Campaign To Stop Killer Robots," No Publication, <https://www.stopkillerrobots.org/2018/05/google/> //BP

**Google and its parent company Alphabet** are starting to address some ethical concerns raised by the development of artificial intelligence (AI) and machine learning, but, as yet, have not taken a position on the unchecked use of autonomy and AI in weapon systems. These and other technology companies such as **Amazon, Microsoft, and Oracle**, should publicly endorse the call to ban fully autonomous weapons and commit to never help develop these weapons. Doing so would support the rapidly expanding international effort to ensure the decision to take human life is never delegated to a machine in warfare or in policing and other circumstances. In recent months, calls **have mounted for Google to commit to never to help create weapon systems that would select and attack targets without meaningful human control.** Last month, more than four thousand Google employees issued an open letter demanding the company adopt a clear policy stating that neither Google nor its contractors will ever build “warfare technology.” On 14 May, more than **800 scholars, academics, and researchers** who study, teach about, and develop information technology r**eleased a statement in solidarity with the Google employees that calls on the companies to support an international treaty to prohibit autonomous weapon systems** and commit not to use the personal data that the company collects for military purposes. In the Guardian on 16 May, three co-authors of the academic letter highlight key questions that Google faces, such as: “Should it use its state of the art artificial intelligence technologies, its best engineers, its cloud computing services, and the vast personal data that it collects to contribute to programs that advance the development of autonomous weapons? Should it proceed despite moral and ethical opposition by several thousand of its own employees?” Previously, in a 12 March letter to the heads of Google and Alphabet, the Campaign to Stop Killer Robots recommended the companies adopt “a proactive public policy” by committing to never engage in work aimed at the development and acquisition of fully autonomous weapons systems, also known as lethal autonomous weapons systems, and publicly support the call to for a ban. All these letters express concern over Google’s involvement in a Department of Defense-funded project to “assist in object recognition on unclassified data” contained in surveillance video footage collected by military drones. According to the Pentagon, Project Maven involves “developing and integrating computer-vision algorithms needed to help military and civilian analysts encumbered by the sheer volume of full-motion video data that DoD collects every day in support of counterinsurgency and counterterrorism operations.” The project, which began last year, seeks to turn the “enormous volume of data available to DoD into actionable intelligence and decision-quality insights at speed.” Project Maven raises ethical and other questions about the appropriate use of machine learning and artificial intelligence (AI) for military purposes. The Campaign to Stop Killer Robots is concerned that the AI-driven identification of objects could quickly blur or move into AI-driven identification of ‘targets’ as a basis for the direction of lethal force. This could give machines the capacity to make a determination about what is a target, which would be an unacceptably broad use of the technology. That’s why the campaign is working to retain meaningful human control of the critical functions of identifying, selecting and engaging targets. Google representatives are engaging in a dialogue with the Campaign to Stop Killer Robots and last month provided campaign coordinator Mary Wareham with a statement that says its work on Project Maven is “for non-offensive purposes and using open-source object recognition software available to any Google Cloud customer. The models are based on unclassified data only. The technology is used to flag images for human review and is intended to save lives and save people from having to do highly tedious work.” In July 2015, high-profile Google employees including research director Peter Norvig, scholar Geoffrey Hinton, and AI chief Jeff Dean co-signed an open letter endorsed by thousands of AI experts that outlined the dangers posed by lethal autonomous weapons systems and called for a new treaty to ban the weapons. At **Google DeepMind**, CEO Demis Hassabis, co-founder Mustafa Suleyman and twenty engineers, developers and research scientists **also signed** the 2015 letter. The following year in a submission to a UK parliamentary committee Google DeepMind stated: “We support a ban by international treaty on lethal autonomous weapons systems that select and locate targets and deploy lethal force against them without meaningful human control. **We believe this is the best approach to averting the harmful consequences that would arise from the development and use of such weapons. We recommend the government support all efforts towards such a ban.**” Last month, Amazon’s Jeff Bezos expressed concern at the possible development of fully autonomous weapons, which he described as “genuinely scary,” and proposed a multilateral treaty to regulate them. The Campaign to Stop Killer Robots welcomes these remarks and encourages Amazon to endorse the call for a new treaty to prohibit fully autonomous weapons and pledge not to contribute to the development of these weapons, as Clearpath Robotics and others have done. Issuing ethical principles means little if a company fails to act on fundamental challenges raised by military applications of autonomy and AI. Responsible companies should take seriously and publicly support the increasing calls for states to urgently negotiate a new treaty to prohibit fully autonomous weapons.

#### A ban is the only way to prevent LAWs from being developed – it facilitates strict compliance and verification as well as eliminates disputes between countries

Docherty 20 [Bonnie Docherty, senior researcher in the Arms Division at Human Rights Watch, is an expert on arms and the protection of civilians during armed conflicts. Docherty is also a lecturer on law and associate director of armed conflict and civilian protection at the International Human Rights Clinic at Harvard Law School. Docherty received her bachelor's as well as her law degree from Harvard University.] “The Need for and Elements of a New Treaty on Fully Autonomous Weapons.” Human Rights Watch. June 1, 2020. [https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons) BSPK

The Need for a Legally Binding Instrument

The unacceptable risks posed by fully autonomous weapons necessitate creation of a new legally binding instrument. It could take the form of a stand-alone treaty or a protocol to the Convention on Conventional Weapons. Existing international law, including international humanitarian law, is insufficient in this context because its fundamental rules were designed to be implemented by humans not machines. At the time states negotiated the additional protocols to the Geneva Conventions, they could not have envisioned full autonomy in technology. Therefore, while CCW states parties have agreed that international humanitarian law applies to this new technology, there are debates about how it does.[[12]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn12)

A new treaty would clarify and strengthen existing international humanitarian law. It would establish clear international rules to address the specific problem of weapons systems that operate outside of meaningful human control. In so doing, the instrument would fill the legal gap highlighted by the Martens Clause, help eliminate disputes about interpretation, promote consistency of interpretation and implementation, and facilitate compliance and enforcement.[[13]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn13)

The treaty could also go beyond the scope of current international humanitarian law. While the relevant provisions of international humanitarian law focus on the use of weapons, a new treaty could address development, production, and use. In addition, it could apply to the use of fully autonomous weapons in both law enforcement operations as well as situations of armed conflict.[[14]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn14)

A legally binding instrument is preferable to the “normative and operational framework” that the CCW states parties agreed to develop in 2020 and 2021.[[15]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn15)  The phrase “normative and operational framework” is intentionally vague, and thus has created uncertainty about what states should be working toward. While the term could encompass a legally binding CCW protocol, it could also refer to political commitments or voluntary best practices, which would be not be enough to preempt what has been called the “third revolution in warfare.”[[16]](https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons#_ftn16)  Whether adopted under the auspices of CCW or in another forum, a legally binding instrument would bind states parties to clear obligations. Past experience shows that the stigma it would create could also influence states not party and non-state armed groups.

# F/L—T/Theory

## 1AR—T

### 1AR—T—Plural

#### 1] CI: I can specify one country

#### 2] Bare plurals can be affirmed by singular instances

Zweig 09 Zweig, Eytan. (2009). Number-neutral bare plurals and the multiplicity implicature. Linguistics and Philosophy, 32(4), 353–407. doi:10.1007/s10988-009-9064-3 SM

A third environment in which similar behavior holds is questions. Take the following dialogue: (29) Did you see bears during your hike? (30) a. #No, I saw one. b. Yes, I saw one. If I had gone on a hike yesterday, during which I saw a single bear, it would be quite bizarre for me to respond to (29) with (30a). A natural answer is instead (30b). But since seeing one bear is sufficient for an affirmative answer, it follows that the question was not about seeing more than one bear. Compare this to the following: (31) Did you see several bears during your hike? (32) a. No, I saw one. b. #Yes, I saw one. In the same scenario, if I were asked (31), I would most probably answer with (32a). It is thus not a property of all plural-containing questions that they can be answered affirmatively with a singular; rather, this is a special property of bare plurals. Finally, the same phenomenon occurs in certain modal environments. For example: (33) Sherlock Holmes should question local residents to find the thief. Given (33), it does not follow that Holmes needs to question the residents in groups of two or more; nor does it follow that if the first resident that he questions happens to be the thief, he must nonetheless question a second one. Based on this set of observations, the authors mentioned above conclude that bare plurals do not contain a multiplicity condition in their denotation. Krifka (2004), whose main focus is the relationship between the existential reading of bare plurals and kind readings, does not attempt to account for where the multiplicity meaning in positive sentences such as (23) comes from. Both Sauerland et al. (2005) and Spector (2007), on the other hand, offer detailed theories of the multiplicity, both arguing that it is in fact a conversational implicature. In this they share much with my own conclusion in the matter, as argued for below in Sect. 4.2. However, neither paper considers data from dependent plurals; Sauerland et al. focus entirely on sentences with only one plural NP, and make no mention of the phenomenon. Spector makes a brief mention of dependent plurals in a footnote, in which he suggests that the behavior of bare plurals in dependent readings and in downwards entailing environments are independent phenomena. The methods used to calculate the multiplicity implicature in Sauerland et al. (2005) and Spector (2007) differ both from each other and from my own proposal. Detailed discussion of their proposals appear in Sects. 5.1 and 5.2 below.

#### 3] Pragmatics outweigh—Framers intended ground not definitional excellence. When debaters do prep, they consider circuit norms/topic lit, not grammar—their impact is predictability which collapses to pragmatics.

#### 4] Topic lit—incentivize random combis like China + Estonia distorting topic lit

#### 5] Aff ground—PICs cause same debates in reverse which is worse 1] creates 13-7 time skew 2] negs have generics—Soft Law, Torts, Kant, Realism Ks, deterrence DA while affs don’t have any vs PICs

#### 6] Functional limits check—only countries that a] are developing LAWs b] disrupting international norms are viable

#### 7] Clash—allows us to go in-depth into one particular country’s weapons development rather than nebulous connections between different countries

#### 8] Reasonability—good is good enough and key to avoid substance crowdout—China is the #1 nation developing LAWs right now—should be core of topic.

### 1AR—Nebel

#### 1] CI: Affs may defend subset of countries.

#### 2] Generic statements proven true by subsets.

Cimpian et al, PhDs, 10

(Andrei, Amanda C. Brandone, Susan A. Gelman, Generic statements require little evidence for acceptance but have powerful implications, Cogn Sci. 2010 Nov 1; 34(8): 1452–1482) JJ

Generic statements (e.g., “Birds lay eggs”) express generalizations about categories. In this paper, we hypothesized that there is a paradoxical asymmetry at the core of generic meaning, such that these sentences have extremely strong implications but require little evidence to be judged true. Four experiments confirmed the hypothesized asymmetry: Participants interpreted novel generics such as “Lorches have purple feathers” as referring to nearly all lorches, but they judged the same novel generics to be true given a wide range of prevalence levels (e.g., even when only 10% or 30% of lorches had purple feathers). A second hypothesis, also confirmed by the results, was that novel generic sentences about dangerous or distinctive properties would be more acceptable than generic sentences that were similar but did not have these connotations. In addition to clarifying important aspects of generics’ meaning, these findings are applicable to a range of real-world processes such as stereotyping and political discourse. Keywords: generic language, concepts, truth conditions, prevalence implications, quantifiers, semantics Go to: 1. Introduction A statement is generic if it expresses a generalization about the members of a kind, as in “Mosquitoes carry the West Nile virus” or “Birds lay eggs” (e.g., Carlson, 1977; Carlson & Pelletier, 1995; Leslie, 2008). Such generalizations are commonplace in everyday conversation and child-directed speech (Gelman, Coley, Rosengren, Hartman, & Pappas, 1998; Gelman, Taylor, & Nguyen, 2004; Gelman, Goetz, Sarnecka, & Flukes, 2008), and are likely to foster the growth of children’s conceptual knowledge (Cimpian & Markman, 2009; Gelman, 2004, 2009). Here, however, we explore the semantics of generic sentences—and, in particular, the relationship between generic meaning and the statistical prevalence of the relevant properties (e.g., what proportion of birds lay eggs). Consider, first, generics’ truth conditions: Generic sentences are often judged true despite weak statistical evidence. Few people would dispute the truth of “Mosquitoes carry the West Nile virus”, yet only about 1% of mosquitoes are actually carriers (Cox, 2004). Similarly, only a minority of birds lays eggs (the healthy, mature females), but “Birds lay eggs” is uncontroversial. This loose, almost negligible relationship between the prevalence of a property within a category and the acceptance of the corresponding generic sentence has long puzzled linguists and philosophers, and has led to many attempts to describe the truth conditions of generic statements (for reviews, see Carlson, 1995; Leslie, 2008). Though generics’ truth conditions may be unrelated to property prevalence (cf. Prasada & Dillingham, 2006), the same cannot be said about the implications of generic statements. When provided with a novel generic sentence, one often has the impression that the property talked about is widespread. For example, if we were unfamiliar with the West Nile virus and were told (generically) that mosquitoes carry it, it would not be unreasonable to assume that all, or at least a majority of, mosquitoes are carriers (Gelman, Star, & Flukes, 2002). It is this paradoxical combination of flexible, almost prevalence-independent truth conditions, on the one hand, and widespread prevalence implications, on the other, that is the main focus of this article. We will attempt to demonstrate empirically that the prevalence level that is sufficient to judge a generic sentence as true is indeed significantly lower than the prevalence level implied by that very same sentence. If told that, say, “Lorches have purple feathers,” people might expect almost all lorches to have these feathers (illustrating generics’ high implied prevalence), but they may still agree that the sentence is true even if the actual prevalence of purple feathers among lorches turned out to be much lower (illustrating generics’ flexible truth conditions). Additionally, we propose that this asymmetry is peculiar to generic statements and does not extend to sentences with quantified noun phrases as subjects. That is, the prevalence implied by a sentence such as “Most lorches have purple feathers” may be more closely aligned with the prevalence that would be needed to judge it as true. Before describing our studies, we provide a brief overview of previous research on the truth conditions and the prevalence implications of generic statements. 1.1. Generics’ truth conditions Some of the first experimental evidence for the idea that the truth of a generic statement does not depend on the underlying statistics was provided by Gilson and Abelson (1965; Abelson & Kanouse, 1966) in their studies of “the psychology of audience reaction” to “persuasive communication” in the form of generic assertions (Abelson & Kanouse, 1966, p. 171). Participants were presented with novel items such as the following: Altogether there are three kinds of tribes—Southern, Northern, Central. Southern tribes have sports magazines. Northern tribes do not have sports magazines. Central tribes do not have sports magazines. Do tribes have sports magazines? All items had the same critical feature: only one third of the target category possessed the relevant property. Despite the low prevalence, participants answered “yes” approximately 70% of the time to “Do tribes have sports magazines?” and other generic questions similar to it. Thus, people’s acceptance of the generics did not seem contingent on strong statistical evidence, leaving the door open for persuasion, and perhaps manipulation, by ill-intentioned communicators. A similar conclusion about the relationship between statistical prevalence and generics’ truth conditions emerged from the linguistics literature on this topic (e.g., Carlson, 1977; Carlson & Pelletier, 1995; Dahl, 1975; Declerck, 1986, 1991; Lawler, 1973). For example, Carlson (1977) writes that “there are many cases where […] less than half of the individuals under consideration have some certain property, yet we still can truly predicate that property of the appropriate bare plural” (p. 67), as is the case with “Birds lay eggs” and “Mosquitoes carry the West Nile virus” but also with “Lions have manes” (only males do), “Cardinals are red” (only males are), and others. He points out, moreover, that there are many properties that, although present in a majority of a kind, nevertheless cannot be predicated truthfully of that kind (e.g., more than 50% of books are paperbacks but “Books are paperbacks” is false). Thus, acceptance of a generic sentence is doubly dissociated from the prevalence of the property it refers to—not only can true generics refer to low-prevalence properties, but high-prevalence properties are also not guaranteed to be true in generic form.

#### 3] Debate solves arbitrary linguistic intuitions—we can determine the most predictable interp based on clash, limits, topic lit, and community norms. Semantics are a floor not ceiling—if we are sufficiently predictable, division of ground is more important.

#### 4] Aff ground—PICs cause same debates in reverse which is worse 1] creates 13-7 time skew 2] negs have generics—Soft Law, Torts, Kant, Realism Ks, deterrence DA while affs don’t have any vs PICs

#### 5] Functional limits check—only countries that a] are developing LAWs.

#### 6] Clash— overlimiting discourages in depth research because the unifying aff ground is only surface level and one aff for 2 months produces stale debates

#### 7] Aff RVIs A] Topic ed—deters frivolous violations and forces neg to think twice before skewing 1AR B] Reciprocity—T is a unique avenue to ballot that aff can’t access—makes it structurally unfair without RVI

### 1AR – Nebel Bad

#### Interpretation: debaters can’t read evidence written by debate coaches for debate. To clarify, you can card Jake’s published phil articles but not his theory articles.

#### Violation – they read Nebel

#### Standard is norming—incentivizes coaches to write evidence to help their students or support ideological leanings and because it’s carded it has extra authority that analytics wouldn’t get. Err aff cuz semantics literature is so dense that Jake could just be making stuff up to support his anti-plans agenda. We solve their offense—if they really want a semantic violation they can use the sources Jake cites. This comes before T: it indicts the validity of their interp and whether I had a fair chance to engage the standards debate.

# F/L—Disadvantages

## 1AR—Terror DA

### 1AR—Non Unique

#### Their inevitable uq ev doesn’t even say laws so it doesn’t preclude them, that puts them in a double bind: either stealing laws is inevitable which means using laws as a deterrent fails or it isn’t inevitable which means other weapons could also check back

#### Terrorists don’t have them now but without a ban will acquire in the near future

Marr 18 – Bernard Marr is an internationally best-selling author, popular keynote speaker, futurist, and a strategic business & technology advisor to governments and companies. He helps organisations improve their business performance, use data more intelligently, and understand the implications of new technologies such as artificial intelligence, big data, blockchains, and the Internet of Things; “Weaponizing Artificial Intelligence: The Scary Prospect Of AI-Enabled Terrorism”; Apr 23, 2018; <https://www.forbes.com/sites/bernardmarr/2018/04/23/weaponizing-artificial-intelligence-the-scary-prospect-of-ai-enabled-terrorism/?sh=723a75aa77b6> As+

There has been much speculation about the power and dangers of artificial intelligence (AI), but it’s been primarily focused on what AI will do to our jobs in the very near future. Now, there’s discussion among tech leaders, governments and journalists about how artificial intelligence is making lethal autonomous weapons systems possible and what could transpire if this technology falls into the hands of a rogue state or terrorist organization. Debates on the moral and legal implications of autonomous weapons have begun and there are no easy answers.

Autonomous weapons already developed

The United Nations recently discussed the use of autonomous weapons and the possibility to institute an international ban on “killer robots.” This debate comes on the heels of more than 100 leaders from the artificial intelligence community, including Tesla’s Elon Musk and Alphabet’s Mustafa Suleyman, warning that these weapons could lead to a “third revolution in warfare.”

Although artificial intelligence has enabled improvements and efficiencies in many sectors of our economy from entertainment to transportation to healthcare, when it comes to weaponized machines being able to function without intervention from humans, a lot of questions are raised.

There are already a number of weapons systems with varying levels of human involvement that are actively being tested today.

In the UK, the Taranis drone, an unmanned combat aerial vehicle, is expected to be fully operational by 2030 and capable of replacing the human-piloted Tornado GR4 fighter planes that are part of the Royal Air Force’s Future Offensive Air System.

Other countries, including the United States and Russia, are developing robotic tanks that can operate autonomously or be remote controlled. The U.S. also has an autonomous warship that was launched in 2016. Although it’s still in development, it’s expected to have offensive capabilities including anti-submarine weaponry.

South Korea uses a Samsung SGR-A1 sentry gun that is supposedly capable of firing autonomously to police its border.

While these weapons were developed to minimize the threat to human life in military conflicts, you don’t need to be an avid Sci-Fi fan to make the leap to imagine how terrorist organizations can use these weapons for mass destruction.

Warnings of AI and killer robots

The United States and Chinese military are testing the use of swarming drones—dozens of unmanned aircraft that can be sent in to overwhelm enemy targets and can result in mass killings.

Alvin Wilby, vice president of research at Thales, a French defense giant that supplies reconnaissance drones to the British Army, told the House of Lords Artificial Intelligence Committee that rogue states and terrorists “will get their hands on lethal artificial intelligence in the very near future.” Echoing the same sentiment is Noel Sharkey, emeritus professor of artificial intelligence and robotics at University of Sheffield who fears “very bad copies” of such weapons would get into the hands of terrorist groups.

#### Terrorism not a threat in a post plan world

Mueller 8/23/16

John Mueller is a senior fellow at the Cato Institute, a senior research scientist at the Mershon Center, and a member of the political science department at the Ohio State University, War on the Rocks, August 23, 2016, “GETTING REAL ON THE TERRORISM THREAT TO THE UNITED STATES”, http://warontherocks.com/2016/08/getting-real-on-the-terrorism-threat-to-the-united-states/

Objectively speaking, the hazard posed by terrorism to the United States is popularly perceived to be far more dangerous than it actually is. Regardless of the statistics and facts, public fears persist at high levels, impelling political posturing and irresponsible policymaking.

Even including the 9/11 attacks (which proved to be an aberration, not a harbinger), an American’s chance of being killed within the United States by a terrorist of any motivation over the last few decades is about one in four million per year. For industrial accidents, it’s one in 53,000, homicides, one in 22,000, auto accidents, one in 8,200. Since 9/11, an American’s chance of being killed by an Islamist terrorist is about one in 40 million per year.

There was great alarm, of course, in the wake of 9/11, when the intelligence community was certain that an even more destructive “second-wave” attack was imminent and when it informed reporters that between 2,000 and 5,000 trained al-Qaeda operatives were on the loose in the United States.

In the ensuing 15 years, not only has no second wave taken place, and not only did those thousands of trained operatives never materialize, but al-Qaeda has singularly failed to successfully execute an attack in the United States.

True, there have been several dozen disconnected plots by homegrown would-be Islamist terrorists in the United States since 9/11, some of them inspired by al-Qaeda. However, few of them have been successful. Even those tragic few that have resulted in violence have caused limited damage in total—on average, some seven deaths per year. Most of the plots have been disrupted, but even if they had been able to proceed further, it seems clear that most of the plotters were pathetic. When these cases are examined, the vast majority of the offenders turn out to have been naive, amateurish, inept, and gullible. Their schemes, when unaided by facilitating FBI infiltrators, have been incoherent and clumsy, their capacity to accumulate weaponry rudimentary, and their organizational skills close to non-existent. The judge at one trial described the antics of one plot leader as “buffoonery” that was “positively Shakespearean in its scope.” It is a characterization that could be applied much more broadly.

The new demon group is the Islamic State in Iraq and the Levant (ISIL, also called ISIS). Alarmed exaggeration is again both rampant and unwise. Sen. Dianne Feinstein has insisted that “the threat ISIS poses cannot be overstated” — effectively proclaiming hyperbole on the subject to be impossible. And Sen. Jim Inhofe, born before World War II, has claimed that “we’re in the most dangerous position we’ve ever been in” and that ISIL is “rapidly developing a method of blowing up a major U.S. city.”

Outrage over the tactics of ISIL is certainly justified, as is concern about the menace it presents in the Middle East. But fears over the danger the group poses to domestic security in the United States have been overblown to unjustified proportions to the detriment of our politics.

ISIL does not deserve as much credit for great military prowess as many people are willing to grant them. The group’s ability to behead defenseless hostages certainly should not justify the pervasive fear of terrorism afflicting so many Americans. The unique circumstances that contributed to its most important military advance, the conquest of the city of Mosul in Iraq in 2014, are unlikely to be repeated. ISIL’s original idea was to hold part of the city for a while in an effort, it seems, to free some prisoners. The defending Iraqi Army, trained by the American military at enormous cost to U.S. taxpayers, simply fell apart, abandoning both its weaponry and the city itself to the tiny group of seeming invaders.

After its fortuitous advances of 2014, the vicious group’s momentum has been substantially halted and reversed. It has alienated just about everybody, and, on close examination, its once highly vaunted economic capacity — particularly of the smuggling of oil and antiquities — may end up proving to be as illusory as its military prowess. It has cut pay for its fighters in half, and it has to work hard to keep people from fleeing its lumpen caliphate. This degradation will likely continue.

ISIL has two avenues by which it might be able to inflict damage within the United States. The first is from militants who have gone to fight with the group and then sent back to do damage. However, very little of that has occurred so far, and it is far more likely to happen in Europe than in the United States.

The second avenue involves the possibility that potential homegrown terrorists will become inspired by ISIL propaganda or example. The group has and will surely continue to take credit for mayhem caused by people with little or nothing to do with it. ISIL could still provide inspiration to death cult sycophants in the United States and elsewhere, but this is likely to decline as the group’s military progress in the Middle East, once so exhilarating to would-be jihadists, is stifled. There are signs this process is already well under way. In 2015, there were 14 ISIL-inspired plots in the United States. Thus far in 2016, there have been but two. And there has been a pronounced decline in the number of Americans seeking to go abroad to join the group.

There has also been a trendy concern about the way ISIL recruits using social media. However, as several analysts have pointed out, the foolish willingness of would-be terrorists to spill their aspirations and their often childish fantasies on social media has been, on balance, much to the advantage of the law enforcement officials seeking to track them.

Although al-Qaeda scarcely presented anything that could be considered to be a “threat” to the United States after 9/11 (except for its repeated, and repeatedly unfulfilled, proclamations of dire intent in its incessant videos), public opinion has continued to be alarmed. During the decade after 9/11, there was little change in the percentage of people saying that they worried that they might become a victim of terrorism, that they expected an attack “causing large numbers of Americans to be lost” to occur “in the near future,” that the terrorists remained capable of launching “another major attack,” or, despite the expenditure of over a trillion dollars on homeland security, that they felt safer than before 9/11.

This sense of alarm, needless to say, has scarcely been dampened by the rise of ISIL, which captured attention not with anything on the scale of 9/11, but with the disgusting online beheadings of some American captives in 2014 — a prime example of the group’s mindless propensity to engage in behavior that is counterproductive to its goals. Indeed, by the spring of 2016, fully 77 percent of Americans had come to deem the group to present “a serious threat to the existence or survival of the US.”

Those are the kind of numbers that terrorize politicians, bureaucrats, and the media, lead to knee-jerk alarmism and irresponsible spending, and impel into action those with products, services, and schemes for which there seems to be a market. In that sense, perhaps terrorism does present something of a threat after all.

### 1AR—Link Turn (extremism)

#### Terrorists are going to use this weaponry to further their extremists agenda – they clearly know how

**Gartenstein, 18** (Daveed Gartenstein, senior fellow at the Foundation for Defense of Democracies and the chief executive officer of Valens Global. He has been an adjunct assistant professor in Georgetown University’s security studies program and a senior advisor to the director of the U.S. Department of Homeland Security’s Office for Community Partnerships., 5-3-2018, accessed on 12-9-2020, Defense One, "Terrorists Are Going to Use Artificial Intelligence", https://www.defenseone.com/ideas/2018/05/terrorists-are-going-use-artificial-intelligence/147944/)

There is a general tendency among counterterrorism analysts to understate rather than hyperbolize terrorists’ technological adaptations. In 2011 and 2012, most believed that the “Arab Spring” revolutions would marginalize jihadist movements. But within four years, jihadists had attracted a record number of foreign fighters to the Syrian battlefield, in part by using the same social media mobilization techniques that protesters had employed to challenge dictators like Zine El Abidine Ben Ali, Hosni Mubarak, and Muammar Qaddafi. Militant groups later combined easy accessibility to operatives via social media with new advances in encryption to create the “virtual planner” model of terrorism. This model allows online operatives to provide the same offerings that were once the domain of physical networks, including recruitment, coordinating the target and timing of attacks, and even providing technical assistance on topics like bomb-making. Many analysts—and I fell prey to this error—brushed aside early concerns about the global diffusion of drone technology. The reason? We imagined that terrorists would use drones as we did, and believed that superior American airpower would blast theirs from the sky. But instead of trying to replicate the Predator, the Islamic State and other militant groups cleverly adapted smaller drones to their purposes. In the 2017 battle for Mosul, for example, the Islamic State (ISIS) dispatched small and agile consumer drones armed with grenades to harry the Iraqi forces assembled to retake the city. These uses of social media, encryption, and drones illustrate a key pattern: As a consumer technology becomes widely available, terrorists will look for ways to adapt it. Artificial intelligence will almost certainly end up fitting into this pattern. Like drones, AI will likely become much more widely available in commercial markets at reduced costs, and individuals will be able to modify and repurpose it. AI already enjoys diverse applications, from products like Apple’s Siri, to voice-to-text, to Facebook’s counter-extremism detection systems. So how might terrorists use AI? Perhaps they will start with social-network mapping. ISIS’s early battlefield victories were enabled, in part, by ex-Baathist intelligence operatives who mapped a city’s key players and power brokers, monitored their pattern of life—and then helped ISIS to arrest or kill them. Similarly, when North African ISIS operatives attacked the Tunisian town of Ben Gardane in March 2016, the available evidence—including the efficient way they assassinated key security officials—suggested that the militants had similarly worked to learn the human terrain in advance. Will social networks built using AI capabilities reduce the intelligence burden on militant groups and make it easier for them to conquer towns and cities? What of the next generation of terror drones? Will they use AI-enabled swarming to become more powerful and deadlier? Or think bigger: will terrorists use self-driving vehicles for their next car bombs and ramming attacks? How about assassinations? Max Tegmark’s book Life 3.0 notes the concern of UC Berkeley computer scientist Stuart Russell, who worries that the biggest winners from an AI arms race would be “small rogue states and non-state actors such as terrorists” who can access these weapons through the black market. Tegmark writes that after they are “mass-produced, small AI-powered killer drones are likely to cost little more than a smartphone.” Would-be assassins could simply “upload their target’s photo and address into the killer drone: it can then fly to the destination, identify and eliminate the person, and self-destruct to ensure that nobody knows who was responsible.” Thinking beyond trigger-pulling, artificial intelligence could boost a wide range of violent non-state actors’ criminal activities, including extortion and kidnapping, through the automation of social engineering attacks. The militant recruiters of the near-future may boost their online radicalization efforts with chatbots, which played a “small but strategic role” in shaping the Brexit vote. The 9/11 Commission’s report famously devoted an entire section to discussing how the 9/11 attacks’ success in part represented a failure in imagination by authorities. In recent years, we have seen multiple failures in imagination as analysts tried to discern what terrorists will do with emerging technologies. A failure in imagination as artificial intelligence becomes cheaper and more widely available could be even costlier.

### 1AR—Link Turn (analytics)

#### 1] A shift to more manual approach increases security – glitches, mistakes, all don’t happen

#### 2] link turn the internal link – with laws they could hide and automatically launch weapons which hides secrecy increasing the blame on others

### 1AR—Link Turn (prolif)

#### Laws enable terrorists groups to kill on a large scale, remotely

Ware 19’ (Jacob Ware is a research associate at the Council on Foreign Relations. He holds an MA in Security Studies from Georgetown University’s Walsh School of Foreign Service. He also holds an MA (Hons) in International Relations and Modern History from the University of St Andrews), “TERRORIST GROUPS, ARTIFICIAL INTELLIGENCE, AND KILLER DRONES”, War on the Rocks, 9/24/19, <https://warontherocks.com/2019/09/terrorist-groups-artificial-intelligence-and-killer-drones/> //JF

Terrorist groups are increasingly using 21st-century technologies, including drones and elementary artificial intelligence (AI), in attacks. As it continues to be weaponized, AI could prove a formidable threat, **allowing adversaries — including nonstate actors — to automate killing on a massive scale**. The combination of drone expertise and more sophisticated AI could allow **terrorist groups to acquire or develop lethal autonomous weapons, or “killer robots,” which would dramatically increase their capacity to create incidents of mass destruction** in Western cities. As it expands its artificial intelligence capabilities, the U.S. government should also strengthen its anti-AI capacity, paying particular attention to nonstate actors and the enduring threats they pose. For the purposes of this article, I define artificial intelligence as technology capable of “[mimicking human brain patterns](https://www.politico.eu/article/attack-killer-robots-autonomous-weapons-drones/),” including by learning and making decisions. AI Could Turn Drones into Killer Robots The aforementioned ISIL attack was not the first case of nonstate actors employing drones in combat. In January 2018, an unidentified Syrian rebel group deployed a [swarm](http://www.theamericanconservative.com/articles/inside-the-chilling-proliferation-of-artificially-intelligent-drones/) of 13 homemade drones carrying small submunitions to attack Russian bases at Khmeimim and Tartus, while an August 2018 [assassination attempt](https://www.theguardian.com/world/2018/aug/04/nicolas-maduros-speech-cut-short-while-soldiers-scatter) against Venezuela’s Nicolas Maduro used exploding drones. Iran and its militia proxies have deployed drone-carried explosives several times, most notably in the [September 2019 attack](https://www.nytimes.com/2019/09/14/world/middleeast/saudi-arabia-refineries-drone-attack.html) on Saudi oil facilities near the country’s eastern coast. **Pundits fear that the**[**drone’s debut as a terrorist tool**](https://www.heritage.org/middle-east/commentary/middle-east-drone-wars-heat)**against the West is not far off, and that “the long-term implications for civilian populations are sobering**,” as James Phillips and Nathaniel DeBevoise note in a Heritage Foundation commentary. In September 2017, **FBI Director Christopher Wray**[**told**](https://www.hsgac.senate.gov/hearings/09/18/2017/threats-to-the-homeland)**the Senate that drones constituted an “imminent” terrorist threat to American cities, while the Department of Homeland Security**[**warned**](https://www.dhs.gov/sites/default/files/ntas/alerts/17_1109_NTAS_Bulletin.pdf)**of terrorist groups applying “battlefield experiences to pursue new technologies and tactics, such as unmanned aerial systems.**” Meanwhile, ISIL’s success in deploying drones has been met with great excitement in jihadist circles. The group’s al-Naba newsletter celebrated a 2017 attack by declaring “[a new source of horror for the apostates!](https://www.washingtonpost.com/world/national-security/use-of-weaponized-drones-by-isis-spurs-terrorism-fears/2017/02/21/9d83d51e-f382-11e6-8d72-263470bf0401_story.html?utm_term=.1aa208ddef67)” The use of drones in combat indicates an intent and capability to innovate and use increasingly savvy technologies for terrorist purposes, a process sure to continue with more advanced forms of AI. Modern drones possess fairly [elementary forms of artificial intelligence](https://www.ft.com/content/c081ff0a-8624-11e9-a028-86cea8523dc2), but the technology is advancing: [Self-piloted drones](https://www.nytimes.com/2019/03/26/technology/alphapilot-ai-drone-racing.html) are in development, and the European Union [is funding projects](https://theintercept.com/2019/05/11/drones-artificial-intelligence-europe-roborder/) to develop autonomous swarms to patrol its borders. **AI will enable terrorist groups to threaten physical security in new ways, making the current terrorism challenge even more difficult to address**. According to a [February 2018 report](https://img1.wsimg.com/blobby/go/3d82daa4-97fe-4096-9c6b-376b92c619de/downloads/1c6q2kc4v_50335.pdf), terrorists could benefit from commercially available AI systems in several ways. The report predicts that autonomous vehicles will be used to deliver explosives; low-skill terrorists will be endowed with widely available high-tech products; attacks will cause far more damage; terrorists will create swarms of weapons to “execute rapid, coordinated attacks”; and, finally, **attackers will be farther removed from their targets in both time and location.** As AI technology continues to develop and begins to proliferate, “AI [will] expand the set of actors who are capable of carrying out the attack, the rate at which these actors can carry it out, and the set of plausible targets.”

#### AWS prolifs to terrorists.

Altmann and Sauer 17 [Jürgen Altmann is a lecturer in experimental physics at Technical University of Dortmund, working on the prospective assessment of new military technologies and the analysis of preventive arms-control measures. Frank Sauer is a senior research fellow and lecturer in international relations at Bundeswehr University in Munich, working on international security and arms control. He is the author of Atomic Anxiety: Deterrence, Taboo, and the Non-Use of U.S. Nuclear Weapons (Palgrave Macmillan, 2015). Both authors are members of the International Committee for Robot Arms Control (ICRAC)., 17 Sept 2017 “Autonomous Weapon Systems and Strategic Stability”, Survival, 59:5, 117-142, DOI: 10.1080/00396338.2017.1375263] LHSSN

Proliferation of AWS could of course also occur via exports, including to the grey and black markets. In this way, autonomous systems could fall not only into the hands of technologically inferior state actors, but also those of non-state actors, including extremist groups. Hamas, Hizbullah and the Islamic State have already deployed and used armed drones. As sensors and electronics are increasingly miniaturised, small and easily transport- able systems could be made autonomous with respect to navigation, target recognition, precision and unusual modes of attack.33 Terrorist groups could also gain access to comparably sophisticated systems that they could never develop on their own. Again, autonomy in this context does not necessarily require military-grade precision – a quick and dirty approach would suffice for these actors. In fact, it stands to reason that terrorist groups would use autonomous killing capabilities indiscriminately in addition to using them, if possible, in a precise fashion for targeted assassinations.

It is still unclear how the development of unmanned systems on the one hand and specific countermeasures on the other will play out. Traditional aircraft-sized drones such as the X-47B or Taranis, to stick with these exam- ples, are obviously susceptible to existing anti-aircraft systems. As for smaller-sized systems, various tools, from microwaves to lasers to rifle-sized radio jammers for disrupting the control link, are currently being devel- oped as countermeasures. Simpler, less exotic methods such as nets, fences or even trained hunting birds might also prove effective for remotely con- trolled and autonomous systems alike. It is clear, however, that saturation attacks have been identified as a key future capability for defeating a wide range of existing and upcoming defensive systems – both human-operated and automatic.34 The latter are a particular focus of research into swarming as a potential solution.35 And military systems operating at very high speeds and in great numbers or swarms are bound to generate new instabilities, to which we will turn in our next section.

To first sum up our argument so far, there are obvious dual-use prob- lems and an unusually high risk of proliferation when it comes to AWS. Should one of the technologically leading nation-states go forward with the deployment of AWS, it would be comparably easy – and thus very likely – that others would follow suit.36 In that sense, the development of AWS could well trigger a destabilising arms race.

### 1AR—Link Turn (arms race)

#### LAWs are nothing but trouble – they spike terrorism, are susceptible to weapon hacking, perpetuate mass oppression and ethnic cleansing, and rapidly escalate global arms race.

Conn 18 – Ariel Conn, 9-2-2018, "Killer robots are fast becoming reality," Metro, https://metro.co.uk/2018/09/02/killer-robots-are-fast-becoming-a-reality-we-must-stop-this-from-happening-if-we-want-to-stop-a-global-ai-arms-race-7903717/ Read more: <https://metro.co.uk/2018/09/02/killer-robots-are-fast-becoming-a-reality-we-must-stop-this-from-happening-if-we-want-to-stop-a-global-ai-arms-race-7903717/>

Killer robots. It’s a phrase that’s terrifying and one that most people think of as still in the realm of science fiction. Yet weapons built with artificial intelligence (AI) – weapons that could identify, target, and kill a person all on their own – are quickly moving from sci-fi to reality. To date, no weapons exist that can specifically target people. But there are weapons that can track incoming missiles or locate enemy radar signals, and these weapons can autonomously strike these non-human threats without any person involved in the final decision. Experts predict that in just a few years, if not sooner, this technology will be advanced enough to use against people. Over the last few years, delegates at the United Nations have debated whether to consider banning killer robots, more formally known as lethal autonomous weapons systems (LAWS). This week, delegates met again to consider whether more meetings next year could lead to something more tangible – a political declaration or an outright ban. Meanwhile, those who would actually be responsible for designing LAWS – the AI and robotics researchers and developers – have spent these years calling on the UN to negotiate a treaty banning LAWS. More specifically, nearly 4,000 AI and robotics researchers called for a ban on LAWS in 2015; in 2017, 116 CEOs of AI companies asked the UN to ban LAWS; and in 2018, more than 150 AI-related organisations and nearly 3,100 individuals took that call a step further and pledged not to be involved in LAWS development. And AI researchers have plenty of reasons for their consensus that the world should seek a ban on lethal autonomous weapons. Principle among these is that AI experts tend to recognise how dangerous and destabilising these weapons could be. The weapons could be hacked. The weapons could fall into the hands of ‘bad actors’. The weapons may not be as ‘smart’ as we think and could unwittingly target innocent civilians. Because the materials necessary to build the weapons are cheap and easy to obtain, military powers could mass-produce these weapons, increasing the likelihood of proliferation and mass killings. The weapons could enable assassinations or, alternatively, they could become weapons of oppression, allowing dictators and warlords to subdue their people. But perhaps the greatest risk posed by LAWS is the potential to ignite a global AI arms race. For now, governments insist they will ensure that testing, validation, and verification of these weapons is mandatory. However, these weapons are not only technologically novel, but also transformative; they have been described as the third revolution in warfare, following gun powder and nuclear weapons. LAWS have the potential to become the most powerful types of weapons the world has seen. Varying degrees of autonomy already exist in weapon systems around the world, and levels of autonomy and advanced AI capabilities in weapons are increasing rapidly. If one country were to begin substantial development of a LAWS program – or even if the program is simply perceived as substantial by other countries – an AI arms race would likely be imminent. During an arms race, countries and AI labs will feel increasing pressure to find shortcuts around safety precautions. Once that happens, every threat mentioned above becomes even more likely, if not inevitable. As stated in the Open Letter Against Lethal Autonomous Weapons: The key question for humanity today is whether to start a global AI arms race or to prevent it from starting. If any major military power pushes ahead with AI weapon development, a global arms race is virtually inevitable, and the endpoint of this technological trajectory is obvious: autonomous weapons will become the Kalashnikovs of tomorrow. Unlike nuclear weapons, they require no costly or hard-to-obtain raw materials, so they will become ubiquitous and cheap for all significant military powers to mass-produce.It will only be a matter of time until they appear on the black market and in the hands of terrorists, dictators wishing to better control their populace, warlords wishing to perpetrate ethnic cleansing, etc. Autonomous weapons are ideal for tasks such as assassinations, destabilising nations, subduing populations and selectively killing a particular ethnic group. Most countries have expressed their strong desire to move from talking about this topic to reaching an outcome. There have been many calls from countries and groups of countries to negotiate a new treaty to either prohibit LAWS and/or affirm meaningful human control over the weapons. Some countries have suggested other measures such as a political declaration. But a few countries – especially Russia, the United States, South Korea, Israel, and Australia – are obfuscating the process, which could lead us closer to an arms race. This is a threat we must prevent.

### 1AR—Link Defence

#### Drones susceptible to terrorist hackings --- leads to existential threats --- only a ban solves them getting their hands on it

Ahmed 19 – Mohiuddin Ahmed, 10-7-2019, "Aerial threat: why drone hacking could be bad news for the military," Conversation, <https://theconversation.com/aerial-threat-why-drone-hacking-could-be-bad-news-for-the-military-124588> Recut As+

Drone navigation is based on the Global Positioning System (GPS). It’s possible an attacker can break the encryption of these communication channels. Fake signals can be fed to the targeted drone and the drone effectively gets lost. This type of attack can be launched without being in close physical proximity. With knowledge of the flight controller systems, hackers can gain access using “brute force” attacks. Then, the captured video footage can be manipulated to mislead the operator and influence ground operations. a drone fitted with sensors could be manipulated by injecting rogue signals. For example, the gyroscopes on a drone can be misled using an external source of audio energy. Cyber criminals may take advantage of this design characteristic to create false sensor readings. drones’ onboard control systems are effectively small computers. Drone control systems (onboard and ground-based controllers) are also vulnerable to malicious software or Maldrone (malware for drones). The founder and CTO of CloudSEK, Rahul Sasi discovered a backdoor in the Parrot AR. Drone. Using malicious software, an attacker can establish remote communication and can take control of the drone. Attackers can also inject false data to mislead the operators. This type of malware can be installed silently without any visible sign to the operators. The consequences are significant if the drones are used for military operations.

#### Terrorists will acquire LAWs through private sales and leaks --- a ban stops production and sale which solves

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Secondly, autonomous weapons technology will likely proliferate through sales. Because AI research is led by private firms, advanced AI technology will be publicly sold on the open market. As Michael Horowitz argues, “militant groups and less-capable states may already have what they need to produce some simple autonomous weapon systems, and that capability is likely to spread even further for purely commercial reasons.” The current framework controlling high-tech weapons proliferation — the Wassenaar Arrangement and Missile Technology Control Regime — is voluntary, and is constantly tested by great-power weapons development. Given interest in developing AI-guided weapons, this seems unlikely to change. Ultimately, as AI expert Toby Walsh notes, the world’s weapons companies can, and will, “make a killing (pun very much intended) selling autonomous weapons to all sides of every conflict.”

Finally, autonomous weapons technology is likely to leak. Innovation in the AI field is led by the private sector, not the military, because of the myriad commercial applications of the technology. This will make it more difficult to contain the technology, and prevent it from proliferating to nonstate actors. Perhaps the starkest warning has been issued by Paul Scharre, a former U.S. defense official: “We are entering a world where the technology to build lethal autonomous weapons is available not only to nation-states but to individuals as well. That world is not in the distant future. It’s already here.”

### 1AR—Impact Turn

#### No escalation – attack induces international cooperation, not retaliation which net reduces terror

McIntosh & Storey 18 (Christopher McIntosh is visiting assistant professor of political studies at Bard College, Ph.D. in 2013 from The University of Chicago, specializing in international relations and has an M.A. in Security Studies from Georgetown & Ian Storey is a fellow at the Hannah Arendt Center for Politics and Humanities at Bard College, Ph.D. in Political Science from the University of Chicago; Between Acquisition and Use: Assessing the Likelihood of Nuclear Terrorism, *International Studies Quarterly*, 19 April 2018, sqx087, https://doi.org/10.1093/isq/sqx087)

Externally, in a world post-nuclear attack, international cooperation would be instant and deep. One of the only international treaties to even define a terrorist in international law post-2001 has been the Nuclear Terrorism Convention (Edwards 2005). A nuclear attack would be far outside the norm of international politics. It would disrupt the dominance of state-actors and likely stimulate unparalleled cooperation to apprehend the responsible parties to prevent future attacks. Moreover, many large terrorist organizations require (some) tacit acquiescence by a host state. Even those with hostile host states have territory where they remain relatively unaffected by local governments (Korteweg 2008). Post-nuclear attack, these host states face an enormous incentive to find the actors responsible before the target state does. After an attack, regimes would find it difficult to claim that they “didn't know” or “couldn't stop them.” Claims of corruption or ineffective institutions would be unlikely to find much sympathy. Faced with potential organizational extinction itself, a host state/government will likely be much less committed to the survival of the terrorist group. This is likely to vary significantly from how they might otherwise behave after a more conventional attack. For these states, there would be a real fear of “Talibanization” and ruthless attempts at regime change post-attack.

From the perspective of the group, it would know that it could be facing a unified international community and the removal of tacit state support. It would take a particularly confident leadership to presume it could continue to function post-attack without massive disruptions. Most strategic actors are risk-averse when facing the potential of complete elimination. There is little reason to believe terrorist groups would act any differently.

### 1AR—No Nuc Terror

#### Opportunity cost deters terror

\* Eliminates future opportunities; other weapons more appealing; escalation trap; development alone risks being discovered/tradesoff with other operations

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When looked at in isolation, each of the three areas of potential loss presents significant disincentives for immediate attack. In combination—as they would be considered in practice—the higher strategic value of available alternatives appears decisive. In other words, even if one reads our analysis as affirming the importance of nuclear acquisition, when considering competing options and the dangers that attach to any detonation attempt, nuclear attack is highly unlikely.

Future opportunities available for “using” a nuclear weapon are effectively foreclosed depending on the aggressiveness of the option a group chooses. The two-by-two matrix of nuclear strategies in Figure 1 is only a rough guide encompassing many possible permutations in the nuclear sphere. The organization always retains non-nuclear options, even once they acquire nuclear weapons. As evidenced by the Cold War and in Kargil, the stability-instability paradox holds empirical weight. Nuclear acquisition by two opposing actors does not necessarily foreclose conventional and/or asymmetric attacks (Cohen 2013; Kapur 2005). Given the unique relationship between a state and terrorist organization, we can expect similar and even exacerbated levels of instability. This can expand even beyond aggression. Remaining options range all the way from the pacific—pursuing negotiations, cooption, entrance into the legitimate political arena (for example, Sinn Fein)—to heightened conventional attacks and the usage of non-nuclear forms of WMDs.

This last point is worth emphasizing. Even in the remote case where an actor successfully acquires a nuclear weapon and primarily seeks raw numbers of casualties—whether due to outbidding or audience costs—other forms of WMDs are likely to be more appealing. As Aum Shinrikyo indicates, this is particularly the case for the group that overcomes the inevitable political and technological hurdles (Nehorayoff et al. 2016, 36–37). For these groups, chemical, biological, and radiological weapons (CBRW) are considerably easier to acquire, use, and stockpile. This is especially true when considered over time, rather than a single operation.18 While there are certainly downsides to CBRWs vis-à-vis nuclear weapons (delivery may paradoxically be easier and the maintenance risks comparatively smaller), they are undoubtedly easier to procure and produce (Zanders 1999). More importantly, CBRWs are perceived as easier to produce and thus likely to be viewed by targets as iterable. Unlike a nuclear attack, CBRW threats are more credible because a single CBRW attack can likely precipitate an indefinite number of follow-ups.

In addition to the problem of iterability, a terrorist organization must always worry about the possible ratchet effect of an attack—a problem Neumann and Smith (2005, 588–90) refer to as the “escalation trap.” A terrorist organization is different than a state at war because it manipulates other actors primarily through punishment. Campaigns are a communicative activity designed to convince the public and the leaders that the status quo is unsustainable. The message is that the costs of continuing the target state's policy (such as the United States in Lebanon, France in Algeria, or the United Kingdom in Northern Ireland) will eventually outweigh the benefits. Once an organization conducts a nuclear attack, it lacks options for an encore. Not even the most nightmarish scenarios involve an indefinite supply of weapons. If a single attack plus the threat of one or two others does not induce capitulation, the organization might unwittingly harden the target state's resolve. The attack could raise the bar such that any future non-nuclear attack constitutes a lessening of costs vis-à-vis the status quo.

There are also heavy opportunity costs involved in pursuing, developing, and maintaining a nuclear capacity, let alone actually deploying and delivering it. As Weiss puts it, “even if a terror group were to achieve technical nuclear proficiency, the time, money, and infrastructure needed to build nuclear weapons creates significant risks of discovery that would put the group at risk of attack. Given the ease of obtaining conventional explosives and the ability to deploy them, a terrorist group is unlikely to exchange a big part of its operational program to engage in a risky nuclear development effort with such doubtful prospects” (Weiss 2015, 82).

#### No escalation – attack induces international cooperation, not retaliation

McIntosh & Storey 18 (Christopher McIntosh is visiting assistant professor of political studies at Bard College, Ph.D. in 2013 from The University of Chicago, specializing in international relations and has an M.A. in Security Studies from Georgetown & Ian Storey is a fellow at the Hannah Arendt Center for Politics and Humanities at Bard College, Ph.D. in Political Science from the University of Chicago; Between Acquisition and Use: Assessing the Likelihood of Nuclear Terrorism, *International Studies Quarterly*, 19 April 2018, sqx087, https://doi.org/10.1093/isq/sqx087)

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#### No risk of nuke terrorism

Mearsheimer 14

John Mearsheimer, IR Prof at UChicago, National Interest, January 2, 2014, "America Unhinged", http://nationalinterest.org/article/america-unhinged-9639?page=show

Am I overlooking the obvious threat that strikes fear into the hearts of so many Americans, which is terrorism? Not at all. Sure, the United States has a terrorism problem. But it is a minor threat. There is no question we fell victim to a spectacular attack on September 11, but it did not cripple the United States in any meaningful way and another attack of that magnitude is highly unlikely in the foreseeable future. Indeed, there has not been a single instance over the past twelve years of a terrorist organization exploding a primitive bomb on American soil, much less striking a major blow. Terrorism—most of it arising from domestic groups—was a much bigger problem in the United States during the 1970s than it has been since the Twin Towers were toppled.

What about the possibility that a terrorist group might obtain a nuclear weapon? Such an occurrence would be a game changer, but the chances of that happening are virtually nil. No nuclear-armed state is going to supply terrorists with a nuclear weapon because it would have no control over how the recipients might use that weapon. Political turmoil in a nuclear-armed state could in theory allow terrorists to grab a loose nuclear weapon, but the United States already has detailed plans to deal with that highly unlikely contingency.

Terrorists might also try to acquire fissile material and build their own bomb. But that scenario is extremely unlikely as well: there are significant obstacles to getting enough material and even bigger obstacles to building a bomb and then delivering it. More generally, virtually every country has a profound interest in making sure no terrorist group acquires a nuclear weapon, because they cannot be sure they will not be the target of a nuclear attack, either by the terrorists or another country the terrorists strike. Nuclear terrorism, in short, is not a serious threat. And to the extent that we should worry about it, the main remedy is to encourage and help other states to place nuclear materials in highly secure custody.

### 1AR—Terrorist don’t steal

#### 1] Terrorists don’t steal weapons;

#### A] bioweapons have only been stolen twice but kept around for decade empirically denying their claims

#### B] even if its inevitable arms races and increased prolif in the squo creates a higher risk of stealing

#### C] the aff still links cause our link ev is about drone swarms which the aff eliminates

### 1AR—LAWs Fail

#### 1] LAWs don’t act as a deterrent: none of their ev proves this – AI and laws are distinctive and fully autonomous weapons aren’t ley

#### 2] the impact ev is terrible – there’s no reason why bioweapon impacts would be re-applied or used on laws

#### 3] read the middle of their Chertoff ev: it says LAWS will become “weapons that despots and terrorists use against innocent populations”. Which doesn’t escalate

#### 4] international norms would limit sales in the black market decreasing the use of them and finding out that terrorists launched attacks not people

#### 5] there’s no impact – our nuclear terror ev was based off of drone swarms but their ev is contextualized to manual possession of nukes

## 1AR—PLA DA

### 1AR—Normal Means

#### ] No link--Their own simpson 16 card indicates Conditional compliance means consultation with PLA is normal means.

Kurtis H. Simpson 16, Centre Director with Defence Research and Development Canada, served as the Head of Delegation abroad for the Canadian government, head of Asia Research Section at the Department of National Defence’s Chief Defence Intelligence Organization, 12/21/16, “China’s Re-Emergence: Assessing Civilian-Military Relations In Contemporary Era – Analysis,” https://www.eurasiareview.com/21122016-chinas-re-emergence-assessing-civilian-military-relations-in-contemporary-era-analysis/

A critical review of civ-mil relations in the People’s Republic of China (PRC) makes apparent that the military’s political power resources are increasing; a relationship of ‘conditional compliance’ now exists where the Party is required to negotiate with the PLA on key issues (whether it be funding increases, force development, or foreign policy priorities) for its continued support. As a result, the potential for fractures between the Party and PLA are increasingly possible during crises situations.

### 1AR—Link

#### ] Not reverse causal—DA says scientists have advocated support but NO ev. That banning would incite a coup.

#### ] No link—Their Kania indicates PLA wants AI weapons, not autonomous—plan gets rid of latter.

Kania '20 \*Blue = Rancho for reference\* [Elsa; April 2020; adjunct senior fellow with the Technology and National Security Program at the Center for a New American Security; “"AI Weapons” In Chinese Military Innovation," https://www.brookings.edu/wp-content/uploads/2020/04/FP\_20200427\_ai\_weapons\_kania.pdf]//GJ

As early as 2011, the PLA’s official dictionary included a definition of an “AI weapon” (人工智能武器), characterized as “a weapon that utilizes AI to pursue, distinguish, and destroy enemy targets automatically; often composed of information collection and management systems, knowledge base systems, decision assistance systems, mission implementation systems, etc.”27 Similarly, Chinese military strategists and scientists tend to discuss “AI weapons” or “intelligentized weapons” (智能化武器) more often than “autonomous weapons” (自主武器) in academic and technical writings.28 This terminological difference is subtle but potentially significant, implying a focus on the “smartness” or “intelligence” of weapons systems in selecting and engaging targets.29 For instance, techniques for adaptive or autonomous control can leverage a range of algorithms, including neural networks. Even as the function of certain weapons systems becomes “unmanned” (无人化) and to some degree automatic (自动化), greater degrees of autonomy or “intelligence” in function can remain elusive.

#### ] No link—Their kania 20 card indicates Most of their core focuses—missiles with precision, unmanned surface vessels, Air Force weapons are on-the-loop, not LAWs.

Kania '20 \*Rancho = Blue for reference\* [Elsa; April 2020; adjunct senior fellow with the Technology and National Security Program at the Center for a New American Security; “"AI Weapons” In Chinese Military Innovation," https://www.brookings.edu/wp-content/uploads/2020/04/FP\_20200427\_ai\_weapons\_kania.pdf]//GJ

The PLA is actively pursuing AI-enabled systems and autonomous capabilities in its military modernization.36 Across services and for all domains of warfare, it has fielded a growing number of robotic and unmanned systems, as well as advanced missiles with precision guidance, some of which may possess at least limited degrees of autonomy. For instance, the PLA Army (PLAA) has concentrated on military robotics and unmanned ground vehicles, which could be used for logistics.37 The PLA Navy (PLAN) is experimenting with unmanned surface vessels that may operate with some autonomy and is reportedly developing autonomous submarines.38 The PLA Air Force (PLAAF) operates advanced unmanned systems with limited autonomy that could be upgraded to include greater autonomy, while exploring options for manned-unmanned teaming.39 The PLA Rocket Force (PLARF) may leverage use cases in remote sensing, targeting, and decision support,40 and its missiles may be augmented to become more “intelligentized” in their capabilities, incorporating higher levels of automation to facilitate operations.41 There are indications that the PLA Strategic Support Force (PLASSF) could apply advances in AI to its missions of space, cyber, electronic, and psychological warfare.42 PLA capabilities and advancements very likely extend well beyond what is known and knowable from open sources.

### 1AR—Internal Link

#### ] No Internal link--Own author disagrees—Civ-military relations are premised on decades of political infighting—their view is reductionist. \*Yellow for Reference\*

Dr. Kurtis H. Simpson 16, Master’s Degree and Ph.D. and MA in International Relations from York University, Centre Director with Defence Research and Development Canada, MPA from the Sprott School of Business, Former Director of Personnel Research at Defense R&D Canada, now Centre Director of The Centre for Operational Research and Analysis, “China’s Re-Emergence: Assessing Civilian-Military Relations In Contemporary Era”, Canadian Military Journal, 12/21/2016, https://www.eurasiareview.com/21122016-chinas-re-emergence-assessing-civilian-military-relations-in-contemporary-era-analysis/

China’s rising economic, political and military power is the most geopolitically significant development of the post-Cold War period. For some, America’s unipolar moment has passed, and the essential debates now focus on the rate and relativity of US hegemonic decline.1 In tandem with this, the question of can China rise peacefully must be considered?2 All such external preoccupations rest, however, on assumptions of continued economic growth and internal stability.3 The tipping point in both positive and negative scenarios alike in China is civilian-military (civ-mil) relations. This single factor is all determining, under-studied, and currently in a period of profound transition.

To date, the literature on civ-mil relations in the People’s Republic of China (PRC) is overly reductionist in its scope, simplifying relations between the Chinese Communist Party (CCP) and the People’s Liberation Army (PLA) to a single entity, built on dubious assumptions (for example, over-emphasizing the reach and control of the Party) and finally, prone to exaggerating some trends, most notably professionalization of the military, at the expense of others, including divided loyalties, the decentralization of power, and the endless political bargaining that now characterizes the relations between Party, military, and bureaucratic stakeholders.

The purpose of this article is threefold. It will first place civ-mil relations in a historical context, mapping fundamental transitional changes between the revolutionary period (1921-1949), the politicized era (1949-1976), and the modernization years (1976-2014). Second, it will highlight evolving trend lines in CCP-PLA relations, identifying emerging tensions. Third, it will provide a cursory assessment of early signals or indications of future friction points.

A critical review of civ-mil relations in the People’s Republic of China (PRC) makes apparent that the military’s political power resources are increasing; a relationship of ‘conditional compliance’ now exists where the Party is required to negotiate with the PLA on key issues (whether it be funding increases, force development, or foreign policy priorities) for its continued support. As a result, the potential for fractures between the Party and PLA are increasingly possible during crises situations.

Prior to beginning with a historic examination of civilian-military relations in China, we need first to root our discussion in a viable theoretical framework, or model, in which to help organize the information/evidence being considered. As expansively covered by Michael Kiselycznyk and Phillip Saunders, perspectives on Chinese elite politics are relatively few in number, and often period specific.4 Each is not without its limitations, but all have explanatory potential. Of growing relevance, however, is the bureaucratic politics approach, because not only does it easily incorporate the tenets of earlier schools (such as symbiosis, factionalism, and the Party control lens) it, moreover, best captures the PRC’s current political landscape of distributive power. In essence, since the 1978 economic reforms, the CCP’s receding ideological justification for rule, and varied rates of development in China’s 34 provinces, the country has increasingly witnessed ‘fragmentary authoritarianism,’ where the control of a paramount leader (such as Mao Zedong) is greatly reduced, a growing separation between the economic and political spheres more pronounced, and individual ‘pockets’ of authority—often the result of ‘factions’ within both the Party and the PLA—more evident. The end result of this is increased “bargaining” both between and within government and military apparatuses, a process which requires negotiations, exchanges, and consensus building.5 This type of interaction is strikingly different than that which first typified Party-PLA relations in the early revolutionary period.

Party-PLA Relations during the Revolutionary Period (1921-1949)

The CCP (founded in 1921) and the PLA (established in 1927) originally enjoyed a level of intimate interaction or ‘fusion’ typical of the militaries and revolutionaries coalescing in a united front, or common cause, to overthrow an existent political order. This pattern is well documented, and will only be briefly touched upon here.6 In short, where elites regularly circulate between military and non-military posts, a symbiotic relationship forms where ideas, authorities, allegiances and circles of interaction take root, fostering a common commitment and vision towards a desired end state. In the case of China, what is referred to as ‘symbiosis’ started in 1934-35 while the Communists were in retreat during “The Long March” period. As a consequence of this shared experience, close cooperation between military and civilian figures resulted in significant overlap in leadership roles, with key individuals (most notably Mao Zedong and Deng Xiaoping) being dubbed “dual role elites.”7

Up until the declaration of Chinese independence, the military was a major recruiter for the Party and a strict ratio of Party members to non-Party members among combat soldiers was upheld. They were, in a sense, two faces of the same organized elite. For many years, political leaders were also generals or political commissars in military units; the party and the army “…formed throughout their history a single institutional system, with a single elite performing simultaneously the functions of political and military leadership.”8 While in many respects effective and efficient, the merger of the military with the political, particularly absent of institutions, over time opened the door to significant infighting when differences arose, often ending in intensive ideological campaigns (such as the Great Leap Forward, 1958-1961), massive popular mobilizations, and widespread national unrest.

The Politicization of the PLA under Mao Zedong (1949-1976)

Upon assuming power, Chairman Mao Zedong early on turned to the military to champion and enable his ideas and to serve as his last line of defence. While less critical in the honeymoon period of the early-1950s, the PLA was increasingly drawn into the political realm, most notably during the Cultural Revolution (1966-1976), a decade long period of social turmoil and populist furor spawned by the PRC’s senior most leaders. While beyond the scope of this article to discuss in any detail, the research of others chronicles how overtly enmeshed in politics the PLA became during this period, serving as a direct tool of Mao and his inner clique.9

Unable to effectively mobilize radicals and students, in early January 1967, Mao and the Central Cultural Revolutionary Group (CCRG) ordered troops to ‘support the masses of the revolutionary left.’ As the campaign developed and became ever more chaotic over the following months, the army was subsequently directed to restore order, ultimately granting PLA members sweeping latitude to use any means necessary to reaffirm peace.10 In a fluid political situation, PLA members were pitted against the populace, who asserted they were acting as directed by China’s leaders, forced to adjudicate between opposing interests, and autonomously resolve unrest all over the country with no rules of engagement, clear direction, or often even understanding of the context of a given problem as it varied dramatically throughout China depending on the parties involved, the interpretation of the ideological direction being followed, and the local agendas at play.

For more than a decade, the PLA was the only institution in the PRC still functioning. The military was decisive in both policy-making and determining power struggles on many levels.11 While the details remain opaque, in 1970-1971, military commanders were reportedly divided, with some supporting Marshal Lin Biao, Vice-Premier, in a purported counter-revolutionary coup d’état. Throughout the period, other incidents of intra-party conflict drew the military into non-military matters and significantly eroded earlier periods of harmonious symbiosis. With the death of Mao in 1976 and the rehabilitation of Deng, specific actions were undertaken to modernize the military and professionalize it. While successful on many fronts, these transformations have also not been without complications and unanticipated consequences.

A New Focus on Modernization (1976-2012): Defining Trends

Increased Professionalization

In the aftermath of the Cultural Revolution, the PLA has become a focal point for reform, improvement, and de-politicization. The armed forces were downsized from 4.5 million to 2.2 today. It is rapidly becoming a more modern force which is increasingly educated, better equipped, more regimented with retirements, selection and recruiting. Doctrinal adjustments are regularly made and announced in biannual Defence White Papers, moving the army along a continuum away from land based notions of “People’s War” to concepts like “Limited War under High Technology Conditions.”12 Highlights of this trajectory include: professional military education; specialization in key knowledge sectors like cyber security; a primacy placed on science and technology; improved training and augmented technical skills; the integration and operation of more sophisticated military kit; improvements to command and control; and a focus upon combined joint operations.13

Since 1997, China’s military budget has increased at double digit rates, with much of these augmentations going to offset higher salaries, better housing, and improved facilities. In 2014, official defence spending was published as US$ 131.57 billion; the second largest in the world, and by some intelligence estimates, only half the actual number.14 Increased professionalism is, however, a two-edged sword. While on one level it removes the military from the daily entanglements of political life, it also promotes a greater sense of autonomy, corporateness, and a sense of responsibility to intervene if vital interests are threatened, coupled with the expertise to do, so should the occasion arise.15

A Reduced Emphasis upon Political Work or Ideological Study

While exceptions to the rule exist (such as the immediate period following the 1989 Tiananmen Square Massacre), military professionalization has generally resulted in less emphasis on political work and political education (relative to the time spent on military duties). The eroding foundations of Communist ideology are particularly of high impact on the military, as this calls directly into question the forces’ raison d’être—the promotion of Communist ideals through revolution and unqualified support of the Party. While Marxist ideology can still be invoked as required justification when needed, it is not treated in the sacrosanct manner it once was and this significantly reduces the ‘connective tissue’ seamlessly joining the Party and the PLA.

The Growing Bifurcation of Elites

China’s transition into a developed country with a relatively modern military force has demanded a move away from “dual role elites” to streams of distinct and separate senior officials who no longer share similar backgrounds, work experiences, or career paths. Promoted according to functional area expertise, few common bonds (including formal educational experience, common technical knowledge, shared management history, and common political connections) join military professionals, Party leaders, and senior civil servants, as was once the case with their revolutionary predecessors. The implications of this are important. Common frames of reference do not currently exist, and the potential for miscommunication is high. Civilian leaders do not regularly interact with their military counterparts, and a general ignorance of military tactics, training, and procedures continues, which is not systematized through effective briefing channels.16 In short, the growing bifurcation of elites impedes relationships built on trust as the distance between the military sphere and the political sphere lengthens. In particular, varying perspectives on national security issues are increasingly evident.

Divided State-Party-Citizenry Loyalties

In China, theoretically, the Communist Party, state apparatus, and military are all distinct entities with formal authorities, accountabilities, and responsibilities. In practice, the Party dominates all according to varying degrees through its membership, appointment routines, and sanctions. This too, however, is evolving. As China modernizes, power is becoming more decentralized, and the legitimacy of the Party (or lack thereof) is linked almost solely to the country’s economic performance. In fundamental respects, China’s legislature (or National People’s Congress) and its Standing Committee are now more appropriately serving an oversight function of the military. Directly linked to this is the NPC’s role in approving the military’s annual budget allocation. Once a ‘rubber-stamp’ process, this is less and less the case.

The emergence of a stronger state structure with ties to the military is fostering a duality of legally and administratively distinct centres (one state, one party) with which the PLA must successfully interact, each often sharing overlaps in membership, but at times competing and conflicting agendas.17 In short, where the Party provides guidance and direction, the state administers and implements policy on a day-to-day basis. The constitutional ambiguity of the military’s allegiance to the Party and the state potentially fosters conflictual loyalties, and challenges the asserted shorthand understanding that the Party and PLA are indivisible and the same. Moreover, the Army’s de facto loyalty to China’s citizenry is historically founded (hence the name “the People’s Liberation Army”), and when tested on 4 June 1989 [Tiananmen Square uprising in Beijing], manifested itself in command and control issues (troops in some cases would not fire of protestors). Long-standing damage to a relationship previously viewed by both sides as inviolable continues to this day, and many assert that even if ordered, such violent suppression would not happen again in light of this precedent and the fallout from it.18

Internal Factionalism within the PLA

Paralleling divided loyalties between Chinese Party, military and government bodies, one must also recognize that within each, factions exist, based upon generational, personal, professional, geographic, or institutional allegiances.19 These minor fault lines are most pronounced during crises, and they continue independent of professionalization.20 As was demonstrated by the civil-military dynamics of the Chinese government’s suppression of student demonstrators, both divisions and allegiances of interests emerged with respect to how to contain this situation and factional interests largely determined which troops would carry out the orders, who commanded them, what civilian Party leaders supported the actions, and who would be sanctioned following the mêlée. A consequence of factionalism within the PLA is that the Party’s control mechanisms (particularly because rule of law and constitutional restraints on the military are weak) needs to be robust to control not only a single military chain of command but (particularly during crises) perhaps more than one. This is not likely the case. A review of the evidence indicates the military’s influence, on the whole, is increasing, and the Party’s control decreasing.

On one level, the Party clearly controls the military as the Central Military Commission or CMC (the highest military oversight body in the PRC) is chaired by a civilian, President Xi Jinping. Moreover, the PLAs representation on formal political decision making bodies (such as the Politburo Standing Committee, the Politburo, the Central Committee, and the NPC) has decreased over the years, but this does not necessary equate to a reduced level of influence. For example, the two Vice-Chairman of the CMC are now military generals, as are the remaining other eight members. Irrespective of institutional membership, military leaders retain considerable say. Personal interactions and informal meetings with senior party elites provide venues to sway decisions. They do, also, hold important places on leading small groups dedicated to issues like Taiwan and other security questions, such as the South China Seas.21

In a similar vein, other methods of Party influence, as exercised through political commissars, party committees, and discipline inspection commissions are no longer empowered to enforce the ideological dictates of a paramount leader. In the face of diffuse reporting chains, competing allegiances, and often effective socialization by the military units they are supposed to be watching over, most do not provide the Party guardian and guidance function once so pervasive.

While perhaps overstated, Paltiel’s observation that “…China’s energies over the past century and half have given the military a prominent and even dominant role in the state, preempting civilian control and inhibiting the exercise of constitutional authority” is likely now truer than ever before in history.22 While still loyal to the party as an institution, the PLA is not unconditionally subservient to a particular leader and retains the resources to enter the political arena if (at the highest levels) a decision is made to do so.

Assessing the Implications of the Civilian-Military Trend Lines in China

The civilian-military trend lines evident in China since the end of the Cultural Revolution affirm that the symbiotic nature of the Party-PLA relationship has morphed in important respects since the late1960s. The promotion of professionalism, a reduced role for ideological indoctrination, an increasing bifurcation of civil-military elites, and growing state powers (complete with divided loyalties and continued factionalism) has complicated the political landscape informing how the CCP interacts with the PLA. If, as postulated, we have moved from a fused, ‘dual role elite’ model to one of ‘conditional compliance’ in which the military actually holds a preponderance of the power capabilities and where its interests are satisfied through concessions, bargaining, and pay-offs, empirical evidence should reflect this. A review of China’s three major leadership changes since the transition from the revolutionary ‘Old Guard’ to the modern technocrats confirms this.

Jiang Zemin (1989-2004)

Formally anointed and legitimized by Deng in 1989, Jiang assumed leadership without military credentials and few allies, viewed by many as a ‘caretaker’ Party Secretary in the wake of the Tiananmen Massacre. Despite his limitations, Jiang was well versed in the vicissitudes of palace politics. Informed by a high political acumen, he immediately promoted an image as an involved Commander-in-Chief, personally visiting all seven military regions, a sign of commitment not made by either the likes of Mao or Deng. Symbolic gestures like this were bolstered by his providing incentives to the PLA, such as: consistent raises in the defence budget; funds for military modernization; as well as equipment, logistics, and augmented R&D.23

Referred to as the ‘silk-wrapped needle,’ Jiang marshalled Party resources to not only reward, but to punish.24 His institutional authority over appointments enabled him to manipulate factions, dismiss those who opposed him, enforce new rigid retirement standards, and promote loyalists. A delicate equilibrium was established during the early-1990s until his semi-retirement in 2004,25 where Jiang guaranteed military priorities such as supporting ‘mechanization’ and an ‘information-based military’ (promoting the concept of RMA with Chinese characteristics) in exchange for the PLA backing of his legacy contributions to Marxist Leninist Mao Zedong thought with the enshrinement of his “Three Represents” doctrine.

Hu Jintao (2002-2012)

Like Jiang, Hu Jintao’s succession was the product of negotiation, compromise, and concessions. While neither opposed by the PLA, nor supported by the military ‘brass,’ Hu was a known commodity, having served as Vice-President (1998) and CMC Vice-Chairman since 1999. He was deemed acceptable until proven otherwise. In the shadow of Jiang (who retained the position of CMC Chair until 2004), Hu did not exert the same kind of influence in, nor engender the same kind of deference from, China’s military, but equally proved capable of fostering a pragmatic relationship with the army which ensured its interests, and in so doing, legitimized his leadership position.

Ceding much of the military planning and operational decisions to the PLA directly, Hu played to his strengths and focused upon national security issues (such as the successful resolution of SARs in China), which bolstered his credibility as a populist leader among the masses, indirectly increasing his power within both the military and the Party. Additionally, he focused upon foreign military security affairs (most notably, North Korea-US negotiations), which enabled him to link his personal political agenda with the military’s latest ambitions.

In according the military a distinct place in China’s national development plan, supporting China’s rise, and ensuring its vital interests, Hu recognized the military’s evolving requirement to ‘go global’ and its worldwide interests in non-combat operations, such as peacekeeping and disaster relief, as well as stakes in the open seas, outer space, and cyberspace as interest frontiers with no geographic boundaries.26 Under the slogan of ‘China’s historical mission in the new phase of the new century’ and his acquiescence to the PLA’s stated requirements ‘to win local wars under modern conditions’ by funding new technology acquisition, Hu received the army’s formal recognition for his contributions to military thought based upon “scientific development” which informed a “strategic guiding theory,” resulting in a new operational orientation for China’s military. Emulating his predecessor, Hu won ‘conditional compliance’ from the PLA by successfully bartering military needs and wants for the army’s support and endorsement of his political tenure. This was not done outside of self-interest. Hu, as did Jiang, skillfully coopted, fired, and promoted select Generals to serve his greater ends, and he did this through varied means. Ultimately, however, it was done in a manner acceptable to the military.

Xi Jinping (2012-Present)

Xi Jinping’s rise to power in 2012, while replicating the ‘horse-trading’ of Jiang and Hu, marks a fundamental departure in leadership style. Often described as a transformative leader, Xi is openly critical of his predecessors and rails against earlier periods where reform stalled and corruption grew.27 An advocate of ‘top-level design,’ incrementalism is being supplanted by a massive attempt to centralize all aspects of the CCP’s power, which includes a major restructuring of the economy, government, administration, and military.

Nicknamed “the gun and the knife” as a slight for his attempts to simultaneously control the army, police, spies, and the ‘graft busters,’ Xi’s power appears uncontested at present. Nevertheless, he is also viewed as ‘pushing the envelope too far’ and endangering the equilibrium which has been established between the Party and PLA over the past 25 years. For example, only two years into his mandate, he fostered a Cult of Personality, “the Spirit of Xi Jinping” which was officially elevated to the same standing as that of Mao and Deng, by comparison, foundational figures in Chinese history. His open attacks of political ‘enemies’ (most notably Zhou Yongkang, a Politburo Standing Committee member and former security czar) breeds fear among almost every senior official, all of whom are vulnerable on some point. Equally true, an unprecedented anti-corruption campaign is inciting comrades to turn on comrades, not unlike a massive game of prisoner’s dilemma.

Nowhere is the pressure for reform greater than in the PLA. Xi advocates administering the army with strictness and austerity, promoting frugality and obedience. At his direction, “mass-line educational campaigns” designed to “rectify work style” through criticism and self-criticism are being implemented.28 Ideological and political building is now equated with army building, as a means of ensuring the Party’s uncontested grip over the troops ideologically, politically, and organizationally. Select military regions (those opposite Taiwan and adjacent to the South China Seas) and commanders from those regions are witnessing favoritism and promotion at the expense of others. Moreover, a new “CMC Chairmanship Responsibility System” has been instituted, which directly calls into question the support of some of Xi’s senior-most generals.

#### ] Alt causes to internal link--Own author concludes a) it’s impossible to predict and b) two alt causes—East Asian escalation, mass mobilization

**Their Simpson Card \*Yellow for context\***

While impossible to predict, key indicators capable of fomenting such a dramatic change in China include the following: (a) President Xi pushing his personal agenda for China and self-aggrandizement to a point where it fundamentally challenges other entrenched interests; (b) a political-military crisis (such as with Japan and the East China Seas, Taiwan, or interests in the South China Seas) which involve external nations—particularly the US—and divide civilian/military interests on how to respond; or (c) a social crisis where mass mobilization takes place and civ-mil factions disagree on either how address the situation, or on who makes the decision when and where to act.

Each of the dire scenarios listed is a real possibility and all would be determined by the nature of civ-mil relations in China. Increased scholarly attention, critical thinking, and improved surveillance of early warning signals portending such possibilities must become a priority for Western intelligence analysts, militaries, and strategic planners.

### 1AR—Korean War

#### 1AC 3 and 4 turns Taiwan/Korean war—no nukes in those countries now but LAWs development causes East Asian prolif that ensures any conflict goes nuclear.

### 2AR—Thumper Extension

#### Their impact should have been triggered already—the PLA has been upset for months due to Xi’s actions in the Galwan incident. This means either 1] Xi is able to overcome internal instability or 2] other events will overcome the uniqueness.

### 1AR—Thumpers

#### Thumpers—massive resentment from the PLA due to Galwan incident. Narang 20

[Akshay Narang, Journalist for TFI Post who writes on political trends in PROC, “China fears Great PLA Mutiny after Galwan Humilation: Son of a former CCP leader spills the beans, https://tfipost.com/2020/07/china-fears-great-pla-mutiny-after-galwan-humilation-son-of-a-former-ccp-leader-spills-the-beans/] JJ

Jianli Yang, a Chinese dissident and the son of a former Chinese Communist Party (CCP) leader, has spilled the beans on unrest brewing within the PLA ever since the Indian Army inflicted heavy casualties on the Chinese Army.

At the root of growing anger and resentment within the PLA veterans serving officers is the refusal of the CCP regime to disclose the number of casualties during the Galwan Valley clash.

Within Chinese social media too, there was widespread resentment against the Xi Jinping regime as it did not even honour those who were killed in the clash. Weibo, China’s version of Twitter saw many citizens take potshots at the CCP.

On June 19, a Weibo user [said](https://tfipost.com/2020/06/we-will-share-info-at-the-right-time-china-tries-to-placate-its-people-after-outrage-over-dead-chinese-soldiers/), “India has held a memorial service for the sacrificial soldiers. It shows the high respect and attention of the whole country of India to the soldiers who defend the country and the land.”

It is not possible to know much about what goes on within China due to the wild censors on its social media, but Yang gives us some valuable insights.

He says that the disgruntled veterans, many of whom participated in the bloody Korean war and the 1979 Sino-Vietnamese war, “have been holding frequent mass protests across China for years now, hoping to shame the government into recognizing its obligation toward those who battled along the country’s borders in the past.”

Yang adds, “All they seek is better health care, pensions, and jobs, as a mark of due gratitude for their service to the nation. Shockingly, however, the country which has the world’s largest army, does not have a central agency to administer pensions and other benefits to its veterans. Resultantly, they are forced to depend on local governments for pensions, medical care, and other basic benefits.”

There is a wide disparity in the financial conditions of the local Chinese governments, and consequently, there is no standard pension for retired Chinese soldiers. According to the Chinese dissident, the veterans find themselves left at the mercy of corrupt local bureaucracy by the CCP which makes them feel like “donkeys slaughtered after they are too old to work a grindstone.”

The fate of the present PLA soldiers has only exacerbated the fury of the veterans. The PLA soldiers were forced by China to take on a professional Indian Army, and the results were catastrophic for the PLA.

Even worse, the Xi Jinping regime was never willing to admit that it got PLA soldiers butchered. Yang says Chinese Foreign Ministry spokesman Zhao Lijian did not acknowledge the number of casualties during his June 22 conference saying, “I have no information to offer.”

A day later, he again avoided giving any information and only said that reports of more than 40 Chinese soldiers circulated by Indian media was “false information”.

But then the same spokesperson had given a “step-by-step account of the Galwan clash (the Chinese version, of course) and China’s position on settling this incident.”

#### ] Thumpers Xi has expressed support plan– impact should have happened

Kania 18 — (Elsa Kania. Elsa B. Kania is an adjunct senior fellow with the Technology and National Security Program at the Center for a New American Security (CNAS), “China’s Strategic Ambiguity and Shifting Approach to Lethal Autonomous Weapons Systems“, Lawfare, 12-20-2020, https://www.lawfareblog.com/chinas-strategic-ambiguity-and-shifting-approach-lethal-autonomous-weapons-systems, accessed 12-19-2020, HKR-AR)

On April 13, China’s delegation to United Nations Group of Governmental Experts on lethal autonomous weapons systems announced the “desire to negotiate and conclude” a new protocol for the Convention on Certain Conventional Weapons “to ban the use of fully autonomous lethal weapons systems.” According to the aptly named Campaign to Stop Killer Robots, the delegation “stressed that [the ban] is limited to use only.” The same day, the Chinese air force released details on an upcoming challenge intended to evaluate advances in fully autonomous swarms of drones, which will also explore new concepts for future intelligent-swarm combat.

### 1AR—Uniqueness > Link

#### Uniqueness > link--BUT Xi’s power is resolute--PLA overwhelmingly responsive to leadership – what input is technical.

Char & Bitzinger 17 [S. Rajaratnam School of International Studies, Nanyang Technological University, Singapore. Email: isjtschar@ntu.edu.sg (corresponding author). † S. Rajaratnam School of International Studies, Nanyang Technological University, Singapore. "A New Direction in the People’s Liberation Army’s Emergent Strategic Thinking, Roles and Missions." <http://www.viet-studies.net/kinhte/PLANewDirection_ChinaQuarterly.pdf>]

Looking at the bigger picture of Beijing’s grand strategy to mobilize and utilize all available resources to advance Xi Jinping’s “China dream,”33 one can reasonably infer that the PLA would seek to operationalize its efforts towards realizing an international order conducive to Chinese geopolitical and economic objectives. While the PLA remains an understandably strong interest group within the context of China’s foreign policy formulation and implementation, one can expect that the PLA’s professional worldview will continue to be shaped first and foremost by assessments of the international order as determined by China’s civilian leaders.34 To be sure, although the military’s emphases may differ from those of its civilian counterparts, it inherently focuses on parochial issues. Whilst the balance between subjective and objective control remains an ideal to aspire to, rather than fact,35 the extent to which China’s military leaders seek to influence national policymaking is largely restricted to those areas in which they clearly have the expertise – and not just underlying interests – and where their professional advice is sought. Such areas would include US arms sales to Taiwan; sovereignty and territorial disputes in the East and South China Seas; maritime security; and the growing threat of American naval operations in the Indo-Pacific region. However, alongside a less restrictive ideological environment within Chinese society in the post-Deng era, the PLA’s own opening up to the world and overseas experiences may yet have serious ramifications for the worldview of its rank-and-file.

### 1AR—No Link

#### 1] No link—their evidence claims Chinese military strategists distinguish autonomous weapons and AI Weapons. The latter is what the PLA focuses on. Their Own Kania 20 evidence. \*Rancho Bernardo Rehighlighted in Blue\*

Chinese military initiatives in AI are motivated by an acute awareness of global trends in military technology and operations;18 concerns about falling behind the U.S. military, which is perceived and often characterized as the “powerful adversary” (强敌);19 and recognition of potential opportunities inherent in this military and technological transformation.20 “China’s military security is confronted by risks from technology surprise and a growing technological generation gap,” according to the official white paper on “China’s National Defense in the New Era,” released in July 2019.21 “Intelligent(ized) warfare is on the horizon,” the assessment finds, and the ongoing “Revolution in Military Affairs” will change the very mechanisms for victory in future warfare.22 Chinese military scientists and strategists, including from such authoritative institutions as the PLA’s Academy of Military Science, National Defense University, and National University of Defense Technology, envision AI and intelligent weapons playing an increasingly important if not decisive role in future warfare. They closely examine antecedents in U.S. strategy and capabilities to inform their own assessments.23

The PLA’s quest for innovation is an element of the Chinese national strategy to leverage science and technology in pursuit of great power status.24 In the process, the Chinese military is developing more traditional and emerging capabilities, while concentrating on asymmetric approaches against the U.S. military. President Xi Jinping has emphasized, “under a situation of increasingly fierce international military competition, only the innovators win.”25 Moreover, on the importance of “aiming at the frontier of global military scientific and technological developments,” he urged: “We must attach great importance to the development of strategic frontier technologies, striving to surpass the predecessor as latecomers, turning sharply to surpass.”26

As early as 2011, the PLA’s official dictionary included a definition of an “AI weapon” (人工智能武器), characterized as “a weapon that utilizes AI to pursue, distinguish, and destroy enemy targets automatically; often composed of information collection and management systems, knowledge base systems, decision assistance systems, mission implementation systems, etc.”27 Similarly, Chinese military strategists and scientists tend to discuss “AI weapons” or “intelligentized weapons” (智能化武器) more often than “autonomous weapons” (自主武器) in academic and technical writings.28 This terminological difference is subtle but potentially significant, implying a focus on the “smartness” or “intelligence” of weapons systems in selecting and engaging targets.29 For instance, techniques for adaptive or autonomous control can leverage a range of algorithms, including neural networks. Even as the function of certain weapons systems becomes “unmanned” (无人化) and to some degree automatic (自动化), greater degrees of autonomy or “intelligence” in function can remain elusive.

While Chinese leaders have prioritized advances in AI as an important direction for military modernization, China’s Central Military Commission has yet to release any policy or official strategy that formally clarifies such plans and priorities. However, in July 2017, the New Generation Artificial Intelligence Development Plan called for China to “strengthen the use of AI in military applications that include command decisionmaking, military deductions,30 and defense equipment.”31 In the fall of 2017, Xi, in his address to the 19th Party Congress of the Chinese Communist Party (CCP), urged, “accelerate the development of military intelligentization, and improve joint operations capabilities and all-domain combat capabilities based on network information systems.”32 His remarks provided authoritative guidance to pursue military applications of AI that could be integrated across the whole system for future operations.33 This emerging emphasis on “military intelligentization” (军事智能化), or the “development of an intelligent military,”34 extends beyond AI-enabled systems and autonomy to include the development of weapons systems leveraging adaptive control or involving autonomy in various aspects of their operation.35

The PLA is actively pursuing AI-enabled systems and autonomous capabilities in its military modernization.36 Across services and for all domains of warfare, it has fielded a growing number of robotic and unmanned systems, as well as advanced missiles with precision guidance, some of which may possess at least limited degrees of autonomy. For instance, the PLA Army (PLAA) has concentrated on military robotics and unmanned ground vehicles, which could be used for logistics.37 The PLA Navy (PLAN) is experimenting with unmanned surface vessels that may operate with some autonomy and is reportedly developing autonomous submarines.38 The PLA Air Force (PLAAF) operates advanced unmanned systems with limited autonomy that could be upgraded to include greater autonomy, while exploring options for manned-unmanned teaming.39 The PLA Rocket Force (PLARF) may leverage use cases in remote sensing, targeting, and decision support,40 and its missiles may be augmented to become more “intelligentized” in their capabilities, incorporating higher levels of automation to facilitate operations.41 There are indications that the PLA Strategic Support Force (PLASSF) could apply advances in AI to its missions of space, cyber, electronic, and psychological warfare.42 PLA capabilities and advancements very likely extend well beyond what is known and knowable from open sources.

#### 2] This means On-The-Loop weapons solve—all the weapons mentioned have a possibility of limited autonomy, not full autonomy. Their Own Kania 20 evidence. \*Rancho Bernardo Rehighlighted in Blue\*

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### 1AR—Non-Unique

#### No uniqueness for PLA backlash and Taiwan outweighs

DeAeth 19 – Taiwan News, Staff Writer

Duncan, 7/4. “PLA putting pressure on Xi Jinping over Taiwan: CSIS analyst.” <https://www.taiwannews.com.tw/en/news/3738389>

According to a senior analyst at the Washington D.C.-based Center for Strategic International Studies (CSIS), senior officials of China’s People’s Liberation Army (PLA) are dissatisfied with how Chairman Xi Jinping (習近平) has been handling cross-strait issues.

Based on information gleaned from insider sources in China, CSIS researcher Bonnie Glaser claims that senior PLA generals are unhappy with Xi’s leadership as well as with the current policies of the Taiwan Affairs Office (TAO). Glaser’s remarks were made at an event hosted by another D.C.-based think-tank, the Heritage Foundation, on July 2.

The forum was entitled “Cross-Strait Relations: Present Challenges and Future Developments” and was also attended by the minister of Taiwan’s Mainland Affairs Council (MAC), Chen Ming-tong (陳明通).

Glaser stated that most Chinese leaders believe that time is on their side with regard to Taiwan. However, she said that Xi Jinping may be under increasing pressure from prominent military figures to take more decisive action.

She also suggested that some figures within the Chinese Communist Party (CCP) and PLA who are critical of Xi may be using the Taiwan issue as leverage to put pressure on what they perceive as one of his weak points.

#### Coronavirus triggers and outweighs every conceivable impact

Delahunty 20 – professor of law at the University of St Thomas and has taught Constitutional Law there for a decade

Robert J. Delahunty, with Willis L. Krumholz, 1/28. “How The Coronavirus Could Destabilize The Chinese Government And World.” https://thefederalist.com/2020/01/28/how-the-coronavirus-could-destabilize-the-chinese-government-and-world/

The first case of coronavirus in Wuhan, China, was reported Dec. 8. Since then, many have begun to wonder, “Is this the Big One?” Obviously, it is too soon to say. But if the virus continues to spread rapidly, the implications for international security and for the global economy could be staggering, and not only in terms of global public health.

The virus is spreading easily between humans and currently has a basic reproduction number of about 3.5 to 5.5, meaning each infected person is spreading the virus to at least three other people. The World Health Organization, however, currently thinks the reproduction number is between 1.4. to 2.5, or each infected person is spreading the virus to two other people. That’s because the virus can lie dormant for days and may be mutating to spread more easily. In truth, nobody knows right now exactly how damaging the virus will be.

As we write, there have been almost 100 deaths and well more than 2,000 infections. The cases are concentrated on mainland China, but the virus may take hold outside China — already, there are five confirmed cases in the United States and several more in France, Japan, Australia, and southeast Asia.

We Still Have Much to Learn About the Coronavirus

The death toll will likely lag the number who have the virus, and a full picture of the virus’s lethality is not yet known. Yet a death rate of even 5 percent would be staggering, if the virus spreads easily enough. The Spanish flu pandemic of 1919 infected about 500 million people and ended up killing 50 to 100 million, up to 5 percent of the Earth’s population at the time. It wasn’t the extremely young and old who were hardest hit, either. For some reason, young adults were incredibly susceptible to the Spanish flu.

Of course, much remains unknown about the coronavirus. Accordingly, we can’t be certain about its political and economic effects. Nonetheless, it is not too early to begin considering what those effects might be. But the coronavirus plague might not turn out to be a passing phenomenon like the avian flu, which left little mark on world affairs. Even China’s President Xi Jinping has admitted China is facing a “grave situation,” and officials in China are saying the virus will spread further before it is stopped.

Wuhan, a city of 11 million people — several million more people than New York City or London — and the trading hub in Hubei province where the virus first spread has been placed in a lockdown. Movement in 17 other Chinese cities has been restricted; travel curbs imposed by the Chinese government have affected more than 56 million people. By way of comparison, the population of Spain is less than 47 million.

Hospitals and doctors appear to be overwhelmed; the Chinese military reportedly dispatched 40 doctors to help badly stressed civilian medics. Videos of the afflicted regions of China are terrifying, depicting empty streets, people dropping from the disease, and hospitals overflowing with victims.

Role of Chinese Government Malfeasance or Incompetence

But there’s at least a chance China has been more than just unlucky — meaning official incompetence has worsened the crisis. Already, there are serious doubts about both the Chinese government’s transparency and its competence in handling the crisis.

According to Sophie Richardson, the China director at Human Rights Watch, the government’s response to the crisis thus far has raised pointed concerns. Richardson told the U.K.’s Daily Telegraph that authorities have harassed people for “spreading rumors,” even though many are worried about not getting accurate information from their government, and that Chinese health experts who would have been “best equipped to sound the alarm about the coronavirus early” had been detained or seen their research halted. Meanwhile, social media posts with updates on the outbreak are swiftly deleted.

These are, of course, likely responses from an insecure, repressive, and undemocratic regime such as China’s. The reaction of the Soviet government and bureaucracy to the 1986 nuclear disaster in Chernobyl is an ominous precedent, and Chinese citizens remember their government’s cover-up of the 2002-2004 SARS epidemic. The Chinese government suppressed information about the outbreak of SARS for four months, until 774 people had died.

Other yet unverified reports could prove catastrophic for the Chinese government if they turn out to be conclusive. There is evidence, reported by the Washington Times’ highly respected Bill Gertz, that Wuhan is the site of two laboratories that appear to be engaged in research into deadly viruses. These facilities could be part of a covert Chinese biological weapons program.

Some, including China hawk Kyle Bass, are even claiming a Chinese spy ring stole strains of the virus from Canada and shipped it back to the lab in Wuhan. In other words, China’s government may have been experimenting with the virus for biowarfare purposes, only for the experiment to backfire.

It’s reminiscent of the Tianjin tragedy, wherein government corruption and complacency led dangerous chemicals to be stored in a populated area. Chinese government officials quickly suggested the coronavirus outbreak in Wuhan resulted from the sale of wild animals in a Wuhan seafood market. While many of the early cases had contact with the seafood market, however, others did not.

Potential Consequences of the Coronavirus

In light of our current knowledge, what consequences might flow from a coronavirus pandemic? For starters, the Chinese government could undermine credibility with its own people. If Chinese citizens come to believe their government is deceiving them or concealing vital information, their disillusionment could be extreme.

The same could occur if Chinese citizens come to believe their national bureaucracy and military have been incompetent in handling the crisis. Many Chinese doubt local communist officials but seem to support the national party and Xi Jinping. Could the Chinese people begin to doubt the entire system? In a democracy such as ours, citizens’ anger can be channeled into voting. But in a one-party dictatorship such as China, popular anger and disillusionment may turn to protest.

Furthermore, the loss of millions or possibly tens of millions of lives, even in a country with a population as vast as China’s, would cause severe economic damage. China’s regime has to earn its way by repeatedly proving it can direct the economy successfully. Because of this, the regime is more fragile than some of its admirers think. Its legitimacy, even its survival, depends upon bringing continuing growth and prosperity to the Chinese people.

Not communist ideology but the claim of managerial expertise justifies the Chinese government’s hold on its people. A severe business downturn, especially if caused by a government-worsened epidemic, would feed popular discontentment and could lead to instability in China.

Global Ramifications if the Disease Keeps Spreading

Then there is the outside world. If the coronavirus epidemic were to cause other countries millions of fatalities, attributable to the bad actions of the Chinese government, foreign governments and peoples would surely resent them.

The Chinese model that attracts admiration from part of the developing world would be deeply marred. The global economy, integrated with China — the world’s second-largest economy behind America — could contract. Even a lesser pandemic threatens growth. People may stay home and not buy or travel. Already, oil prices have fallen in anticipation of a reduced demand for jet fuel and the like.

Faced with a domestic political crisis, China might intensify domestic repression. Or the government might try to blame the epidemic on foreign governments, such as the United States or Japan.

#### EITHER CCP restructuring means Xi constrains instability

Heath 19 - a senior international defense researcher at the RAND Corporation

Timothy R. Heath, “The Consolidation of Political Power in China Under Xi Jinping: Implications for the PLA and Domestic Security Forces,” The RAND Corporation, February 7, 2019, https://www.rand.org/content/dam/rand/pubs/testimonies/CT500/CT503/RAND\_CT503.pdf

Under Xi, the CCP has stepped up central control of the country’s armed forces as a critical component of a contentious economic and governance reform program. Compared to the situation under Hu and Jiang, the array of administrative, organizational, budgetary, and political measures have likely resulted in stronger central control and oversight of the military and internal security forces.

Beijing likely faces a low risk of open defiance of Xi’s authority by disaffected elements in the military or cooptation of armed units by recalcitrant local elites. Despite the fact that senior PLA generals have been targeted and the autonomy of the PLA threatened to a far higher extent than in the past, the party has reduced the risks through a relentless anticorruption drive and intrusive organizational and administrative reforms led by Xi. Moreover, Xi’s cultivation of the PLA’s interests—through directing an overdue reorganization, promoting allies, and elevating the PLA’s status through hardline policies—provides an incentive for the many professionalminded military personnel to comply with strengthened CCP authority.

The consolidation of political power has helped improve discipline and may finally curb rampant corruption, especially in the PLA. Better discipline, less corruption, and stronger CCP authority is not necessarily incompatible with a more professional, competent PLA. Nor is the onset of badly needed structural reforms inimical to the party’s pursuit of a more-loyal, obedient force. On the contrary, Xi’s role in initiating both military reorganization and the array of measures to bolster party authority and strengthen discipline underscores the interdependent nature of these efforts. The most probable outcome is a concomitant improvement in the loyalty, discipline, and competence of the military.

#### OR instability is inevitable

Heath 19 - a senior international defense researcher at the RAND Corporation

Timothy R. Heath, “The Consolidation of Political Power in China Under Xi Jinping: Implications for the PLA and Domestic Security Forces,” The RAND Corporation, February 7, 2019, https://www.rand.org/content/dam/rand/pubs/testimonies/CT500/CT503/RAND\_CT503.pdf

However, slower growth and rising personal economic expectations have created a more rancorous political situation. Central authorities can no longer afford to tolerate the malfeasance and pervasive corruption that squanders economic growth and infuriates the public. Powerful elites who benefited from past policies have resisted changes that might threaten their status and privileges. Symptomatic of the troubled state of affairs are the numerous media reports of unverified rumors of coup plots against Xi—something virtually unheard of in either Jiang Zemin or Hu’s eras.16 Firm control of the nation’s armed forces is critical if leaders are to deter powerful central or local officials from coopting troops to defy Beijing. Loyal and competent troops are also essential to control western provinces in support of the country’s economic development plans. Externally, China’s growing tensions with some Asian neighbors and with the United States have increased the need for military readiness and competence. Central leaders led by Xi thus face powerful incentives to ensure both the absolute loyalty of the country’s military and internal security forces against potential enemies, both foreign and domestic.

#### The CCP’s model of legitimacy is inherently unsustainable—the link is a drop in the bucket.

**Lam 12 [**Jon-Jon Lam, https://thepolitic.org/author/:id=102 , “Performance Legitimacy: An Unstable Model for Sustaining Power] JJ

Since the 1980s, China has relied on “performance legitimacy,” a model for sustaining power that entails consistently accomplishing concrete goals to justify its rule.[[1]](https://thepolitic.org/performance-legitimacy-an-unstable-model-for-sustaining-power/#_ftn1)  These goals include economic growth, social stability, governing competence, and accountability.[[2]](https://thepolitic.org/performance-legitimacy-an-unstable-model-for-sustaining-power/#_ftn2)  Performance legitimacy is fundamentally different from “ideological legitimacy,” a model for maintaining power that is based on a common ideology.  Although one could argue that performance legitimacy itself is an ideology, for all intents and purposes of this article, *ideology* and *ideological legitimacy* will refer to the body of ideas and ideals that reflect the collective social needs and aspirations of the people.  Similarly, “moral legitimacy” is a regime legitimation approach grounded in shared ethics.  The Chinese Communist Party (CCP) will have to complement its performance legitimacy with moral and ideological legitimacy if it is to sustain its power into the future.  Though the past 30 years suggest otherwise, performance legitimacy is inherently a flawed model for retaining power because consistently delivering on concrete goals is unsustainable.  Moreover, in the absence of moral or ideological justifications of rule, performance legitimacy is insufficient for maintaining power.

### 1AR—Internal Link Press

#### Military reforms ensure military stays loyal to Xi or other alt causes mean some degree of instability between the party and military is inevitable

Heath 19 - a senior international defense researcher at the RAND Corporation

Timothy R. Heath, “The Consolidation of Political Power in China Under Xi Jinping: Implications for the PLA and Domestic Security Forces,” The RAND Corporation, February 7, 2019, https://www.rand.org/content/dam/rand/pubs/testimonies/CT500/CT503/RAND\_CT503.pdf

Assessing Xi’s Measures

Given the serious problems plaguing the PLA under Hu and Jiang, the measures taken by Xi will likely improve the military’s political reliability, discipline, and professional competence. Although the anticorruption campaign threatens some senior military officers, Xi’s assiduous cultivation of the interests of the military and security forces and various organizational, administrative, political, and other measures have significantly reduced the possibility that disaffected military personnel could conspire against the central government. However, the tension between the pursuit of political loyalty and military readiness persists, and the dangers should not be dismissed. Too m In contrast, too much focus on improving military readiness and professionalism through purging all leaders tainted by corruption risks damaging morale and potentially inciting rebellion among those targeted.

### 1AR—Xi is in Control

#### 2018 constitutional reforms mean Xi has a tight hold on the party

Babones 19 - an adjunct scholar at the Centre for Independent Studies in Sydney, Australia, and an associate professor at the University of Sydney

Salvatore Babones, “No, China's Communist Party Is Not Running on Borrowed Money,” The National Interest, October 19, 2019, <https://nationalinterest.org/feature/no-chinas-communist-party-not-running-borrowed-money-89176?page=0%2C1>

THE HEADLINE news from China’s 2018 constitutional reforms was the removal of term limits and the associated implication that Xi might rule as president for life. Less noted were several other constitutional and administrative changes that help explain that move. The constitution was amended to create a new anti-corruption agency, the State Supervision Commission (SSC). The SSC will absorb the former anti-corruption agency, the Central Commission for Discipline Inspection, which is an organ of the Party, not the state. Like every other element of the Chinese government, the SSC is still ultimately beholden to CCP authority at the highest levels, but the 2018 reforms will reduce the ability of lower-level Party officials to settle scores by prosecuting rivals for corruption. The new structure of anti-corruption investigations is likely to reinforce the concentration of power at the top of the party-state hierarchy.

Administrative reforms undertaken at the same time will also increase Xi’s ability to govern from the top. China’s cabinet, the State Council, has been restructured and reduced from thirty-five members to a more manageable twenty-seven. The avowed aim of this reform is to increase “the capacity for governance of the State,” and there seems to be no reason to doubt this straightforward and forthright explanation. Taken together, the removal of presidential term limits, the centralization of anti-corruption prosecutions and the streamlining of reporting channels all point toward one conclusion: Xi intends to complete the historical transition from governing China through the CCP to governing China through the state.

#### Xi is resilient – support is entrenched

Kuhn 18 – public intellectual, international corporate strategist and investment banker, and a China political/economics commentator featured on the BBC, CNN, Bloomberg, author of How China’s Leaders Think and he is co-creator (with Adam Zhu) and host of CGTN’s Closer to China with R.L. Kuhn and The Watcher commentaries

Robert Lawrence Kuhn, “Xi Jinping’s power has a purpose – one person to see China through its development plans,” South China Morning Post, 3/9/18, <https://www.scmp.com/comment/insight-opinion/article/2136309/xi-jinpings-power-has-purpose-one-person-see-china-through>

To interview delegates and officials at the annual National People’s Congress in Beijing, interspersed with being interviewed in the international media about China abolishing term limits for its president, is to inhabit parallel universes.

Delegates and officials focus on clusters of issues from controlling financial risk and reducing pollution to scientific innovation and business stimulation, plus enhancing and institutionalising China’s anti-corruption campaign with a powerful National Supervision Commission. The international media, no surprise, focus on the constitutional amendment ending term limits, assuming President Xi Jinping will now serve in a for-life dictatorship, reminiscent of Mao’s China, the Soviet Union, the Kim family in North Korea and some African countries.

It is no challenge to explain why abolishing term limits is bad for China – dependency on one human being who is not omniscient but is hostage to fortune, fewer and weaker checks and balances, forced conformity in a complex society with no easy answers, etc. The system begins stronger in that hard choices can be made and consistency maintained, but it could become brittle in that officials are more wary and may say things they do not believe.

It is a challenge to explain why abolishing term limits is good for China, so that’s what I will do.

First, some background. There are three separate issues being conflated: the significance of ending term limits, the intended consequences and the unintended consequences. Though terminating the two-term limit for China’s presidency captures headlines, it is more the symbolic, final step ratifying Xi’s near-absolute power than the big breakthrough itself. Xi’s prior designation as “core” of the Communist Party in October 2016 and the inscribing of “Xi Jinping Thought...” into the party constitution in October 2017 were more meaningful.

Moreover, the Politburo Standing Committee, the highest authoritative body in China, unambiguously supports Xi. China watchers see the front page of People’s Daily – published the day after the new Standing Committee marched out on stage – which featured Xi’s photo on top, many times larger than the smaller, subservient photo of all seven members lined up on the bottom.

All this reconfirms that, in a system where the party controls the state – especially where the party is Marxist and ideology is its basis for being – Xi, as core of the party, with his name inscribed in the constitutions of party and state as the contemporary arbiter of Marxism, will be the uncontested, overarching leader of China for the rest of his sentient life.

For intended consequences, the official line is that the purpose is national cohesion brought about when the three top leadership positions – general secretary of the party, chairman of the Central Military Commission and president of the republic – are aligned temporally and held by a single person.

This makes sense, but as a primary, proximal motivation, it is not entirely persuasive. The current structure has existed for decades without outcry or angst (not to mention that the three positions could be unified by installing term limits on the other two).

The “new era”, marked by economic, social and global complexities, is said to require firm and consistent leadership, making moot inner party struggles and even mitigating political gossip, facilitating focus on the tasks of governance and development. Specifically, because advancing reform has become more difficult, with entrenched interest groups resisting change, the message must now go forth that all must get with the programme, because you can’t outwit or outwait Xi.

Because, it is said that only Xi has the vision, experience, competence and character to bring about “the great rejuvenation of the Chinese people”, especially from 2020 to 2035 and ultimately to 2050 – bringing China to global centre stage – Xi’s unimpeded leadership is deemed essential. China cannot afford “downtime” to accommodate a change of leadership, and after Xi’s success at the 19th National Party Congress came the time to make clear that he will call the shots for the foreseeable future.

Some argue that doing away with term limits shows the superiority of the Chinese system as it allows flexibility in matching leadership to requirements (though what national leader, when extending his reach, has not claimed “current requirements” as justification?).

### 1AR—Thumpers

#### Tons of Thumpers—Xi is facing much backlash in China.

**McGregor 19** [Richard McGregor, award-winning journalist and bureau chief for the financial times based in Washington D.C., <https://www.cnn.com/2019/07/16/opinions/xi-jinping-backlash-opinion-intl-hnk/index.html>, “The backlash is growing against Xi Jinping in China and around the world] JJ

From mid-2018, Xi was already facing a public backlash on economic policy, the area where it has always been safest for Chinese to speak out. Xi has a legion of critics on foreign policy as well, who believe he has overreached and left the way open for the US and others to bind together on issues ranging from trade and technology to military and strategic influence in east Asia.d

Most scholars have delivered their critiques in private, or in carefully coded language. However Deng Xiaoping’s son, Deng Pufang, was explicit in a speech late last year to a disabilities forum which was leaked to the Hong Kong media. He urged China’s leadership to “know its place” in the world, and concentrate on its problems at home.

Finally, the abolition of term limits summed up the rage that many influential officials and scholars felt about their country’s leader. In one decision, Xi confirmed his critics’ view that he was an unrepentant autocrat willing to take China backwards in the service of his agenda.

Just as it is difficult to anticipate where any challenge will come from, it is equally hard to see how Xi’s supremacy in domestic politics can be sustained. Factors which remain out of Xi’s control will weigh against him. China’s slowing economy and rapidly declining demographics can obviously be leveraged to argue in favor of maintaining tight authoritarian controls. But they are much more likely to work against Xi in future. The same goes for China’s tightening fiscal situation.

Beijing’s ability to throw money at every problem, like bailing out cash-strapped local governments, will only get harder. In other words, by the time of the next party congress, due in late 2022, the issue of succession should return with a vengeance.

## 1AR—CCP Legitimacy DA

## 1AR—Xi DA

### 1AR—Thumpers

#### ] Tons of Thumpers—Xi is facing much backlash in China—both economic and fopo-wise.

**McGregor 19** [Richard McGregor, award-winning journalist and bureau chief for the financial times based in Washington D.C., <https://www.cnn.com/2019/07/16/opinions/xi-jinping-backlash-opinion-intl-hnk/index.html>, “The backlash is growing against Xi Jinping in China and around the world] JJ

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#### ] Thumpers Xi has expressed support plan– impact should have happened

Kania 18 — (Elsa Kania. Elsa B. Kania is an adjunct senior fellow with the Technology and National Security Program at the Center for a New American Security (CNAS), “China’s Strategic Ambiguity and Shifting Approach to Lethal Autonomous Weapons Systems“, Lawfare, 12-20-2020, https://www.lawfareblog.com/chinas-strategic-ambiguity-and-shifting-approach-lethal-autonomous-weapons-systems, accessed 12-19-2020, HKR-AR)

On April 13, China’s delegation to United Nations Group of Governmental Experts on lethal autonomous weapons systems announced the “desire to negotiate and conclude” a new protocol for the Convention on Certain Conventional Weapons “to ban the use of fully autonomous lethal weapons systems.” According to the aptly named Campaign to Stop Killer Robots, the delegation “stressed that [the ban] is limited to use only.” The same day, the Chinese air force released details on an upcoming challenge intended to evaluate advances in fully autonomous swarms of drones, which will also explore new concepts for future intelligent-swarm combat.

### 1AR—Uniqueness > Link

#### ] U/Q > link—decades of protests should be thumpers but Xi’s authoritarian power is absolute—nothing fazes the CCP.

**Manthorpe** [Jonathan Manthorpe, author author of “Forbidden Nation: A History of Taiwan,” published by Palgrave-Macmillan. He has been a foreign correspondent and international affairs columnist for nearly 40 years. He was European bureau chief for the Toronto Star and then Southam News in the late 1970s and the 1980s. In 1989 he was appointed Africa correspondent by Southam News and in 1993 was posted to Hong Kong to cover Asia. For the last few years he has been based in Vancouver, writing international affairs columns for what is now the Postmedia Group. He left the group last year and now writes for a range of newspapers and websites. [jonathan.manthorpe@gmail.com](mailto:jonathan.manthorpe@gmail.com), “Xi follows CCP’s Lesson from Tiannmen Massacre that dissent must be crushed, <https://ipolitics.ca/2019/06/05/xi-follows-ccps-lesson-from-tiananmen-massacre-that-dissent-must-be-crushed/>] JJ

The central lesson that the CCP took from the demonstrations in Beijing’s Tiananmen Square and the protests, often involving tens of thousands of people in nearly 200 other cities across China, is that the party is under constant threat of losing power.

So in the last 30 years the CCP has been intent on destroying any political, religious or social movement before it can become a national organization challenging one-party rule.

Since Tiananmen, the CCP has crushed lawyers who advocated the rule of law and an independent judiciary; a spectrum of religious and spiritual groups from the Catholic Church to Falun Gong by way of Tibetan Buddhists and Xinjiang Muslims; the Charter 08 movement of 300 dissident intellectuals and human rights advocates politely requesting fundamental civic reforms; environmental activists; and pleas for democracy in Hong Kong.

By the use of force and the dark arts of authoritarianism, the party has been largely successful in this drive for self-preservation, and under President Xi it has reinforced other lessons from Tiananmen.

Xi came to power in 2012. His first acts were to end factionalism that had simmered in the party since Tiananmen.

He did this by launching a massive anti-corruption drive, in which more than 100,000 party officials were indicted. Many of them, of course, were potential political opponents of Xi. He established his personal power and paved the way to get removed the restriction on leaders holding office for only two five-year terms.

Xi’s campaign also established that party discipline must take precedence over economic reform.

Indeed, since Xi came to power the importance of state-owned enterprises to the economy has grown and private enterprise has been diminished. A law is being implemented requiring all private companies, including foreign companies in China and Chinese companies abroad, to contain a CCP cell to monitor affairs.

These party cells inevitably end up controlling management and company policy. It has reached the point where it is doubtful whether there is any such thing as a truly private company in the People’s Republic of China.

In all these actions Xi has followed exactly the script developed by the party in the weeks leading up to the massacre in Tiananmen Square in the early hours of June 4, 1989, and the lessons highlighted during post-mortem meetings of the leadership in the weeks afterwards.

The Tiananmen tragedy started on April 15, 1989, when the Chinese leader Hu Yaobang died of a heart attack. His liberalism was popular among many Chinese, especially the young, but that had got him expelled from his post as party general secretary two years before.

Thousands of students from Beijing universities and colleges gathered in Tiananmen Square to mourn Hu. This swiftly turned into a demonstration against the corruption that had overtaken the CCP since the economy opening up started 10 years before, and party leaders began using their control over state assets to accumulate vast personal fortunes.

The demonstrations became an occupation of the square and an increasingly cogent articulation of the need for reform. The party, then headed by General Secretary Zhao Ziyang, waffled in its response. Some days it was amenable to the students’ demands. On other days it was not.

This fudge and the spread of the protests to scores of other cities infuriated the semi-retired paramount leader Deng Xiaoping. He and a group of party elders took control, and decided that martial law should take effect on May 20.

The following two weeks were an extraordinary phoney war. The students became ever more radical in their demands, and party leaders went through a tortuous process of trying to decide how to respond to the gathering crisis around them.

The most comprehensive account of this important slice of modern history is in the book “The Tiananmen Papers,” edited by Andrew Nathan and Perry Link from internal CCP documents compiled by Zhang Liang.

The book gives day-by-day and sometimes hour-by-hour accounts of the often heated debates among the CCP leaders. This culminated in the decision by paramount leader Deng on June 2 that the martial law troops must clear the students from Tiananmen Square within two days.

“As we proceed with the clearing, we must explain it clearly to all citizens and students, asking them to leave and doing our best to persuade them,” Deng told the meeting of elders. “But if they refuse to leave, they will be responsible for the consequences.”

Once troops are loosed there is seldom a chance for an elegant and peaceful resolution of conflict. On June 4 Beijing was in the grip of a running battle before the troops ever reached Tiananmen Square.

As the columns went through the Muxidi district five kilometres west of the square they were blocked by local people and students, who set up barricades to try to stop the soldiers clearing Tiananmen Square. These people were imbued with party propaganda about the relationship between the People’s Liberation Army and the citizenry.

“These troops are the people’s troops, they’ll never use real bullets on us,” one person at the barricades is quoted as shouting.

But, of course, the troops did. By the time they had fought and slaughtered their way to Tiananmen Square any hope that the students might be given the opportunity to leave peacefully was gone.

With the international community imposing sanctions on China in response to the massacre, and protests continuing in scores of cities around the country, the party’s task was to justify its decision. It was especially important to exonerate paramount leader Deng.

This was done at a meeting of the Politburo, the second most powerful party body, in June a few days after the massacre.

Nathan, professor of political science at Columbia University, has recently acquired an account of that Politburo meeting and another a few days later of the 175-member central Committee. Both these gatherings rushed to support Deng and blame the whole affair on a few “bad people” among the students, heavily influenced by “foreign forces.”

The result was a victory for hardline, anti-reformers in the CCP. They dominate party thought to this day, but the danger for China is that the evils the students demonstrated against in 1989 are even more prevalent and rooted deep in the political culture now than they were then.

The CCP continues to believe it is under daily threat from within and without. Its huge investment in the tools of authoritarianism will save it for a while. So will China’s long cultural history of political subservience to power by the citizenry.

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## 1AR—Conventional War DA

### 1AR—Link Turn

#### LAW development creates flash wars – turns and o/w the DA

Esther 18 Ulrike Esther [Dr. Ulrike Franke is a policy fellow at the European Council on Foreign Relations (ECFR). Her areas of focus include German and European security and defence, the future of warfare, and the impact of new technologies such as drones and artificial intelligence.], 11-22-2018, "Flash Wars: Where could an autonomous weapons revolution lead us?," ECFR, <https://ecfr.eu/article/flash_wars_where_could_an_autonomous_weapons_revolution_lead_us/> AG

Although they invoke images of science fiction, weapon systems already exist that at least partly fit this definition. For instance, air defence systems such as PATRIOT detect, track, and shoot down incoming missiles or rockets. They do so without direct human intervention, as no human would be fast enough to give the order for each interception. Similarly, Israel’s Harpy system – a type of ‘kamikaze drone’ – can loiter in the air until it detects radar emissions. It then destroys the radar by slamming itself into it, without needing a specific human order.

What might a world, in which lethal autonomous systems are in widespread use, look like? The potentially revolutionary impact could affect the military sphere, politics, and society.

Militarily, faster operations would be one defining characteristic of this new world. A computer is able to digest large amounts of data much more quickly than a human can, and it can take decisions within milliseconds. With LAWS, warfare could speed up at a scale faster than humans can comprehend.

This is even more the case in cyber space, where there are no physical limitations to slow things down. Automated cyber wars could soon involve autonomously attacking and self-replicating cyber weapons. This speeding-up of operations could also lead to undesired chain reactions, known in the world of automated finance as “flash crashes”. These happen when one automated system reacts to another, which causes a third to react, and so on. With LAWS, “flash crashes” could turn into “flash wars”.

If the hopes of some developers become true, more precise operations, causing fewer civilian casualties, may become possible. This is again due to machines’ ability to process more information, thus decreasing the likelihood of mistakes. Further, as machines lack emotions, they also will not decide to commit war crimes out of hate, and, as there is no ‘heat’ of battle for machines, they will not make mistakes caused by emotions. Finally, some particularly optimistic developers suggest that it may even be possible to programme laws of war into autonomous systems, such as rules of engagement, humanitarian laws, or proportionality. However, optimism on this front has faded in recent years.

That said, systems that use artificial intelligence are not programmed in the classical sense but ‘learn’ through different machine-learning processes. This creates the possibility for unpredictable mistakes. Equally, AI can be biased if the data on the basis of which it has learned is also biased – a common problem in any kind of human-made data.

Furthermore, LAWS can provide new ways of conducting military operations. Most interesting in this context are ‘swarms’, made up, for instance, of hundreds of autonomous drones. Swarms could allow for military operations involving waves of attacks with the systems in a swarm attacking one after the other to break through enemy defences. Another way to use swarms of autonomous systems is to form “kill nets” or “kill webs”, flying minefields which allow the complete control of an enemy territory.

Politically, the use of these systems by non-state actors is concerning. Non-state groups, increasingly important in global relations and conflict, are of smaller size and have smaller bureaucracies, and are thus often able to quickly adopt new technologies. Such groups have found innovative uses for drones in recent years, from propaganda to armed attacks. They may be similarly innovative with artificial intelligence and autonomous systems such as potentially using facial recognition for attacks or simply faster, less traceable attacks. Non-state groups are unlikely to acquire state-built military-grade LAWS, but they can gain access to dual-use technology.

Making it harder to attribute an attack to a perpetrator will have repercussions beyond non-state use. The number of attacks whose perpetrators were difficult or time-intensive to determine has already grown in recent years. With, for instance, no pilot present to help determine an attacker’s nationality or ideology, this will become an even bigger challenge.

### 1AR—Plan Solves

#### Aff solves the DA - Only banning LAWs makes warfare safer

Kallenborn 10/14 Zachary Kallenborn [Zachary Kallenborn is an author and analyst who specializes in WMD terrorism, unmanned systems, drone swarms, and homeland security.], 10-14-2020, "A Partial Ban on Autonomous Weapons Would Make Everyone Safer," Foreign Policy, <https://foreignpolicy.com/2020/10/14/ai-drones-swarms-killer-robots-partial-ban-on-autonomous-weapons-would-make-everyone-safer/> AG

The United Nations Convention on Certain Conventional Weapons Group of Governmental Experts met late last month to discuss lethal, autonomous weapons. The semiannual meetings are the first serious effort by global governments to control autonomous weapons. And the weapons pose serious risks to global security: Even the best artificial intelligence isn’t well suited to distinguishing farmers from soldiers and may be trained only on laboratory data that is a poor substitute for real battlefields.

Just a few weeks ago, an AI simulation defeated a living, breathing F-16 pilot five to zero in a simulated dogfight. Such an AI system could conceivably command a future aerial drone. No doubt the technology will grow and mature. No serious military power would give up such potential—especially when concerns are theoretical and adversaries may not follow suit. Russia didn’t even show up to the experts’ meeting.

Instead of a broad ban on all autonomous weapons, the international community should identify and focus restrictions on the highest-risk weapons: drone swarms and autonomous chemical, biological, radiological, and nuclear weapons, known as CBRN weapons. A narrower focus would increase the likelihood of global agreement, while providing a normative foundation for broader restrictions

As P.W. Singer, a strategist and senior fellow at New America, wrote in his book Wired for War, “a swarm takes the action on its own, which may not always be exactly where and when the commander wants it. Nothing happens in a swarm directly, but rather through the complex relationships among the parts.”

Drone swarms pose a greater threat to powerful militaries, because cheap drones can be flung one after another against expensive platforms until they fall. In 2018, a group calling itself the Free Alawites Movement claimed responsibility for launching 13 drones made largely of plywood, duct tape, and lawnmower engines that attacked Russia’s Khmeimim Air Base in Syria.

An adversary could fling tons of drones against a $1.8 billion USS Arleigh Burke-class guided-missile destroyer in an attempt to disable or destroy it and still have a cost advantage. Facing such a threat, great powers should choose to lead—rather than resist—the arms control charge for certain weapons. Yes, great powers would give up the potential to unleash their own massive swarms, but swarms are likely to favor weaker powers. If swarms are most effective when used en masse against big, expensive platforms, then major powers that possess such expensive equipment stand to lose the most. Swarms might also be easier to control.

## 1AR—Deterrence DA

### 1AR—L/T

#### LAWs shred deterrence—China’s aggressive autonomous capabilities are uncharted territory and leads to easy escalation

Vincent 19 (James Vincent is a senior reporter for Verge, 2-6-2019, "China is worried an AI arms race could lead to accidental war," Verge, <https://www.theverge.com/2019/2/6/18213476/china-us-ai-arms-race-artificial-intelligence-automated-warfare-military-conflict>) //EG

According to a [new report](https://www.cnas.org/publications/reports/understanding-chinas-ai-strategy) published by US national security think tank Center for a New American Security (CNAS), Chinese officials increasingly see an “arms race” dynamic in AI as a threat to global peace. As countries scramble to reap the benefits of artificial intelligence in various domains, including the military, the fear is that international norms shaping how countries communicate will become outdated, leading to confusion and potential conflict.

“The specific scenario described to me [by one anonymous Chinese official] is unintentional escalation related to the use of a drone,” Gregory C. Allen, an adjunct senior fellow at CNAS and author of the new report, tells The Verge.

As Allen explains, the operation of drones both large and small has become [increasingly automated](https://www.theverge.com/2018/4/12/17229150/pentagon-project-maven-ai-google-war-military) in recent years. In the US, drones are capable of basic autopilot, performing simple tasks like flying in a circle around a target. But China is being “more aggressive about introducing greater levels of autonomy closer to lethal use of force,” he says. One example is the Blowfish A2 drone, which China exports internationally and which, says Allen, is advertised as being capable of “full autonomy all the way up to targeted strikes.”

Because drones are controlled remotely, militaries tend to be more cavalier about their use. With no risk of human casualties, they’re more willing to shoot them down, but also deploy them into contested airspaces in the first place. This attitude can also be seen in cyberwarfare, where countries will intrude in ways they wouldn’t necessarily risk if humans were involved.

“The point made to me was that it’s not clear how either side will interpret certain behaviors [involving autonomous equipment],” says Allen. “The side sending out an autonomous drone will think it’s not a big deal because there’s no casualty risk, while the other side could shoot it down for the same reason. But there’s no agreed framework on what message is being sent by either sides’ behavior.”

The risks in such a scenario become greater when factoring in advanced autonomy. If a drone or robot fires a warning shot at enemy troops, for example, how will that action be interpreted? Will the troops understand it as an automated response, or will they think it’s the decision of a human commander? How would they know in either case?

In essence, says Allen, countries around the world have yet to define “the norms of armed conflict” for autonomous systems. And the longer that continues, the greater the risk for “unintentional escalation.”

#### LAWs cause unintended escalation

Zhang 20 (Jiayu Zhang is a candidate in the Master of Arts Security Policy Studies program at the George Washington University’s Elliott School of International Affairs. He received his undergraduate degree from the School of International Relations and Public Affairs at Fudan University. His research interests cover international security, nuclear strategy, military innovation, and the interaction between emerging technology and security, 8-16-2020, "China’s Military Employment of Artificial Intelligence and Its Security Implications — THE INTERNATIONAL AFFAIRS REVIEW," INTERNATIONAL AFFAIRS REVIEW, <https://iar-gwu.org/print-archive/blog-post-title-four-xgtap>) //EG

China has long been concerned about false negatives from its early warning systems, which may result in failures to detect nuclear attacks. To some extent, such concerns are rooted in China’s assumptions about its own early warning deficiencies and its own inability to counter a stealthy and prompt precision strike from the United States. Regarding China’s employment of nuclear weapons, military-technology considerations stressing the plausible U.S. conventional military operation against Chinese nuclear capabilities are the reasons behind China’s use of limited nuclear escalation. As a result, if China gains greater situational awareness and can strengthen its nuclear retaliatory capabilities by applying AI technology to its C4ISR and early- warning systems, some of its insecurities about a “bolt-out-of-the-blue” strike may be mitigated, which will stabilize the nuclear risk. Yet China’s insecurities are not simply a question of technology. The key factors are China’s perception of U.S. nuclear posture and its assumption of U.S. intent. In this sense, China’s use of AI and autonomy for nuclear offense and defense could take on destabilizing qualities. For Beijing, the prospect of the United States resuming a forward-deployed, tactical nuclear posture exacerbates its sense of encirclement. The issuance of the 2018 U.S. Nuclear Posture Review worsens the context. China views the documents’ focus on ballistic missile defense and conventional prompt global strike as preemptive and destabilizing. Additionally, the proposal for the enlargement of the U.S. arsenal of low-yield submarine-launched ballistic and cruise missiles and the concept of using nuclear coercion to preemptively de-escalate a conventional conflict like Taiwan scenario further elicit Chinese concerns over U.S. intent. AI and autonomous technology offer Beijing the potential to respond to such a posture. China could deploy swarms to track and intercept U.S. dual- capable platforms. Whether intentionally or unintentionally, an escalatory scenario could develop. While the PLA’s deployment of advanced AI-enabled early warning systems and automation-enabled launch-on-fire missiles may mitigate China’s fear of false negatives, it may intensify U.S. concerns about false positives, such as a nuclear war caused by accidental fire or false detection.

#### **LAWs are uniquely destabilizing.**

**Johnson 20** [James Johnson, Artificial Intelligence: A Threat to Strategic Stability, <https://www.jstor.org/stable/pdf/26891882.pdf?refreqid=excelsior%3Ad2b57d1d04967e77b31fcdc6877c5000>] JJ

Combining speed, persistence, scope, coordination, and battlefield mass, AWSs will offer states attractive asymmetric options to project military power within contested A2/AD zones.73 Enhanced by sophisticated machine learning neural networks, China’s manned and unmanned drone teaming operations could potentially impede future US freedom of navigation operations in the South China Seas.74 Its air- and sea-based drones linked to sophisticated neural networks could, for example, support the People’s Liberation Army’s manned and unmanned teaming operations. Were China to infuse its cruise missiles and hypersonic glide capabilities with AI and autonomy, close-range encounters in the Taiwan Straits and the East and South China Seas would become more complicated, accident prone, and destabilizing—at both a conventional and nuclear level.75 China is reportedly developing and deploying UUVs to bolster its underwater monitoring and antisubmarine capabilities as part of a broader goal to establish an “underwater Great Wall” to challenge US undersea military primacy. US AI-enhanced UUVs could, for example, theoretically threaten China’s nuclear ballistic and nonnuclear attack submarines.76

## 1AR—Disarm DA

### 1AR—No link

#### 1] No link—even if China disarms nukes, other countries wouldn’t because they still have LAWs—means their impacts are non-unique.

#### 2] China won’t disarm unless the U.S. does.

**Jiang and Westcott 20 [**Steven Jiang, Ben Westcott, https://www.cnn.com/2020/07/08/asia/china-us-nuclear-treaty-intl-hnk/index.html

New negotiations are already underway between the US and Russia, but the Chinese government has flatly refused to take part in any nuclear agreement with the US. Fu said that while China is a "strong advocate for nuclear disarmament," Beijing's position on trilateral talks had been made clear on "numerous occasions." "China has no interest in joining the so-called trilateral negotiations, given the huge gap between the nuclear arsenal of China and those of the US and the Russian Federation," Fu said. "For us, this trilateral negotiation is nothing but a 'hoax,' to use a word of the US President," he added, referring to a favorite term of Donald Trump.

## 1AR—Innovation DA

### 1AR—Warming

#### 1] Double bind – either China stopping a sliver of their AI development makes warming impossible to stop in which case uq overwhelms or we can contain warming and single country banning one subset of weapons doesn’t change that

#### 2] A Ban on LAWs improves civilian and military AI

Freedberg 19 Sydney J. Freedberg Jr. -- Sydney J. Freedberg Jr. is the deputy editor for Breaking Defense. Sydney graduated summa cum laude from Harvard and holds masters’ degrees from Cambridge and Georgetown., Quoting Stuart Russell -- an English computer scientist known for his contributions to artificial intelligence. He is a Professor of Computer Science at the University of California, Berkeley and Adjunct Professor of Neurological Surgery at the University of California, San Francisco. March 11 2019, <https://breakingdefense.com/2019/03/should-we-ban-killer-robots-can-we/> | MU

Russell emphasizes he doesn’t oppose all military uses of artificial intelligence, only AI that can kill without a human authorizing each attack. And if the US did agree to a ban on lethal artificial intelligence, it would make it much easier for computer scientists and engineers to work with their Pentagon on those other kinds of military AI, Russell argued, just as the Biological Weapons Convention let biologists develop defenses against germ warfare without fear their work would be perverted for offense.

(In the US, that is. The Soviet Union massively violated the BWC, which had no inspection mechanism: just ask around about [Bio Preparat and Ken Alibek](https://www.nlm.nih.gov/nichsr/esmallpox/biohazard_alibek.pdf)).

“Having a ban in place would make it much easier to develop [ATLAS](https://breakingdefense.com/2019/03/atlas-killer-robot-no-virtual-crewman-yes/)-like technologies that can protect soldiers’ lives,” Russell said, citing an [Army program](https://breakingdefense.com/2019/03/atlas-killer-robot-no-virtual-crewman-yes/) to use AI to assist in aiming and targeting (but not firing) weapons. “Quite possibly there would have been much less pushback against [Project Maven](https://breakingdefense.com/tag/project-maven/) at Google, because researchers would have some assurance that the technology would not be used in autonomous weapons. There would be a big steel gate closing off the slippery slope.”

#### 3] AI innovation is slow now and slowing down.

[AJ Dellinger (2019), Innovation Reporter @Mic, Artificial intelligence development is starting to slow down, Facebook head of AI says, Mic, <https://www.mic.com/p/artificial-intelligence-development-is-starting-to-slow-down-facebook-head-of-ai-says-19424331>, 12-4-2019]//CHS PK

It may seem like artificial intelligence is quickly seeping into just about everything. While that might raise concerns about a Skynet-style takeover, the quiet secret about AI is that it isn't taking over. In fact, some experts believe that AI in its current form is starting to slow down, reaching its maximum capacity — at least for the time being. In an interview with Wired, Facebook's head of AI, Jerome Pesenti, theorized that the development of artificial intelligence and machine learning is about to "hit the wall."

According to Pesenti, the deep learning mechanisms that currently help power and push the advancement of AI are pushing up against their limitations. Some of that has to do with the lack of necessary computing power to continue improving. He told Wired that deep learning works best when it can be scaled up and given more room to operate. Unfortunately, doing that is becoming cost-prohibitive and large-scale projects are becoming next to impossible to conduct. "The rate of progress is not sustainable," Presenti said. "If you look at top experiments, each year the cost it going up 10-fold. Right now, an experiment might be in seven figures, but it’s not going to go to nine or 10 figures, it’s not possible, nobody can afford that."

There is a concept in computing known as Moore's Law, which posits that computing power doubles every two years. In the case of AI development, according to a recent study published by OpenAI, the amount of computing power used in AI training has doubled every 3.4 months, a massive acceleration to the standard progression we are used to. Because of that speed of advancement, OpenAI believes that AI has required a 300,000-times increase in computing power since 2012, as opposed to the seven-times increase that it would typically get under Moore's law. That trend is not sustainable. Limitations to the development of processing power is already starting to slow the progress of AI and machine learning, especially since research shows that the one thing that leads to predictably better performance from AI systems is access to more computing power. There is also theoretically a cap on just how advanced an AI can become because of actual limitations to computing capabilities. OpenAI noted that at some point, simple physics will limit the potential efficiency of chips that are used to power and train AI systems.

Quantum computing represents the best chance to break through some of those limitations, and significant gains are being made in that field. Earlier this year, Google announced that it had achieved "quantum supremacy," developing a quantum processor capable of solving computations that would take a standard computer more than 10,000 years to complete — though the claim has been called into question. This week, Amazon announced a plan to offer quantum computing as a service, similar to how its Amazon Web Services offers servers to companies so they don't need to build and host their own. These could represent points of potential progress for AI, which requires increasing access to computing power to continue the rapid progress it has made in a short period of time.

Beyond the inability to keep up with the exponentially increasing demand for computing power that AI requires, there are also limitations in how AI is trained in the first place. While Presenti noted to Wired that "You can apply deep learning to mathematics, to understanding proteins, there are so many things you can do with it," he also acknowledged that "Deep learning and current AI, if you are really honest, has a lot of limitations." He noted that even with the significant jumps forward over the last decade or so, AI and machine learning are still a long way from being able to duplicate human intelligence. These systems do not have the sense to think for themselves or account for little intricacies the way the human brain can.

The one "human" thing that AI is very good at replicating is our biases. When training artificial intelligence, researchers typically feed the systems large sets of data that they use to process and learn from. Unfortunately, many of those datasets are riddled with examples of human flaws and preconceived biases that they may not even realize are informing the work. Laura Douglas, an AI researcher and CEO of myLevels, once warned that when we teach machines on information that already contains our own misconceptions, the algorithms have a tendency of amplifying those biases rather than correcting for them. We see these failures in action constantly within existing AI systems. Earlier this year, it was reported that school districts across the country are using AI systems that are unfairly punishing people of color and disadvantaged students for mistakes that humans could more accurately interpret and process. In 2015, Pro Publica showed instances of automated sentencing systems displaying racial bias by falsely suggesting a higher rate of recidivism for black defendants while predicting a far lower rate of recidivism for white defendants. Similarly, a study found that predictive crime tools have a tendency to disproportionately push police into minority neighborhoods even when crime statistics in the area don't reflect the need for more policing. Until these data sets and the collection process is improved and stripped of human biases, AI will likely continue to perpetuate and even exacerbate these flaws, limiting the capability to learn and improve.

AI as we know it may be reaching its ceiling. While it still has room to grow in some areas, the science fiction future in which machines learn and improve on the fly, performing human-like thinking and processing tasks, is probably not in our near-term future. Professor Michael Wooldridge, the head of the Department of Computer Science at Hertford College, has warned that "there is, clearly, an AI bubble at present." That seems to be borne out by most indicators. The Artificial Intelligence Index releases a report every year that takes into account the progress made in AI year-over-year. It has found that even with breakthroughs happening on the regular, progress is considerably slower than we may have been led to believe. AI systems are getting better at certain, specific tasks; often ones with a specific, contained goal, like playing a game of Go or processing images. But we are still a long way from the singularity or any form of "artificial general intelligence" in which machines become smart enough to understand and process information in the same way a human can. Accomplishing that, assuming it is something that we should want to accomplish, will require significant advances in computing power and major improvements to how we currently train and teach AI. Pending that, consider yourself safe from any sort of robot apocalypse for the time being.

#### 4] No link – China will continue to innovate with AI – there are numerous ways.

Pedron and de Cruz 20, 2020 Stephanie Pedron and Jose de Arimateia de Cruz, The Future of Wars: Aritifical Intelligence and Lethal Autonomous Weapons Systems, <https://digitalcommons.northgeorgia.edu/cgi/viewcontent.cgi?article=1020&context=ijoss> | MU

As outlined above, AI encompasses a range of technologies with assorted capabilities, many of which have the potential to advance military operations in several areas. AI applications for defense are diverse. They have proven useful for reconnaissance and surveillance missions, and have marked potential to speed-up cyberspace operations (Sayler, 2019b). For example, the 2016 Cyber Grand Challenge hosted by the U.S. Defense Advanced Research Project Agency (DARPA) exhibited the budding aptitude of future AI-enabled cyber tools by challenging participants to develop an AI algorithm that could detect and patch software vulnerabilities in seconds instead of months (Fraze, 2016; Sayler, 2019b). AI-enhanced cyber tools have marked potential to detect derived viruses, suspicious nodes in networks, and identify system oddities (Asiru, Dlamini, Blackledge, 2017; Kubovič, Košinár, & Jánošík, 2018). AI technology is also being incorporated into military vessels to communicate with other vehicles, navigate routes, determine distance between vehicles and surrounding objects, and improve safety and vehicle performance. (Canis, 2018). Similarly, offensive applications of AI also vary. They may boost the destructive competencies of legitimate military forces or third party attackers. A hacker group’s intrusion capability, for example, may be augmented by AI applications that allow its members to generate new evasive malware variants, combine attack techniques, disseminate propaganda, and implement automatic self-destruct mechanisms in case of detection (Kubovič, Košinár, & Jánošík, 2018). In other words, according to James S. Johnson, a postdoctoral research fellow at the James Martin Center for Nonproliferation Studies (CNS) at the Middlebury Institute of International Studies, “AI is best understood, therefore, as a potentially powerful force multiplier of these developments” (Johnson, 2020).

#### 5] No link and history disproves – stigma surrounding CBWs didn’t stop chemical innovation, NEW Start didn’t stop nuke nuclear innovation.

### 1AR—Uniqueness

#### AI innovation is slow now and slowing down.

[AJ Dellinger (2019), Innovation Reporter @Mic, Artificial intelligence development is starting to slow down, Facebook head of AI says, Mic, <https://www.mic.com/p/artificial-intelligence-development-is-starting-to-slow-down-facebook-head-of-ai-says-19424331>, 12-4-2019]//CHS PK

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According to Pesenti, the deep learning mechanisms that currently help power and push the advancement of AI are pushing up against their limitations. Some of that has to do with the lack of necessary computing power to continue improving. He told Wired that deep learning works best when it can be scaled up and given more room to operate. Unfortunately, doing that is becoming cost-prohibitive and large-scale projects are becoming next to impossible to conduct. "The rate of progress is not sustainable," Presenti said. "If you look at top experiments, each year the cost it going up 10-fold. Right now, an experiment might be in seven figures, but it’s not going to go to nine or 10 figures, it’s not possible, nobody can afford that."

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Beyond the inability to keep up with the exponentially increasing demand for computing power that AI requires, there are also limitations in how AI is trained in the first place. While Presenti noted to Wired that "You can apply deep learning to mathematics, to understanding proteins, there are so many things you can do with it," he also acknowledged that "Deep learning and current AI, if you are really honest, has a lot of limitations." He noted that even with the significant jumps forward over the last decade or so, AI and machine learning are still a long way from being able to duplicate human intelligence. These systems do not have the sense to think for themselves or account for little intricacies the way the human brain can.

The one "human" thing that AI is very good at replicating is our biases. When training artificial intelligence, researchers typically feed the systems large sets of data that they use to process and learn from. Unfortunately, many of those datasets are riddled with examples of human flaws and preconceived biases that they may not even realize are informing the work. Laura Douglas, an AI researcher and CEO of myLevels, once warned that when we teach machines on information that already contains our own misconceptions, the algorithms have a tendency of amplifying those biases rather than correcting for them. We see these failures in action constantly within existing AI systems. Earlier this year, it was reported that school districts across the country are using AI systems that are unfairly punishing people of color and disadvantaged students for mistakes that humans could more accurately interpret and process. In 2015, Pro Publica showed instances of automated sentencing systems displaying racial bias by falsely suggesting a higher rate of recidivism for black defendants while predicting a far lower rate of recidivism for white defendants. Similarly, a study found that predictive crime tools have a tendency to disproportionately push police into minority neighborhoods even when crime statistics in the area don't reflect the need for more policing. Until these data sets and the collection process is improved and stripped of human biases, AI will likely continue to perpetuate and even exacerbate these flaws, limiting the capability to learn and improve.

AI as we know it may be reaching its ceiling. While it still has room to grow in some areas, the science fiction future in which machines learn and improve on the fly, performing human-like thinking and processing tasks, is probably not in our near-term future. Professor Michael Wooldridge, the head of the Department of Computer Science at Hertford College, has warned that "there is, clearly, an AI bubble at present." That seems to be borne out by most indicators. The Artificial Intelligence Index releases a report every year that takes into account the progress made in AI year-over-year. It has found that even with breakthroughs happening on the regular, progress is considerably slower than we may have been led to believe. AI systems are getting better at certain, specific tasks; often ones with a specific, contained goal, like playing a game of Go or processing images. But we are still a long way from the singularity or any form of "artificial general intelligence" in which machines become smart enough to understand and process information in the same way a human can. Accomplishing that, assuming it is something that we should want to accomplish, will require significant advances in computing power and major improvements to how we currently train and teach AI. Pending that, consider yourself safe from any sort of robot apocalypse for the time being.

#### AI development has slowed – laundry list of reasons

Alton 18 Larry Alton [I am a professional writer, researcher and successful investor who contributes to a number of reputable online media outlets and news sources], 2-3-2018, "The 6 biggest hurdles slowing the pace of AI innovation," VentureBeat, <https://venturebeat.com/2018/02/03/the-6-biggest-hurdles-slowing-the-pace-of-ai-innovation/> AG

At first glance, the artificial intelligence industry seems to be on fire, with tons of consumer demand and ample investor interest. In fact, VC investment in AI startups rose from $3.2 billion in 2014 to more than $9.5 billion in just the first five months of 2017. There are countless exciting prospects for AI development, including applications for health care, agriculture, and other realms of technology, but the AI industry isn’t a runaway train just yet.

The biggest hurdles

AI has plenty of excitement backing it, but a few significant hurdles are keeping it from even more explosive growth:

1. Flexibility

One of the greatest advantages of young startups is their flexibility; big companies often suffer from protracted decision-making and an inability to pivot, but smaller, nimbler companies can react quickly and more efficiently to new circumstances. However, AI startups don’t necessarily enjoy this advantage because AI is so complicated, and depends on so many unknown variables, that it’s hard to shift gears in the middle of a project. This can leave some AI startups dead in the water, or delay projects far past their original timelines.

2. Talent shortages

The number of professionals well-versed in machine learning and innovative enough to create new features is very small. There’s a talent shortage in AI, and it’s having profound effects on the pace of development in the industry.

Proficient AI developers can demand huge salaries, making it hard for startups to afford them, and even startups with enough cash may struggle to fill their AI positions.

3. Competition

There are hundreds of interesting AI startups on the horizon or in the middle of development. That sounds like an exciting prospect for consumers hoping to get their hands on some next-generation technology, but it also presents an important problem: competition. Startups are forced to make faster decisions, go to market faster, and trim features in order to beat their competitors. This is causing some startups to burn out faster and others to launch with inferior products.

4. Sales cycle unpredictability

Few AI products have a clearly defined sales cycle at this point. For one thing, AI is still a relatively new field, so its market isn’t clearly defined. Many applications could do well to target either individual users or companies, and it’s hard to predict exactly what your product will look like at the end of its development cycle — even if you have a visionary plan in place. This makes it difficult for AI startups to predict their revenue streams accurately, and even more difficult to ensure enough revenue to stay afloat during their early stages of growth.

5. Machine learning complexity

It should go without saying that programming advanced AI features is ridiculously complicated. If you follow existing formulas and rely on the collective knowledge that we already have, machine learning becomes a simple matter of copying, pasting, and then tweaking. But to truly innovate in this field, you need a wealth of knowledge and experience, along with the spirit to try new things.

6. Processing power

Most AI systems demand huge amounts of processing power to work. Until recently, this has been a significant limiting factor; many startups didn’t have access to the processing units necessary to get the job done. Now, companies like Nvidia are enjoying the demand for processing chips for AI applications, and reporting record sales and interest. However, in general, processing growth hasn’t been able to fully keep up with the latest AI technology, and that fundamental limit may continue to be a problem for developers.

### 1AR—Link Turn

#### The aff would increase research on peaceful and beneficial AI

Freedberg Jr. 19 [Sydney J. Freedberg Jr. is the deputy editor for Breaking Defense. Sydney graduated summa cum laude from Harvard and holds masters’ degrees from Cambridge and Georgetown.] “[Should We Ban ‘Killer Robots’? Can We?](https://breakingdefense.com/2019/03/should-we-ban-killer-robots-can-we/)” Breaking Defense. March 11, 2019. <https://breakingdefense.com/2019/03/should-we-ban-killer-robots-can-we/> BSPK

The cynical answer, of course is that a ban would be so difficult to enforce it would only create a sense of false security. But might it have real benefits?

Russell emphasizes he doesn’t oppose all military uses of artificial intelligence, only AI that can kill without a human authorizing each attack. And if the US did agree to a ban on lethal artificial intelligence, it would make it much easier for computer scientists and engineers to work with their Pentagon on those other kinds of military AI, Russell argued, just as the Biological Weapons Convention let biologists develop defenses against germ warfare without fear their work would be perverted for offense.

“Having a ban in place would make it much easier to develop [ATLAS](https://breakingdefense.com/2019/03/atlas-killer-robot-no-virtual-crewman-yes/)-like technologies that can protect soldiers’ lives,” Russell said, citing an [Army program](https://breakingdefense.com/2019/03/atlas-killer-robot-no-virtual-crewman-yes/) to use AI to assist in aiming and targeting (but not firing) weapons. “Quite possibly there would have been much less pushback against [Project Maven](https://breakingdefense.com/tag/project-maven/) at Google, because researchers would have some assurance that the technology would not be used in autonomous weapons. There would be a big steel gate closing off the slippery slope.”

Certainly, US civilian and military leaders insist, over and over, they want a “human in the loop” at all times for reasons both ethical and tactical.

“The last thing I want is you to go away from this thinking this is all about technology,” Work said during a [speech on his AI push](https://breakingdefense.com/2015/11/centaur-army-bob-work-robotics-the-third-offset-strategy/) back in 2015. “The number one advantage we have is the people in uniform, in our civilian work force, in our defense industrial base, and the contractors who support us.” If [Russia or China](https://breakingdefense.com/2015/12/robot-wars-centaurs-skynet-swarms/) decide to take their people out of the loop and rely on automation alone, Work argued, then we can beat them with our combination of humans plus machines — creativity and calculation, intuition and precision.

#### The aff prevents public backlash which would tarnish the reputation of AI

Etzioni and Etzioni 17 [Amitai Etzioni, Professor of Sociology at Columbia University, Oren Etzioni, Professor Emeritus, University of Washington.] “Pros and Cons of Autonomous Weapons Systems.” Army University Press. May-June 2017. <https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/May-June-2017/Pros-and-Cons-of-Autonomous-Weapons-Systems/> BSPK

Arguments Opposed to Autonomous Weapons Systems

While some support autonomous weapons systems with moral arguments, others base their opposition on moral grounds. Still others assert that moral arguments against autonomous weapons systems are misguided.

Opposition on moral grounds. In July 2015, an open letter calling for a ban on autonomous weapons was released at an international joint conference on artificial intelligence. The letter warns, “Artificial Intelligence (AI) technology has reached a point where the deployment of such systems is—practically if not legally—feasible within years, not decades, and the stakes are high: autonomous weapons have been described as the third revolution in warfare, after gunpowder and nuclear arms.”24 The letter also notes that AI has the potential to benefit humanity, but that if a military AI arms race ensues, AI’s reputation could be tarnished, and a public backlash might curtail future benefits of AI. The letter has an impressive list of signatories, including Elon Musk (inventor and founder of Tesla), Steve Wozniak (cofounder of Apple), physicist Stephen Hawking (University of Cambridge), and Noam Chomsky (Massachusetts Institute of Technology), among others. Over three thousand AI and robotics researchers have also signed the letter. The open letter simply calls for “a ban on offensive autonomous weapons beyond meaningful human control.”25

### 1AR—Can’t Solve Warming

#### Reliance on new tech like AI to solve warming only delays real meaningful action and undermines commitment.

[Lancaster University (4-20-20), Lancaster University is a collegiate public research university in Lancaster, Lancashire, England, Why relying on new technology won't save the planet, ScienceDaily, [https://www.sciencedaily.com/releases/2020/04/200420125510.htm]//CHS](https://www.sciencedaily.com/releases/2020/04/200420125510.htm%5d//CHS) PK

Overreliance on promises of new technology to solve climate change is enabling delay, say researchers from Lancaster University.

Their research published in Nature Climate Change calls for an end to a longstanding cycle of technological promises and reframed climate change targets.

Contemporary technological proposals for responding to climate change include nuclear fusion power, giant carbon sucking machines, ice-restoration using millions of wind-powered pumps, and spraying particulates in the stratosphere.

Researchers Duncan McLaren and Nils Markusson from Lancaster Environment Centre say that: "For forty years, climate action has been delayed by technological promises. Contemporary promises are equally dangerous. Our work exposes how such promises have raised expectations of more effective policy options becoming available in the future, and thereby enabled a continued politics of prevarication and inadequate action.

"Prevarication is not necessarily intentional, but such promises can feed systemic 'moral corruption', in which current elites are enabled to pursue self-serving pathways, while passing off risk onto vulnerable people in the future and in the global South.

The article describes a history of such promises, showing how the overarching international goal of 'avoiding dangerous climate change' has been reinterpreted and differently represented in the light of new modelling methods, scenarios and technological promises.

The researchers argue that the targets, models and technologies have co-evolved in ways that enable delay: "Each novel promise not only competes with existing ideas, but also downplays any sense of urgency, enabling the repeated deferral of political deadlines for climate action and undermining societal commitment to meaningful responses.

They conclude: "Putting our hopes in yet more new technologies is unwise. Instead, cultural, social and political transformation is essential to enable widespread deployment of both behavioural and technological responses to climate change."

### 1AR—Healthcare Thumper

#### Distrust thumps the impact—even if development happens, patients won’t use the tech.

[Chiara Longoni and Carey Morewedge (2019), Chiara Longoni is an assistant professor of marketing at Boston University’s Questrom School of Business, Carey K. Morewedge is a professor of marketing and Everett W. Lord Distinguished Faculty Scholar at Boston University, AI Can Outperform Doctors. So Why Don’t Patients Trust It?, Harvard Business Review, [https://hbr.org/2019/10/ai-can-outperform-doctors-so-why-dont-patients-trust-it?ab=at\_articlepage\_recommendedarticles\_bottom1x1]//CHS](https://hbr.org/2019/10/ai-can-outperform-doctors-so-why-dont-patients-trust-it?ab=at_articlepage_recommendedarticles_bottom1x1%5d//CHS) PK

We explored patients’ receptivity to medical AI in a series of experiments conducted with our colleague Andrea Bonezzi of New York University. The results, reported in a paper forthcoming in the Journal of Consumer Research, showed a strong reluctance across procedures ranging from a skin cancer screening to pacemaker implant surgery. We found that when health care was provided by AI rather than by a human care provider, patients were less likely to utilize the service and wanted to pay less for it. They also preferred having a human provider perform the service even if that meant there would be a greater risk of an inaccurate diagnosis or a surgical complication.

The reason, we found, is not the belief that AI provides inferior care. Nor is it that patients think that AI is more costly, less convenient, or less informative. Rather, resistance to medical AI seems to stem from a belief that AI does not take into account one’s idiosyncratic characteristics and circumstances. People view themselves as unique, and we find that this belief includes their health. Other people experience a cold; “my” cold, however, is a unique illness that afflicts “me” in a distinct way. By contrast, people see medical care delivered by AI providers as inflexible and standardized — suited to treat an average patient but inadequate to account for the unique circumstances that apply to an individual.

Consider the results of a study we conducted. We offered more than 200 business school students at Boston University and at New York University the opportunity to take a free assessment that would provide them with a diagnosis of their stress level and a recommended course of action to help manage it. The results: 40% signed up when they were told that a doctor was to perform the diagnosis, but only 26% signed up when a computer was to perform the diagnosis. (In both experimental conditions, participants were told that the service was free and the provider made the correct diagnosis and recommendation in 82% to 85% of previous cases.)

In another study, we surveyed over 700 Americans from an online panel to test whether patients would choose AI providers when AI’s performance was clearly superior to that of human providers. We asked research participants to review information about the performance of two health care providers (called provider X and provider Y) in terms of their accuracy in diagnosing skin cancer or making triage decisions for medical emergencies, or the rate of complications associated with pacemaker implant surgeries that these providers had performed in the past.

We then asked participants to indicate their preference between the two providers on a 7-point scale with endpoints, 1 (prefer provider X), 4 (no preference), and 7 (prefer provider Y). When participants chose between two human doctors varying in their performance, all participants preferred the human doctor with the higher performance. But when choosing between a human doctor and an AI provider (e.g., an algorithm, chatbot, or a robotic arm directed remotely through a computer program), participants’ preference for the higher-performing AI provider was significantly weaker. In other words, participants were willing to forego better health care to have a human, rather than an AI, care provider.

Resistance to medical AI also showed up in willingness to pay for the same diagnostic procedure. We gave 103 Americans from an online panel a reference price of $50 for a diagnostic stress test that could be performed by either an AI or human provider; both had an accuracy rate of 89%. Participants in the AI default condition, for example, were told that the diagnosis cost $50 when administered by an AI. They then indicated what they would be willing to pay to switch to have the diagnosis instead performed by a human provider. Participants were willing to pay more to switch to a human provider when the default provider was AI than they were willing to pay to switch to an AI provider when the default provider was a human.

### 1AR—Healthcare Turn

#### AI isn’t proven in medicine and will make it worse.

[Christie Aschwanden (1-10-20), Christie Aschwanden is an award-winning science journalist, Artificial Intelligence Makes Bad Medicine Even Worse, WIRED, [https://www.wired.com/story/artificial-intelligence-makes-bad-medicine-even-worse/]//CHS](https://www.wired.com/story/artificial-intelligence-makes-bad-medicine-even-worse/%5d//CHS) PK

In other words, AI systems like the one from Google promise to combine humans and machines in order to facilitate cancer diagnosis, but they also have the potential to worsen pre-existing problems such as overtesting, overdiagnosis, and overtreatment. It’s not even clear whether the improvements in false-positive and false-negative rates reported this month would apply in real-world settings. The Google study found that AI performed better than radiologists who were not specifically trained in examining mammograms. Would it come out on top against a team of more specialized experts? It’s hard to say without a trial. Furthermore, most of the images assessed in the study were created with imaging devices made by a single company. It remains to be seen whether these results would generalize to images from other machines.

The problem goes beyond just breast-cancer screening. Part of the appeal of AI is that it can scan through reams of familiar data, and pick out variables that we never realized were important. In principle, that power could help us to diagnose any early-stage disease, in the same way the subtle squiggles of a seismograph can give us early warnings of an earthquake. (AI helps there, too, by the way.) But sometimes those hidden variables really aren’t important. For instance, your data set might be drawing from a cancer screening clinic that is only open for lung cancer tests on Fridays. As a result, an AI algorithm could decide that scans taken on Fridays are more likely to be lung cancer. That trivial relationship would then get baked into the formula for making further diagnoses.

Even when they’re accurate, early diagnoses of disease may not always be a boon. Other recent medical AI projects have focused on early detection of Alzheimer’s and autism, two conditions where faster detection probably won’t change a patient’s outcome much anyway. These are gee-whiz opportunities to showcase how an algorithm can learn to identify characteristics we teach it to find, but they don’t represent advancements that will make a difference in patients’ lives.

Some uses of algorithms and machine learning may also introduce new and perplexing problems for clinicians. Consider the Apple watch’s feature to detect atrial fibrillation, a type of heart arrhythmia that’s a risk factor for stroke. Atrial fibrillation is treated with blood thinners, which have side effects that can turn a minor fall into a life-threatening injury. If you’re truly in danger of having a stroke, that’s a risk worth taking. What about people whose atrial fibrillation was picked up by their smartwatch, though? Traditionally, the condition is diagnosed when someone comes into the doctor complaining of symptoms; now Apple monitors healthy people without symptoms and finds new cases that may have never shown up in a clinic. It’s not clear whether this group of patients would see the same net benefit from treatment.

“We don’t actually know that these two populations of people are the same,” says Venkatesh Murthy, a cardiologist at Frankel Cardiovascular Center in Ann Arbor, Michigan. The more fruitful approach would be to use AI to identify the people who get the most benefit from the available treatments.

If AI is going to prove truly revolutionary, it will need to do more than just reinstate the status quo in medicine; and before any such approach is adopted, it’s important to address a pair of fundamental questions: What problem is the technology trying to address, and how will it improve patient outcomes? It may take some time to find the necessary answers.

## 1AR—Nuclear Shift DA

### 1AR—Link Turn

#### Non-state actors, threats to deterrence, autonomous counterstrikes, violations of iLaw, miscalc, and arms races prove LAWs interfere with global stability and create a laundry list of problems— this turns and outweighs nuclear weapons

Altmann and Sauer 17 – Jürgen Altmann is a lecturer in experimental physics at Technical University of Dortmund, working on the prospective assessment of new military technologies and the analysis of preventive arms-control measures. Frank Sauer is a senior research fellow and lecturer in international relations at Bundeswehr University in Munich, working on international security and arms control. He is the author of Atomic Anxiety: Deterrence, Taboo, and the Non-Use of U.S. Nuclear Weapons (Palgrave Macmillan, 2015). Both authors are members of the International Committee for Robot Arms Control (ICRAC); “Autonomous Weapon Systems and Strategic Stability”; 17 Sep 2017; pp. 120 – 132; <http://www.tandfonline.com/loi/tsur20> As+

Finally, operational risks are cause for concern. For instance, the potential of AWS for high-tempo fratricide, way beyond the speed of human intervention, incentivizes militaries to avoid full autonomy in weapon systems, and instead to retain humans in the chain of decision-making as a fail-safe mechanism.11 We argue that concerns of this nature are relevant not just at the operational level, but point to the potentially detrimental impact of AWS on overall strategic stability.

Two dimensions of instability

The goal of upholding stability to prevent a catastrophic nuclear war was a central feature of the Cold War. Destabilisation loomed with the arms buildup, in particular with the development of ballistic missiles carrying multiple independently targetable re-entry vehicles (MIRVs), and of missile defence. The former dramatically increased fears of a first strike and thus the pressure to launch on warning, that is, before the arrival of enemy warheads 10–30 minutes later. ‘Accidental nuclear war’ scares, fuelled by human and technical errors in early-warning systems, informed the decisions to limit anti-ballistic-missile systems and to preferentially reduce MIRVed missiles and warhead counts.12 The goal of stability was also taken up in the realm of conventional military armaments, mainly in the Treaty on Conventional Armed Forces in Europe (CFE Treaty).13 The lessons of the Cold War are worth remembering. They suggest that instability has two dimensions. The first encompasses military instability with regard to the proliferation of arms and the emergence of arms races. During the Cold War, the perceived risk of ‘horizontal proliferation’ – that is, the spread of nuclear weapons beyond the existing nuclear-weapons states – gave rise to the Non-Proliferation Treaty and various export-control regimes. The risk of vertical proliferation – that is, an uncontrolled build-up of arms that drives up military expenditure and exacerbates the security dilemma, thus increasing the likelihood of crises – was reflected in the various strategic arms-limitation and -reduction agreements between the US and the Soviet Union. As the US Office of Technology Assessment (OTA) put it in 1985, Arms race stability involves the effect of planned deployments on the scope and pace of the arms race … If a deployment on one side is likely to lead to a responding deployment on the other side which is in turn likely to induce a still higher level of deployment on the first side, the first side’s deployment might be seen as ‘destabilizing’ the arms competition.14 Generally speaking, any quantitative or qualitative arms race between – in this example – two potential adversaries involves an element of instability. But a race’s pace can vary widely. Destabilisation becomes a particular concern when qualitatively new technologies promising clear military advantages seem close at hand. When potential adversaries make special efforts to get ahead themselves, or at least to avoid falling behind, this can trigger a dynamic intensified by mutual observation of – as well as speculation in light of uncertainty about – the other side’s advances. If the situation is perceived as urgent, and precedents have been or are about to be set, there are compelling incentives for accelerating the development of technology and incorporating it into militaries, a process that is then more likely to outpace and render moot any attempt at agreement on mutual, preventive prohibitions. The second dimension of strategic instability is crisis instability and escalation, either across the threshold from peace to war, or, when war has already broken out, to a higher level of violence – in particular from conventional to nuclear weapons. With respect to nuclear weapons, crisis stability during the Cold War was seen, according to the OTA, as the degree to which strategic force characteristics might, in a crisis situation, reduce incentives to initiate the use of nuclear weapons … Weapon systems are considered destabilizing if in a crisis they would add significant incentives to initiate a nuclear attack, and particularly to attack quickly before there is much time to collect reliable information and carefully weigh all available options and their consequences.15 In terms of conventional forces, the preamble of the CFE Treaty encompasses crisis stability in its commitment to ‘establishing a secure and stable balance of conventional forces at lower levels … eliminating disparities detrimental to stability and security [and] eliminating … the capability for launching surprise attack and for initiating large-scale offensive action in Europe’.16 Both dimensions are closely connected. New kinds of weapons, developed as an outcome of an arms race, can increase crisis instability, with MIRVed missiles being a prominent Cold War example. And (perceived) crisis instability can create motives for diversifying weapon carriers and fuel the arms race in turn, as the development of nuclear submarines demonstrates.

Proliferation and arms-race instability

As early as 2007, the US Department of Defense wrote in its Unmanned Systems Roadmap that for processor technology ‘the ultimate goal is to replace the operators with a mechanical facsimile [of] equal or superior thinking speed, memory capacity, and responses gained from training and experience’. The document also stated that the ‘primary technical challenges for weapon release from unmanned systems include the ability to reliably target the right objective’.17 The goal of weapon autonomy pervades all subsequent road maps.18 Autonomous weapon-system functions have since been tested on land, under water, on the sea and, most notably, in the air. In fact, current trends with respect to unmanned combat aerial vehicles (UCAVs or ‘combat drones’) provide indicators for what to expect with regard to AWS. Unlike today’s high-profile UCAVs, such as the Reaper, which are propeller driven, slow, carry comparably small payloads and have few to no capabilities for operating in contested airspace, future systems will be less dependent on human control, faster, stealthy and capable of delivering bigger payloads. The X-47B, for instance, has demonstrated autonomous take-off from and landing on an aircraft-carrier deck, as well as autonomous aerial refuelling. This technology demonstrator was developed by the US Navy’s Unmanned Carrier-Launched Airborne Surveillance and Strike programme (UCLASS). Similarly, the British Taranis UCAV was described by the UK Ministry of Defence as ‘fully autonomous’ and able to ‘defend itself against manned and other unmanned enemy aircraft’ with ‘almost no need for operator input’.19 However, the ministry also stated that ‘the operation of weapons systems will always be under human control’.20 While AWS test beds such as Taranis and the X-47B rely on familiar designs, in this case the airframes of a fast, stealthy, next-generation drone with substantial payload capabilities, future systems will display an autonomous swarming capability, and thus AWS will also come in much smaller sizes. In October 2016, for instance, the US Department of Defense demonstrated a swarm of 103 Perdix micro drones capable of ‘advanced swarm behaviors such as collective decision-making, adaptive formation flying, and self-healing’.21 In the future, such micro drones are to be 3D printed in large batches and deployed from (manned) flying systems. This dispensing method has already been successfully tested at Mach 0.6 speed by two F/A-18 Super Hornets releasing a Perdix drone swarm. The US Navy’s LOCUST programme is also seeking to develop swarming, disposable unmanned aerial vehicles (UAVs).22 The overall goal for this new ecosystem of flying assets is to replace not just the old generation of drones but also manned aircraft, thus continuing the trend towards keeping human pilots out of harm’s way and providing superior unmanned air-to-ground and air-to-air capabilities across the board.23 In air-to-air combat, the big, fast autonomous drones currently envisioned will be able to fly high-g manoeuvres no human pilot would be able to endure. More importantly, they would ensure much shorter reaction times. On-board sensors combined with artificial ‘intelligence’ – either located onboard or distributed in the swarm and based on decision-making algorithms endowed with the authority to initiate an attack without awaiting human input – are to make these weapons autonomous and hence provide a decisive edge over remotely controlled and human-piloted adversary systems alike. While the development of AWS is currently most advanced in the air and under water – that is, in less cluttered environments – the example of (swarms of) UCAVs demonstrates the generally valid proposition that for future unmanned systems, operational speed will reign supreme, regardless of the domain. In that sense, technological developments in AI and robotics, as well as current expectations regarding future armed conflict (and the need for speed), jointly point towards AWS. In fact, US deputy secretary of defense Bob Work stated in March 2016 that even the final delegation of lethal authority to autonomous systems will inexorably happen as a result of this race for speed.24 According to Work, the United States ‘will not delegate lethal authority for a machine to make a decision … The only time we’ll delegate authority is in things that go faster than human reaction time, like cyber or electronic warfare.’ Yet, he conceded that such self-restraint may be unsustainable if an authoritarian rival acts differently. ‘We might be going up against a competitor who is more willing to delegate authority to machines than we are and, as that competition unfolds, we’ll have to make decisions on how we can best compete’, Work said. ‘It’s not something that we have fully figured out, but we spend a lot of time thinking about it.’25 To further deepen our understanding of AWS, it is useful to take a step back and underline that they need not necessarily take the shape of a specific weapon system akin to, for instance, a drone or a missile. AWS also do not require a specific military-technology development path, the way nuclear weapons do, for example. As AI, autonomous systems and robot technologies mature and begin to pervade the civilian sphere, militaries will increasingly be able to make use of them for their own purposes, as the development of information and communication technology suggests. Naturally, any military adaptation of a dual-use technology will need to fulfil specific military requirements that do not exist in a civilian environment, or are less relevant for mass markets. Nevertheless, AWS development will profit from the implementation or mirroring of a variety of civilian technologies (or derivatives thereof) and their adoption for military purposes, technologies which are currently either already available or on the cusp of becoming ready for series production in the private sector. This trend is already observable in the case of armed drones. Light detection and ranging (LIDAR) systems Operational speed will reign supreme are another example. These are the optical sensors used by the automotive industry to give self-driving cars a 360-degree picture of their surroundings. LIDAR prices have recently dropped from five figures to a few hundred dollars. The units have also become more rugged and much smaller.26 Given that these components, which are necessary for endowing mobile systems with autonomy, are now cheaply and readily available off the shelf, there is every reason to expect the military to adapt, and, if required, adjust and refine, them for their own purposes.27 It is clear that the research and development for AWS-relevant technology is well under way and distributed across countless university laboratories and, especially, commercial enterprises that are making use of economies of scale and the forces of the free market to spur competition, lower prices and shorten innovation cycles. This renders the military research and development effort in the case of AWS different from those of past high-tech conventional weapon systems (the F-35 comes to mind), let alone nuclear weapons. So while the impact of AWS might be revolutionary in terms of their implications for warfare, their development within the context of the military is best described as evolutionary: the military is merely continuing and, with outside help and technology lifted from the private sector, accelerating an already existing trend to replace labour with capital and automate dull, dirty and dangerous military tasks.28 For example, former secretary of defense Ashton Carter sought closer ties with Silicon Valley to hasten the incorporation of technological innovations into the US military after the US officially declared AI and robotics cornerstones of its new ‘third offset’ strategy to counter rising powers.29 Thus, AWS are easy to obtain compared with other paradigm-shifting weapons, such as nuclear weapons, which even now require the Herculean effort of a state-run, focused politico-military effort to produce. AWS do not require ores, centrifuges, high-speed fuses or other comparably ‘exotic’ components to be assembled and tested in a clandestine manner. Consequently, while nuclear technologies can be – and are – proliferation controlled, AWS are much harder to regulate. With comparatively fewer choke points that might be targeted by non-proliferation policies, AWS are potentially available to a wide range of state and non-state actors, not just those nation-states that are willing and able to muster the considerable resources needed for the robotic equivalent of the Manhattan Project. 30 This carries significant implications for arms control. There will of course be differences in quality. Sophisticated AWS will have to meet the same or similar military standards that current weapon systems, such as main battle tanks or combat aircraft, do. Moreover, technologically leading nations such as the US and Israel are carrying out research to produce autonomous systems that comply with international humanitarian law. Less scrupulous actors, however, will find AWS development much easier. Comparably crude AWS which do not live up to the standards of a professional military in terms of reliability, compliance with international humanitarian law or the ability to go head-to-head with systems of a near-peer competitor could, in fact, be put together with technology available today by second- or third-tier state actors, and perhaps even non-state actors. Converting a remotely controlled combat drone to autonomously fire a weapon in response to a simple pattern-recognising algorithm is already doable. Even the technological edge displayed by sophisticated AWS is unlikely to be maintained over the longer term. While sensor and weapon packages to a large degree determine the overall capabilities of a system, implementing autonomy ultimately comes down to software, which is effortlessly copied and uniquely vulnerable to being stolen via computernetwork operations. Thus, while the development of AWS clearly presents a challenge to less technologically advanced actors, obtaining AWS with some degree of military capability is a feasible goal for any country already developing, for example, remotely controlled armed UAVs – the number of which rose from two to ten between 2001 and 2016.31 Admittedly, the US and Israel are still in the lead with regard to developing unmanned systems and implementing autonomous-weapon functionality – China only recently test-fired a guided missile from a drone via satellite link for the first time.32 But considering that drone programmes can draw from the vibrant global market for unmanned aerial vehicles of all shapes and sizes, Implementing autonomy comes down to software the hurdles regarding AWS are much lower than those of other potentially game-changing weapons of the past. Proliferation of AWS could of course also occur via exports, including to the grey and black markets. In this way, autonomous systems could fall not only into the hands of technologically inferior state actors, but also those of non-state actors, including extremist groups. Hamas, Hizbullah and the Islamic State have already deployed and used armed drones. As sensors and electronics are increasingly miniaturised, small and easily transportable systems could be made autonomous with respect to navigation, target recognition, precision and unusual modes of attack.33 Terrorist groups could also gain access to comparably sophisticated systems that they could never develop on their own. Again, autonomy in this context does not necessarily require military-grade precision – a quick and dirty approach would suffice for these actors. In fact, it stands to reason that terrorist groups would use autonomous killing capabilities indiscriminately in addition to using them, if possible, in a precise fashion for targeted assassinations. It is still unclear how the development of unmanned systems on the one hand and specific countermeasures on the other will play out. Traditional aircraft-sized drones such as the X-47B or Taranis, to stick with these examples, are obviously susceptible to existing anti-aircraft systems. As for smaller-sized systems, various tools, from microwaves to lasers to rifle-sized radio jammers for disrupting the control link, are currently being developed as countermeasures. Simpler, less exotic methods such as nets, fences or even trained hunting birds might also prove effective for remotely controlled and autonomous systems alike. It is clear, however, that saturation attacks have been identified as a key future capability for defeating a wide range of existing and upcoming defensive systems – both human-operated and automatic.34 The latter are a particular focus of research into swarming as a potential solution.35 And military systems operating at very high speeds and in great numbers or swarms are bound to generate new instabilities, to which we will turn in our next section. To first sum up our argument so far, there are obvious dual-use problems and an unusually high risk of proliferation when it comes to AWS. Should one of the technologically leading nation-states go forward with the deployment of AWS, it would be comparably easy – and thus very likely – that others would follow suit.36 In that sense, the development of AWS could well trigger a destabilising arms race. Crisis instability and escalation Increasing operational speeds mean that human involvement in AWS would be limited to, at best, general oversight and decision-making in instances where communication delays of up to a few seconds – and thinking and deliberation times of a few minutes – could be deemed acceptable, meaning they would not result in defeat or the loss of systems. Many situations would not allow for the luxury of human pondering, however. In such cases, the actions and reactions of individual AWS, as well as AWS swarms, would have to be controlled autonomously by algorithms – in other words determined only by programming software in advance and possibly through the adaptation and learning of the systems themselves. After all, as Paul Scharre put it, ‘winning in swarm combat may depend upon having the best algorithms to enable better coordination and faster reaction times, rather than simply the best platforms’.37 One such swarm-combat situation could be a severe political crisis in which adversaries believe that war could break out. With swarms deployed in close proximity to each other, control software would have to react to signs of an attack within a split-second time frame – by evading or, possibly, counter-attacking in a use-them-or-lose-them situation. Even false indications of an attack – sun glint interpreted as a rocket flame, sudden and unexpected moves of the adversary, or a simple malfunction – could trigger escalation. The nature of military conflict is such that these kinds of interactions could not be tested or trained for beforehand. In addition, it is, technically speaking, impossible to fathom all possible outcomes in advance. Clearly, the interaction of swarms, if fully autonomous, would be unpredictable, and could potentially result in an escalation from crisis to war, or, within armed conflict, to higher levels of violence. This is not a theoretical proposition deduced solely from systems theory and the argument of unavoidable ‘normal accidents’.38 On the contrary, comparable runaway interactions between algorithms are already happening in the civilian sphere on a regular basis. In April 2011, the price of an out-of-print biology textbook rose within weeks to $23.7 million on the Amazon marketplace due to the price-setting algorithms of two vendors interacting with each other.39 Eventually one of the vendors intervened; no damage was done because nobody purchased the book at this absurd price. Greater havoc was caused in the New York Stock Exchange ‘flash crash’ of 6 May 2010 in which computerised highfrequency trading played an essential role, and during which stock indices and important industry stocks collapsed.40 In this case ‘circuit breakers’ established by monitoring authorities set in, suspending high-speed trading and preventing further avalanche effects. These oversight and intervention mechanisms have been improved since then, but debate continues as to whether they are sufficient to prevent another significant flash crash; minicrashes and interventions occur daily.41 During the Cold War, and even afterwards, both the US and the Soviet Union received erroneous indications of nuclear attack on multiple occasions.42 These varied from sunlight reflected off clouds to magnetic training tapes fed into the early-warning system by accident. In all these cases, human reasoning led to restraint instead of escalation; double checks revealed that the alarm had been false. At the time, double checking and reconsideration were possible due to flight times of between several hours (in the case of bombers and cruise missiles) and 10–30 minutes (for ballistic missiles launched from submarines or those covering intercontinental ranges), as well as systems for preventing unwanted crisis escalation, such as the ‘hotline’ for communication between Moscow and Washington established after the Cuban Missile Crisis. Humans, or rapid-reaction mechanisms preprogrammed by humans, can also act as a fail-safe in instances where an overarching authority exists to enforce a shared set of rules, as in the stockexchange example – unlike in international politics. With the goal of improved military effectiveness providing a strong incentive to increase operational speeds, and thus to allow AWS to operate without further human intervention, tried and tested mechanisms for double-checking and reconsideration that allow humans to function as fail-safes or circuit-breakers are discarded. This, in combination with unforeseeable algorithm interactions producing unforeseeable military outcomes, increases crisis instability and is unpleasantly reminiscent of Cold War scenarios of accidental war. Setting aside the increasing risk of unwanted escalation, AWS are also bound to introduce stronger incentives for premeditated (including surprise) attacks. This is because of a combination of three factors: casualty avoidance, cost reduction and, once again, swarming. Firstly, unmanned systems, generally speaking, keep soldiers out of harm’s way – which is positive, but which also reduces the political risk of military endeavours, especially in democracies.43 Referring to the current generation of combat drones, Christof Heyns, the United Nations Special Rapporteur on extrajudicial, summary or arbitrary executions, put it this way: ‘[Drones] make it easier for States to deploy deadly and targeted force on the territories of other States.’44 As unmanned systems become faster and smaller, as well as, eventually, autonomous – which will also make them stealthier due to radio silence, and allow them to become ‘swarmier’ – the resulting room for manoeuvre in political and military terms increases. Secondly, the example of Perdix demonstrates that AWS need not be big, costly or high-tech. Instead, such systems can be cheap and disposable, produced using 3D printers and gaining strength from numbers, their ‘intelligence’ residing in a distributed fashion in the swarm or, if external communication is an option, at some higher level within the military ‘system of systems’ at large. A closely related third consideration is that swarms would make mounting a successful defence especially difficult due to their resilience and their ability to attack from many directions, simultaneously, in an overwhelming fashion. Small and very small AWS (those measuring tens of centimetres at most) would suffer from limited power supply on board, but could be brought closer to the target by riding along on ‘motherships’, as has been demonstrated with Perdix. With payloads weighing a few hundred grams at most, the amount of destructive power of small drones would be limited Unmanned systems keep soldiers out of harm’s way too. But if directed at political or military leaders or sensitive military infrastructure, they would produce relevant damage and provide entirely new means for carrying out assassinations and decapitation strikes.45 None of these points in isolation would introduce a radically novel element to military decision-making. After all, the fact that a weapon is cheap does not necessarily render it more likely to be used.46 However, the combination of these three factors – brought about mainly by the development of hard-to-defend-against autonomous swarms – presents a strong incentive to seize the advantage of being the first on the offensive. Considering the current climate between Russia and NATO, it stands to reason that old mechanisms of threat perception and worst-case thinking might see a comeback in the wake of AWS deployment.47 Russia was reportedly alarmed when the idea of using stealthy drones for missile defence was floated in the US.48 Swarms of AWS could be used to attack nuclear-weapon delivery systems, command and control systems, and sensitive infrastructure components such as antennas, sensors or air intakes. Even though an attacker might have little interest or confidence in the success of a disarming first strike of this type, the fact that such strikes were now possible would in itself increase nervousness and distrust between nuclear-armed adversaries. This overlap between the conventional and the nuclear realm is not new, of course. It emerged with precision munitions and bunker-busting (or possibly electromagnetic-pulse) warheads during the 1990s and 2000s,49 and is also documented in the New START treaty, the preamble of which states that the US and Russia are ‘mindful of the impact of conventionally armed ICBMs and SLBMs on strategic stability’.50 But AWS will likely perpetuate and intensify this trend, not least by opening up new possibilities for holding nuclear submarines carrying ballistic missiles at risk.51 Thus, when nuclear weapons or strategic command and control systems are, or are perceived to be, at greater risk, conventional capabilities end up increasing instability at the strategic level. Today’s unmanned systems have already increased the risk that military force will be used in scenarios where manned systems would previously have presented decision-makers with bigger, caution-inducing hurdles – a connection recently confirmed in war-gaming exercises.52 Of course, swarming AWS need not necessarily lead to escalation under all conditions. In asymmetric scenarios involving adversaries who lack AWS capabilities, the escalatory mechanisms developed above would not take effect. In symmetric settings, by contrast, they would certainly exacerbate the overall development toward an increased risk of crisis instability and escalation.

# F/L—Counterplans

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## 1AR—Defensive LAWs

#### 1. China doesn’t have defensive lethal autonomous weapons—our ev is explicit that China’s LAWs are built to attack American target. That means a] perm do the cp—it’s not competitive, b] vote aff on presumption—they don’t have an internal link to the NB.

#### 2. PIC links to the aff – every LAW has the potential to act unpredictably so excluding any weapon system is either a) a solvency deficit to the aff because it can act unpredictably and thus can’t be controlled, or b) is unpredictable which makes it a reason to ban it destroying the net benefit

#### 3. Defensive LAWs are “*automatic*” not autonomous and normal means prove they aren’t included in the aff ---This takes out all PICs

Sauer 16 – Frank Sauer is a senior research fellow and lecturer in international relations at Bundeswehr University in Munich, working on international security and arms control. He is the author of Atomic Anxiety: Deterrence, Taboo, and the Non-Use of U.S. Nuclear Weapons (Palgrave Macmillan, 2015). He is a member of the International Committee for Robot Arms Control (ICRAC); “Stopping ‘Killer Robots’: Why Now Is the Time to Ban Autonomous Weapons Systems”; Oct 2016; <https://www.armscontrol.org/act/2016-09/features/stopping-%E2%80%98killer-robots%E2%80%99-why-now-time-ban-autonomous-weapons-systems#bio> As+

Some weapons systems used for defensive purposes already can identify and track incoming targets and engage them without a human pushing the metaphorical button. Deemed precursors to autonomous weapons systems, they can react to incoming missiles or mortar shells in cases in which the timing does not allow for human decision-making. The Phalanx Close-In Weapon System on Navy ships is one example for such a weapons system, Israel’s Iron Dome air defense system is another.

Yet, these defensive systems are not the focus of the mainly forward-looking autonomous weapons systems debate. Juxtaposing automatic and autonomous systems is a helpful way to understand why. Defensive systems such as the Phalanx can be categorized as automatic. They are stationary or fixed on ships or trailers and designed to fire at inanimate targets. They just repeatedly perform preprogrammed actions and operate only within tightly set parameters and time frames in comparably structured and controlled environments.

Autonomous weapons are distinguish-able from their precursors. They would be able to operate without human control or supervision in dynamic, unstructured, open environments, attacking a variety of targets. They would operate over an extended period of time after activation and would potentially be able to learn and adapt to their situations. To be fair, this juxtaposition is artificial and glosses over an important gray area by leaving aside the fact that autonomous functionality is a continuum. After all, automatic systems, targeting humans at borders or automatically firing back at the source of incoming munitions, already raise questions relevant to the autonomy debate.

There arguably is a tacit understanding in the expert community and among diplomats in Geneva that the debate’s main focus is on future, mobile weapons platforms equipped with onboard sensors, computers, and decision-making algorithms with the capability to seek, identify, track, and attack targets autonomously. The autonomy debate thus touches on but is not primarily concerned with existing automatic defensive systems. In fact, depending on how the CCW ends up defining autonomous weapons systems, it might be well within reason to exempt those from regulation or a possible preventive ban if their sole purpose is to protect human life by exclusively targeting incoming munitions.

## 1AR--Missile Defense CP

### 1AR—Competition (from T file)

#### Their Klare evidence is about AWS, not LAWs. LAWs select targets by themselves without human intervention on the battlefield.

Wyatt 6/4 Austin Wyatt [PhD], 6-4-2020, "So Just What Is a Killer Robot?: Detailing the Ongoing Debate around Defining Lethal Auton," Washington Headquarters Services, <https://www.whs.mil/News/News-Display/Article/2210967/so-just-what-is-a-killer-robot-detailing-the-ongoing-debate-around-defining-let/> AG

The most common definition of LAWSs originated in a 2012 US Department of Defense (DOD) directive on autonomous weapon systems.6 This directive outlined the DOD’s view on developing an autonomous capability for weapon systems and the required level of human involvement. This document defines a weapon as fully autonomous if, when activated, it “can select and engage targets without further intervention by a human operator.”7 Interestingly, DOD Directive 3000.09 lists a requirement for sufficient training for human operators, which indicates a recognition that human operators would have to retain some level of oversight over any use of force decisions. The concern of how to balance the need to achieve effectiveness in a battlespace characterized by an operational tempo potentially beyond the capacity of human reaction time while also maintaining sufficiently effective human oversight to guard against unintended engagements is apparent in this directive.8 Finally, DOD Directive 3000.09 also contained a built-in process for obtaining waivers for development, deployment, or even the transfer of LAWSs in situations that potentially contravene the policy.9 Despite being due to expire at the end of 2017, DOD Directive 3000.09 was still in effect at the time of writing and features prominently in the developing discourse on LAWSs. As the most commonly cited state definition for autonomous weapon systems, the DOD Directive 3000.09 definition has been used as the starting point for the definitions used by multiple other actors, including nongovernmental organizations such as the Campaign to Stop Killer Robots.10 While this definition has found traction amongst scholars, it has largely been received critically. For example, Heather Roff criticized the DOD definition because the terms select and engage are open to interpretation.11 Notwithstanding scholarly critique, the DOD definition is arguably the natural starting point for developing a working definition of AWSs.

Despite its flaws, the DOD definition does represent a more realistic, if nonspecific, view of autonomy in weapon systems than the definitions adopted by some other states. In 2011, for example, the UK Ministry of Defence definition referred to autonomous systems having the capability to understand “higher level intent and direction” and that individual actions “may not be” predictable.12 This definition seems to indicate that a platform or military system must possess artificial intelligence with a level of self-awareness that bleeds into the field of general artificial intelligence (AI). It is highly unlikely that any state actor would countenance the development of weapons that they could not predict, even if it were technologically possible to create LAWSs with the capacity to interpret higher-level intent. The concept of this level of full autonomy has been justifiably dismissed as a distraction in the literature,13 as an approach driven by this definition simply does not account for the weapon systems that are actually in development.

#### They conflate AWSs with LAWs---LAWs are a subset that target humans. The CP doesn’t compete because it keeps weapons the aff doesn’t ban, i.e. ones that target missiles rather than humans.

FLI n.d. Future of Life Institute, Research Institute focused on keeping [artificial intelligence](https://futureoflife.org/background/benefits-risks-of-artificial-intelligence) beneficial and  also exploring ways of reducing risks from [nuclear weapons](https://futureoflife.org/background/the-risk-of-nuclear-weapons/) and [biotechnology](https://futureoflife.org/background/risk-of-biotechnology/). FLI is based in the Boston area, and welcomes the participation of scientists, students, philanthropists, and others nearby and around the world. “Lethal Autonomous Weapons Systems,” https://futureoflife.org/lethal-autonomous-weapons-systems/#pledge

Lethal AWS systems refer to a narrow subset of autonomous weapons systems where the target of the weapon system is a human. Autonomous weapons systems designed to defend against incoming missiles, or other anti-materiel targets, would not be subject to the mandate.

#### Their Leetaru ev talks about automated, not autonomous defense systems.

The rise of hypersonic weapons, with just minutes between launch and impact, may be the development that pushes countries to begin exploring automating their missile defense systems.

#### They are distinct. Automation exists in the squo, but LAWs don’t.

Missiroli 20 [Dr Antonio Missiroli is NATO Assistant Secretary-General for Emerging Security Challenges. “Game of drones? How new technologies affect deterrence, defence and security,” NATO Review, May 5, 2020, <https://www.nato.int/docu/review/articles/2020/05/05/game-of-drones-how-new-technologies-affect-deterrence-defence-and-security/index.html>] //recut Proof DR

‘Autonomy’ in weapon systems is a contested concept at international level, subject to different interpretations of its levels of acceptability. The resulting debate triggered, among other things, the establishment of a group of governmental experts on Lethal Autonomous Weapon Systems (LAWS) at the United Nations in 2016. However, this group has not yet come to agreed conclusions. This is in part due to the current strategic landscape and the ‘geopolitics’ of technology, whereby some states developing these systems have no interest in putting regulations in place, while they believe they can still gain a comparative advantage over others. Yet it is also due to the fact that ‘autonomy’ is a relative concept. Few analysts would contest that, in a compromised tactical environment, some level of autonomy is crucial for an unmanned platform to remain a viable operational tool. Moreover, automatic weapon systems have long existed (for example, landmines) and automated systems are already being used for civilian and force protection purposes, from Israel’s Iron Dome missile defence system to sensor-based artillery on warships. With very few exceptions, current weapon systems are at best semi-autonomous. Moreover, they tend to be extremely expensive and thus hardly expendable.

## 1AR--ATR CP

### 1AR- Competition

#### Their Jones ev talks about automation, not autonomy. They are distinct. Automation exists in the squo, but LAWs don’t.

Missiroli 20 [Dr Antonio Missiroli is NATO Assistant Secretary-General for Emerging Security Challenges. “Game of drones? How new technologies affect deterrence, defence and security,” NATO Review, May 5, 2020, <https://www.nato.int/docu/review/articles/2020/05/05/game-of-drones-how-new-technologies-affect-deterrence-defence-and-security/index.html>] //recut Proof DR

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#### It's not lethal. Their Gubrud evidence says

1NC Gubrud 18 [Physicist and Adjunct Assistant Professor, Curriculum in Peace, War & Defense University of North Carolina, PhD Physics from University of Maryland, did postdoctoral research on autonomous weapons, space weapons, and arms control at Princeton] “The Ottawa Definition of Landmines as a Start to Defining LAWS”, Submitted to the Convention on Conventional Weapons Group of Governmental Experts Meeting on lethal autonomous weapons systems United Nations Geneva 9-13 April 2018 RE

#### it is not acceptable to allow autonomous weapons to attack materiel targets, at least with destructive or damaging, kinetic force, which will inevitably also endanger humans

**However, stopping an automated missile doesn’t kill anyone, because missiles don’t have people in them. Thus, their card doesn’t apply in this context, and the CP isn’t mutually exclusive with the aff.**

### 1AR—Link Turn

#### Their Jones ev warrants the need for U.S. ATR Missile Defense. Proof reads green.

1NC Jones II et al. 20 [(Julian; Russell Kress, William J. Newmeyer Jr., and Adam I. Rahman) “LEVERAGING ARTIFICIAL INTELLIGENCE (AI) FOR AIR AND MISSILE DEFENSE (AMD): AN OUTCOME-ORIENTED DECISION AID”, Naval Postgraduate School, September 2020] TS

As current trends in naval warfare shift toward automated combat weapons systems, the U.S. Navy is focusing its strategies toward AI capabilities that reduce the time a warfighter needs to act decisively. This project represented the human-AI decision process (as informed by MCPP) through a decomposition of OODA and F2T2EA to the operational activity level. Increased levels of automation for operational activities within the kill-chain process were demonstrated to significantly reduce the timeline; which, if further developed and fielded, will provide Sailors and Marines a tactical advantage in air defense. Expediting the kill chain through use of expert system and AI has the ability to greatly shorten engagement times effectively expanding the battle space. The AI-AMD architecture is designed to improve warfighting decisions by prioritizing threats and acting upon them with minimal input from human users.

#### Their Fruhling evidence is also about U.S. strategy. Proof reads green

1NC Frühling 16 [(Stephan, Deputy Dean of the College of Asia and the Pacific, and. He works in the Strategic and Defence Studies Centre of the Coral Bell School of Asia-Pacific Affairs) “Managing escalation: missile defence, strategy and US alliances”, Royal Institute of International Affairs, 2016] TS

At the same time, the United States also sought to increase the ability to deter attacks by threat of denial of success, based on a credible ability to defend its allies. Deterrence by denial relies less on nuclear forces, requires less communication of specific threats, and inherently includes the ability to mitigate damage should it fail. Many analysts thus argued in favour of increased reliance on denial in the post-Cold War environment,5 in particular through the development of missile defence.6 As a means of deterrence, missile defence must thus be effective first and foremost in the minds of adversary decision-makers

#### That means this flows aff because 1AC Johnson indicates Chinese hypersonics are a threat to the U.S. and we ban those weapons, but letting China keep ATR means there’s a risk of using it offensively.

## 1AR—Torts CP

### 1AR—No Solvency

#### Their card says domestic policy is far less effective – and it doesn’t spill up when foreign litigation faces roadblocks – we read blue

Crootof 16 [Rebecca Crootof, Ph.D. Candidate in Law, Yale Graduate School of Arts and Sciences; Resident Fellow, Yale Information Society Project (ISP). WAR TORTS: ACCOUNTABILITY FOR AUTONOMOUS WEAPONS. May 2016. https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=9528&context=penn\_law\_review&httpsredir=1&referer=]

However, the international community need not collectively organize to create tort liability for the actions of autonomous weapon systems. One nation-state could do so singlehandedly, simply by passing domestic legislation with universal jurisdiction. In fact, depending on the alleged tort violation, it is possible that the Alien Tort Statute could already be used to prosecute individuals for war torts caused by autonomous weapon systems.284 However, because of the political problems associated with attempting to hold foreign states accountable for international law violations in domestic courts285 and the foreign policy conflicts legislation like the ATS engenders,286 it would be far preferable to have an overarching international war torts regime than a domestic one.

#### The Chinese government cannot be held responsible for civil torts

Infantino and Wang 19 -- Marta Infantino and Weiwei Wang (Marta Infantino is Associate Professor at the Law Department of the University of Trieste, Italy. Weiwei Wang is a Ph.D. candidate at the Universities of Udine and Trieste, Italy), Algorithmic Torts: A Prospective Comparative Overview, *Transnational Law & Contemporary Problems* (forthcoming 2019), WJ

In the U.S., common law and statutory immunities have historically protected the federal government, states, governmental agencies, as well as local government entities from tort-based claims. Although blanket immunities arising from the old English principle that ‘the King can do no wrong’ have long been abolished, 170 legislators and members of the judicial branch still enjoy near-absolute immunity for acts committed within the scope of their employment, while the ‘discretionary-ministerial’ test developed by the U.S. Supreme Court since the 50s171 and followed both at the federal and at the state level) provides immunity for any discretionary act of members of the executive branch of government, that is, for any act involving policy choices. 172 Further, even when liability can be established, punitive damages are generally unavailable. 173 The would-be plaintiff is not better off in China. Despite State liability being contemplated by section 121 of the 1986 General Principles of Civil Law, 174 since the adoption of the State Compensation Law in 1994 there were neither criteria, nor procedures for affirming such liability. 175 The 1994 State Compensation Law, as amended, now provides a compensation procedure only for specific infringements of personal rights and property interests caused by administrative organs. 176 It does not cover the infringements of personal and property rights by legislative organs, political party organizations, and state- owned enterprises. Because of the narrow scope of this law, some scholars use to call it the ‘Non-State Compensation Law’.

#### International civil litigation fails in China – their courts are irreversibly structured to favor the CCP

Zhang 2 -- Mo Zhang. "International Civil Litigation in China: A Practical Analysis of the Chinese Judicial System." BC Int'l Comp. L. Rev. 25 (2002): 59. https://www.bc.edu/content/dam/files/schools/law/lawreviews/journals/bciclr/25\_1/02\_TXT.htm WJ

Despite the efforts of the Supreme People’s Court to improve the Chinese judicial system and the success of foreign parties in the people’s courts,31 many foreigners and foreign companies are still skeptical about litigating in Chinese courts. This reluctance is rooted in the fear that China is short of the rule of law in general and is lacking an independent judicial system. Nevertheless, foreigners and foreign companies doing businesses in China are subject to the jurisdiction of the Chinese courts.32 Therefore, a better understanding of the Chinese judicial system and Chinese court proceedings in international civil litigation is essential to effectively protect foreign business interests.

This Article is intended to address the Chinese judicial system pertaining to international civil litigation, focusing on practical matters that may affect foreign parties who sue or are sued in the Chinese People’s Courts. Part I of this Article discusses the jurisdiction of the Chinese People’s Courts in international civil litigation and the extent to which the courts strive to exercise jurisdiction. Part II analyzes the choice of law issues presented by cases involving foreign elements in the Chinese People’s Courts. Part III deals with the enforcement of judgments by the Chinese People’s Courts. Part IV identifies flaws in the Chinese judicial system that may affect judicial independence and justice. Part V concludes that international civil litigation in the Chinese People’s Court requires further improvement of judicial independence in order to protect legitimate foreign interests and promote confidence in the Chinese judicial system.

[\*PG64]I. Jurisdiction of the Chinese People’s Courts in

International Civil Litigation

The people’s courts’ civil jurisdiction stems from both the Chinese Constitution (as amended 1999) and the CPL.33 These documents empower the courts to adjudicate cases arising from disputes concerning property and personal relations between or among citizens, legal persons, or other organizations.34 With regard to civil litigation involving foreign elements, the jurisdiction of the people’s courts is governed by both general and special provisions of the CPL.35 In addition, the Supreme People’s Court plays an important role in determining the lower courts’ jurisdiction pertaining to a particular type of case.36 For example, the Supreme People’s Court requires that first instance cases involving patent disputes be adjudicated by an intermediate people’s court designated by the Supreme People’s Court.37

Under the provisions of the CPL, the jurisdiction of the Chinese People’s Courts is divided generally into four categories– tier jurisdiction, transferred jurisdiction, designated jurisdiction, and territorial jurisdiction.38 In addition to proper subject matter jurisdiction, the people’s court must also meet both the tier and territorial requirements.39

Tier jurisdiction refers to the jurisdiction of the people’s courts at each level, and dictates the level at which a particular case shall be filed in the first instance.40 Since in any given case there is only one appeal available under the “two-instance trials format,” it is important that the case start at the correct level.41 For a case involving foreign elements, commencing it at a higher level court is desirable given that most lower courts are inexperienced in handling international civil litigation.42

[\*PG65] On April 9, 1999, the Supreme People’s Court issued a “Notice on Taking of Cases Concerning Civil and Commercial Disputes at Higher Court of Provinces for the Trial of First Instance.”43 According to this Notice, a first instance case involving foreign elements may commence at a higher court if the amount in controversy meets minimum requirements.44 This jurisdictional amount requirement varies depending on the location and the cause of action, as well as whether a property-related or business dispute is at stake.45 In Beijing, Shanghai, and Guangzhou, for example, the amount in controversy requirement in a business dispute case is RMB 80 million (about U.S. $9.76 million).46 In provinces such as Gansu, Guizhou, Xing Jiang, Inner Mongolia, Qinghai, Ningxia, Yun Nan, and Tibet, the amount is reduced to RMB 8 million (about U.S. $976,000) for a similar case. 47 In property-related cases, the Supreme People’s Court set a ceiling for the number of cases per year that the higher courts may take in the first instance in addition to the amount in controversy requirement.48 An approval must be obtained from the Supreme People’s Court if a higher court wants to take a first instance case on the ground of “significant impacts” when the case lacks the required jurisdictional amount, or the total number of cases taken exceeds the ceiling.49

Transferred jurisdiction is analogous to a venue transfer and deals with the transfer of a case from a non-competent court to a competent court.50 Under Article 36 of the CPL, if a people’s court finds that it has taken a case without proper jurisdiction, it shall transfer the case to the people’s court that has jurisdiction.51 If the court to which the case is transferred believes that it also lacks jurisdiction, it shall refer the case to a higher court for designation of jurisdiction.52 [\*PG66]In accordance with the CPL, for transferred jurisdiction to be valid three conditions must be met: (1) the case must have been taken; (2) the transferring court must lack jurisdiction; and (3) the case must be transferred to a competent court.53 The jurisdiction of the transferring court shall be determined from the record as of the time the transferring court accepts the case.54

Designated jurisdiction occurs when a higher court orders a lower court to exercise jurisdiction that it would otherwise lack.55 Pursuant to the CPL, jurisdiction may be designated to a lower court if: (1) the case is transferred to a court that lacks jurisdiction; (2) the court that is competent could not exercise its jurisdiction due to some special reasons, such as natural disaster or on the legal grounds of recusal; or (3) more than two competent courts are in dispute over their jurisdiction on the case and the dispute cannot be solved by an agreement between the disputing courts.56

Perhaps the most important feature of the people’s courts’ jurisdiction is territorial jurisdiction.57 Questions of territorial jurisdiction in the people’s courts are typically determined by reference to the relations between the forum and the parties, disputes, or factum jurisdicum (legal facts).58 To be precise, territorial jurisdiction determines venue, personal jurisdiction, and jurisdiction over property.59 As noted, with regard to cases involving foreign elements, the CPL contains both general and special rules determining the people’s courts’ jurisdictional competence.60 The factors determining territorial jurisdiction are domicile, place of business, conduct, location of property, and party consent.61 Based on the difference of these factors, territorial jurisdiction can be further divided into general territorial jurisdiction, specific jurisdiction, consensual jurisdiction, and exclusive jurisdiction. Note that China does not follow the practice of some civil law countries, such as France, in which nationality serves as an important basis for a court to assert its jurisdiction.

[\*PG67]A. General Territorial Jurisdiction—Defendant Domicile

General territorial jurisdiction is determined by the defendant’s domicile.62 The people’s courts may exercise jurisdiction over a given defendant who is domiciled, resides, or conducts business within the territorial boundary of the court, regardless of the defendant’s nationality.63 According to the CPL, a civil lawsuit generally shall be brought in the people’s court at the place of the defendant’s domicile.64 If a defendant has both a domicile and a habitual residence, jurisdiction is proper in the venue of the defendant’s habitual residence.65 When there are several defendants who are domiciled or reside in two or more jurisdictional territories, the courts in those territories shall all have jurisdiction.66 In this circumstance, the CPL allows a plaintiff to choose one of the competent courts. If the plaintiff files a lawsuit with two or more competent courts, the court with which the lawsuit was first filed shall exercise jurisdiction.67

The defendant’s domicile-based jurisdiction rests with the jurisdiction doctrine commonly characterized as “plaintiff’s accommodating defendant.”68 An exception to this doctrine applies, however, when the personal status of the parties is involved. Under the CPL, if a civil lawsuit concerning personal status is brought against a person not residing in China, the court of plaintiff’s domicile or habitual residence shall have jurisdiction.69 According to the Supreme People’s Court, a Chinese plaintiff may sue his or her spouse in a people’s court of his or her domicile for divorce if the spouse resides in a foreign country.70

B. Specific Territorial Jurisdiction—Conduct and Property

In international civil litigation, many cases involve a foreign defendant not domiciled or residing within China. In such a case, the [\*PG68]people’s court has jurisdiction if the defendant has established certain connections with China.71 It is, however, important to note that “mere presence” in China does not constitute a basis on which a people’s court may exercise jurisdiction.72 Therefore, for jurisdiction purposes, the connection must be meaningful, providing a “sufficient ground” warranting the exercise of the people’s courts’ judicial power.

Thus, the CPL specifically grants the people’s courts jurisdiction over international civil actions founded upon claims arising out of a foreign defendant’s conduct or property.73 Under Article 243 of the CPL, certain specific jurisdiction rules shall apply to actions involving contract disputes or other disputes over property rights against a non-resident defendant.74 According to these rules, if the contract is concluded or performed in China, a people’s court at the place of contract or the place of performance shall have jurisdiction.75 If the subject matter of the claim is located in China, the jurisdiction shall rest with the people’s court where the subject matter of the claim is located.76 If the defendant has attachable property in China or has a representative office in China, the defendant shall be subject to the jurisdiction of the people’s court at the place of such property, or the place of the representative office.77 In a tort action, the place of tort shall be the determinative factor for jurisdiction.78

A contract or tort action requires further attention. In a contract dispute, parallel jurisdiction would exist between the court of locus contractus (the place of a contract) and the court of locus solutionis (the place of a contract performance), if these jurisdictions are different.79 In this situation, the plaintiff may choose either one of these courts for litigation.80 In a business contract, if the name of the contract does not match the substance of contractual obligations contained therein, the place of contract performance shall be determined with reference [\*PG69]to the substance.81 If it is difficult to tell the nature of a contract on the basis of its substance and if the name of the contract matches part of the substance, the name of the contract shall be used to determine the place of contract performance.82 As far as a tort action is concerned, jurisdiction shall be asserted by the people’s court where the cause of action arose or the place of defendant’s domicile.83 The place of tort is interpreted by the Supreme People’s Court to include both locus delicti commissi (place where a tort is committed) and the place where harms have occurred.84 Once again, the plaintiff may choose among these venues.

On November 22, 2000, the Supreme People’s Court issued an “Interpretation on Matters Concerning Application of Law in the Trial of Cases Involving Computer Network Copyright.”85 In this Interpretation, the Supreme People’s Court expanded the place of tort to include the location of the computer equipment, such as the server or network terminal, where the tortious act is committed. The Supreme People’s Court was also of the opinion that in a tort action concerning computer network copyright where both the place of the tort and the place of defendant’s domicile could not be determined, the place of the network terminal equipment where the tortious contents were found may be deemed as the place of the tort.86

For cases arising from other causes of action, jurisdiction is determined with reference to other provisions of the CPL.87 For example, under Article 26 of the CPL, a case involving insurance contracts shall be adjudicated by the people’s court at the place of defendant’s domicile or the place where the insured object is located.88 According to Article 27, jurisdiction over disputes concerning negotiable instruments is proper at the place where payment was due.89

[\*PG70]C. Consensual Jurisdiction—Parties’ Choice or Consent

The CPL allows litigants to choose a court through mutual agreement.90 Therefore, the people’s courts’ jurisdiction could also be established by consent of the parties.91 However, under Article 244 of the CPL, such choice is subject to three conditions: (1) the agreement must be made in writing; (2) the court chosen must have an actual connections with the dispute; and (3) the dispute must involve foreign contracts or foreign property rights.92 Article 244 further requires that the parties’ choice of court be made without violating the provisions of the CPL concerning tier and exclusive jurisdiction if a Chinese People’s Court is chosen.93 A similar provision is found in Article 25 of the CPL, which applies to domestic civil cases.94 It provides that parties to a contract may choose, in their written contract, to be subject to the jurisdiction of the people’s court at the place of defendant’s domicile or residence, contract performance, contract conclusion, or subject matter of the claim.95 Again, the choice of jurisdiction shall not violate the provisions of the people’s courts’ tier and exclusive jurisdiction.96

In cases involving foreign elements, a non-resident defendant may stipulate to the jurisdiction of a people’s court by consent.97 The consent need not be specifically made in writing, but may be assumed by the court through the defendant’s filing of an answer to the complaint.98 The defendant’s failure to object is essential in defendant’s consent to the people’s court’s jurisdiction.99 Article 245 of the CPL provides that if the defendant raises no objection to the jurisdiction of a people’s court and files its answer to the complaint in a civil action involving foreign elements, the defendant shall be deemed to have accepted the people’s court’s jurisdictional competence.100

[\*PG71]D. Exclusive Jurisdiction in the Chinese Courts

The CPL expressly excludes foreign courts from exercising jurisdiction over certain civil actions over which the Chinese People’s Courts shall have exclusive jurisdiction.101 The most prominent civil actions subject to the exclusive jurisdiction of the people’s courts are disputes arising from contracts of foreign investment enterprises (FIEs).102 Article 246 of the CPL explicitly provides that the people’s courts of China shall have exclusive jurisdiction over disputes concerning the performance within China of contracts of Chinese-foreign equity joint ventures, Chinese-foreign contractual joint ventures, or Chinese-foreign cooperative exploration and development of natural resources.103

In addition, certain actions shall be under the exclusive jurisdiction of a particular Chinese People’s Court.104 In accordance with Article 34 of the CPL, if: (1) a lawsuit involves a dispute over real estate, the people’s court of the place where the real estate is located shall have jurisdiction; (2) a lawsuit involves a dispute over harbor operations, the jurisdiction shall rest with the people’s court of the place where the harbor is situated; and (3) a lawsuit arises out of the dispute over succession, jurisdiction is proper where the decedent was domiciled upon his death, or where the major estate is located.105

It is interesting to note that in a typical Chinese civil action, the jurisdictional matter is normally not addressed in either the plaintiff’s complaint or the defendant’s answer.106 This phenomenon, in part, reflects the Chinese judicial tradition. In contrast to the adversarial model of the Anglo-American judicial system, the Chinese judicial system is premised on the inquisitorial model. Under the inquisitorial system, the court controls and shapes the litigation by conducting active and independent inquiry into the merits of the case. In the eyes of many parties, jurisdiction is often overlooked.

Since the defendant’s failure to object constitutes consent to jurisdiction, it is imperative that defendants, foreign defendants in particular, raise a timely jurisdictional objection.107 Under Article 38 of the CPL, if a party to a civil action objects to the jurisdiction of a peo[\*PG72]ple’s court, the objection must be raised within the time period prescribed for the filing of answers.108 According to Articles 113 and 248, defendant shall have fifteen days, or thirty days if residing outside the territory of China, to file his answer upon receipt of plaintiff’s complaint.109 Thus, if a defendant wants to challenge the people’s court’s jurisdiction, he must do so within this statutory fifteen-day or thirty day period.110 According to the Supreme People’s Court, a third party to the litigation may also challenge the jurisdiction of a people’s court if the third party has an independent claim.111 Once the jurisdiction is challenged, the court shall have fifteen days to review the challenge and make a decision in the form of a court order.112 A court order on jurisdictional matters is appealable.113

A number of Chinese scholars have strongly advocated introducing the doctrine of forum non-conveniens into the Chinese courts. In August, 2000, the China Society of Private International Law published the “Model Law of Private International Law of the People’s Republic of China” (Model Law).114 Article 51 of the Model Law states that a Chinese People’s Court may, at the request of a defendant, decline its jurisdiction over a civil action, which is lawfully under the jurisdiction of the court, if the court believes that the exercise of the jurisdiction will result in obvious inconvenience to the parties and another court would be more convenient.115

It seems in practice that the forum non-conveniens doctrine has gained some judicial recognition in the people’s courts.116 This rec[\*PG73]ognition, however, is limited.117 On April 17, 2000, the Supreme People’s Court issued a “Notice on Several Questions in Adjudication and Enforcement Concerning Civil and Commercial Cases with Foreign Elements” to urge the Chinese People’s Courts not to give up jurisdiction without reasonable cause.118 According to the Notice, it is required that the people’s courts strictly follow the jurisdiction provisions of the CPL, and shall carefully review all jurisdictional matters in each case brought before them.119 It is further required that a people’s court shall neither delay nor decline exercising judicial power over the case under its jurisdiction as provided by law.120 But, if the parties to a civil litigation are all non-Chinese enterprises and the disputes have no practical connection with China, a people’s court may advise the parties to choose alternative courts in other countries.121 In this case, litigation in the people’s court would be deemed unrealistic in terms of the determination of evidence and enforcement of judgments.122

One important aspect concerning jurisdiction of the people’s courts is the arbitration clause or agreement. Under Article 257 of the CPL, the people’s court’s jurisdiction is excluded in disputes arising from foreign economic, trade, transport, or maritime activities if there is an arbitration clause in such contract, or if the parties to the contract have subsequently reached an arbitration agreement for dispute settlement.123 Furthermore, pursuant to Article 259, a people’s court shall have no jurisdiction over a case in which an award has been made by a foreign arbitration body.124 However, these restrictions do not apply if the arbitration clause or agreement is found invalid or the arbitration award is set aside by court order.125

Another factor affecting the people’s courts’ jurisdiction over foreign defendants is service of process. It is critical to note that service of process in China is deemed judicial conduct, and therefore only [\*PG74]the court may serve process.126 The CPL provides six methods of service, which include: (1) personal service upon defendant (also called direct service); (2) service left at the defendant’s residence; (3) entrusted service through the court of the place where defendant resides; (4) service by mail; (5) service forwarded to defendant by defendant’s work unit or authority; and (6) service by public notice.127Under the CPL, a receipt of service signed by the receiving person is required except for service made by pubic notice.128

If a defendant resides outside China, the extraterritorial service shall be made through either: (1) the means as provided for by international treaties to which both China and the foreign country are members;129 (2) the methods permitted by bilateral agreements for judicial assistance between China and the foreign country; or (3) diplomatic channels.130

The Chinese People’s Courts’ jurisdiction can also be excluded by a statute of limitations. According to the Civil Code of 1986, except where otherwise provided by law, the limitations period for civil actions is two years from the date when plaintiff knows or should have known that his rights have been infringed.131 Under Article 136, the period is one year for actions involving: (1) personal injury; (2) sales of qualitatively substandard goods without proper notice; (3) delays in paying rent or refusal to pay rent; or (4) loss of or damage to property left in the custody of another person.132 Pursuant to the Contract Law of 1999, the time limit for actions concerning disputes over contracts for international sales of goods and import or export of technology is [\*PG75]four years.133 In all others cases, the maximum time period is twenty years from the day on which the infringement occurs.134

II. Applicable Law and its Determination in Civil Cases Involving Foreign Elements

For civil litigation in a Chinese People’s Court involving a foreign party, a threshold issue is what law the people’s court should apply when rendering its decision. This question involves several different considerations, which include, inter alia: (1) whether the Chinese court could apply foreign law; (2) the factors considered in the determination of governing law; and (3) which law will govern if there is a conflict between the Chinese and foreign law.

Under the principle of judicial sovereignty, a court may only apply the law of the forum.135 However, the emergence and development of conflict of law principles (commonly called “private international law” in China) has provided situations where foreign law could be applied in a domestic court. Debates on the rational grounds for the application of foreign law aside, such application has become a common practice in almost every country in the world. China is no exception.

Nevertheless, there is no unified conflict of law legislation in China. The choice-of-law rules are scattered in several laws and regulations. The most important choice-of-law rules are the Civil Law of 1986 and the Contract Law of 1999.136 These two laws are the major pieces of legislation regulating civil and commercial matters in China and contain special provisions dealing with choice-of-laws in civil cases with foreign elements.137 The choice-of-law rules provided in these [\*PG76]two laws are the combination of the rules previously used in judicial practice and theories advocated by legal scholars.138

The Supreme People’s Court’s “Opinions on Several Questions Concerning Implementation of the General Principles of Civil Law (Provisional)” in 1988 was another major resource of the choice-of-law rules applied by the people’s courts.139 In China, both the Civil Code and the Supreme People’s Court’s “Opinions” are regarded as landmarks in the development of Chinese choice-of-law rules. These sources not only offer legitimate grounds for the people’s courts to apply foreign law in a civil action involving foreign elements, but also provide the mechanisms for determining the applicable law.140

A number of choice-of-law rules adopted in China are featured with western-styled content as well as internationally accepted principles such as the principle of “Party Autonomy.” Some other rules clearly have their genesis in American conflict of law. The most notable example is the approach of the “closest relationship.” This choice-of-law approach is actually a copy of the doctrine of the “most significant relationship” that is the main theme of the Restatement (Second) of Conflict of Laws.141

The Chinese People’s Courts have sought to solve the choice-of-law issue in accordance with commonly practiced standards.142 In Walt Disney Co. v. Beijing Press and Xinghua Bookstores,143 the defendants published nine fairytale books that contained the cartoon figure Mickey Mouse between 1991 and 1993. On January 31, 1994, plaintiff filed a lawsuit in Beijing No.1 Intermediate Court for copyright infringement. Defendants asked the court to dismiss the case and argued that plaintiff’s did not have a valid copyright on Mickey Mouse in China under the Copyright Law of China 1990. The court rejected defendants’ argument and held that, although Mickey Mouse was not published in China, it should be protected under the 1992 China-U.S. [\*PG77]Memorandum of Understanding on Protection of Intellectual Property Rights (1992 MOU). According to the Copyright Law of China, any work of a foreigner first published outside the territory shall be protected if the work is eligible for copyright protection under an agreement between China and the foreign country, or under an international treaty to which both countries are party. On that basis, the court applied the 1992 MOU. But in entering its judgment for plaintiff, the court further held that since the 1992 MOU was signed on March 13, 1992, it may only apply to the infringements that occurred after that date, and therefore plaintiff should not be entitled to copyright protection against defendants’ 1991 publication.144

Choice-of-law rules in China emphasize an actual connection or relationship between the applicable law and the nature of the case involved.145 A closer look at the choice-of-law provisions in the Civil Code of China and the 1988 Supreme People’s Court “Opinions” clearly reveal that the “closest relationship” is the most determinative factor in the choice of law.146 This factor applies not only to restrict the parties’ freedom of choice of applicable law, but also to solve the choice of law puzzle posed by the factual complexity of certain cases.147 Moreover, the closest relationship test is also the identifier of applicable law when a foreign country, whose law should be applied, has plural legal systems.148

The choice-of-law rules in both the Civil Code of China and the 1988 Supreme People’s Court “Opinions” are criticized for being incomplete.149 Unsatisfied with the scattered choice-of-law legislation, many call for a comprehensive conflict of law code.150 In 2000, the China Society of Private International Law published the “Model Law,”151 a remarkable attempt to codify the choice-of-law rules. Of the total 166 articles in the Model Law, ninety-four articles directly deal [\*PG78]with the application of law.152 There is a wide-range of coverage of choice-of-law matters, including nationality and domicile, capacity, formality of conducts and agency, statute of limitations, personal rights, property rights, intellectual property rights, contract, torts, unjust enrichment and negotiorum gestio (abstract action), domestic relations, inheritance, bankruptcy, and arbitration.153

Of course, it is necessary to emphasize that China is a country with a typical civil law tradition. In this sense, the people’s courts may only apply the “black letter” rules. Therefore, the Model Law, however significant, may not become applicable unless and until it is adopted by the Chinese legislature. To be clear, the basic choice-of-law rules that the people’s courts currently apply can be summarized from the following perspectives.

A. Choice of Law in Contract—Party Autonomy

Similar to most other countries, China adopts the “Party Autonomy” doctrine that allows parties to choose the governing law for their contract.154 Both the Civil Code of 1986 and the Contract Law of 1999 provide that the parties to a foreign contract may choose the law applicable to settlement of disputes arising from the contract, except as otherwise stipulated by law.155 In the absence of such a choice, the law of the country to which the contract is most closely related shall apply.156

The contractual parties’ freedom on choice of law is limited. First, the foreign law chosen by the parties shall be excluded if its application would harm the social and public interests of China.157 Second, the choice of law must be expressly made by the parties with mutual consent and may not be implied.158 Third, the choice shall not be made in violation of the rules mandating application of Chinese law.159 The mandatory application mainly deals with the contracts of foreign investment enterprises, such as Chinese-foreign joint ventures and contracts for Chinese-foreign cooperative exploration and development of natural resources. These contracts may only be governed [\*PG79]by Chinese law. Also, under the Detailed Rules (as amended 2001) for Implementation of the Law of China on Wholly Foreign-Owned Enterprises (WFOE), a contract between a WFOE and another company, enterprise, other economic organization, or individual shall be exclusively governed by the Contract Law of China.160

With respect to the time for the parties to make a choice of applicable law, the Supreme People’s Court took a flexible approach. According to the Supreme People’s Court, the parties may choose the governing law through a choice-of-law clause in their contract or by agreement reached after the contract is made.161 The contract disputes for which the parties may choose the governing law include those concerning conclusion of contract, time for the conclusion, interpretation of contract terms, performance of contract, modification, suspension, assignment, dissolution, and termination of contract.162

If there is no expressed choice-of-law, the people’s courts will use the “closest relationship” standard to determine which law is to be applied.163 This standard focuses on the nature of contract and type of transaction.164 Though the term closest relationship is neither defined in the Civil Code of 1986 nor the Contract Law of 1999, in practice, the people’s courts normally follow the guidance set forth by the Supreme People’s Court in 1987.165 This guidance provides a list of laws [\*PG80]applicable to the different contracts pursuant to the closest relationship test.166 For example, under its guidance, absent parties’ choice of applicable law, a contract for the international sale of goods shall be governed by the law of the place of the seller’s business office at the time of contract conclusion. If the contract was concluded at the place of the buyer’s business office, or the contract is made mainly according to the terms and conditions stipulated by the buyer or on the basis of the buyer’s bidding request, or the contract clearly provides that the seller shall deliver the goods at the place of the buyer’s business office, the law of the place of the buyer’s business office at the time of contract conclusion shall apply.167

Notwithstanding this guidance, a people’s court may apply the law of the place to which the contract was found to be the most closely related.168 If the law of a party’s business place shall be applied and the party has more than one business office, the people’s courts shall apply the law of the place that is found to be more closely related to the contract.169 If there is no such business office, the law of the party’s domicile or residence shall be applied.170 It is worthwhile to note that the applicable law, either chosen by the parties or determined by a people’s court, shall refer to the existing substantive law, not including the conflict of law rules nor the procedural law.171

B. Applicable Law in Torts—Lex Delicti

The determination of law applicable to torts in the people’s courts is based on the doctrine of lex delicti—the law of the place of tort.172 This doctrine is adopted in Article 146 of the Civil Code of 1986.173 This provision recites three general rules: (1) the law of the place where the tortious conduct is committed shall apply; (2) if both parties involved in the tort are citizens of the same country or are domiciled in the same country, the law of the parties’ own country or domicile may be applied; and (3) if the conduct committed outside the territory of China is not regarded as tortious conduct under the [\*PG81]law of the People’s Republic, such conduct shall not be treated as a tort.174

In its 1988 “Opinions” on the implementation of the Civil Code, the Supreme People’s Court further illustrated that the law of the place of tort as provided in the Civil Code includes both the law of the place where the tortious conduct is committed and the law of the place where the resultant harm occurs.175 The Supreme People’s Court also opined that if the place of conduct is different from the place of harm, the people’s courts may at its sole discretion determine the law to be applied.176

C. Law Governing Real Property—Lex loci rei sitae

In a lawsuit involving real property, the people’s courts will apply the law of the place of the property—lex loci rei sitae.177 Article 144 of the Civil Code of 1986 provides that in disputes involving the ownership of real property, the law of the place where the property is situated shall apply.178 This doctrine also applies to real property in intestate succession.179

However, the Civil Code of 1986 does not make clear what shall be included in the ownership of real property for choice of law purposes, nor does the Civil Code offer a definition of the term “real property.” According to the 1988 Supreme People’s Court “Opinions,” real property shall refer to land, construction affixed to land, other fixtures, as well as equipment fixed to the construction.180 The Supreme People’s Court also extended the law of the place of real property to govern the civil relations concerning the ownership, sale, lease, mortgage, and use of the real property.181 In addition, as noted above, the law of the place of real property may also apply to a contract for lease, sale, or mortgage of real property.182

With regard to the question about characterization or classification of real property, there exists no provision in the Chinese [\*PG82]laws.183 A common approach advocated by most Chinese private international law scholars is that the law of the place of property determines the issue of the property characterization.184

An exception to the doctrine of lex loci rei sitae is presented by property ownership over vessels.185 In accordance with the Maritime Law of China 1992, the matters concerning the acquisition, transfer, or termination of property ownership over a vessel shall be governed by the law of the vessel’s flag country.186

D. Law Determining Civil Capacity—Lex Personalis

Lex Personalis, or the law of person, is a recognized choice-of-law principle governing the issues of civil capacity.187 It refers to both the law of domicile and the law of own country.188 In general, civil capacity is regarded as a prerequisite for taking civil actions because it is the matter directly affecting the establishment of the civil relations that are involved.189

In China, the most notable provision under which the people’s courts determine the law applicable to civil capacity is Article 143 of the Civil Code of 1986.190 Article 143 provides that if a citizen of China resides in a foreign country, the law of that country may apply to determine his capacity for civil conduct.191 This provision, however, has been criticized by many private international law scholars because of its inadequacy in handling civil capacity issues.192 On the one hand, Article 143 only deals with Chinese citizens and does not contain rules that could be generally applied to non-Chinese.193 Also, there is lacking a provision concerning the determination of civil capacity of a legal persons.194 Moreover, it is unclear whether the residing country actually means the country of domicile.195

[\*PG83] In 1988, the Supreme People’s Court attempted to overcome the shortcomings of Article 143 by offering more specific guidance in the determination of the law governing civil capacity and status.196 Indeed, the court afforded several rules that became heavily influential in the practice of the people’s courts. These rules are:

1.The capacity for civil conduct of a Chinese citizen residing in a foreign country shall be determined by Chinese law if such conduct occurs in China. The law of a foreign country in which the Chinese citizen resides may apply if the conduct occurs in such foreign country.

2.If a foreigner who conducts civil activities in China is deemed to have no capacity for civil conduct under the law of his own country but has such capacity under Chinese law, he shall be regarded as having capacity for civil conduct.

3.The capacity for civil conduct of a stateless person shall, in general, be governed by the law of the country where he resides, or the law of the country of his domicile if he does not reside in that country.197

4.A legal person’s capacity for civil conduct shall be determined by the law of its own country, which is the country where the legal person is registered.198

Another provision concerning civil capacity is Article 97 of the Law of Negotiable Instruments of China 1995.199 It provides that the obligor’s capacity for civil conduct shall be determined by the law of his own country.200 If the obligor is regarded to have no capacity or have limited capacity under the law of his own country but has full capacity under the law of place of conduct, the law of place of conduct shall apply.201

E. Determination of Foreign Law—Burden of Proof

There should be no question about application of foreign law in the people’s courts unless such application would violate the public [\*PG84]interest of China202 or evade Chinese mandatory laws or prohibitive rules.203 Difficult issues arise, however, as to how the contents of the applicable foreign law will be determined. The complexity involved in this regard is how the foreign law should be treated; this would also affect who will have the burden to prove the foreign law.

Two contradictory approaches have governed the question concerning the determination of foreign law. One is a common law approach, under which foreign law is treated as a matter of fact pleadable as such by evidence supplied by the parties, their attorneys, or experts.204 The other is a continental law approach, in which foreign law is regarded as a matter of law and the court has the obligation to apply it.

The Chinese People’s Courts seem to be positioned between these two extremes. The axiom, as provided in Article 7 of the CPL, is that in the adjudication of civil cases, the people’s courts must “base itself on the facts and take the law as the criterion.”205 Therefore, the people’s courts are required to look into both fact and law in any civil case.206 The underlying notion is that a court shall make every effort to ensure errorless ascertainment of facts and application of law.207

A people’s court may determine the foreign law through such means as: (1) the parties to litigation; (2) the central authority of contracting country under the agreement of judicial assistance between China and the foreign country; (3) the Chinese embassy or consulate in the foreign country; (4) the foreign country’s embassy or consulate in China; or (5) Chinese or foreign legal experts.208

If, however, the foreign law cannot be determined through the above means, Chinese law shall be applied.209 In addition, should ei[\*PG85]ther party disagree with a trial-level people’s court determination on foreign law, the party may appeal to the appellate court for review.210

III. Enforcement of Judgments in the Chinese People’s Courts

In a broad sense, enforcement of judgments in international civil litigation embraces two aspects. The first aspect is to enforce the judgment entered by a domestic court of a country, and the second involves recognition and enforcement of foreign judgments. In many cases, it also involves enforcement of foreign arbitral awards. More importantly, given the nature of judicial sovereignty, a judgment of one country’s courts does not automatically gain extraterritorial recognition and enforcement in another country. This matter may only be resolved through a special channel, which is commonly called “international judicial assistance.”

A. Enforcement of People’s Courts’ Judgments

The CPL provides a number of devices by which a people’s court judgment may be satisfied. In general, the enforcement is divided into (a) enforcement against property, and (b) enforcement against required activities. Enforcing a judgment against property is called execution. Under the CPL, the available means for execution include inspection, freezing, and transfer of judgment debtor’s deposits,211 withholding and withdrawal of judgment debtor’s income;212 sequestration, seizure, freezing, public auction, and sale of judgment debtor’s property;213 and eviction and return of land.214 The enforcement against required activities involves forced delivery of specified value instruments or certificates,215 and forced performance of acts as specified in the judgment.216 Additionally, for purposes of enforcing judgments, the CPL also provides certain protective measures, which include search,217 issuance of certificates for the transfer of property rights,218 as well as monetary penalties for delayed payment.219

[\*PG86] There are two ways to initiate the process of enforcement in the people’s courts. The first, and more common, one is the “enforcement by petition” made by the judgment creditor.220 If the judgment debtor refuses to satisfy the people’s court judgment, the judgment creditor may file a petition for enforcement of the judgment with a competent people’s court.221 The enforcement petition may be made in writing or orally if the petitioner has difficulty writing.222 When making the petition, the petitioner provides the people’s court with documents stating the reasons and items for enforcement, as well as a copy of the court judgment. The petitioner may also need to furnish information about the financial status and property of the judgment debtor.223 The time limit for the judgment enforcement petition is one year, if at least one party is citizen, or six months, if all parties are legal persons or other organizations.224

Enforcement may also be triggered by referral of the judge in the case, which is called “judge-referred enforcement.” The enforcement under the judge’s referral, however, is limited to legal documents such as judgments, orders, and mediation papers made by the people’s court only.225 In 1998, the Supreme People’s Court adopted the “Rules (Provisional) on Several Matters Concerning Enforcement Work in the People’s Courts.”226 Under these Rules, a judge may refer for enforcement: (1) judgments for child support, alimony, pension, medical expenses, and salaries; (2) legal documents made by the people’s courts in criminal proceedings containing property-related civil judgments, orders, and mediation papers; (3) court orders pertaining to attachment and advance execution; (4) court decisions on fines and detention; and (5) civil judgments and orders made by the people’s court concerning major interests of China.227

[\*PG87] In the people’s courts, enforcement of a judgment is executed by an enforcement officer.228 Many people’s courts have formed an enforcement division in charge of judgment execution.229 Upon receipt of a petition or judge referral for enforcement, the enforcement officer or division sends the execution notice to the judgment debtor, instructing him or her to comply with the judgment within a specified period of time. If the judgment debtor fails to comply, the enforcement officer may explore other enforcement devices to compel the debtor to satisfy the judgment.230

However, if the judgment debtor or their property is not within the territory of China, the judgment creditor may directly apply to a competent foreign court for enforcement. If necessary, the people’s court may also send the enforcement request to a foreign court under the provisions of bilateral or international treaties to which both China and the foreign country are members. Absent these treaties, the request may be made on the basis of reciprocity.231 If required by a foreign court, the people’s court may issue a certificate of judgment to the judgment creditor.232

B. Recognition and Enforcement of Foreign Judgments and Arbitral Awards

Articles 267 and 268 of the CPL provide the process to enforce foreign judgments by the people’s court.233 There are two alternatives to start the process: (1) the foreign judgment creditor may file a petition directly with the competent people’s court for recognition and enforcement of the judgment; or (2) the foreign judgment court may make a judgment recognition and enforcement request to the competent people’s court.234 Note that the foreign court request in this regard shall be directed to the competent people’s court through the means provided in the treaties to which both China and the forum country have joined, or on the basis of reciprocity. If neither treaty nor reciprocity exists, a diplomatic channel is usually employed. For purposes of the recognition and enforcement of a foreign judgment, [\*PG88]the competent court shall be the intermediate people’s court of the place where the judgment debtor resides or his property is located.235

Upon receipt of the judgment recognition and enforcement petition or request, the intermediate people’s court shall examine and review the foreign judgment on the basis of international treaties to which China is a member, the principle of reciprocity, or relevant Chinese law.236 The examination and review, however, is limited to the formality of the foreign judgment without questioning the merits of the foreign court’s determination of facts and application of law.237 After the examination and review, the people’s court may issue an order of recognition or a writ of enforcement provided the foreign judgment does not contradict basic principles of Chinese law nor violates Chinese sovereignty, public security, or social interests.238

The CPL does not dictate the conditions under which a people’s court may refuse to recognize and enforce a foreign judgment. In practice, however, the people’s courts may strike down a petition or request for recognition and enforcement if the foreign judgment is found to have one of the following defects:

(1)the foreign judgment was made by an incompetent foreign court according to relevant provisions of international treaties and Chinese laws,

(2)the foreign judgment has not taken effect or has no effect at all under the law of such foreign country,

(3)the defendant was not given adequate notice for the proceedings, or was not properly represented by a guardian if lacking legal capacity,

(4)an effective judgment has been made by a people’s court for the same cause of action between the same parties, or the case was in the middle of trial in a people’s court and the trial had begun before the proceedings in the foreign court started, or

[\*PG89] (5)recognition and enforcement of the foreign judgment would cause harm to Chinese sovereignty, security, and public order.239

On December 1, 1992, the Supreme People’s Court issued its “Opinions on Relevant Questions Concerning People’s Courts’ Handling Petition for Recognition of Divorce Judgment Made by a Foreign Court.”240 These Opinions specifically address the recognition of foreign divorce judgments sought by Chinese citizens as well as foreigners. The Supreme People’s Court emphasizes that a people’s court should not decline to take action on the recognition petition submitted by a Chinese citizen even though the marriage was concluded outside China.241 But, if the judgment was made in default, the petitioner shall provide the people’s court with evidence that the defendant was properly notified of the divorce action.242 According to the Supreme People’s Court, a people’s court may deny a foreigner’s petition for recognition of their divorce judgment if their spouse is not a Chinese citizen.243

With respect to a foreign arbitral award, Article 269 of the CPL provides a similar procedure to that for the recognition and enforcement of foreign judgments.244 A major difference is that only the parties to the arbitration may initiate the process by submitting the petition directly to the intermediate people’s court of the place where the award debtor resides or property is located.245 In addition, since China is a member state to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958 New York Convention),246 in nearly all cases recognition and enforcement of foreign [\*PG90]arbitral awards are subject to the conditions set forth in the Convention.247

C. Practical Concerns in Seeking Enforcement of Judgments in the People’s Courts

The enforcement of court judgments in China is difficult. Each year a considerable number of court judgments or orders are not enforced. It is obvious that this sluggishness in enforcing judgments, including arbitral awards, in China has become a major concern for many foreign companies. Though the Supreme People’s Court is under tremendous pressure to resolve this problem, the result still is far from optimal. Partly because of this reason, during the past two gen[\*PG91]eral sessions of the National People’s Congress, the Supreme People’s Court barely survived approval of its working report to the Congress.248

It is unfair, however, to blame the Supreme People’s Court alone on this matter, and many factors attribute to the problem of enforcement difficulty. Local protectionism is the main obstacle to enforcement. As noted, since China adopts a two-instance system of adjudication, a majority of cases conclude in intermediate courts situated at the level of prefecture between county and province. The enforcement of domestic judgments normally rests with the trial courts, county courts in many cases, unless an intermediate court conducts the first instance trial. When a civil case involves different counties or prefectures, the trial court encounters local government influence driven by local interests such as the desire or policy to protect local industries or businesses. The more local interests are involved, the more difficult it is to enforce a judgment against a local party. In case of enforcing foreign judgments against a local party, such protection could become more dominant.

A second factor hindering enforcement is government interference in favor of state-owned enterprises (SOE). If a SOE is a judgment debtor, the enforcement of a judgment may be halted if such SOE is financially unable to satisfy the judgment or the enforcement would threaten the survival of the SOE. The interesting phenomenon is that many SOEs in China are both creditors and debtors. More importantly, a SOE may not sell or be forced to sell its assets to satisfy a court judgment.

The third factor is a lack of credit-checking and asset-tracking systems. In many cases, it is very difficult, if not impossible, to obtain a judgment debtor’s financial and asset information, especially for a foreign judgment creditor. Under the CPL, a request for recognition and enforcement of a foreign judgment shall be submitted to the intermediate people’s court of the place where the judgment debtor resides or his property is located.249 Quite often, however, the judgment debtor disappears in order to evade the judgment, and his assets, including bank accounts, are all transferred to an undisclosed place.

[\*PG92] The fourth factor is the lower court’s abuse of discretion. For example, when recognition and enforcement of foreign arbitral awards are requested, lower Chinese courts often arbitrarily decide to set aside the awards. In order to curb this practice, the Supreme People’s Court established a pre-reporting system under which a decision on whether an arbitral award is to be recognized and enforced shall be reported to the Supreme People’s Court for review. No decision shall be made before the Supreme People’s Court review is complete.250

The language barrier might be another factor. For a foreign judgment to be enforced in China, it is required that the judgment be translated to the Chinese language. Therefore, any mistranslation in the parties’ name or address may result in a failure of recognition and enforcement because it could constitute a ground on which the judgment debtor denies the judgment.

IV. Judicial Independence—Challenges Facing the Chinese Judicial System

A fundamental issue that affects international civil litigation in China is the lack of judicial independence. This issue not only troubles foreign companies, investors, and businessmen, but also becomes a popular concern among Chinese citizenry. Despite the increasingly strong voice calling for an independent judicial system, the people’s courts still seems to face impassable hurdles to exercising their judicial power independently.

Indeed, it is fair to say that judicial independence is a recognized principle in the Chinese Constitution and laws. In 1954, when the first Constitution was adopted,251 it provided that the people’s courts shall adjudicate cases independently and abide by law.252 Article 126 of the current Constitution, adopted in 1982 (as amended 1999), further provides that the people’s courts shall exercise judicial power independently according to stipulation of law, free of any interference by administrative agencies, social organizations, or individuals.253 Similar [\*PG93]provisions are also embodied in the 1979 Organic Law of the People’s Courts (as amended 1983),254 the 1995 Law of Judges (as amended 2001),255 as well as the CPL.256

Therefore, literally speaking, the people’s courts are granted an independent judicial power under the Chinese Constitution and laws. The problem, however, is that the judicial power may not be exercised independently in practice. Even the Supreme People’s Court’s activities are not completely free from interference. The cause is the inherent defects existing in the current judicial system. China is a communist-party-dominated socialist country, and separation of powers is not a dominant theme. The People’s Congress is the basic organization of the nation’s political power.257 According to the 1982 Constitution (as amended 1999), the National People’s Congress (NPC) is the highest body of state power. But this body is required to be under the leadership of the communist party.258 The Supreme People’s Court, though defined as the nation’s top judiciary body, is required to report to the NPC. Under the NPC, there are local people’s congresses at the province and county level to which the lower people’s courts at corresponding level are responsible.259

Additionally, there are several system defects. The first one is the current organizational structure of the judicial system, which makes judicial independence extremely difficult. As noted, China has a unitary judicial system with four levels, from the Supreme People’s Court to the county trial courts. The Supreme People’s Court, however, has no control over any of the lower courts except for work connections. [\*PG94]All judges at the lower people’s court are selected and appointed by the local people’s congress, which is heavily influenced by the local communist party chief and government heads. More importantly, the operating expenses, including salaries of the judges, are provided from the local government budget. In addition, Chinese judges do not have a life term, and any of them could be replaced or removed at anytime by the local people’s congress.260 It is, therefore, quite common for local judges to follow instructions and opinions from the local government on particular cases, since government and judicial powers are usually intertwined.261

The second aspect that affects judicial independence is the lack of professional ethics and judicial corruption. In China, personal relationships or “back-door” connections play significant roles in every corner of society. This scenario is often seen in the adjudication of cases. Many Chinese lawyers spend much of their time trying to find easy access to the presiding judge in lieu of traditional legal analysis.

A third shortcoming involves the internal managerial system of the people’s courts. Within the people’s courts, the president of each court is both the chief judge and the chief executive. The president has the power to influence the promotion and demotion of any particular judge in the court, and to supervise all judges through a reporting system. In most cases, the local people’s court president is a political appointee by the local government.262 In addition, though cases are tried by a collegial panel, the panel’s decision is subject to review by the trial committee consisting of the president, vice presidents, and division directors. Thus, the ability of the judge or collegial panel to reach an independent decision on a case is considerably limited.

Furthermore, the professional quality of judges is often very poor. Among the presidents and vice-presidents of the people’s courts, only 19.1% received a bachelor degree or higher.263 This ratio is down to 15.4% among the judges in the lowest courts.264 For those [\*PG95]who have received a college degree, many of them have not graduated from law school. For the few who have received a law degree, a substantial number did so through continuing education. Ironically, the reality is that in many local people’s courts there are no law school graduates, and most judges are military veterans.

It is true that the Law of Judges is expected to help improve the quality of judges in the people’s courts.265 There is, however, doubt that the Law of Judges may achieve its goal of improving the quality of judges to a highly professional standard.266 The primary concern is that the professional requirements for a judge, as set forth in the Law of Judges, are too low because a law degree is not a minimum requirement.267 Also, even though formal college education is required, this requirement does not apply to those who became judges before the Law of Judges took effect on July 1, 1995.268

Conclusion

International civil litigation in the Chinese People’s Courts has increased in the past decade, a trend likely to continue, especially after China becomes a member of the World Trade Organization. It is without question that China’s huge market potential and fast growing economy are both attractive to foreign companies and investors. Nevertheless, the deficiencies in the Chinese judicial system are cause for caution. Although in recent years many efforts have been made in [\*PG96]China to improve judicial justice, progress is still quite behind general expectations.

Given China’s strong desire to join the main stream of the world economy, it is certain that China will have to continue its on-going efforts to restore public confidence in the Chinese judiciary. Further improvement of judicial independence would result in the increased competence of the Chinese People’s Courts to handle international civil litigation. However, it would seem unrealistic to anticipate China to fundamentally change its judicial system within a short period of time. Strategically speaking, it is important is ensure that China continues to make changes in the right direction. Further judicial reform will help attract international business in the years to come.

## 1AR--LionFish CP

### 1AR-Competition

#### The places where your authors want to get rid of them are not in China’s jurisdiction which justifies PDCP. Proof reads blue.

1NC WRI ND [(World Resource Institute, a global research non-profit organization established in 1982 with funding from the MacArthur Foundation under the leadership of James Gustave Speth. WRI's activities are focused on seven areas: food, forests, water, energy, cities, climate and ocean.) “Atlantic and Caribbean: Lionfish Invasion Threatens Reefs” World Resource Institute, No Date] BC

Recent news reports from Texas to Jamaica to the Bahamas have documented the rapid spread of the lionfish—an invasive marine species. Lionfish have quickly become established across the waters of the southeastern U.S. and the Caribbean. New sightings abound—earlier this month lionfish reached the Flower Garden Banks National Marine Sanctuary off the coasts of Texas and Louisiana. Because of their role in upsetting the ecological balance of coral reef ecosystems, the rapid growth in the populations of these fish poses a grave threat to the region’s coral reefs. Consequently, the region’s fishing and tourism industries, which depend on coral reefs, may also be at risk. Governments across the region are trying to respond to the lionfish invasion by developing new campaigns and cooperation strategies that could pose important lessons for how to deal with invasive marine species in the future.

Two species of lionfish (Pterois volitans and P. miles) are responsible for this recent and growing threat to Atlantic and Caribbean reefs. Native to the Indo-Pacific, these species’ colorful and dramatic appearance make them popular ornamental fishes in saltwater aquariums (see photo above). Though no one is certain how or when the lionfish invasion began, strong evidence suggests that people first introduced lionfish to the Atlantic along the southeastern coast of Florida, where they were first sighted in 1985. By 2001, people reported sightings in waters off the coasts of Georgia, the Carolinas, and Bermuda. Over the last decade, lionfish population densities have increased in these areas and these species have spread southward, and are now established throughout much of the Caribbean (see slideshow below). Lionfish are now invading the Gulf of Mexico and the northern coast of South America. These fish pose a serious threat to reef fish populations across the region, and thus to coral reef ecosystems and the people who depend on them.

### 1AR- Impact

#### Consumption is the major cause of biod loss---the CP is a drop in the bucket

Pandey 17 [Avaneesh Pandey, environment writer at IBTimes, “Biodiversity Loss: Global ‘Threat Maps’ Reveal Impact Of Human Consumption On Wildlife,” 1/6/17]

Earth is currently in the midst of a very serious biodiversity crisis. Although estimates of the exact number vary widely, **scientists now believe that the rapid loss in species we are seeing today is anywhere between 1,000 and 10,000 times higher than the extinction rate when humans weren’t around.**

So what is the main driver of this ongoing natural disaster? **An** unsustainable consumption of natural resources **that is also leading to a rapid habitat loss for species that are no longer perceived to serve human needs.** A widely known example is the destruction of rainforests and wildlife in Indonesia and Malaysia to clear land for cultivation of palm oil — a substance used in a variety of products, ranging from biscuits and ice creams to lipsticks and detergents.

“One important challenge in conservation is that, in many hotspots, **export industries continue to drive overexploitation**,” Daniel Moran from the Norwegian University of Science and Technology and Keiichiro Kanemoto from Shinshu University in Japan write in a new study published Wednesday in the journal Nature Ecology and Evolution. “Conservation measures must consider not just the point of impact, but also the **consumer demand that ultimately drives resource use.”**

#### Their internal link to biodiversity loss is species destruction, but there’s no evidence that species loss implies biod loss---every study refutes this.

Winkler 16 [Daniel, PLOS Ecology Reporting Fellow, citing “Functional Resilience against Climate-Driven Extinctions – Comparing the Functional Diversity of European and North American Tree Floras” by Mario Liebergesell, Björn Reu, Ulrike Stahl, Martin Freiberg, Erik Welk, Jens Kattge, J. Hans C. Cornelissen, Josep Peñuelas , Christian Wirth, “Redundancy in response to global change: Ecosystem processes buffered by functional diversity,” 8/12/16, https://theplosblog.plos.org/2016/08/redundancy-in-response-to-global-change-ecosystem-processes-buffered-by-functional-diversity/] // Proof DR

A number of PLOS ONE and PLOS Biology’s papers illustrate that **we can learn a lot about the future of global change dynamics by looking to the past.** A recent study in PLOS ONE by Mario Liebergesell and colleagues did just that and is featured in the PLOS Ecological Impacts of Climate Change Collection 2015–2016. Liebergesell, from the German Centre for Integrative Biodiversity Research (iDiv) at the University of Leipzig, and his coauthors find evidence that climate-driven species loss at continental scales can be independent of changes in functional diversity; that species loss need not imply changes or declines in ecosystem processes. Their **results have potentially dramatic implications for global change scenarios examining changes in ecosystem functioning.**

Debate regarding the relative importance of an individual species versus the ecological function it provides to an ecosystem has been somewhat controversial over the past couple of decades (see Grime 1997 for a commentary on the beginning of the debate). Studies like Tilman et al. 1997 and Hooper and Vitousek 1997 were among the first to show that the number of species is not as important, or, in some cases, not important at all, when it comes to ecosystem functioning (for example plant productivity and soil processes). These studies and many that have followed have logically reframed discussions around conservation issues, global change impacts, and even ecosystem benefits to humans. That being said, we still seem to adore and want to protect and conserve our favorite species because they have the prettiest flowers, or are the most charismatic species we associate with conservation and environmental ethics, or simply because they are threatened and/or nearing extinction. We also value a singular definition of biodiversity when there are multiple types of biodiversity that may be more relevant than others to conservation goals and sustainable practices. Why do we care so much about individual species when the threat of global change strengthens its imminent control on all Earth systems? Perhaps this debate should be reserved for another occasion.

Glaciation events induced extensive extinctions in the Northern hemisphere 21,000 years ago and provide substantial explanation for Europe’s modern tree flora. These extinction events correlate with phylogenetic selection and regional extinctions due to cold tolerance. This is further evidenced by widespread taxa being more tolerant of cold growing season and winter temperatures than extinct or relict taxa. Liebergesell et al. are the first to test the influence of glacial extinction on the overall functional diversity of the two continents. They compare the tree floras of contemporary Europe and North America and examine how richness varies between the two continents as a result of past glacial climates, and whether functional diversity similarly compares.

They start with a whole-plant perspective and use a comprehensive trait matrix consisting of 26 traits that are largely important for tree responses to environmental drivers. Many of the traits they used are also directly relevant to ecosystem functioning (e.g., life form, leaf carbon to nitrogen ratio) and affect biogeochemical cycling. Overall, they selected contemporary, climatically-similar regions in the temperate zones of North America and Europe and compared trait space occupied by 66 European and 154 North American tree species.

The authors then compared the functional diversity of the continents using climatically similar sub-regions. Regions were selected based on statistical analysis of 19 bioclimatic variables from worldclim.org. This analysis was done separately for gymnosperms and angiosperms. Gymnosperms are plants like coniferous trees (pines, hemlocks, spruce, etc.) or others like gingko, the common trait being that all gymnosperms have “naked seeds” and do not flower. Angiosperms on the other hand do make flowers and fruits and are the most diverse group of land plants.

Liebergesell et al. were unable to detect differences in functional dispersion of gymnosperm species between Europe and North America. They note that North American gymnosperms appear to disperse more than European gymnosperms and that this variation can be attributed to life strategy differences that include how tolerate the species are of environmental stressors, how they acquire resources, and how they compete with other individuals.

Angiosperms, on the other hand, exhibited significant differences between the two continents, sub-regions, and smaller scales. European tree assemblages with higher species richness (the number of species in an area) levels consistently exhibit greater functional diversity than North American comparisons. Again, Liebergesell et al. attribute these observed differences to functional differences of specific taxa.

Principle component analyses of gymnosperms and angiosperms, and their trait space occupied in each of the continents. Principle Components Analysis (PCA) is a statistical procedure that uses an orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components.

Principle component analyses (PCA) of gymnosperms and angiosperms, and their trait space occupied in each of the continents. PCA is a statistical procedure that uses an orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components.

Li**ebergesell et al. conclude that a larger species pool does not imply higher functional diversity** and that this can vary by organism group (i.e., gymnosperms vs. angiosperms). However, they go on to dissect their findings in terms of functional identity, limitations imposed by available distribution maps and map quality, the difficulty in identifying climatically equivalent regions, and the tremendous topographic variation between the two sampled regions (i.e., Europe has much larger topographic heterogeneity than the eastern United States). Nonetheless, their findings are exciting not only because of the observed trend in functional diversity but also because this trend (at least for angiosperms) **is persistent across spatial scales!**

## 1AR—LeiShen/Mosquitoes CP

### 1AR—Competition

#### Perm do the counterplan -- They conflate AWSs with LAWs – LAWs kill humans

FLI n.d. Future of Life Institute, Research Institute focused on keeping [artificial intelligence](https://futureoflife.org/background/benefits-risks-of-artificial-intelligence) beneficial and  also exploring ways of reducing risks from [nuclear weapons](https://futureoflife.org/background/the-risk-of-nuclear-weapons/) and [biotechnology](https://futureoflife.org/background/risk-of-biotechnology/). FLI is based in the Boston area, and welcomes the participation of scientists, students, philanthropists, and others nearby and around the world. “Lethal Autonomous Weapons Systems,” https://futureoflife.org/lethal-autonomous-weapons-systems/#pledge

Lethal AWS systems refer to a narrow subset of autonomous weapons systems where the target of the weapon system is a human. Autonomous weapons systems designed to defend against incoming missiles, or other anti-materiel targets, would not be subject to the mandate.

#### It doesn’t PIC out of the aff – mosquito drones have programmed-in topics, LAWs must select targets by themselves without human intervention on the battlefield.

Wyatt 6/4 Austin Wyatt [PhD], 6-4-2020, "So Just What Is a Killer Robot?: Detailing the Ongoing Debate around Defining Lethal Auton," Washington Headquarters Services, <https://www.whs.mil/News/News-Display/Article/2210967/so-just-what-is-a-killer-robot-detailing-the-ongoing-debate-around-defining-let/> AG

The most common definition of LAWSs originated in a 2012 US Department of Defense (DOD) directive on autonomous weapon systems.6 This directive outlined the DOD’s view on developing an autonomous capability for weapon systems and the required level of human involvement. This document defines a weapon as fully autonomous if, when activated, it “can select and engage targets without further intervention by a human operator.”7 Interestingly, DOD Directive 3000.09 lists a requirement for sufficient training for human operators, which indicates a recognition that human operators would have to retain some level of oversight over any use of force decisions. The concern of how to balance the need to achieve effectiveness in a battlespace characterized by an operational tempo potentially beyond the capacity of human reaction time while also maintaining sufficiently effective human oversight to guard against unintended engagements is apparent in this directive.8 Finally, DOD Directive 3000.09 also contained a built-in process for obtaining waivers for development, deployment, or even the transfer of LAWSs in situations that potentially contravene the policy.9 Despite being due to expire at the end of 2017, DOD Directive 3000.09 was still in effect at the time of writing and features prominently in the developing discourse on LAWSs. As the most commonly cited state definition for autonomous weapon systems, the DOD Directive 3000.09 definition has been used as the starting point for the definitions used by multiple other actors, including nongovernmental organizations such as the Campaign to Stop Killer Robots.10 While this definition has found traction amongst scholars, it has largely been received critically. For example, Heather Roff criticized the DOD definition because the terms select and engage are open to interpretation.11 Notwithstanding scholarly critique, the DOD definition is arguably the natural starting point for developing a working definition of AWSs.

Despite its flaws, the DOD definition does represent a more realistic, if nonspecific, view of autonomy in weapon systems than the definitions adopted by some other states. In 2011, for example, the UK Ministry of Defence definition referred to autonomous systems having the capability to understand “higher level intent and direction” and that individual actions “may not be” predictable.12 This definition seems to indicate that a platform or military system must possess artificial intelligence with a level of self-awareness that bleeds into the field of general artificial intelligence (AI). It is highly unlikely that any state actor would countenance the development of weapons that they could not predict, even if it were technologically possible to create LAWSs with the capacity to interpret higher-level intent. The concept of this level of full autonomy has been justifiably dismissed as a distraction in the literature,13 as an approach driven by this definition simply does not account for the weapon systems that are actually in development.

### 1AR—Judge Kick

## 1AR—Landmines CP

### 1AR— Competition

#### Competition:

#### 1] Landmines aren’t laws

Bergstrom, 19, 11/7/2019, The Bulletin, “The United States should drop its opposition to a killer robot treaty”, Lisa A. Bergstrom is a technology and security specialist in Berkeley, California, with interests in nuclear proliferation, conventional weapons policy, and Russian studies. She received her Master of Arts in Security Studies from the Edmund A. Walsh School of Foreign Service at Georgetown University, where she concentrated in technology and security. URL: <https://thebulletin.org/2019/11/the-united-states-should-drop-its-opposition-to-a-killer-robot-treaty/>, KR

Given this history of success, it is tempting to conclude that a strong, standalone treaty is the best way to deal with the threat posed by autonomous weapons, despite the fact that countries like the United States and Russia would almost certainly refuse to join. Autonomous weapons, however, are not landmines or cluster munitions. Landmines and cluster munitions were used around the world for decades in conflicts large and small, in many cases causing great civilian harm. Treaties banning these weapons have value even when the United States, Russia, China, and other major military powers do not participate. In contrast, autonomous weapons are a developing technology likely to be used by only the most advanced militaries for some time. A treaty that excludes almost all the countries with the interest and ability to deploy autonomous weapons would have comparatively little value either as arms control or as a humanitarian norm builder.

#### 2] They’re not LAWs and CX checks- you confirmed they rely on some level of human autonomy meaning they don’t meet the definition of a LAW

Bode and Hueless 18 — Ingvild Bode joined the University of Kent in 2015. Her overall research agenda covers the area of peace and security, with a theoretical focus combining practice theories and constructivist International Relations. Specifically, she has three research interests. First, the potential influence of individuals from diverse backgrounds on processes of policy evolution at the United Nations, particularly in relation to UN peacekeeping, thematic mandates at the Security Council, and humanitarian affairs. Hendrick Hueless joined the University of Kent’s School of Politics and International Relations as a postdoctoral researcher. He works primarily at the intersections of IR theory, International Political Sociology (especially governmentality studies), and governance. Currently, he is particularly interested in the weaponization of AI, the EU’s external relations, technologies and politics, and norms in international relations. Hendrik also supports the development of grant applications as well as of research and impact strategies in the School of Politics and IR (MORE IN THE ABOVE CARDS). “Autonomous weapons systems and changing norms in international relations”; July 2018 <https://www.cambridge.org/core/journals/review-of-international-studies/article/autonomous-weapons-systems-and-changing-norms-in-international-relations/8E8CC29419AF2EF403EA02ACACFCF223/core-reader> As+

The defining aspect of AWS is their varying degree of autonomy – ultimately, independent ‘agency’. On a spectrum comprising a simple reactive mechanism at one end and human intelligence at the other end, AWS are gradually moving towards the latter. 18 In this sense, AWS are defined as ‘systems that, once activated, can track, identify and attack targets with violent force without further human intervention’. 19 Hence, AWS qualitatively surpass remote-controlled systems, such as drones, that are currently important security technologies.

How to define the autonomy of weapons systems is a matter of debate in two main ways. First, some scholars refine the conceptual understanding of autonomy by, for example, outlining its characteristic aspects such as independence, cognitive skills, and cognitive architecture. 20 Heather Roff connects autonomy directly to four functions of weapons systems (trigger, targeting, navigation, mobility), allowing her to evaluate the extent to which weapons operate autonomously to different degrees. 21 In discussing autonomy, scholars emphasise that it should not be equated with human intelligence or ‘free will’, given the distinct nature of robot decision-making. 22 A second group of scholars debates levels of appropriate human supervisory control, focusing on human-machine interaction and the extent to which machine autonomy undermines human autonomy. 23 Here, scholarship worries about the human role moving further and further away from immediate decision-making processes on the use of force, a concern underlined by the prominent image of the control ‘loop’. While humans are still ‘in the loop’, in manual control, with regard to drones, in the context of more autonomous systems, humans are projected to first become ‘on the loop’, only overseeing operations and having the formal ability to override machine’s decision, to eventually ‘out of the loop’, being completely absent from operating systems. 24 The control loop image has been criticised for offering ‘a crude distinction’, because decision-making can be both immediate, that is, in an individual targeting situation, or a wider concept, that is, associated with programming. 25

## 1AR—Iguanas CP

### 1NC—Competition

#### There’s no ev that iguanas are laws – none of their ev says that it is and its their burden of proof – no new 2nr ev since you sandbag the time-crunched 2ar and the 1AR strat was dependent on the 1NC

#### Here’s a ss of the weapon:

### 1NC—Perm

#### PDB --- Perm resolves --- nothing in the 1NC indicates that Iguanas are actually LAWs --- thus perm resolves and the 2nr is too late to read new ev because everything in the 2ar would be new responding it --- it’s like reading a new link to a DA in the 2nr

#### PDCP --- solves back the net benefit

### 1NC—LBL

#### Uniqueness: in the squo China is already primed for arms races no matter what --- using LAWs to do that now

#### They rely on unmanned drones which their CP bans --- thus China wouldn’t be pacified with Iguanas

Wood 20 – Peter Wood; “Chinese Shipbuilder Launches Amphibious “Sea Iguana” Unmanned Surface Vehicle”; May 22 ; <https://www.ashtreeanalytics.com/posts/chinese-shipbuilder-launches-amphibious-sea-iguana-unmanned-surface-vehicle> As+

Concepts of operations for the system displayed in 2018 depict several USVs variously joining a PLA amphibious assault or operating on their own, all linked to a broader battlefield network via a loitering aerial drone. Company materials indicate that the system has an operational range of between 600 and 1200 kilometers, but can only be controlled by systems 40-50 kilometers away, making the UAV intermediary control node necessary. As the article states, the system is also envisioned as conducting raids on its own or being used to carry commandos.

#### Solvency deficit: the cp triggers US deterrence which is enough for a first strike – that oweighs on timeframe since the aff is try-or-die

## 1AR--Hypersonics CP

### 1AR—Competition

#### PDB- the Kania evidence just says that the PLA is developing a bunch of weapons, including hypersonics with some autonomy. Nowhere does it say that autonomy is key to their new weapons tech.

#### If hypersonics are deterring in the squo, then they can’t be autonomous cuz LAWs don’t exist yet, which means we can ban LAWs and keep the weapons your evidence says are good.

### 1AR—Impact Defense

#### There’s no scenario for prolif in a post LAW-ban world. Even if hypersonics strengthen deterrence, there’s no warrant as to why deterrence will fail without it.

### 1AR—Link Turn

#### Only China is developing autonomous ones, which means they have an advantage over the U.S. and Russia, which shreds deterrence. The hypersonics the U.S. is developing are not autonomous, but in the world of the CP, China spearheads a deterrent strategy bound to fail.

Smith 19 [R. Jeffrey Smith has won a Pulitzer Prize and a National Magazine Award and is managing editor for national security at the Center for Public Integrity. “Hypersonic Missiles Are Unstoppable. And They’re Starting a New Global Arms Race.” The New York Times Magazine, June 19, 2019, <https://www.nytimes.com/2019/06/19/magazine/hypersonic-missiles.html>] // Proof DR

Development of hypersonics is moving so quickly, however, that it threatens to outpace any real discussion about the potential perils of such weapons, including how they may disrupt efforts to avoid accidental conflict, especially during crises. There are currently no international agreements on how or when hypersonic missiles can be used, nor are there any plans between any countries to start those discussions. Instead, the rush to possess weapons of incredible speed and maneuverability has pushed the United States into a new arms race with Russia and China — one that could, some experts worry, upend existing norms of deterrence and renew Cold War-era tensions. Although hypersonic missiles can in theory carry nuclear warheads, those being developed by the United States will only be equipped with small conventional explosives. With a length between just five and 10 feet, weighing about 500 pounds and encased in materials like ceramic and carbon fiber composites or nickel-chromium superalloys, the missiles function like nearly invisible power drills that smash holes in their targets, to catastrophic effect. After their launch — whether from the ground, from airplanes or from submarines — they are pulled by gravity as they descend from a powered ascent, or propelled by highly advanced engines. The missiles’ kinetic energy at the time of impact, at speeds of at least 1,150 miles per hour, makes them powerful enough to penetrate any building material or armored plating with the force of three to four tons of TNT. They could be aimed, in theory, at Russian nuclear-armed ballistic missiles being carried on trucks or rails. Or the Chinese could use their own versions of these missiles to target American bombers and other aircraft at bases in Japan or Guam. Or the missiles could attack vital land- or sea-based radars anywhere, or military headquarters in Asian ports or near European cities. The weapons could even suddenly pierce the steel decks of one of America’s 11 multibillion-dollar aircraft carriers, instantly stopping flight operations, a vulnerability that might eventually render the floating behemoths obsolete. Hypersonic missiles are also ideal for waging a decapitation strike — assassinating a country’s top military or political officials. “Instant leader-killers,” a former Obama administration White House official, who asked not to be named, said in an interview. Within the next decade, these new weapons could undertake a task long imagined for nuclear arms: a first strike against another nation’s government or arsenals, interrupting key chains of communication and disabling some of its retaliatory forces, all without the radioactive fallout and special condemnation that might accompany the detonation of nuclear warheads. That’s why a National Academies of Sciences, Engineering and Medicine report said in 2016 that hypersonics aren’t “simply evolutionary threats” to the United States but could in the hands of enemies “challenge this nation’s tenets of global vigilance, reach and power.” The arrival of such fast weaponry will dangerously compress the time during which military officials and their political leaders — in any country — can figure out the nature of an attack and make reasoned decisions about the wisdom and scope of defensive steps or retaliation. And the threat that hypersonics pose to retaliatory weapons creates what scholars call “use it or lose it” pressures on countries to strike first during a crisis. Experts say that the missiles could upend the grim psychology of Mutual Assured Destruction, the bedrock military doctrine of the nuclear age that argued globe-altering wars would be deterred if the potential combatants always felt certain of their opponents’ devastating response. And yet decision makers seem to be ignoring these risks. Unlike with previous leaps in military technology — such as the creation of chemical and biological weapons and ballistic missiles with multiple nuclear warheads — that ignited international debate and eventually were controlled through superpower treaty negotiations, officials in Washington, Moscow and Beijing haven’t seriously considered any sort of accord limiting the development or deployment of hypersonic technology. In the United States, the State Department’s arms-control bureau has an office devoted to emerging security challenges, but hypersonic missiles aren’t one of its core concerns. Secretary of State Mike Pompeo’s deputies say they primarily support making the military’s arsenal more robust, an unusual stance for a department tasked with finding diplomatic solutions to global problems. This position worries arms-control experts like Thomas M. Countryman, a career diplomat for 35 years and former assistant secretary of state in the Obama administration. “This is not the first case of a new technology proceeding through research, development and deployment far faster than the policy apparatus can keep up,” says Countryman, who is now chairman of the Arms Control Association. He cites examples of similarly “destabilizing technologies” in the 1960s and 1970s, when billions of dollars in frenzied spending on nuclear and chemical arms was unaccompanied by discussion of how the resulting dangers could be minimized. Countryman wants to see limitations placed on the number of hypersonic missiles that a country can build or on the type of warheads that they can carry. He and others worry that failing to regulate these weapons at the international level could have irreversible consequences.

### 1AR—Solvency Deficits

#### Can’t solve miscalc- our evidence indicates use or lose which takes out your counterforce deterrence warrants

#### We have a hypersonics internal link that talk about how Chinese development of hypersonics cause escalation and nuclear war, due to trajectory ambiguity, and increased first strike incentives.

## 1AR--Nuclear LAWs CP

### 1AR—Competition

**Their Lowther and McGriffin evidence is about automating NC3, NOT about making it autonomous. This also justifies PDB because we can introduce AI into non-autonomous weapons while banning LAWs. Proof reads green.**

1NC Lowther and McGiffin 19 Dr. Adam Lowther is Director of Research and Education at the Louisiana Tech Research Institute (LTRI) where he teaches deterrence strategy, NC3 History, and Integrated Tactical Warning and Attack Assessment in several nuclear command, control, and communication courses for the U.S. Air Force. He served in several nuclear strategy and policy positions within the federal government and began his career in the U.S. Navy. Curtis McGiffin is Associate Dean, School of Strategic Force Studies, at the Air Force Institute of Technology and an adjunct professor for Missouri State University’s Department of Defense and Strategic Studies where he teaches strategic nuclear deterrence theory and NC3 education. He is a retired U.S. Air Force colonel with over 26 years of service, including 17 years serving within the nuclear enterprise, “AMERICA NEEDS A “DEAD HAND””, War on the Rocks, 16 August 2019, accessed: 19 December 2020, https://warontherocks.com/2019/08/america-needs-a-dead-hand/, R.S.

To maintain the deterrent value of America’s strategic forces, the United States may need to develop something that might seem unfathomable — an automated strategic response system based on artificial intelligence

#### They are distinct. Automation exists in the squo, like AI NC3, but LAWs don’t.

Missiroli 20 Dr Antonio Missiroli is NATO Assistant Secretary-General for Emerging Security Challenges. “Game of drones? How new technologies affect deterrence, defence and security,” NATO Review, May 5, 2020, https://www.nato.int/docu/review/articles/2020/05/05/game-of-drones-how-new-technologies-affect-deterrence-defence-and-security/index.html

‘Autonomy’ in weapon systems is a contested concept at international level, subject to different interpretations of its levels of acceptability. The resulting debate triggered, among other things, the establishment of a group of governmental experts on Lethal Autonomous Weapon Systems (LAWS) at the United Nations in 2016. However, this group has not yet come to agreed conclusions. This is in part due to the current strategic landscape and the ‘geopolitics’ of technology, whereby some states developing these systems have no interest in putting regulations in place, while they believe they can still gain a comparative advantage over others. Yet it is also due to the fact that ‘autonomy’ is a relative concept. Few analysts would contest that, in a compromised tactical environment, some level of autonomy is crucial for an unmanned platform to remain a viable operational tool. Moreover, automatic weapon systems have long existed (for example, landmines) and automated systems are already being used for civilian and force protection purposes, from Israel’s Iron Dome missile defence system to sensor-based artillery on warships. With very few exceptions, current weapon systems are at best semi-autonomous. Moreover, they tend to be extremely expensive and thus hardly expendable.

### 1AR—Link Turn

#### Their own evidence is just about the U.S. needing to upgrade its NC3 because of advanced Chinese weapons, like hypersonics, but our evidence proves that only a preemptive ban can stop China from overtaking the U.S.

### 1AR—Solvency Deficits

#### Doing the CP means China also develops better NC3 (they’re a great power) meaning escalation to war with the U.S. happens even earlier.

#### There’s a high risk of miscalc- their evidence says NC3 modernization causes compression of time, increasing the risk of inadvertent launch.

### 1AR—PDB

#### Permutation do the aff, and then do the CP- that way U.S still has hard power dominance, AND improved NC3.

## 1AR—Moratorium/Reform CP

### 1AR—Circumvention

#### States will circumvent --- they will develop behind closed doors and then after the time expires they’ll ramp up development on their secret projects and make them public. This isn’t the same as a ban which is permanent

### 1AR—PDCP then the plan

#### Perm do the CP then the aff --- it solves best: we get five years to design a full ban and convince nations to comply and then a full ban gets instituted

### 1AR—Ban is key to solve

#### The aff is the only solution --- it’s try or die

HRW 19 – Human Rights Watch, 9-26-2019, "‘Killer Robots:’ Ban Treaty Is the Only Credible Solution," https://www.hrw.org/news/2019/09/26/killer-robots-ban-treaty-only-credible-solution

New York) – [France](https://www.hrw.org/europe/asie-centrale/france), [Germany](https://www.hrw.org/europa-und-zentralasien/germany), and other nations that are committed to a rules-based international order should begin negotiations on a new international treaty to ban preemptively lethal autonomous weapons systems, also known as fully autonomous weapons or killer robots. On September 26, 2019, foreign ministers from France, Germany, and dozens of other countries endorsed a declaration at the United Nations addressing lethal autonomous weapons systems. “This declaration is yet another step down the path leading to the inevitable treaty that’s needed to prevent a grim future of killing by machine,” said [Mary Wareham](https://www.hrw.org/about/people/mary-wareham), arms advocacy director at Human Rights Watch and coordinator of the [Campaign to Stop Killer Robots](https://www.stopkillerrobots.org/). “If these political leaders are really serious about tackling the killer robots threat, then they should open negotiations on a treaty to ban them and require meaningful human control over weapons systems and the use of force.” The foreign ministers participating in the “Alliance for Multilateralism” initiative that France and Germany spearheaded share the common goal of promoting a “rules-based international order” and have committed to address killer robots along with climate change and four other “politically relevant” issues. The political declaration endorsed during the annual opening of the UN General Assembly in New York marks the first time such a high-level group has acknowledged the killer robots threat. The killer robots declaration shows that efforts to tackle this urgent challenge are swiftly ascending the multilateral agenda, Human Rights Watch said. Since 2014, more than 90 countries have met eight times at the Convention on Conventional Weapons (CCW) to discuss concerns raised by killer robots. Most of the participating nations wish to negotiate a new treaty with prohibitions and restrictions in order to retain meaningful human control over the use of force. Yet, a small number of military powers – most notably Russia and the United States – have blocked progress toward that objective. As a result, while the talks were formalized in 2016, they still have not produced a credible outcome. At the last CCW meeting in August 2019, Russia and the United States again opposed proposals to negotiate a new treaty on killer robots, calling such a move “premature.” Human Rights Watch and the Campaign to Stop Killer Robots urge states party to the convention to agree in November to begin negotiations next year on a new treaty that requires meaningful human control over the use of force, which would effectively prohibit fully autonomous weapons. Only a new international law can effectively address the multiple ethical, moral, legal, accountability, security, and technological concerns raised by killer robots, Human Rights Watch said. A total of [29 countries](https://www.stopkillerrobots.org/wp-content/uploads/2019/08/KRC_CountryViews21Aug2019.pdf) have explicitly called for a ban on killer robots: Algeria, Argentina, Austria, Bolivia, Brazil, Chile, China (on use only), Colombia, Costa Rica, Cuba, Djibouti, Ecuador, El Salvador, Egypt, Ghana, Guatemala, the Holy See, Iraq, Jordan, Mexico, Morocco, Nicaragua, Pakistan, Panama, Peru, the State of Palestine, Uganda, Venezuela, and Zimbabwe. The new political declaration on killer robots is unambitious as it falls far short of the new international ban treaty sought by so many. It is ambiguous as it endorses a goal discussed at the Convention on Conventional Weapons of “developing a normative framework,” but there is little agreement among countries about what that means in practice. Some countries view such a framework as guidelines that would not amend existing international law, while others regard it as a new international treaty to prohibit or restrict lethal autonomous weapons systems. The Campaign to Stop Killer Robots, which began in 2013, is a coalition of 118 nongovernmental organizations in 59 countries that is working to preemptively ban fully autonomous weapons and require meaningful human control over the use of force. “It’s obvious that a new treaty to prevent killer robots is desperately needed to ensure a successful rules-based international order,” Wareham said. “Pressure to regulate will intensify the longer it takes nations to commit to negotiate the killer robots treaty.”

#### A ban is uniquely key to solving miscalc and creates better global norms.

[Mary Wareham, 11-9-17, (advocacy director of the Human Rights Watch’s Arms Division, o-laureate of the 1997 Nobel Peace Prize), "It’s Time For a Binding, Absolute Ban on Fully Autonomous Weapons," Human Rights Watch, <https://www.hrw.org/news/2017/11/09/its-time-binding-absolute-ban-fully-autonomous-weapons>] // Proof DR

The United States along with China, Israel, South Korea, Russia and the United Kingdom have been investing in developing weapons systems with decreasing levels of human control in the critical functions of selecting and engaging targets. The fear is that as the human role decreases, these so-called ‘killer robots’ will eventually take over these critical functions. Armed drones are an example of this trend toward ever-greater autonomy, but they are still operated by a human who takes the decision to select and fire on targets. A central concern with fully autonomous weapons is that they will cross a moral line that should never be crossed by permitting machines to make the determination to take a human life on the battlefield or in policing, border control and other circumstances. On 13 November 2017, representatives from about 80 countries will meet at the United Nations in Geneva to discuss questions relating to what they call lethal autonomous weapons systems. Since their last meeting on the issue in April 2016, concerns have continued to mount over these future weapons. At the same time, there is a debate about whether states at the Convention on Conventional Weapons (CCW) can address this challenge by negotiating a new CCW protocol that bans or restricts these weapons. Given that countries would not want to fall behind in potentially advantageous military technology, the development of these revolutionary weapons would be likely to lead to an arms race, unless action to put a stop to the whole process is taken now. High-tech militaries might have an edge in the early stages of these weapons’ development, but as costs go down and the technology proliferates, these weapons would likely be mass-produced. Life-and-death decisions Qualities such as compassion and empathy in addition to human experience make humans uniquely qualified to make the moral decision to apply force in particular situations. No technological improvements can solve the fundamental challenge to humanity that will come from delegating a life-and-death decision to a machine. Any killing orchestrated by a fully autonomous weapon is arguably inherently wrong since machines are unable to exercise human judgment and compassion. Humans find it difficult in many circumstances to reliably distinguish between lawful and unlawful targets, but fully autonomous weapons are even more unlikely to reliably make such distinctions, as required by international humanitarian law. While the capabilities of future technology are uncertain, it is highly doubtful that it could ever replicate the full range of inherently human characteristics necessary to comply with the rules of distinction and proportionality. These weapons also have the potential to commit unlawful acts for which no one could be held responsible. Existing mechanisms for legal accountability are ill-suited and inadequate to address the unlawful harm that fully autonomous weapons would be likely to cause. One driver behind fully autonomous weapons is the desire to process data and operate at greater speed than for weapons controlled by humans at the targeting and/or engagement stages. Such weapons could also operate without a line of communication after they are deployed. Yet because fully autonomous weapons would have the power to make complex determinations in less structured environments, their speed could lead armed conflicts to spiral rapidly out of control. And regardless of their speed, their ability to operate without a line of communication after deployment would be problematic because the weapons could make poor, independent choices about the use of force. Since fully autonomous weapons could operate at high speeds and without human control, their actions would also not be tempered by human understanding of political, socio-economic, environmental and humanitarian risks at the moment they engage. Thus, they could trigger a range of unintended consequences, many of which could fundamentally alter relations between states or the nature of ongoing conflicts. While fully autonomous weapons might create an immediate military benefit for some states, they should recognise that such advantages would be short-lived once these weapons begin to proliferate. Ultimately, the financial and human costs of developing such weapons systems would leave each state worse off. For these and other reasons, non-governmental organisations have established the Campaign to Stop Killer Robots to work for a preemptive ban on development, production and use of weapons systems that, once activated, would select and fire on targets without meaningful human control. Since 2013, 19 countries have endorsed this ban objective and dozens more have affirmed the importance of retaining meaningful or appropriate or adequate human control over critical combat functions of weapons systems. Yet multilateral deliberations on this topic have proceeded at a snail’s pace while technology that will enable the development of fully autonomous weapons bounds ahead. While international humanitarian law already sets limits on problematic weapons and their use, responsible governments have in the past found it necessary to supplement existing legal frameworks for weapons that by their nature pose significant humanitarian threats. Some contend that conducting weapons reviews before developing or acquiring fully autonomous weapons would sufficiently regulate the weapons. Weapons reviews are required under Article 36 of Additional Protocol I to the Geneva Conventions to assess the legality of the future use of a new weapon during its design, development and acquisition phases. Yet weapons reviews are not universal, consistent or rigorously conducted, and they fail to address the implications of weapons outside of an armed conflict context. Few governments conduct weapons reviews and those that do follow varying standards. Reviews are often too narrow in scope sufficiently to address every danger posed. States are also not obliged to release their reviews, and none are known to have disclosed information about a review that rejected a proposed weapon. A binding, absolute ban on fully autonomous weapons would reduce the chance of misuse of the weapons, would be easier to enforce, and would enhance the stigma associated with violations. Moreover, a ban would maximise the stigmatisation of fully autonomous weapons, creating a widely recognised norm and influencing even those that do not join the treaty. Precedent shows that a ban would be achievable and effective. After three years of informal talks with no outcome, it’s time for states to negotiate and adopt an international, legally binding instrument that prohibits the development, production and use of fully autonomous weapons. If that is not possible under the auspices of the CCW, states should explore other mechanisms to ban fully autonomous weapons without delay. The future of our humanity depends on it.

## 1AR—Regulations CP

### 1AR—CP Fails

#### 1] turn their advancement plank – increasing the automation capabilities creates a larger threat

#### 2] the IHL plank is non-unique --- our solvency card proves that is good

#### 3] illict prolif is way to vague we don’t know what’s enough prolif or not

#### 4] plan flaw – “conduct research to improve the technology” is super vague and not contextualized to laws meaning they’re bad

#### 5] circumvention gets fiated by the plan and completely destroyed which means it’s wrong – worst case its non-uq because it’s going to happen

#### 6] plan flaw – no idea what is illicit prolif – even if it is low they would circumvent, and we have enough weapons rn for war

#### 7] Bans are less vague, making them preferable to regulations

Docherty 6/1 Bonnie Docherty [Bonnie Docherty, senior researcher in the Arms Division at Human Rights Watch, is an expert on arms and the protection of civilians during armed conflicts. Since 2001, she has played an active role, as both lawyer and field researcher, in the campaign against cluster munitions.], 6-1-2020, "The Need for and Elements of a New Treaty on Fully Autonomous Weapons," Human Rights Watch, <https://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons> AG

The unacceptable risks posed by fully autonomous weapons necessitate creation of a new legally binding instrument. It could take the form of a stand-alone treaty or a protocol to the Convention on Conventional Weapons. Existing international law, including international humanitarian law, is insufficient in this context because its fundamental rules were designed to be implemented by humans not machines. At the time states negotiated the additional protocols to the Geneva Conventions, they could not have envisioned full autonomy in technology. Therefore, while CCW states parties have agreed that international humanitarian law applies to this new technology, there are debates about how it does.[12]

A new treaty would clarify and strengthen existing international humanitarian law. It would establish clear international rules to address the specific problem of weapons systems that operate outside of meaningful human control. In so doing, the instrument would fill the legal gap highlighted by the Martens Clause, help eliminate disputes about interpretation, promote consistency of interpretation and implementation, and facilitate compliance and enforcement.[13]

The treaty could also go beyond the scope of current international humanitarian law. While the relevant provisions of international humanitarian law focus on the use of weapons, a new treaty could address development, production, and use. In addition, it could apply to the use of fully autonomous weapons in both law enforcement operations as well as situations of armed conflict.[14]

A legally binding instrument is preferable to the “normative and operational framework” that the CCW states parties agreed to develop in 2020 and 2021.[15] The phrase “normative and operational framework” is intentionally vague, and thus has created uncertainty about what states should be working toward. While the term could encompass a legally binding CCW protocol, it could also refer to political commitments or voluntary best practices, which would be not be enough to preempt what has been called the “third revolution in warfare.”[16] Whether adopted under the auspices of CCW or in another forum, a legally binding instrument would bind states parties to clear obligations. Past experience shows that the stigma it would create could also influence states not party and non-state armed groups.

### 1AR—Solvency deficits

#### Can’t solve the aff:

#### 1] miscalc will always exist – changes in the past haven’t worked and terrorists also increase their hacking technology

#### 2] arms races get pushed by the security dilemma – states will always work secretly to advance their own interests which means it doesn’t solve

#### 3] first strike capabilities still exist – loopholes and random threats can increase the justification – super hegemons can also get away with a crappy reason

#### 4] terrorists can still steal weapons

## 1AR—U.S. Develops LAWS CP

#### 1] Can’t solve primacy—Brock indicates that Chinese LAWs development will always outcompete the U.S. because of the different processes each country has.

#### 2] Existence of LAWs creates security dilemma that spurs arms racing.

**Horowitz 19** [Michael C. Horowitz, Political Science Professor, Director Perry World House, and Perry Professor at the University of Pennsylvania, author of the Diffusion of Power: Causes and Consequences for International Politics and co-author of Why Leaders Fight, “When Speed Skills: Lethal Autonomous Weapon Systems, deterrence and stability, <https://sci-hub.st/https://www.tandfonline.com/doi/abs/10.1080/01402390.2019.1621174?src=recsys&journalCode=fjss20>] JJ

55 All arms races share an underlying political dynamic whereby fear of developments by one or multiple other actors, and the inability to verify that those actors are not developing particular capabilities, fuels more intense development of new weapon systems than would happen otherwise.56 An arms race in the area of machine autonomy would be no different in that dimension. The root would be inherently political.57 Actors would also have to believe that they would gain an advantage from the developing LAWS, or least be at a significant disadvantage if they did not develop those weapon systems.

Jervis argues that arms races occur due to a security dilemma when states have the ability to measure each other’s capabilities, but not their intentions.58 The opacity surrounding LAWS development might generate increased risk for arms competition because of potential opacity about capabilities, in addition to the ‘normal’ opacity that exists about intentions. First, it will be extremely difficult for states to credibly demonstrate autonomous weapon capabilities. The difference between a remotely piloted system and an autonomous system is software, not hardware, meaning verification that a given country is operating an autonomous system at all would be difficult. Second, uncertainty about the technological trajectory of machine learning and specific military applications means that countries might have significant uncertainty about other countries’ capabilities. Thus, countries might invest a lot in AI applications to military systems due to fear of what others are developing

## 1AR – Hotlines CP

### Hotlines Fail

#### 1] Hotlines can’t solve

#### A] The counterplan assumes leaders are conciliatory but they’re aggressive – Xi pushes hard-right nationalism to fulfill appease his base – proven by 1AC Bartlett

#### B] No latency time between US and China because hypersonic LAWs target and travel so fast that there’s no time to use hotlines

#### C] Escalation occurs cuz a counterforce attack to preempt LAWs usage – not cuz of communication

#### D] Launch on warning means leaders are out of the loop and hotlines can’t stop the launch

#### 2] Turn – hotlines are used as strategic weapons of war and non unique – they already exist

Wolfgang 20 Ben Wolfgang [Ben Wolfgang covers the Pentagon, military and foreign affairs for The Washington Times.Previously, he covered energy and the environment, Hillary Clinton's presidential campaign in 2016, and also spent two years as a White House correspondent during the Obama administration.], The Washington Times, 8/4/20, “Crisis 'hotline' between U.S., China feared as possible strategic tool for attack” https://www.washingtontimes.com/news/2020/aug/4/hotline-between-us-china-feared-strategic-attack-t/ AG

In 21st century conflict, even the crisis hotline could become a weapon of war.

There are growing fears among foreign policy specialists and military and intelligence officials that any new crisis communication systems with China — updated, tactical-level versions of the cliched “red phone” between Washington and Moscow at the height of the Cold War — could themselves become strategic tools of attack or deception.

While the U.S. already has a nuclear hotline with China, along with a so-called “space hotline” to avoid satellite collisions or other catastrophes in orbit, the Pentagon over the past two decades has made a concerted effort to beef up regular military-to-military communications with the People’s Liberation Army (PLA).

U.S. officials in the Pacific, military sources said, routinely hold video calls with their Chinese counterparts, and Defense Secretary Mark Esper and Joint Chiefs of Staff Chairman Gen. Mark A. Milley have made it a priority to develop rapport with top officers in Beijing even as much of the Trump administration is pressing a more hawkish line with Beijing.

At the same time, there’s been a growing push for more direct, immediate communication avenues that could prove vital in a potential crisis between the two nuclear superpowers. The possibility of such a crisis, miscalculation or inadvertent encounter came into sharp focus over the Fourth of July weekend when both militaries held major naval drills in the same region of the South China Sea.

But military insiders caution that seemingly helpful communication mechanisms may introduce an entirely new danger to already tense situations and, in certain scenarios, could actually represent a threat to U.S. security.

“There are those within the government who have long advocated for establishing communications channels with the PLA at the operational levels of command, in the belief this would help avert a conflict, especially for cases of accidents at sea or in the air,” retired Navy Capt. James Fanell, former director of intelligence for the U.S. Pacific Fleet, told The Washington Times. “I am not sure how effective such a communications channel would be, as [China] may try and make us dependent upon such a protocol but then in the midst of a crisis fail to answer the other end of the line.”

Indeed, specialists warn and military sources acknowledge that if such avenues were put in place, Beijing could potentially exploit them during an offensive in the South China Sea or some other hostile act. If U.S. officials expect to be able to reach their Chinese counterparts during the crucial early moments of a military confrontation, analysts warn, Washington could lose precious minutes frantically to reach PLA leaders who have no intention of responding.

Even more ominously, there’s mounting evidence that the Chinese or Russian militaries may be capable of quite literally faking their way through a crisis hotline call, perhaps giving the Pentagon a false sense of security and preserving the element of surprise.

## 1AR – Aliens PIC

#### 1] Perm China should do the plan and other countries should do the counterplan – limited intrinsicness is justified because it tests uniqueness – otherwise negs can win by repurposing random weapons

#### 2] Perm do the CP – Not textually competitive

#### 3] Circumvention – leaders say nukes are for aliens but are perceived to use them for other things –China and the US don’t know durable fiat exists which causes arms races that lead to our impact

#### 4] Won’t succeed – aliens can deactivate weapons

Radford 10 Radford, Benjamin. "Did Ufos Disarm Nuclear Weapons? And If So, Why?". Livescience.Com, 2010, <https://www.livescience.com/10146-ufos-disarm-nuclear-weapons.html>. SHS TG Recut MU

At an unusual press conference recently held in Washington, D.C., a UFO author and a half-dozen or so former U.S. military airmen asserted that "The U.S. Air Force is lying about the national security implications of unidentified aerial objects at nuclear bases and we can prove it." They claim that since 1948, extraterrestrials in spaceships have not only been visiting Earth but hovering over British and American nuclear missile sites and temporarily deactivating the weapons. UFO author Robert Hastings, who organized the news conference, said, "I believe — these gentlemen believe — that this planet is being visited by beings from another world, who for whatever reason have taken an interest in the nuclear arms race."

#### 5] Even if we nuke aliens, it’ll cripple infrastructure and spread radiation over Earth – Starfish Prime proves

Helmenstine PhD 19 (Anne Marie Helmenstine, Ph.D. holds a Ph.D. in biomedical sciences and is a science writer, educator, and consultant. She has taught science courses at the high school, college, and graduate levels, “Starfish Prime: The Largest Nuclear Test in Space”, ThoughtCo, 6/2/19, <https://www.thoughtco.com/starfish-prime-nuclear-test-4151202>) //EG

After Effects and Scientific Discoveries

The beta particles produced by Starfish Prime lit up the sky, while energetic electrons formed artificial radiation belts around the Earth. In the months following the test, radiation damage from the belts disabled a third of the satellites in low Earth orbit. A 1968 study found remains of the Starfish electrons five years after the test.

A [cadmium-109](https://www.thoughtco.com/cadmium-element-facts-606511) tracer was included with the Starfish payload. Tracking the tracer helped scientists understand the rate at which polar and tropical air masses mix during different seasons.

Analysis of the EMP produced by Starfish Prime has led to a better understanding of the effect and the risks it poses to modern systems. Had Starfish Prime been detonated over the continental United States instead of the Pacific Ocean, the effects of the EMP would have been more pronounced because of the stronger [magnetic field](https://www.thoughtco.com/magnetic-field-lines-4172630) at the higher latitude. Were a nuclear device to be exploded in space over the middle of a continent, the damage from the EMP could affect the entire continent. While disruption in Hawaii in 1962 was minor, modern electronic devices are much more sensitive to electromagnetic pulses. A modern EMP from a space nuclear explosion poses a significant risk to modern infrastructure and to satellites and space craft in low Earth orbit.

## 1AR – Subs PIC

#### 1] Perm do the cp – not textually competitive since policy makers could tack on words to the plan text

#### 2] No uq – China would just change autonomous subs to semi-autonomous.

#### 3] No IL to solving warming – people need food so China would just fill in as the food provider.

#### 4] Can’t solve – perception of Chinese integrating AI into weapons escalates – only complete prohibition entirely stalls Chinese weapons innovation.

#### 5] No link – US and China are too economically interconnected to risk shutting out US from sea trade.

Yuyan 8/18 [Min Yuyan, expert on international affairs, 8-18-2018, "Trade concerns must not weaken confidence," No Publication, <http://usa.chinadaily.com.cn/a/201808/18/WS5b776ebca310add14f386757.html>] | recut MU

A broader market is unfolding in China

This year marks the 40th anniversary of China's reform and opening-up. At the 2018 Boao Forum for Asia, Xi reaffirmed that China will resolutely advance reform and opening-up while announcing a series of major measures for further opening up the Chinese market. A broader market is unfolding.

All said and done, thanks to the foundation laid by the previous generations both in China and the US and the expectations of peoples in both countries, I believe the US and China will eventually resolve their trade disputes and resume their win-win partnership.

As a Western saying goes, there's nothing new under the sun. China and the US have witnessed many difficulties and challenges during their nearly four decades of diplomatic relations. From Jimmy Carter to Ronald Reagan, from George H.W. Bush to Bill Clinton, China-US ties have gone through cyclical motions. From the 1980s through the end of the 20th century, I can cite many examples, such as the Milky Way Incident (1993), former Taiwan leader Lee Teng-hui's visit to the US (1995), the Taiwan Straits missile crisis (1996), US bombing of the Chinese embassy in Belgrade (1999), which put Sino-US ties to test.

The EP3 aircraft collision over the South China Sea on April 1, 2001, triggered Chinese people's indignation at the US. In the same year, George W. Bush told the ABC in an interview on completing 100 days in office that the US would "do our utmost to help Taiwan defend itself". Those were indeed tough times. But joint efforts for and pursuit of healthy bilateral relations helped the two countries to overcome those difficulties.

Cooperation trend too strong to be stopped

It is true that for the US, China today is a "strategic competitor", not the "constructive strategic partner" it was at the turn of the century. But then consider the following facts:

In 2002, only 230,000 Chinese visited the US. In 2017, the figure rose to 3 million, a 13-fold increase. Before 2008, China's investment in the US was less than $500 million; by 2016 it had risen to $46 billion. From 2000 through 2015, Chinese companies in the US employed 100,000 local people.

Which means incidents and policies can sometimes disrupt the trend of China-US cooperation but never stop it, because the driving force of common interests does not change. Apart from the many positive examples in bilateral fields, there have been quite a few successful cases of US-China cooperation on regional and global issues, such as climate change, counterterrorism, epidemics, narcotics control, the Korean Peninsula nuclear issue and the Iran nuclear deal－albeit Trump has pulled the US out of the Paris climate accord and the Iran nuclear deal.

## 1AR – Phase Out CP

#### 1] Perm do the counterplan

#### A] Ought isn’t immediate

English Grammar 10 [“Must and Ought to”; English Grammar; August 16, 2010; <https://www.englishgrammar.org/must-and-ought-to/> //BWSWJ]

Ought expresses ideas such as duty, necessity and moral obligation. It is not as forceful as must, but it is stronger than should. You ought to be punctual. We ought to help the poor. You ought to visit your friends once in a while. Ought generally points to present and future time. It can point to past time when it is followed by the perfect infinitive (have + past participle).

#### B] Functional competition – the CP results in the same policy which means there’s no distinction between the two – debate is about whether to do the plan, not how.

#### C] Ban isn’t absolute – exemptions are allowed

US Court of Appeals 98 United States Court of Appeals, Ninth CircuitMay 1, 1998, Foti v. City of Menlo Park, 146 F.3d 629 (9th Cir. 1998) | MU

"As a general rule, laws that by their terms distinguish favored speech from disfavored speech on the basis of the ideas or views expressed are content-based." Turner Broad. Sys. v. F.C.C., [512 U.S. 622, 643](https://casetext.com/case/turner-broadcasting-system-inc-v-fcc-4#p643) (1994). At first blush, Menlo Park's ordinance appears to be content-neutral; after all, it bans all signs on all public property. But when "exceptions to the restriction on noncommercial speech are based on content, the restriction itself is based on content." National Advertising Co. v. City of Orange, [861 F.2d 246, 249](https://casetext.com/case/national-advertising-co-v-city-of-orange#p249) (9th Cir. 1988).

Here, the exemptions for "open house" real estate signs and safety, traffic, and public informational signs are content-based. See Menlo Park Municipal Code §§ 8.44.020(3)(c), (e). To enforce the ordinance, a law enforcement officer must "examine the content of . . . signs to determine whether the exemption applies." Desert Outdoor Advertising v. City of Moreno Valley, [103 F.3d 814, 820](https://casetext.com/case/desert-outdoor-ad-inc-v-city-of-moreno-val#p820) (9th Cir. 1996) (applying content-based test to exemptions for official notices, directional, warning, or information structures, public utility signs, and structures erected near a city or county boundary which contain the name of the city, county, or civic, fraternal, or religious organizations located therein); National Advertising, [861 F.2d at 248](https://casetext.com/case/national-advertising-co-v-city-of-orange#p248) (applying content-based test to exemptions for memorial tablets or plaques, real estate and construction signs, open house signs, and traffic and safety signs).

#### 2] Perm do the plan through the CP’s process – limited intrinsicness is key to protect the aff from abusive CPs or arbitrary conditions that don’t test competition or the aff

#### 3] Timeframe solvency deficit—every second we delay action the closer we get to nuclear war

#### 4] Links to the nb –

#### 5] Phase-out counterplans are a voting issue—

#### A] Aff ground – moots the 1ac which is necessary offense and puts us at a permanent disadvantage - playing catch-up ruins the competitive balance and link turns education cuz we can’t engage

#### B] Topic ed – implementation focus destroys debates over the substance of nukes, and it regresses into delay cps that fabricate competition w/o an intrinsic net benefit