

Russia's and America's 21st-century wars: Mirror images?

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Abstract

In this article, we look at 21st-century warfare in the context of two great powers: Russia and America. Russian and American invasions and subsequent wars are evaluated in terms of why and how they are fought, legal and moral considerations, impact, outcomes, and consequences. The article examines similarities and differences in strategy and methods, expanding on the increasingly popular remote warfare. Finally, we assess the decisive role of science and technology in war, raising questions about the future of AI warfare.

Keywords: Drone warfare, artificial intelligence, America, Russia, war ethics

The gods were getting married. One after another, they all got hitched, until finally it was time for Polemos (War) to draw his lot, the last of the bachelors. Hybris (Reckless Pride) became his wife, since she was the only one left without a husband. They say Polemos loved Hybris with such abandon that he still follows her everywhere she goes. So do not ever allow Hybris to come upon the nations or cities of mankind, smiling fondly at the crowds, because Polemos (War) will be coming right behind her.
(Aesop's Fables, "Polemos")

The nature of war is complex and polymorphous, composed of elements that are ever-present, yet within each war the relationships among those elements fluctuate, making each war unique, yet also similar in nature to all other wars. "In Clausewitzian terms, the 'fascinating trinity' describes the nature of war being composed of rational and non-rational forces (policy, emotion, chance)" (Lonsdale, 2008: 32). The complex interactions of the dynamics that occur within make war non-linear, unpredictable, and uncertain, while human involvement infuses it with powerful moral forces. "One can add to these factors the geography of the battlespace and the nature of certain actors (e.g., irregular forces)" all of which create a metaphorical "fog of war" (Lonsdale, 2008: 33), a complex and uncertain environment within which the strategist must try to achieve his goals. Violence, or what Clausewitz refers to as the dominance of the destructive principle, further complicates strategy. Everything that occurs derives from combat and results in bloodshed, even in the least violent forms of war aided by technology, good laws, and good procedures.

War has a dialectic nature. Its competitive aspect creates an escalatory dynamic, so even if one belligerent in a conflict is employing less bloody methods, the enemy may introduce higher levels of violence, attempting to seek advantage. A particularly brutal form of war may cause such condemnation that the policy objectives or the justifications could simply get lost. The ultimate aim though is victory.

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When it comes to great powers like America and Russia, however, it is not victory in war alone that is the ultimate goal. As Mearsheimer wrote, great powers are primed for offense, seeking and seizing opportunities to alter the distribution of world power in their favor. Their pursuit of power is unrelenting, as is their desire to become the hegemon – the only power in the system. “Since no state is likely to achieve global hegemony, however, the world is condemned to perpetual great-power competition” (Mearsheimer, 2001: 2).

It is usually assumed that victory will come as a result of some new technology.

Gunpowder to muskets, steam turbines to aircraft, missiles to digital networks, all changed the character of warfare, opening up new possibilities, while closing off others. But the technology was rarely monopolised or else, even if one side enjoyed superiority, adversaries found ways to limit their effects. Even for modern Western forces, technology encouraged a fantasy of war that was fast, easy and decisive; yet they still found themselves facing ‘slow, bitter and indecisive war’.

(Freedman, 2017)

In this article, we examine Russia’s and America’s wars of the 21st century, as they pursue power, influence, interests, and security. We look at the methods they employ, their fighting cultures, ethics, and human costs. We conclude by contemplating the future of war.

Russia’s wars

In February 2022 the world awoke to the beginnings of a military operation largely dismissed by many Western analysts and academics (Anderson, 2022). After weeks of military exercises and maneuvers on the Russian/Ukrainian border, the military might of the Russian Federation began an invasion on a scale not seen since the Second World War (Mulder, 2022). The invasion, continually described as “special”, remains unclear in its goals and the potential outcomes are hotly debated. Cox (2009) shows that with similar euphemistic language to that used by American forces during the Vietnam conflict, Moscow officials briefed media sources as to how the actions were necessary, with operations designed to destroy the enemies opposed to the Russian state, thus protecting the people of the Ukraine from a government dominated by far-right and corrupt officials. Much debate has been and is being had as to the accuracy of these statements, but evidence does exist of poor levels of investment in infrastructure and state development by the Ukrainian government, accompanied by internal corruption and conflict (Mulder, 2022). Many members of the “elite” fighting units charged with the defense of the Ukraine have links with nationalist and racist groups, most notably the Azov Battalion. However, the piece hopes to shed light not on the reasons for the war, but rather on the style in which it is being fought by Vladimir Putin. Since his rise to president in 2000, Vladimir Putin has long conducted his geopolitics through the prism of Maskirovka, or deception, except for the first and second Chechen wars. In both bloody conflicts involving the breakaway republic, overwhelming Russian state force was used to violently crush the separatist resistance and the installation of a Putin “strongman”, in Akhmad Kadyrov (Kramer, 2005). The largely successful operation to seize the Crimea from Ukraine in 2014, was the result of months of amplified internal political and ethnic tensions on the peninsular, orchestrated by the Russian intelligence services using disinformation tactics (Kilcullen, 2020). The military presence remained light, with Putin relying on the use of a democratic referendum to provide a sense of perverse legitimacy to this clear breach of international law. The seizure of the Crimea also provided evidence of the realities of Russian fighting capabilities within conventional fighting forces. Senior commanders reported that corrupt practices and mismanagement of the Putin system, had created a sheep in wolf’s clothing (Kilcullen, 2020). It is this analysis of Russian capabilities which led many Western observers to see an invasion of Ukraine in 2022 as implausible,

leading many to question Putin's decision-making and his grand strategy (Nye, 2006). The invasion of Ukraine has proven to be internationally overt, complex in design and does not fit with the tactics used against foreign states over the last 20 years. Why has the "playbook" of Maskirovka been thrown away in favor of a large-scale conventional conflict?

Why do Russian soldiers fight?

The motivations of armies and the soldiers that fill their ranks have long been examined by both military and civilian sources (Marshall, 2021). The Russian soldiers bitterly fighting through the southern and eastern parts of Ukraine are certainly wondering how and why they came to be fighting against those that have been described by Vladimir Putin as "one-nation and people". Napoleon is quoted to have said that "an army marches on its stomach", suggesting that well-resourced and fed soldiers produce positive outcomes on the battlefield. Current intelligence correlated by Western sources suggests that Russian forces are neither fed nor supplied correctly, with many taking to stealing from the newly "liberated" communities of the Donbas. Corruption is endemic within all aspects of Russian life – and this includes the military. A recent report, published as part of the London-based International Government Defence Integrity Index, identified that the Russian military had a corruption risk of high, "owing to extremely limited external oversight of the policies, budgets, activities and acquisitions of defence institutions". The report also highlighted a lack of transparency on procurement and the issuing of defense contracts, with a rating of only 36 out of 100 in this category. Loyalty to Putin may have landed senior leaders a place in the inner circle, but this has been at the expense of the personnel they serve. The public procurement sector often carries with it opportunities for corrupt practices, and this is no different in the Russian state. A report issued by the Risk and Compliance Portal (2021), which examines corrupt practices within states, claims that: "Bribes, kickbacks and other irregular payments are often exchanged to obtain public contracts. Companies report favoritism in decisions of government officials, and public funds are frequently diverted due to corruption". The report also states that military contracts were more likely to receive approval based not on the quality or standard of the bid, but rather on the company's personal relationships with state officials and loyalty to the Kremlin.

Do Russian soldiers fight simply because they are being paid to do so? Military reforms over the past decade have failed to enforce a clear agenda of development and instead have allowed many of their military units to become low-grade and poorly trained. A recent US Defense intelligence assessment suggested that Russian forces had sold much of the best equipment during the early months of their deployment to the Ukraine border in 2021, due to poor pay and conditions. On average, Russian professional soldiers of junior ranks earn US\$480 (£360) a month, whereas their equivalents in the Ukrainian army are receiving three times that figure. The division between pay, working conditions, and morale may work against the objectives set by Moscow and would seem to dispel the notion that financial incentive is behind the willingness of the soldiers to fight for Putin. Western intelligence sources now estimate that 40% of those engaged in the fighting are in fact conscripts, many from eastern parts of central Russia and find the Western territories challenging and difficult to understand.

If neither money nor resources provide motivation for these men and women to fight, what does, and does it matter? What motivates people is always important to examine, as it provides a tool in which to measure how far an army is prepared to go to achieve victory (Holmes, 2009). Alternately, such analysis helps to provide a blueprint as to the nature of how the conflict will be fought. If soldiers are motivated by ideology, many will be able to live with the privations forced upon them by their own system's inadequate practices, in a belief they are involved in operation for their state's long-term progression (Rees, 2012). Western militaries operating within democratic systems struggle to argue for large-scale deployments of their forces into foreign states due in part to the cost of people and

materials. Politicians that operate in these contemporary electoral environments, motivated by individualism, and guarded by a failing neoliberal model, choose to focus on voting cycles, making decisions which are guaranteed to win them elections (Kilcullen, 2020). The loss of blood will always cost them in the polls, with national sacrifice largely seen as an example of military failure, which should be avoided at all costs (Strachan, 2013). This obsession with the minimization of risk, coupled with an advanced military complex was first seen during the Second World War, in which allied armies (with the exception of the Red Army of the Soviet Union) took all necessary actions to improve the living standards of their troops on the ground. This doctrine is in stark contrast to that of both the Soviet Union and subsequently Putin's Russia, which has created a national identity which has romanticized both war and sacrifice (Edele, 2017). Joseph Stalin was forced to galvanize public resistance and support for his regime's defense, in the wake of the German invasion of the USSR in June 1941, by describing the Soviet Union as a "motherland". This policy produced a central theme that it was the duty of every true citizen of the nation to fight and die in its defense (Rees, 2012). It also justified any actions of violence or cruelty taken by the state against its own peoples and those of the invaders, as necessary.

This strategy would be later adopted by the Nazi empire as it disintegrated under the weight of the colossus that was the Red Army, developing state tools of propaganda which identified the fight as a "total war". Little distinction would be made between combatant and civilian, as citizens on all sides became victims in this deadly clash of political ideologies. Cox (2009) argues that this struggle has continued to be celebrated by both subsequent Communist leaders and post-1991 governments through the symbolic May Day parade and an increasing saturation of media messages promoting the importance of death and struggle to Russia's survival as a global power. The celebrations of May 2015 provided an opportunity for the Kremlin to showcase modern military equipment, including the T-14 Armata Tank, demonstrating the importance of military power and a nation's global standing. This message has been particularly targeted at young male Russians, with the use of extreme images of violence and portrayals of machismo popular among many in mainstream Russian cultural society (Mulder, 2022). This combination of an increased celebration of the glory of warfare within mainstream Russian society has normalized the public attitude toward sacrifice, with cost in lives being seen as a fundamental aspect of military victory. Aldrich (1998) shows that is this of course a continuation of the Stalinist policy which claimed that the USSR deserved more from the "Big Three" wartime conferences due to the Soviet Union sustaining the most loss of people and resources. It is true that the recorded deaths by the USSR dwarf that of any Western nation, but it has largely been ignored by Russian historians that many of the deaths were the result of callous and ruthless attitudes of Red Army Generals, who cared little for the welfare of their soldiers (Kilcullen, 2020). Reynolds (2010) argues that, obsessed with sacrifice, commanders would continually order futile attacks against enemy positions even when no tactical victory could be achieved. American and British wartime combat casualties were considerably smaller than those of the Red Army, but allied planners would take measures which were designed to reduce risk to their military personnel through the use of technology, a disciplined command and control structure but also working to the pressures placed on them by a democratic political system, eager not to see unnecessary sacrifice (Rees, 2012).

The politicization of history has become a key aspect of President Putin's time in office, culminating with the Passing of the Memory Law in 2014, in which history has become censored and must conform to the version of the past which has been produced by the state system. This includes disregarding the crimes committed by the Red Army during the Second World War and the historical fight by the Ukraine nation to be free of Russian control or interference. Edele (2017) argues that the passing of the law represents a desire by Putin to ride a wave of historical revisionism in order to mobilize Russian society against

minorities and assert values favorable to his geopolitical aspirations. The creation of such perceptions has been enforced by the apparatus of the state, with Minister of Culture Vladimir Medinskii being central to creating a “positive mythology”, including the Soviet War Myth of seeing war and sacrifice as essential elements of state power. It should not be seen as a coincidence that the Memory Law was signed just before the Victory Parade in May 2014 and only months after the annexation of the Crimea. As Edele (2017) suggests, the Russian state has looked to shape and weaponize history, to create a culture in which Russia would be acceptant of an aggressive foreign policy and the cost in life brought by a conventional conflict, which helps to explain the increased endorsement of the Ukraine invasion of 2022. Huband (2003) shows that along with Russia, Western countries have also allowed a greater re-examination of their histories, with many seeing notions of aggressive foreign policy as tools of empire or extreme nationalism. Sacrifice and overwhelming force have become increasingly associated with previous rather than current standards of behaviors, with self-sacrifice being discouraged. Such rejection has led to a decline in public support for military engagement which reflects in stark contrast to attitudes formed within contemporary Russian society (Edele, 2017).

Kilcullen (2016) suggests that Western military engagements in the Middle East and Central Asia have come at a huge cost to both military forces and civilian populations, leading nations to see these wars as illegal and unjust. A declining Western societal acceptance of death in conflict and the legacy of a desire to avoid loss at all costs has seen NATO members increasingly using the tactics of asymmetrical warfare, including unmanned weapon systems such as drones, to minimize the military footprint on the ground. This ensures that casualties are measured in ounces of steel rather than blood (Hastings, 2015). This continual decline since 1945 of Western public support for military loss has been in direct contrast to that of the Russian state and has been overtly encouraged by Putin's regime. Such a military doctrine helps to understand the willingness of many within Russian military and civilian leadership, to embrace Putin's invasion of the Ukraine and the subsequent sacrifice it will have on the nation, in pursuit of a perception of a great and global nation (Fergusson, 2020).

Vladimir Putin and the Ukraine invasion

The section above attempts to explain the motivations for many Russian soldiers and civilians in accepting the large-scale invasion of the Ukraine and the subsequent loss that such a conventional military conflict will inevitably create. The continual acceptance of many within the Russian state of sacrifice being an indication of military superiority and a glorification of loss, has seen many overtly support Putin's invasion and provide vocal resistance to the economic sanctions placed upon the country by Western nations (Anderson, 2022). As mentioned above, belief in ideology can often ensure that many will live with hardships, in the pursuit of a noble cause (Fergusson, 2021). However, the cultivation of this culture for nearly a century, would not explain the sudden and aggressive foreign policy strategy by Putin with the invasion of the Ukraine in February 2022. Anderson (2022) argues that the annexation of the Crimea provided a blueprint for military analysts on all sides as to the incapability of Russian armed forces in conducting conventional operations. This was twinned with Putin's own version of spycraft geopolitics, in which disinformation and sabotage are the preferred weapons of choice to obtain chosen strategic objectives (Marshall, 2021). The strategy behind this change of approach and ignorance of the advice provided by senior commanders as his armies' capability is based on events and transitions that have taken place since 2014, which have come to define and shape Vladimir Putin's foreign policy aspirations and the means in which he intends to achieve them. It also provides an example of how his leadership has become a hostage to the very public culture of sacrifice which he has cultivated (Mulder, 2022).

The invasion and subsequent annexation of the Crimea in 2014, saw Vladimir Putin's approval rating increase and public popularity in his leadership of the country grow to record highs. The aggressive actions that he had instigated to "retake" territory which had close ethnic and political connections with Russia, helped to challenge perceived attitudes held by Western governments and Russian citizens of a foreign policy decline since the collapse of the USSR in 1991 (Huband, 2013). Additionally, increased NATO support was given to the arming and training of Ukraine's forces, with military tutors sent to the country along with sophisticated weapon systems, designed to prepare Ukraine for a conventional attack by Russian forces (McFate, 2017). The redevelopment and growth in the Ukrainian military and the country's increasing Western-backed approach saw Putin accelerate his strategy, using the familiar tools of disinformation to create an alternative view of Eastern European history. He began to make public claims that both nations were in fact one. Anderson (2022) suggests that the invasion is both a demonstration to the West of the power of the Russian state on the global stage and also designed to quell the threat posed by a well-developed, trained and coordinated Ukrainian military. Mulder (2022) argues that this provides an example of the implications of cultivating a societal perception of greatness through military power and sacrifice. The increasing "threat" posed by the Ukrainian state, supported by the West, would create a clear challenge to this cultivated public perception of the Russian state and thus force a direct and violent response. The response is the weaponization of warfare, designed to manage the public appetite for state power through destruction. If this public imagination of a new greater Russian is not satisfied, it would ensure that many could question the privations in which they suffer and their loyalty to the regime. It is argued that much evaluation of the current conflict has centered on the actions of the leadership rather than recognizing the need for the state to listen to and react to the public mood (Mulder, 2022). This cultivation of culture and its effects is not restricted to Russia and is mirrored in Western nations, only counter to the one generated by Putin's government. Instead, Western nations have come to see military success coming through minimal use of force and levels of destruction as an example of professionalism and high ethical standards. If this is not fulfilled and military and civilian losses begin to increase, this culture is threatened and the public doubt the legitimacy of the conflict in which their force is engaged. This suggests that Vladimir Putin has become a hostage to the very culture that he has generated, plunging the Russian state into a vastly expensive conflict, to demonstrate that they continue to be a major state power. The advancement of NATO toward their borders forces the Kremlin to act out of necessity rather than choice.

America's remote domination: hegemonic pursuits and American militarism

America's 20th-century hegemonic pursuits have continued into the 21st century, taking the forms of cultural, linguistic, economic, regional, resource, and geopolitical dominance, in its dreams of building a global empire and enjoying imperial dominion, in contrast to Russia. Its geostrategic, commercial, and ideological ambitions and insecurities have resulted in a foreign and security policy that covers the entire globe and is characterized primarily by offense. A "crusading liberalism continues to inspire US policymakers in reversing all manner of global evils – whether authoritarianism, oppression, ethnic cleansing or Islamist terror – and promoting ideals of neoliberal economics, republican democracy and freedom"; Freedman has termed this "offensive liberal wars" (Waldman, 2021: 119). And as war becomes normalized, it continues: "once a state has a capacity to do something it often fails to ask whether it should do it, only how it should" (Coker, 2009: 123). Force is seen as the most efficient way to control and dominate, with the military having become the best and least expensive tool.

In addition, the marriage between *military might* and *moral right* in American culture "encourages the conceit that America is only capable of wielding a righteous sword

against those who must, by default, be evil” (Waldman, 2021: 122). So as America promotes human rights, peace, democracy, and freedom (all global moral goods), it simultaneously starts and maintains wars that lead to violent deaths, poverty, fragmented societies, injustice and violations of human rights.

The new American militarism was best articulated by the Bush doctrine of preventive war back in 2002, when he declared that the US would exercise the prerogative of striking first. George W. Bush announced that “the only path to safety is the path of action. And this nation will act” (Bush, 2002). The aim of preventive war is to kill quickly and efficiently (Bacevich, 2013). With Obama as president little changed, at first, although his campaign had been based on hope for change, a new start, especially when it came to military and security policy. After replacing a president tagged as a warmonger, Obama’s supporters had trusted him to wean the country “away from its penchant for military adventurism” (Bacevich, 2013: 227); 2009 saw Obama winning the Nobel Peace Prize, and three years later in 2012 he unveiled his national security strategy at the Pentagon, where he declared that a new page was being turned on a decade of war. Obama spoke of a “leaner” military approach (Obama, 2012), while asserting that “the United States of America is the greatest force for freedom and security”. Unfortunately, the actual new strategy was not to close the book on war, but by turning a page, to open a new chapter, one that escalated attacks in existing wars. So while being reluctant to engage in large-scale wars that would incur great casualties for Americans, he chose to still use force in smaller wars using the latest technologies. His penchant for targeted assassinations led to attacks in Pakistan, Yemen, Libya, Somalia, Afghanistan, and Iraq. The administration also set out to establish a constellation of secret drone bases in and around the Arabian Peninsula and the Horn of Africa – new platforms from which to conduct attacks. As under Bush so under Obama, the US claimed the prerogative of striking wherever it needed, whenever it chose to do so (Bacevich, 2013). The new American militarism continued with expectations of successful, victorious, and continuous short wars, which tragically became long, indecisive and indefinite. They also became remote.

“3-D Wars”

America increasingly fights wars *remotely*, through delegation, danger-proofing and darkness. Lessons learned from the invasions of Iraq and Afghanistan, which incurred significant costs, led to the low-level, persistent, remote and evasive mode of fighting: a combination of air and drone strikes, special forces, intelligence operatives, private contractors and military-to-military (M2M) training teams on the ground. Modes of fighting went from large and conventional invasions to small, unconventional proxy wars.

Delegation involves shifting the burden of risk and responsibility onto others, by contracting out security tasks to an assortment of proxy actors. The risks of combat are transferred to local allies, military and security companies, local security forces or irregular militias. This also allows the true costs of war to be partially hidden (Waldman, 2021). In the Middle East, America has been training pro-Western or anti-jihadist locals, presented as loyal partners, to do the fighting, the killing and the dying.

While most major contracts are awarded to large Western firms, the majority of the personnel are typically third country nationals or host nation citizens. Specific jobs are often subcontracted to local security companies through opaque outsourcing chains. In Afghanistan this led to Americans hiring warlords who had links with insurgents or who were implicated in murder, kidnapping, bribery as well as Taliban and other anti-Coalition activities.

(Waldman, 2021: 178)

Delegating the fighting often requires building the indigenous military capacity of foreign state forces to defend themselves or confront threats in line with US interests and

requirements, training, arming, and advising others “to do the heavy lifting” (Waldman, 2021: 179). The employment of irregular surrogate forces (militias, rebels, paramilitary groups, and warlords) contributes to further instability and fragmentation, creating long-term political problems, and results in a lack of awareness of the true human cost of America’s wars.

Darkness is about the use of covert action and special forces operations, including rapidly developing offensive cyber warfare. “These kinds of operations take place in the shadows, beyond the media glare and subject to only minimal oversight” (Waldman, 2021: 189). This “global shadow war” allows officials to either hide interventions or play down the extent of US commitments. Weaponized malware provides “discrete, surgical weapons that can project national power with a small footprint combined with unrivaled levels of secrecy and deniability” (Waldman, 2021: 194). America’s cyber weapons have been deployed against terrorist websites, North Korea’s Musudan ballistic missile systems, and against the Iranian nuclear centrifuges in the form of the Stuxnet virus (Guardian, 2015). The secrecy of covert operations means that these attacks have evaded democratic debate and scrutiny, while those behind them have escaped accountability.

Danger-proofing by using various types of airpower and weapons that provide safety through distance allows for the use of force while minimizing physical harm to American personnel. Increasingly, due to a culture simultaneously characterized by militarism and risk-aversion, America is fighting remote wars by using killer drones, which it claims are legal and precise weapons, making war sanitized and more ethical. The pattern is one of continuous, unrelenting military action, but minimalist. It is unceasing interventionism: sustained, minimalist, low-exposure operations “seeking to fight a war without the people, without major political, economic, or legal consequence, and on an indefinite basis” (Waldman, 2021: 135).

Drone wars: legal and precise?

The law that underpins the whole basis for the US being at war with al-Qaeda and ISIS in the Middle East is the Authorisation for the Use of Military Force Act (AUMF), drafted by the Bush White House in the week after the 9/11 attacks, that gives the US president the power to use all necessary and appropriate force against those nations, organizations, or persons that he or she determines was behind or helped the people who carried out the attacks. It was passed into law by Congress on 16 September (The Bureau of Investigative Journalism). The AUMF allows the president to fight a perpetual global war. It also empowers the president to go after individuals as well as nation-states. Within weeks of it becoming law the US and its allies had invaded Afghanistan, going after the Taliban and al-Qaeda. A year later the US carried out its first drone strike beyond active battlefields, killing six al-Qaeda fighters in Yemen. By 2004, the US was striking al-Qaeda, the Taliban, and various other armed groups in Pakistan. AUMF is so broad that it allows the president to target new enemies without the usual authorization from Congress. It has no temporal or geographical limit. The scope has grown from just the Taliban and al-Qaeda – it is used to justify strikes in Iraq, Libya, Pakistan, Yemen, Somalia, and Syria.

US Army doctrine defines a high-value target as an asset that an enemy commander requires for the completion of his mission. Within the context of Special Operations Forces (SOF), the process of HVT involves precision raids and/or airstrikes to either capture or kill specific assets or individuals required by a clandestine network to achieve its expressed aims (Hardy & Luskenko, 2012). UAVs are said to be advantageous also on the ground, due to their “surgical precision”, sparing the lives of civilians. The use of drones was supposed to both respect the law and protect the vulnerable. To protect civilians from indiscriminate harm, as required by international humanitarian law, military, and civilian policies should prohibit aerial bombing in civilian areas, unless it can be demonstrated that civilians are being protected.

On 23 January 2009, two drone strikes in North and South Waziristan, in Pakistan, authorized by the new president killed up to 20 civilians. Neither strike hit its intended high-value targets. The second killed a local elder and member of a pro-government peace committee named Malik Gukistan Khan along with four members of his family (Cockburn, 2016: 225).

The strikes not only continued, but they doubled and redoubled. There were 52 in all of 2009 and 128 in 2010. New York Times journalist David Rhode, who was held hostage in North Waziristan between November 2008 and June 2009, recalled the terror of life under the drones:

From the ground, it is impossible to determine who or what they are tracking as they circle overhead. The buzz of a distant propeller is a constant reminder of imminent death. Drones fire missiles that travel faster than the speed of sound. A drone's victim never hears the missile that kills him.

(Cockburn, 2016: 226)

In 2014, under Obama's presidency, the drone-killing program was stepped up and targeted killing was normalized in no-boots battlefields. In Iraq, the West was celebrating the triumph of its technology, a crossover between gaming technologies/software and drone operations, when Coalition airstrikes resumed. Predator sensor operator, Staff Sgt. Nicolette Sebastian, explains that drone "operation is a lot like PlayStation": "a gamer's delight". The drone console becomes interchangeable with that of a computer game, as drone pilots upload their own civilian computer games into the same system. A continuum between civilian gaming technologies and lethal military systems is thereby established that signals the increasing gamification of war: "the flight controls for drones over the years have come to resemble video-game controllers, which the military has done to make them more intuitive for a generation of young soldiers raised on games like Gears of War and Killzone" (Pugliese, 2016).

Video-game killings

Drone warfare is killing without emotion. The need for human emotion in warfare is cited by authors writing about drones. John Sifton wrote: "The unique technology allows the mundane and regular violence of military force to be separated further from human emotion. Drones foreshadow the idea that brutality could become detached from humanity – and yield violence that is, as it were, unconscious" (Sifton, 2012: 15). When human beings, the only species that are moral agents, are faced with an enemy – another human being – they may even extend mercy. Especially if the enemy is attempting to surrender or is injured. Although soldiers are allowed to kill enemy combatants, they are still required to act humanely, with mercy and compassion, avoiding cruelty and punishment. For Seneca, mercy is a rational consideration of what is appropriate, grounded in one's feelings of common humanity (Cooper & Procope, 1995).

In drone wars, the soldier's humanity disappears. Instead, war becomes the game of the powerful. The US emerges as a hectoring hegemon, liberating and democratizing through force, aggression and the unlimited exercise of its power.

In drone warfare and within the context of the War on Terror, killing becomes an unfeeling, amoral exercise of power conducted from a distance, by drone operators morally and emotionally distanced from their targets. Moreover, the video-game-like nature of drone operations leads operators to treat them like a game, in which the observing of people through the cameras of a drone further dehumanizes those observed. And while a soldier or fighter might experience emotional trauma after seeing their fellow fighters killed beside them, or another might experience a moral injury from killing a civilian, in remote killing even those emotional responses are taken away. "Virtual war dehumanizes the victims,

desensitizes the perpetrators of violence, and lowers the moral and psychological barriers to killing” (Sluka, 2013: 187).

War or peace?

If remotely operated weapons greatly reduce the physical risks to the combatants who operate them, then they also reduce the political risks for leaders to start a war. Lowering the risk to combatants makes war more likely; it makes it easier to choose military action over other options. Drones provide a means for military attacks with reduced risks, and so we have seen their increased use in a new world where technology removes the distinction between the battlefield and the street. In the context of the War on Terror, drone use has transformed warfare into a kind of international policing, but without associated due process and other concomitants of the rule of law. The war-as-policing analogy, though it may seem preferable to full-scale traditional warfare, presents us with a frightening image of the police officer as a sniper. Imagine cities where hidden policemen shoot and kill those they deem suspicious, in a shoot-and-run scenario. Not only does the distinction between military space and the spaces of our daily lives disappear, in ways that increase our insecurity, but concepts and principles of policing become distorted, as law and order gives way to lawlessness and disorder.

America has pre-authorized itself for drone strikes anywhere and anytime it sees a growing threat. Non-lethal options, such as capture missions or the possibility of surrender, are not even considered. Article 23(c) of the 1899 Hague Regulations provides that it is especially prohibited “to kill or wound an enemy who, having laid down arms, or having no longer means of defense, has surrendered at discretion” (IHL database, n.d.). *Jus post bellum* concerns the morality of how a war is ended, including terms of surrender, reparations, and reconciliation. In remote “targeted killings” asymmetric warfare, what does ending a war look like? Even if there was a desire to end hostilities and bring peace, when kill-not-capture is the preferred method, surrender, negotiation, and reconciliation are not options. Paradoxically, particularly when killer drones are used, the search for peace and security through military means can produce perpetual insecurity and war instead (Vidal, 2002). Nations that rely on such weapons ignore the humanitarian basis for the laws of war (Johnson & Axinn, 2013). “Such a world would be closer to the rule of the jungle than to the rule-based international order the US sought to create and sustain over the last 50 years” (Boyle, 2015: 121).

War and heroism

Nations have always commemorated their dead soldiers by making lists of those who “gave their lives”, as members of that nation, and by building war memorials to honor them. While combatants are legitimate military targets, their deaths “in action” tend to be far more acknowledged, honored, and mourned, than those of civilians, because they are seen as the heroic deaths of men and women who “gave their lives” for their country. A month into the 2022 Russian invasion of Ukraine, it was reported that Russia was sustaining incredible military losses, while at least 1,300 Ukrainian soldiers had been killed (France 24, 2022). Russian losses of an elite regiment included Col. Sergei Sukharev, commanding officer of Russia’s 331st Guards Parachute Regiment, killed on 13 March 2022, and posthumously awarded the Hero of the Russian Federation medal. The wife of Warrant Officer Sergei Lobachyov, also killed, remembers him as a “most reliable, loving and caring husband” as well as “a real hero” (Urban, 2022). The men in the 331st were regarded as the pick of Russia’s army “the best of the best” (Boyd, 2022). A media outlet identified and named 45 soldiers who died in Ukraine (Baikal, 2022). Among them was paratrooper Bair Ponkhoniev, who had fought in Syria and been awarded a medal. Naydal Tsyrenov, also killed in action, was “a true friend and faithful comrade”. Senior Sergeant of the 37th Separate Guards Motorized Rifle Brigade Stepan Oseev,

who died on 14 March 2022, was posthumously awarded the Order of Courage. Whether heroes or villains, those men, unlike drone pilots, risked and ultimately gave their lives for their country.

War narratives abound with tales of military valor, bravery and self-sacrifice, fear, but also courage and love of country. Medals and honors are given to the survivors and (posthumously) to the fallen, whose graves become places of reverence and gratitude. In drone warfare, however, the earth becomes a surface to be perused by a powerful seeing entity in the sky, as those on the ground wait for their death by silent strikes.

Mirror images: civilian deaths

It is estimated that between 2014 and 2020, 13,000 Iraqi civilians were killed in drone attacks in Iraq (Piper & Dyke, 2021). They were the “collateral damage” whose documented deaths expose the imprecision of the so-called precision strikes. Overall, in the 21st century the US–UK Coalition has killed over 38,000 civilians in Iraq, Afghanistan, and Syria, according to Iraq Body Count, Airwars, and the Nation, while Russia has killed 19,000 civilians in Ukraine and Syria, by Airwars and UN counts. Russia has been linked by other sources to as many as 23,400 civilian deaths in Syria (Airwars, 2021). The mounting costs borne by civilians from contracted conflict, physical and psychological, as well as the war crimes committed, are the one area where Russia and America converge, in showing total disregard for human life. Russian actions in Syria suggest its military does little to avoid harming civilians, and this appears to also be the case in Ukraine (Hamourtziadou, 2022).

The Russian military has supported al-Assad in Syria since 2015. It is estimated that it has used chemical weapons at least 50 times since the Syrian conflict began (US Department of State, 2021). Russian Federation assistance to the Syrian regime has facilitated and enabled the regime’s continued use of chemical weapons.

Officials have confirmed that the US military fired thousands of rounds of depleted uranium (DU) during two high-profile raids on oil trucks in Syria in late 2015, the first confirmed use of this armament since the 2003 Iraq invasion, when it was used hundreds of thousands of times, causing cancer and birth defects (Guardian, 2014). In 2014, in a UN report on DU, the Iraqi government expressed “its deep concern over the harmful effects” of the material. DU weapons “constitute a danger to human beings and the environment” (Foreign Policy, 2017). DU is a toxic chemical and radiation health hazard when inside the body, if ingested or inhaled, targeting organs such as the kidneys and lungs. DU – a waste product of nuclear power generation – is effective in anti-tank projectiles. The radioactive metal reaches high temperatures on impact with tank armor, melting it into minute particles that are carried on the wind as dust. Scientists argue that this radioactive dust contaminates air, water and soil, and has harmful consequences for human health: high incidences of cancer, leukemia and severe birth defects (Al-Fanar Media, 2019). Iraqi scientists with the Ministry of Environment and Ministry of Science and Technology identified at least 350 sites in Iraq as being contaminated with DU.

The future of war

The decisive roles of science and technology in war and armed conflict are not new. Even as it enables poverty to be diminished and sickness to be alleviated, science will be used to refine tyranny and perfect the art of war (Gray, 2002). The current development of AI within the sphere of war and conflict can be said to represent an *interregnum*, where the received orthodoxy of war and conflict is seen to unravel – perhaps even more significantly than during the post-war proliferation of nuclear weapons – to the extent that the world is required to pause in order to establish new norms, including the re-alignment of geopolitical alliances,

international structures, and finessing of international law. Drivers for future wars will still emphasize that the wealth of the richest countries depends on retaining their grip on natural resources. The “weaponization” of oil, gas, and grain in the current Russo-Ukrainian war provides evidence of this. Furthermore, the future competition for resources, driven by climate change, migration and the increasing industrialization of developing nations is set to intensify global tensions. Whatever else they may be, wars will be wars of scarcity (Gray, 2002). The technological means by which wars and conflict will be fought is becoming increasingly sophisticated – AI will make lethal munitions, including weapons of mass destruction, cheaper and more easily obtainable.

This article has discussed the current Russo-Ukrainian war with some associated reflections of the re-surfacing of 20th-century approaches. For example, military territorial conquest and occupation, the use of indiscriminate shelling, fire, and maneuver tactics, trench and dugout defensive systems, and the widespread terrorizing of civilian populations. War in Ukraine can be characterized as a hybrid, including the use of computer system malware and cyber-attacks on infrastructure, with the coordination of conventional and terror-based military objectives. This emphasizes a well-worn Russian and earlier Soviet methodology, echoing the Cold War views of General Alexander Sakharovsky, the former KGB head of foreign intelligence that, “terrorism should become our main weapon” (Belton, 2020).

The use of military drones within conflict areas is now well-established and physically, although not psychologically, risk-free for remote pilots, often based thousands of kilometers away from their theater of operation. The associated psychological issues of remoteness and detachment from the mechanics of the battlefield have been well articulated, but essentially, drone operators still remain intimately associated with the physical control of the weapon and have to make a conscious decision to kill. This is changing, with areas of currently deployable drone technology already meeting the United Nations definition of autonomous weapons systems that are described as, “weapon systems that, once activated, can select and engage targets without further human intervention” (United Nations Office for Disarmament Affairs, 2019). For example, the state-owned Israeli Aerospace Industries (IAI) is a leading arms manufacturer that includes the “HARPY” within its inventory. HARPY is a fully autonomous weapon, made possible through AI and machine learning. IAI’s website describes “HARPY” as, “an all-weather day/night ‘Fire and Forget’ autonomous weapon”. Programmed before launch to perform autonomous flight to a pre-defined “Loitering Area”, in which they loiter and search for radiating targets (Israel Aerospace Industries, 2022a). The “radiating targets” being ground-based radar air-defense systems. Once the target is identified, the HARPY, also characterized as a “Kamikaze” drone, plunges vertically and on impact, detonates its warhead. There is no mystery, no evil intent, no self-awareness, just complex calculations that depend on what the machine’s camera sees. That is on information that is not available to the human operator (Russell, 2021).

The range of autonomous weapons potential is vast. This includes quadcopters ranging from 3 centimeters to 1 meter in size, fixed-wing aircraft ranging from hobby package delivery size to full-size missile-carrying drones and autonomy-ready supersonic fighters – self-driving cars, trucks, tanks, prototype submarines, and destroyers, even skeletal humanoid robots (Russell, 2021). Autonomous drones, the size of a smartphone could be programmed and deployed singularly, or in “swarms” of thousands, each capable of operating as lethal anti-personnel devices. Deployed as weapons of mass destruction in targeting civilians, a device containing 3 grams of high explosive is capable of killing a person at close range. Such a weapon could be mass-produced very cheaply and a shipping container could hold a million lethal weapons. Combined with automatic facial recognition technology, autonomous drones would be able to identify individuals or groups of individuals, for example, human military combatants or civilians. The inevitable end point is that autonomous weapons

become cheap, selective weapons of mass destruction – clearly this would become a disaster for international security.

This vision presents some important moral and ethical questions around utility and proportionality in war and conflict. The “fire and forget” ethos advanced by IAI regarding autonomous weapons is contradicted by the view of Sir Roger Carr, the CEO of BAE Systems, the British arms, and aerospace company. Carr is on record as saying, “Delegating kill decisions to machines was fundamentally wrong” (Russell, 2021). The UK government’s own Defence, Science and Technology Laboratory (DSTL) – the science and technology arm of the Ministry of Defence also emphasizes the responsible and ethical use of AI for the purposes of defense and to save lives and reduce harm. So-called human/machine teams are promoted within the use of AI, to enable humans to make better decisions by helping them make sense of large quantities of data (Meers, 2021).

It could be said that not all military solutions are offensive or involve the deployment of weapons. The deterrence argument has already been visited in relation to the prevention of wars – particularly conflicts between major powers. In the future, AI could play a key role in the prevention of conflict through improved intelligence gathering and analysis. For example, through interpreting big-data systems and sifting through millions of lines of data and information to identify threatening patterns and structures that would be impossible through the human eye. Diplomacy and rhetoric could be deployed earlier during times of tension and to greater effect. The pre-emptive deployment (or threat of deployment) of military resources based on AI analysis of data and in logistical support to military planners, could also prevent and deter the use of force within the concept of “escalate in order to de-escalate”. In June 2015, US Deputy Secretary of Defense, Robert Work and then-Vice Chairman of the Joint Chiefs of Staff Admiral James Winnefeld observed, “Russian military doctrine includes what some have called an ‘escalate to de-escalate’ strategy – a strategy that purportedly seeks to de-escalate a conventional conflict through coercive threats, including limited nuclear use” (Schneider, 2017). This strategy, categorized as playing with fire (Work & Winnefeld, 2015) was clearly seen within Putin’s strategy in Ukraine during 2022.

Protagonists involved in future wars and conflicts will seek to exploit AI for the purposes of data analytics, predictive analysis, and strategic and tactical intelligence assessments. Communications systems and surveillance systems, including satellite technology all present significant opportunities to predict and respond to the actions, hostile or otherwise, of enemies and potential enemies. Intelligence can now be made available on a global scale. This then advances decision-making on a global scale. For example, through satellite feeds, it should be possible to create detailed models for managing the global environment, predicting the effects of environmental and economic interventions, and providing the necessary analytical inputs (Russell, 2020). The same could be said for the military environment; supported, for example, by IAI’s promotion of technology-based military solutions for land, sea, air, space and cyberspace theaters of war and conflict (Israel Aerospace Industries, 2022b).

One potential benefit of autonomy is that wars fought between robot armies might avoid human casualties altogether (Russell, 2021). Some recent Western military successes relate to this theory. For example, the 2022 “surgical strikes” by the US that killed al-Qaeda leader Ayman al-Zawahiri in Afghanistan. The theoretical importance of precision in AI weapons technologies match the Western doctrine of reduced casualties, the doctrine of minimum force and the ethical use of weapons to reduce collateral damage. This trend is likely to increase and influence future policymakers and military commanders. Not only is damage to infrastructure reduced along with fewer civilian casualties, but it also limits the problems presented by refugees – a significant and distressing sub-text within the current war in Ukraine. Thus, freeing up the human capital to focus on its strengths to save lives and reduce harm (Meers, 2021). Nevertheless, even with the sophistication of AI-enabled weapons, an accountability gap begins to open. It would be impossible to rule out the

commission of atrocities by an AI system used in a military context. To draw a comparison with a civilian AI-enabled autonomous vehicle – a failure rate of 20% would be unacceptable. While in combat, a collateral damage rate of an AI weapon, (striking a non-military asset) of 20% would amount to an acceptable risk. Further doubts about the data security and integrity of AI weapons systems have also been raised, with risks of hacking that could turn such weapons even against their owners.

References

- Aesop's Fables "Polemos". Available at: www.theoi.com/Daimon/Polemos.html (Accessed 11 September 2022).
- Airwars (2021) "After six years of Russian airstrikes in Syria, still no accountability for civilian deaths". Available at: <https://airwars.org/news-and-investigations/after-six-years-of-russian-airstrikes-in-syria-still-no-accountability-for-civilian-deaths/> (Accessed 11 September 2022).
- Al-Fanar Media (2019) "An Iraqi Scientist Speaks Out on the Lingering Effects of Radioactive Weapons". Available at: www.al-fanarmedia.org/2019/07/an-iraqi-scientist-speaks-out-on-the-lingering-effects-of-radioactive-weapons/ (Accessed 11 September 2022).
- Aldrich, R. (1998) *British Intelligence and the Anglo-American "Special relationship" during the Cold War*. Cambridge: Cambridge University Press.
- Anderson, S. (2022) "Russia's new economic policy: Famine, looting and stealing". Available at: www.forbes.com/sites/stuartanderson/2022/06/21/russias-new-economic-policy-famine-looting-and-stealing/?sh=41f3331853bo (Accessed 13 August 2022).
- Bacevich, A.J. (2013) *The New American Militarism*. Oxford: Oxford University Press.
- Baikal (2022) "Soldiers killed in Ukraine from the Irkutsk region and the Republic of Buryatia". Available at: <https://baikal-journal.ru/2022/03/23/voennye-pogibshie-v-ukraine/> (Accessed 21 April 2022).
- Belton, C. (2020) *Putin's People*. London: William Collins.
- Boyd, M. (2022) "Elite Russian regiment seen as 'best of the best' has 39 members slaughtered in Ukraine". *Mirror*. Available at: www.mirror.co.uk/news/world-news/elite-russian-regiment-seen-best-26617268#:~:text=Money-,Elite%20Russian%20regiment%20seen%20as%20'best%20of%20the%20best'%20has,39%20members%20slaughtered%20in%20Ukraine&text=A%20regiment%20of%20elite%20Russian,resistance%2C%20it%20has%20been%20reported (Accessed 11 September 2022).
- Boyle, M.J. (2015) "The legal and ethical implications of drone warfare". *The International Journal of Human Rights* 19: 105–126. <https://doi.org/10.1080/13642987.2014.991210> (Accessed 21 April 2022).
- Bush, G.W. (2002) "President Bush delivers graduation speech at West Point". Available at: <https://georgewbush-whitehouse.archives.gov/news/releases/2002/06/20020601-3.html> (Accessed 11 September 2022).
- Cockburn, A. (2016) *Kill Chain: Drones and the Rise of High-Tech Assassins*. London: Verso.
- Coker, C. (2009) *War in an Age of Risk*. Cambridge: Polity Press.
- Cooper, J.M. & Procope, J.F. (eds.) (1995) *Seneca: Moral and Political Essays*. Cambridge: Cambridge University Press.

- Cox, M. (2009) "Why did we get the end of the Cold War wrong?" *The British Journal of Politics and International Relations*, 11(2), 161–176.
- Edele, M. (2017) "Fighting Russia's history wars. Vladimir Putin and the codification of WW2". Available at: www.jstor.org/stable/10.2979/histmemo.29.2.05 (Accessed 13 August 2022).
- Ferguson, N. (2021) *Doom: The Politics of Catastrophe*. London: Penguin.
- Foreign Policy (2017) "The United States used depleted uranium in Syria". Available at: <https://foreignpolicy.com/2017/02/14/the-united-states-used-depleted-uranium-in-syria/> (Accessed 11 September 2022).
- France 24 (2022) "As Ukraine holds out, its military losses remain hard to gauge". Available at: www.france24.com/en/live-news/20220330-as-ukraine-holds-out-its-military-losses-remain-hard-to-gauge. Accessed 21 April 2022 (Accessed 11 September 2022).
- Freedman, L. (2017) *The Future of War*. London: Penguin.
- Gray, J. (2002) *Straw Dogs. Thoughts on Humans and Other Animals*. London: Granta.
- Guardian (2014) "US fired depleted uranium at civilian areas in 2003 Iraq war, report finds". Available at: www.theguardian.com/world/2014/jun/19/us-depleted-uranium-weapons-civilian-areas-iraq (Accessed 11 September 2022).
- Guardian (2015) "NSA tried Stuxnet cyber-attack on North Korea five years ago but failed". Available at: www.theguardian.com/world/2015/may/29/us-stuxnet-cyber-attack-north-korea-failure (Accessed 11 September 2022).
- Hamourtziadou, L. (2022) "Ukraine war: how Russian denial of civilian casualties follows tactics used in Syria". Available at: <https://theconversation.com/ukraine-war-how-russian-denial-of-civilian-casualties-follows-tactics-used-in-syria-179583> (Accessed March 31, 2023).
- Hardy, J. & Luskenko, P. (2012) "The high value of targeting: A conceptual model for using HVT against a networked enemy". *Defence Studies*, 12: 413–433.
- Hastings, M. (2015) *Soldiers: Great Stories of War and Peace*. London: William Collins.
- Holmes, R. (2009) *Dusty Warriors: Modern Soldiers at War*. London: Harper Perennial.
- Huband, M. (2013) *Trading Secrets: Spies and Intelligence in an Age of Terror*. London: I.B. Tauris.
- IHL database (n.d.) "Practice relating to Rule 47. Attacks against persons hors de combat". Available at: https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_rul_rule47_sectionb (Accessed 21 April 2022).
- Israel Aerospace Industries (2022a) "Harpy – autonomous weapon for all weather". Available at: www.iai.co.il/p/harpy (Accessed 11 September 2022).
- Israel Aerospace Industries (2022b) "IAI – where courage meets technology". Available at: www.iai.co.il/about/company-profile (Accessed 11 September 2022).
- Johnson, A. & Axinn, S. (2013) "The morality of autonomous robots". *Journal of Military Ethics*, 12, 129–141.
- Kramer, M. (2005) "Guerrilla warfare, counterinsurgency and terrorism in the North Caucasus: The military dimension of the Russian-Chechen conflict". *Europe-Asia Studies*, 57(2), 209–290.

Kilcullen, D. (2020) *The Dragons and the Snakes*. 1st Ed. New York: Oxford University Press.

Kilcullen, D. (2016) *Blood Year*. London: Hurst & Company.

Lonsdale, D.J. (2008) “Strategy” in Jordan, D., Kiras, J.D., Lonsdale, D.J., Speller, I, Tuck, C., & Walton, C.D., *Understanding Modern Warfare*. Cambridge: Cambridge University Press.

Marshall, T. (2021) *The Power of Geography. Ten Maps that Reveal the Future of our World*. London: Elliott & Thompson Ltd.

McFate, S. (2017) *The Modern Mercenary: Private Armies and What they Mean for World Order*. Oxford: Oxford University Press.

Mearsheimer, J.J. (2001) *The Tragedy of Great Power Politics*. New York, London: W.W. Norton & Company Inc.

Meers, S. (2021) “BBC Reith Lectures. Living with Artificial Intelligence. AI in warfare”. Available at: www.bbc.co.uk/programmes/m00127t9 (Accessed 11 September 2022).

Mulder, N. (2022) *The Economic Weapon. The Rise of Sanctions as a Tool of Economic Warfare*. Connecticut: Yale University Press.

Nye, J. (2006) “Gorbachev and the end of the Cold War”, Harvard Kennedy School, Belfer Centre [blog]. Available at: www.belfercenter.org/publication/gorbachev-and-end-cold-war (Accessed 19 August 2022).

Obama, B. (2012) “Obama announced new, leaner military approach”. Available at: www.washingtonpost.com/world/national-security/obama-announces-new-military-approach/2012/01/05/gIQAFWcmcP_story.html (Accessed 11 September 2022).

Piper, I. & Dyke, J. (2021) “Tens of thousands of civilians likely killed in US Forever Wars”, Airwars. Available at: <https://airwars.org/news-and-investigations/tens-of-thousands-of-civilians-likely-killed-by-us-in-forever-wars/> (Accessed 21 April 2022).

Pugliese, J. (2016) “How drones are gamifying war in America’s casino capital” (online) LSE Phelan US Centre. Available at: <http://bit.ly/2xoAn4f> (Accessed 21 April 2022).

Rees, L. (2012) *The Second World War: Behind Closed Doors*. London: William Collins.

Reynolds, D. (2010) “Science, technology, and the Cold War”, in Leffler, M.P. & Westad, O.A. (eds), *The Cambridge History of the Cold War*. Cambridge: Cambridge University Press.

Risk and Compliance Portal (2021) “Country Risk Reports (Russia)”. Available at: www.ganintegrity.com/portal/ (Accessed 13 August 2022).

Russell, S. (2020) *Human Compatible. AI and the Problem of Control*. London: Penguin Random House UK.

Russell, S. (2021) “BBC Reith Lectures – Living with artificial intelligence”. AI in Warfare, London.

Schneider, M. (2017) “Escalate to de-escalate” U.S Naval Institute. Available at: www.usni.org/magazines/proceedings/2017/february/escalate-de-escalate (Accessed 10 September 2022).

Sifton, J. (2012) “A brief history of drones”. *The Nation*. Available at: www.thenation.com/article/archive/brief-history-drones/ (Accessed 21 April 2022).

Sluka, J.A. (2013) “Virtual war in the tribal zone: Air strikes, drones, civilian casualties, and losing hearts and minds in Afghanistan and Pakistan”, in Whitehead, N.L. and Finnström, S. (eds), *Virtual War and Magical Death*. Durham, NC: London: Duke University Press, 171–193.

Strachan, H. (2013) *The Direction of War. Contemporary Strategy in Historical Perspective*. Cambridge: Cambridge University Press.

Urban, M. (2022) "The heavy losses of an elite Russian regiment in Ukraine". BBC. Available at: www.bbc.co.uk/news/world-europe-60946340 (Accessed 21 April 2022).

US Department of State (2021) "Compliance with the convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction, Condition (10) (C) Report". Available at: www.state.gov/wp-content/uploads/2021/04/2021-Condition-10-c-Report.pdf (Accessed 11 September 2022).

Vidal, G. (2002) *Perpetual War for Perpetual Peace: How We Got To Be So Hated*. New York: Nation Books.

United Nations Office for Disarmament Affairs (2019) *Fact Sheet- Autonomous Weapon Systems*. New York: UNODA.

Waldman, T. (2021) *Vicarious Warfare*. Bristol: Bristol University Press.

Work, R. & Winnefeld, J. (2015) "Testimony before the Committee on Armed Services, U.S. House of Representatives". Available at: www.usni.org/magazines/proceedings/2017/february/escalate-de-escalate (Accessed 10 September 2022).