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Rethinking Remote Warfare

AI, Drones, and Future War

Edited by
James Patton Rogers
James Wesley Hutto

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The Legacies of Remote Warfare

James Wesley Hutto and James Patton Rogers

Introduction

When the special issue on which this edited volume is based was put together (2018–2021), the United States (aided by its closest allies) had a monopoly on 'remote warfare'. The international security agenda of the previous two decades had been dominated by the legacies of the Bush administration's 'Global War on Terror' and Obama-era foreign policy (Rogers 2017). Combined they left an approach to counter-terrorism that was focused on localized TSA agents at airports, FBI agents domestically, CIA agents internationally, and a host of targeted killing and signature strike missions—primarily performed by large armed uninhabited aerial vehicles (UAVs or drones)—to disrupt, degrade, and ultimately defeat a host of often faceless international terrorist organizations. In addition, distance, a light-footprint, and remoteness where local actors were

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supported by high-tech weapons, special operations forces, and targeted training answered the American publics' demand to 'do something' about international terrorism while satisfying its intolerance for American casualties abroad and a repeat of the failures in Iraq and Afghanistan. The realities of the Global War on Terror had stripped us of any illusion of a century that would shun violence, revere international law, and outshine the darkness of the Cold War (Rengger 2013). Yet, remote warfare was meant to be something different—politically less risky to the U.S, but still effective in support of US interests and key allies on the ground. Up until just a couple of years ago, it was still uncertain as to the extent such ambitions would unravel. Would international law be neglected, indiscriminate violence restored, and long-simmering cold wars turn hot? (Buzan 2024). Yet, as we passed through the early years of the 2020s, it became clear that remote warfare, or at least the component parts, had begun to fracture, deployed towards divergent political ends.

Since the Rethinking Remote Warfare special issue was published in *International Politics*, much has changed and much has remained the same. The US contribution to the character of twenty-first century war continues to impress both politically and militarily. While the 1990s vision of 'perfect and rapid wars' remains elusive (Kennedy-Pipe et al. 2016),[1] the US was able to engage with little cost to itself in conflicts in Somalia, the Philippines, Yemen, Libya, and Pakistan, due to its leveraging of remote operations, often spearheaded by drones. The relative lack of human cost to the US, paired with the meager monetary cost of its participation, was such that the US public remained uninformed or ambivalent regarding US military actions abroad.[2] In short, the use of remote warfare distributes the societal costs of war in ways that are politically valuable to leaders, yet weigh on democratic norms and values in perhaps unhealthy ways.

Militarily, the use of remote warfare—especially, technologies of remote warfare—as a means of casualty avoidance has dramatically changed the practice of war in the twenty-first century. The US fight against the Islamic State (IS), and its retaking of Iraq—in particular the battle of Ramadi in 2015—provided a road map for the use of armed

[1] Before withdrawing its forces with no political solution, the US military suffered 2324 fatalities in Afghanistan and 4598 fatalities in Iraq.

[2] As former Secretary of Defence Robert Gates admitted, war had become seen by many in the Pentagon as "bloodless, painless, and odorless" during the Obama years.

Medium Altitude Long Endurance (MALE) drones in conventional-style conflicts (Fox 2019). Drones defined the American-led military operation in two ways as they worked in concert with ground forces to reclaim and hold territory. First, remotely piloted aircraft performed 'deliberate and dynamic precision airstrikes' targeting IS' infrastructure—more than 15,000 strikes over the course of the campaign (DOD n.d.). Second, remotely piloted aircraft assisted US partners in the dangerous business of 'on the ground' warfighting, aiding in maneuver over the desert and urban battlefields (DOD n.d.). The US-led coalition, for example, dedicated nearly 44 percent of airstrikes to Ramadi during the ground offensive to retake the city (Wasser et al. 2021, p. 162). Procedurally, Iraqi forces would call in requests for air support, which would then be vetted by ISR—typically MALE UAVs with full motion video (FMV) capability—before being attacked with precision guided weaponry. The Ramadi success story was made possible by on the ground forces to take and hold territory, aided by remote uninhabited aerial technologies to lessen the incursion of casualties to Coalition forces and civilians (Taylor 2024).

Since the turn of the decade and the new drone wars of the 2020s, however, our understanding of 'Remote Warfare' has begun to change, if not become skewed. No longer focused on the US and Western allies waging wars at arm's length by remote control, while supporting local forces on the ground, it is the remote control (and increasingly autonomous) technologies, deployed by a range of international actors, that have come to define war in the 2020s. Perhaps the first significant case of these remote technologies and strategies playing a large part in a war without US participation was the 2020 Second Nagorno Karabakh War, in which Azerbaijan made rapid and unprecedented gains on territory to which it claimed ownership, but had not held in the region since the early 1990s. The role of uninhabited aerial vehicles in Azerbaijan's political victory is still debated, but it is beyond question that the use of remote technologies (supported by Türkiye) worked with ground forces to generate significant battlefield gains both by facilitating indirect fires with intelligence, reconnaissance, and surveillance capabilities (in lieu of access to satellites) and identifying and attacking outdated Armenian defense systems (Dixon 2020).

The second significant case of remote technologies and strategies in conventional war is playing out before our eyes in Russia's illegal

invasion and war against Ukraine. The advantage wielded by Azerbaijan has been found wanting on Ukrainian battlefields, echoing the predictions of Ash Rossiter in Chapter 7 of this volume: '[c] omparative advantages derived from this 'remote warfare' are waning due to competitors' partial adoption of precision weapon systems and the development of countermeasures. As a result, selected remote warfare methods have been subsumed under a broader war of attrition in Ukraine. As Michael J. Williams writes in Chapter 8 of this volume, remote technologies in Ukraine have been matched to ground operations to form 'an evolving symbiotic relationship, with human operators and conventional ground forces indispensable to the operation.' Russia uses similar remote technologies from the tactical level to the strategic, with the one-way pejoratively termed 'kamikaze' drones terrorizing civilian populations and dominating headlines in the West. Ukraine's use of technologies and strategies on the other hand, has garnered attention most recently for the capabilities it has replaced. Wars of attrition require large amounts of artillery and human power—two capabilities that Ukraine sorely lacked. Small uninhabited aircraft (such as First Person View Quadcopters) have served as artillery on the battlefield, and, in turn, help make up for a deficit in Ukrainian frontline soldiers.

This brief discussion suggests that remote warfare (or at least selected weapons systems, strategies and tactics that were pioneered by remote warfare approaches) has shifted from a tool of hegemons' regulating and shaping the international environment to their liking, to a relatively new and integral skill to conducting conventional war in the twenty-first century. The mission set of uninhabited aerial vehicles has exploded, including traditional missions like intelligence, surveillance, and reconnaissance (ISR), close air support (CAS), air interdiction, long-range strike, and nontraditional mission sets like armed overwatch, key to Williams' assessment in Chapter 8. It is this variability that makes these remote technologies so valuable on contemporary battlefields, not so much as increasing the distance of the shooter from the target, but of surveilling battlefields in a way previously unrealized, providing states that would otherwise lack an air force the means of wielding air power, and replacing human capability on the battlefield to free up soldiers for soldiering. Presaging this development, James Rogers and Delina Goxho in Chapter 6 use drone activity in Niger to suggest that remote warfare is no longer the light footprint enterprise it once was, since its 'means

and mechanisms' wielded by multiple state actors now 'saturate zones of conflict' combined with significant numbers of local ground forces.

It is not just states that are deploying these means of remote warfare, however. Since IS' use of remote-controlled quadcopters in defending its territorial acquisitions in Iraq, other non-state actors have enhanced their drone capabilities. The Houthis are a good example of this, harnessing a more traditional approach to remote warfare to achieve their political ends. Between 2017 and 2023, the Houthis conducted approximately 1000 rocket or missile attacks and over 350 distinct drone strikes against Saudi Arabia (many of them concentrated against strategic targets deep in Saudi territory) to coerce an end to the Kingdom's involvement in the Yemen Civil War. It worked—in 2023, Saudi Arabia sought rapprochement with Iran largely in exchange for Iranian guarantees that Houthi strikes against Saudi targets would cease (Baker 2023). This astonishing outcome is beyond the explanation of Kelly Grieco and Wesley Hutto in Chapter 5 of this volume, who argue against the coercive capabilities of drones in counterterrorism. The authors' do not address the coercive potential of non-state organizations who promise to 'shoot forever' at state actors responsible for the protection of individuals and activities within their borders (Zegart 2018). The Houthi success makes this a worthy research topic for future work on non-state adaptations of remote warfare.

Nevertheless, questions around international law and the use of traditional U.S./Western interpretations of remote warfare against non-state actors—the focus of the original special edition—remain as relevant as ever. One needs only to consider the quick uptick in the first weeks of the second Trump administration's use of targeted killing across the Middle East and North Africa combined with the elimination of organizations within the Department of Defense dedicated to the reduction of civilian harm in airstrikes (Horton et al. 2025). With the US abandoning its commitment to limit civilian casualties in remote warfare, one wonders whether this is a function of contemporary American politics or a negative externality of the normalized subversion of remote warfare. Read in this context, Aditi Gupta's warning in Chapter 2 of this volume which today seems prophetic: the distance of remote warfare and the reduced capacity for counting casualties risks 'devastating and eroding' the visibility of civilians in 'fluid states of war,' and in turn degrades the 'worthiness' of civilian protection.

It is not just the United States that is found wanting in fulfilling commitments to international human rights in its use of remote warfare. Myanmar, Nigeria, Burkina Faso, and Sudan and South Sudan (not to mention Russia) have each reportedly violated human rights law (either intentionally or accidentally) in the course of conducting campaigns with remote technologies against 'insurgents' and 'enemy forces' (Akinwotu 2023; Schmitz and Regan 2024; Al Jazeera 2025). That these instances remain outliers in the broader community of states capable of conducting remote-control operations is a welcome note of optimism during dark times. Amelie Theussen, makes this point in Chapter 3 of this volume, seeking to reassure readers that the demise of international legal norms regulating the use of force may be overstated and there is hope for strengthening the rule of law. Theussen suggests that most states, most of the time, are abiding by international law in their employment of such technologies and strategies. Given Gupta's argument about the slow degradation of norms, we can only hope this remains the case in the future.

Conclusions

What is, then, the collective assessment of the authors of this volume regarding remote warfare, its utility and impact on warfare, its modern interpretations, and its future use (and misuse) by a consistently increasing number of international actors? Each contributor to this volume suggests in their own way that the advent and development of remote warfare over the course of the first two decades of the twenty-first century has significantly impacted the international political and military landscape. The specifics of how each chapter answers this question depends on the topic under review—international law, liberal democratic norms and institutions, small wars, counterterrorism, or large conventional wars.

As implied above, the implementation of remote warfare methods and technologies across battlefields that remain 'fluid' is not a value-neutral act. Aditi Gupta argues in her contribution, '*Phenomenon and experience: searching for the civilian in an age of remote warfare*', that remote warfare waged at a distance reduces the capacity for counting (let alone identifying casualties) and erodes and devastates the lawful distinction between combatants and civilians. Amelie Theussen, in her contribution, '*International law is dead, long live international law: the state practice of drone strikes*' does not dispute Gupta's argument, but does offer

some helpful context regarding the breadth of the erosion of 'civilianhood' internationally—the violators of which seem to remain few and far between, with the US' Global War on Terror assuming much of the responsibility for Gupta's critique.

As the Global War on Terror has been deemphasized by subsequent US presidential administrations, the movement of remote technology from the military to law enforcement organizations has trended upward, generating lessons inside the US for other states wishing to integrate drones into their own law enforcement bodies for domestic deployment. Shama Ams' warnings in his chapter, '*Blurred lines: the convergence of military and civilian uses of AI & data use and its impact on liberal democracy*', note the risk of "blurring the traditional legal and normative lines between" military and law enforcement, replacing the violation of human rights abroad with violations at home. On the whole then, the normative value of remote warfare in western practice has assisted in the degradation of those liberal values we might identify as classically 'western.'

Perhaps some of these sacrifices to liberal democratic institutions and norms might be worthwhile if the technologies of remote warfare—drones—could be proven strategically effective. Unfortunately, the contributions to this volume dealing with remote warfare, coercion, and combat find the strategic utility of remote warfare lacking. Kelly Grieco and Wesley Hutto's chapter, '*Can drones coerce? The effects of remote aerial coercion in counterterrorism*' argues that the characteristics of persistence, lethality, and relative risk—found in drone platforms— 'produce weaker coercive effects than often assumed' and as noted above, particularly as it relates to the ability to communicate demands to a target, as well as assure a target of the shooter's willingness to cease shooting once demands are met. Even accepting the coercive capabilities of drones in the Saudi-Houthi case mentioned above, Grieco and Hutto's conclusions remain stark—drone technologies were created and developed specifically for the counterterrorism mission, and their failure to affect the insurgent environment through coercion signals the future continuation of a 'forever war'; one with much less public awareness given the return of large conventional wars in the west.

Grieco and Hutto's analysis of the US counterterrorism experience suggests it will be difficult for states to cease using drones against declared 'enemies' once that practice is begun. Indeed, the 'light counterterrorism footprint' of the US, by the end of its operations in Afghanistan, was anything but. James Rogers and Delina Goxho in their chapter, '*Light*

footprint—heavy destabilising impact in Niger: why the Western understanding of remote warfare needs to be reconsidered' notice similar trends outside of the US as remote warfare technologies proliferate to other state actors globally. They conclude it is 'no longer politically useful, militarily effective, or indeed academically accurate to consider remote warfare as 'light footprint' at all' as by doing so we misdescribe the character of remote warfare in the 2020s and misjudge the impact (both negative and positive) it can have upon the region in which it is deployed.

There is often an impetus at this point in the conversation to look to emerging technologies as a 'way out' of the current routinized practice of warfare. Many analysts and scholars are anticipating the drastic changes that the effective integration of artificial intelligence into remote warfare could have on the success of counterterrorism abroad, or the Ukrainian battlefields, as well as how AI might help the Global South more effectively challenge the west in the international pecking order. We would suggest these analysts look carefully at Ash Rossiter's chapter in this volume, '*AI-enabled remote warfare: sustaining the western warfare paradigm?*' Rossiter's skepticism regarding the promise of AI in remote warfare echoes the tonality of other chapters in this book, as he identifies the arms race sure to take place once AI models reach a point of effective integration. For this reason, Rossiter concludes the promise of AI in remote warfare is a fleeting vision with 'diminishing returns.' The future Rossiter envisions of AI remote warfare, therefore, is one that looks much like the present, with the traditional haves and have-nots remaining in their respective 'international places.'

One need only look to the war of attrition described by Michael J. Williams in his chapter, '*Drones all the way down: the evolution of (remote) war on the battlefields of Ukraine, 2022–2025*', to witness the military and political stalemate created by two sides with remote capability. In tracing the evolutionary progression of remote technologies and strategies in the Russia-Ukraine War, Williams makes a comment on the hotly debated 'drone revolution' arguing that while 'Drones will proliferate through all earth-based services in the years to come', they will not replace the primary necessities of conflict, 'soldiers, tanks and artillery'. Nevertheless, Western social imaginaries regarding 'easy war', in Williams' view, will continue to produce an 'excessive use of force in environments where it is not the ideal tool'.

It is with these 'more of the same' trends in mind that Jean-Baptiste Jeangène Vilmer argues that remote warfare 'is not so new, not so distant,

not so different, not so indifferent, and not so riskless.' His chapter, '*Not so remote drone warfare*' is both a compelling critique of the remote warfare concept and a pertinent reappraisal of the 'remoteness' of drone technologies. Vilmer takes on claims about 'distant and disconnected' drone pilots with a video-game mentality; he challenges the assumed differences between drone pilots and pilots of modern inhabited aircraft; and he explains how drone warfare is not as 'riskless' as many claim, 'at least compared to its most likely alternatives'. Such conclusions have proven prophetic as the promise of remote warfare and remote drone technologies to reduce the cost to civilian and military lives, and win wars, have become undone before our eyes. Overall, therefore, as this volume draws to a close, Vilmer leaves us with a characteristically thought-provoking argument to consider, that remote warfare and drone warfare are actually 'not that remote' after all and perhaps never were.

To conclude, the contributions to this edited volume, when placed against the light of the current international political and military context, collectively present a bleak future. One in which the normative cost of traditional remote warfare has taken its toll on the Western world, as it has provided questionable military value and diminishing returns over time, and has left the international political pecking order largely unchanged. Ultimately, however, the lasting impact of remote warfare will be seen through the strategies and technologies it pioneered and the legacies of their use. Put simply, the continued proliferation of drones signals an ever-growing contribution to an increasingly violent century.

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Remote Warfare, Law, and Democracy

Phenomenon and Experience: Searching for the Civilian in an Age of Remote Warfare

Aditi Gupta

Introduction

This chapter responds to Holmqvist's call (2013) to analyse warfare as human experience as well as a phenomenon in order to fully understand its nuances and impact. Utilising the United States' (US) pursuance of remote warfare and its network of partnerships as a site for examination, and a three-part typography of the 'civilian'—encompassing legal protections, protections afforded via sovereign power and the use of frames to underpin civilian status—this chapter will show that remote warfare's impact on human experience results in the fundamental reimagining of the civilian. Civilian status and protections are not only easily subverted in the name of military necessity in the context of remote warfare, but their subversion and erosion are fundamental to its strategic ends and continuance. Taken together, though not exhaustive, these three areas will outline what makes a civilian visible and deserving in the eyes of the international system, and so worthy of protection and humanity. By using the interdisciplinary idea of 'undoing' and its simultaneous 'generative–destructive'

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impact to link the impacts of remote warfare as both phenomenon and experience, this chapter seeks to contribute to broadening scholarship in this area.

Remote Warfare as a Phenomenon

What Is Remote Warfare?

This volume explores 'a deep and widespread feeling that war has entered a new era, significantly different from what we have known in the past' (Gat 2011: 28). The term 'remote warfare' has been used to define the shift of Western state-led operations away from 'boots on the ground' deployments towards light footprint military interventions. These covert and conventional operations involve a combination of remote measures, designed to increase the ability to project force over distance, avoid ground engagement (Moran 2015) and generally involve the use of drone and airstrikes, special forces, intelligence operatives, private contractors and military-to-military training teams (Watts and Biegon 2017, p. 1).

At a remote warfare conference (Watts and Biegon 2019), participants highlighted the multitude of shifting names for the 'new newness' of contemporary warfare (Demmers and Gould 2018) eluding any clear definition. Studies of warfare as a phenomenon have proliferated over recent years, building on the rich seams of inquiry examining the long-established roots of tactics, strategies and doctrines that persist across eras. These include notions of liquid warfare (Demmers and Gould 2018; Bauman 2000), coalition proxy warfare (Mumford 2013), surrogate warfare (Krieg and Rickli 2018), transnational shadow wars (Niva 2013) and vicarious warfare (Waldman 2018). Just how 'new' remote warfare is remains debatable.

Foundations of Remote Warfare as a Phenomenon: Not So 'New'

Where scholars investigate remote warfare as a new phenomenon, three elements are used to explain its newness (Demmers and Gould 2018) although in many ways these elements are not entirely novel.

> First, there is risk aversion and war fatigue directly in reaction to the interventionist Iraq and Afghanistan wars. This resulted in an era of post-interventionist or 'pullback' approaches (Duffield 2016;

Kümmel and Giegerich 2013; Mumford 2013) characterised by a shift to smaller footprint, covert operations (Mutschler 2016; Schörnig 2013). However, a key part of military success has always been the minimising of troop casualties (Shaw 2005), spurring the search for strategic or technological fixes for the physical risks of war (Rogers 2017). Politically and strategically, this desire has engendered the use of light footprint operations in a plethora of military interventions from partnered and proxy wars to covert support of non-state actors well into the twenty-first century, often falling outside the confines of any publicly announced armed conflict (Moran 2015: 2, Gray 1999; Mumford 2013; Bauman 2000; Gregory 2011). These assemblages therefore cannot be argued to be unique to contemporary remote warfare. Looking at US operations and logic, the emergence of small 'policing' and other localised interventions emerged as early as 1906 in Cuba, with lighter footprint operations following in Nicaragua in 1909) and Haiti in 1915). 'Total war' was long seen as 'old world folly', and the spectre of casualties has consistently decreased public appetite for large scale troop deployments (Rogers 2017).

Second is the identification of new technologies as the driving force behind these light footprint operations. Studies emphasise the rise of military robotics and use of armed drones in propelling this shift, enabling greater lethal strike capabilities over long distances without committing troops (Holmqvist 2013; Schwarz 2016; Wall and Monahan 2011; Wilcox 2017; Kennedy-Pipe et al. 2016). Early adoption of drone technology by Israel, the UK and particularly the US has been portrayed as the poster child of the 'risk-free' and 'precision' operations that many argue are central to remote warfare's logic. This logic is being bolstered through the increasing use of artificial intelligence, such as Google's Project Maven or the Israeli Defence Force's Lavender database. These technological capabilities have been heralded as ushering in a new future of algorithmically-driven targeting that is being used to justify and propel increases in lethality, reach and speed of operations. However, as articulated by Rogers (2017), 'drones are merely the latest technological incarnation of a long-held ambition in US warfare: the aim to win wars rapidly, with little cost to military life'. Dorsey (2025) similarly argues 'we can trace a datafication trend from Vietnam,

through the "War on Terror" all the way into the algorithmic realities reflected more recently in Gaza and Ukraine'. Ultimately, success in warfare has always been predicated on projecting force from a distance and reduction of physical risk, starting with the longbow (Walton 2013; Ellis 1987). Investment in air power and high-tech weapons as a means to shift the risk calculus and project force over greater distances has long been seen as a 'cure all' for the horrors of conflict (Rogers 2017), rather than elements unique to contemporary remote warfare.

Third, we are seeing new forms of shadow networked warfare, resulting from states resorting to mirroring enemies' unconventional tactics in asymmetric conflicts. This includes operations by non-state armed groups through underground networks and cells, manifesting in nebulous and shifting alliances across borders. State militaries are argued to respond in kind, forming their own networks and utilising unconventional and remote tactics where 'hybrid blends of hierarchies and networks mount strike operations across shadowy transnational battle spaces' (Niva 2013, p. 187). These feature networked, cross-border drone operations, small footprint special forces, train-and-assist operations and the sharing of assets, data and intelligence. This brings joint state activity into the covert space, echoing the underground nature of their enemies' networks.

These networked elements, however, are not too dissimilar to previous conflicts, such as proxy wars and covert operations during the Cold War. Although the advent of the War on Terror is often seen as a starting point of the shift to these networked measures, Demmers and Gould (2018) argue that the military interventionism put into motion post-9/11 can be seen as a climactic summation of a longer history of 'globalising wars' where the goal is not to conquer territory, but to 'remove obstacles on the road to a global freedom of economic choices' (Bauman 2001, p. 6). This is intimately linked with the post-Cold War idea of liberal peace espoused by Duffield (2014, pp. 11, 34) as a non-territorial, mutable and networked relation of governance that 'aims to transform the dysfunctional and war-affected societies that it encounters on [Western] borders into cooperative, representative and stable entities'. The incorporation of new technologies such as drones and artificial intelligence, and the evolution of forms of networked operations in remote warfare, can be seen as a continuation of achieving these aims.

The 'New Newness' of Remote Warfare as a Phenomenon

Whilst these three aspects of contemporary warfare are valuable lenses, Demmers and Gould's articulation of 'liquid warfare' usefully clarifies their limitations. They build on the identification of war fatigue, technology and enemy networks as key elements to show that, taken together, they provide 'additional conditions of possibility' for the fundamental spatial and temporal reconfiguration of war not adequately covered in traditional analyses (2018, p. 366). Examining studies of remote warfare as a phenomenon itself, we see that these foundational elements form an enabling environment for the emergence of two clear characteristics of remote warfare today:

1. Its spatial and temporal reconfiguration to a 'battlescape'.
2. Its emergence as a fundamentally networked phenomenon.

The temporal reconfiguration of war stems from existing ideas in traditional literature of forever war (Filkins 2008) and permanent war (Bacevich 2010), outlining the open-ended and protracted nature of conflict. To understand these changes, it is important to consider contemporary warfare not just in terms of time, but in combination with spatial and territorial elements. War in the past was conducted in 'resolutely territorial terms' (Gregory 2011, p. 239), often in conjunction with non-Western partners or via proxies, according to the coalescing of Western and local interests within a defined area. However, in contemporary remote warfare, the concept of the geographically bounded battlefield is being 'replaced by a multiscalar, multidimensional battlescape' driven in large part by a unifying US doctrine, propelled by increasingly sophisticated technological capabilities, and propped up by a network of partners (Graham 2010, p. 31, APPG on Drones 2018).

This concept of warfare shuns direct control of territory and populations with its cumbersome order-building and order-maintaining responsibilities and focuses instead on shaping the international security environment through technology, flexible operations and military-to-military partnerships (Demmers and Gould 2018). Chamayou (2015, p. 57) argues this expansive territorial conception of warfare has evolved further still, from a 'geocentric' to a 'target-centred' concept, attached to the human bodies of enemies. This up-ends traditional notions of armed conflict where force is permitted within clear geographical boundaries,

against specific parties. This reconceptualisation paved the way for new interpretations of the laws and norms governing the use of force, enabling lethal action that dismantles existing curbs on when, where and against whom force can be used and has paved the way for the greatest rise in civilian harm our generation has seen. The United Nations (n.d., p. 2) recorded at least 33,443 civilian deaths in armed conflicts in 2023, a shocking 72 per cent increase as compared with 2022. The proportion of women and children killed doubled and tripled, respectively, as compared with 2022. In 2023, 4 out of every 10 civilians killed in conflicts were women, and 3 out of 10 were children.

Combined with the complex networked nature of conflicts, this shift away from geocentric and temporally defined conceptions of war results in confusion; not just in terms of the 'lines of responsibility' of actors as Demmers and Gould (2018, p. 365) articulate, but when war—as societies understand—begins and ends. Without clear lines determining when and where conflict starts, this blurs the lines between war and peace, undercutting the concepts by which war is conducted, monitored and understood. In this way, 'the conventional ties between war, space and time have become undone' (Demmers and Gould 2018, p. 366) and the debates around remote warfare as a phenomenon may be seen as attempts to understand the nature and implications of this shift.

Limitations of Remote Warfare Solely as Phenomenon

Whilst the study of war as a phenomenon in its own right is crucial—and according to Barkawi and Brighton (2011a, b), still in its infancy—this chapter builds on Holmqvist's (2013) warning that conventional studies have neglected human experience, preferring to study war through abstract notions of the state, militaries and insurgents. This results in articles focussing primarily on top-level impact, culminating in analyses of governance, institutions, militaries and legal frameworks. When studying US remote warfare (USRW), this approach has significantly increased our understanding of its novel elements and statist impact. This largely abstract focus is where most analysis of remote warfare stops, and rightfully so when the aim is to study the unique elements of remote warfare as a phenomenon in its own right.

However, this abstraction and solely top-down analysis is 'emptied of human content' (Scarry 2005, p. 70). It misses nuances around what

drives the continuation of remote warfare tactics and logic. Holmqvist (2013, p. 3) powerfully argues that 'in terms of human experience … fighting always exceeds fighting', whilst feminist critiques call for the re-centring of the study of war as bodily injury and experience (Scarry 2005; Sylvester 2012; McSorely 2012). For instance, bombardment cannot only be understood as physical destruction inflicted, but must include 'the impact on human lives … psyches, thoughts and emotions'. To fully understand the impact of remote warfare, it is vital we also turn to human experience on the ground.

What Makes us Human in the Context of Warfare?

To assess the impact of remote warfare on human experience, the first step is to define human experience in warfare more broadly. A key safeguard for individuals in both war and peacetime is the designation of civilian status, protecting individuals from arbitrary killings and violence. This status is afforded and upheld by states during both war and peacetime. It is during war that this label translates into being seen either as an innocent life requiring protection—or a legitimate target for attack. Indeed, many have argued that the bestowal of legal protections is what makes someone human and their life visible and worthwhile in the eyes of the rules-based international system. The impacts of remote warfare have been repeatedly analysed as muddying these legal waters by blurring the lines between war and peace.

Studies analysing civilian status in warfare largely see this category as a legal concept that governs the conduct of parties in warfare. This chapter agrees that law is central to understanding civilian status. However, as civilian immunity is not absolute, a top-down legal focus is not sufficient on its own. To fully assess the human experience of warfare, it is necessary to adopt an interdisciplinary lens for analysis that better addresses the socio-political factors establishing and upholding this legal status. This chapter does not attempt to define humanity in its entirety but hopes to contribute a critical analysis of how humanity, via protected civilian status, is designated in warfare. There are three key elements to this:

1. The legal protections which define the 'civilian'.
2. The bestowal of these protections by states to afford people their humanity and value.

3. States' efforts to control the visual and narrative dimensions of war by 'framing' the civilian.

Legal Foundations of Civilian Status

The protection of civilians has been a central principle underpinning modern warfare, codified and enshrined in the Geneva Conventions, multiple treaties and in customary law. 2019 was the seventieth anniversary of the adoption of the Conventions—the most extensive codification of the laws of war, and the only treaties to have been ratified by every state in the world (Gillard 2020). Civilians are broadly protected from harm in war through the upholding of the legal principles of distinction, proportionality and necessity. As outlined by Crawford (2018), enshrined in treaty and customary law applicable in both international armed conflicts[1] and noninternational armed conflicts[2] are detailed rules, including those prohibiting direct targeting of civilian objects and infrastructure, obligations to ensure civilian elements are protected from direct effects of military operations,[2] and rules determining treatment of civilians at the hands of any adversary.[3] Primary among these rules protecting civilians in armed conflict is the principle of distinction: the fundamental obligation on parties to distinguish between civilians (and civilian objects) and military objectives and to direct attacks only against military objectives.[4]

[1] The substantive treaty law regarding the protection of civilians in IACs can be found in the four Geneva Conventions of 1949 and Protocol I, Additional to the Geneva Conventions (Protocol I or AP I). [2] The substantive treaty law relating to NIACs comprises Article 3 to the Geneva Conventions (known as Common Article 3) and Protocol II Additional to the Geneva Conventions (Protocol II or AP II).

[2] These include rules on proportionality in attack (contained in Art 51(5) AP I), prohibitions on indiscriminate attacks (Art 51(4) AP I), and obligations on parties to take precautions in attack (Art 57 AP I) and in defence (Art 58 AP I).

[3] Contained in Geneva Convention IV, regarding the treatment of civilians under belligerent occupation.

[4] Article 48 of AP I provides that: '[I]n order to ensure respect for and protection of the civilian population and civilian objects, the parties to an armed conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives. Accordingly, they shall direct their operations only against military objectives'.

This all, of course, hinges on the necessity of decisively identifying civilians from combatants and clearly determining the existence of an armed conflict (Crawford 2018).

The Precarity of Legal Protections

These treaties and their Additional Protocol in 1977 are held up as pinnacles of international solidarity and humanity. But in reality, the status of the civilian is far more tenuous. First, the civilian in warfare is not defined as a positive legal entity in its own right—instead, it is defined in terms of the negative space left by who is defined as a combatant (Crawford 2018). This is significant because civilian immunity is not absolute. Plus, it is important to remember first and foremost that civilians can legally be killed in armed conflict if those casualties can be classed as collateral damage. The principle of proportionality is key to this determination; however, it depends on completely speculative *ex ante* assessments of the expected humanitarian effects of an attack and asks military actors to balance the rights of civilians with the interests of the armed forces. Cohen (2018, p. 76) writes persuasively, that not only are these concepts incomparable, but this judgement is also based on totally subjective risk assessments that will differ widely from party to party.

Furthermore, immunity from targeting is contingent on civilians refraining from directly participating in hostilities. As outlined in Article 51(3) of Additional Protocol I, civilians are not to be made the object of attack 'unless and for such time as they take a direct part in hostilities' (Crawford 2018).[5] This form of negative definition becomes more vulnerable still when applied to complex conflicts involving multiple non-state actors. This is because, according to McDonald (2017, p. 173), 'the individuals that take up arms against states in non-international armed conflicts do not gain a formal legal status like combatants in state armies; instead, as individuals, they are defined by their collective loss of protections associated with being a civilian'. This double-negative definition places both the civilian and the non-state combatant in the same fluid definitional space—one which relies on the judgement of state and non-state parties to a conflict to determine and uphold.

[5] AP I, Art 52(2).

Power Relationships Between Civilian and State

By looking at the civilian through its legal manifestations, we can see that the debate on who constitutes a civilian—and so worthy of protection—is complex; but more importantly the legal status itself is fragile. Importantly, the power to both bestow this protected status, as well as responsibility to uphold these protections lies squarely in the hands of states. As posited by Cohen (2018, p. 79) 'it is the state, and only the state, that is the focus of efforts to implement and enforce international humanitarian law (IHL)' whilst 'non-state actors in conflicts are largely seen to violate IHL, or ignore it altogether' (Schmitt 2008, p. 62). This means that upholding the foundational principles of distinction, proportionality and necessity that underpin protection in warfare relies primarily on the subjective judgement of states.

This power relationship therefore needs to be assessed to truly understand the impact of any type of warfare on the human experience of the civilian. By bringing together the ideas of Arendt on the relationship between humanity and legal rights, and Agamben's writings on sovereign power and bare life, we can see that in warfare the power relationship between states and civilians is fundamentally unequal.

The paradox of being provided rights and protections in warfare is that without them, the civilian in war is rendered effectively sub-human and powerless. Arendt's sharp analysis (1973) of the plight of refugees and stateless individuals seeking protection after World War II highlights two important forms of legal protection in this space; those based on universal abstract rights, and those granted by a state to its citizens:

If a human being loses his political status, he should, according to the implications of the inborn and inalienable rights of man, come under exactly the situation for which the declaration of such general rights are provided. Actually, the opposite is the case. It seems that a man who is nothing but a man has lost the very qualities which make it possible for other people to treat him as a fellow human being.

Building on Gündoğdu's thesis (2012), 'the more we invoke rights, the more we become entangled' in what Agamben calls sovereign power where law (and the protections it affords) can be withdrawn from a human being (Lechte and Newman 2013). This becomes a problem when we rely on the same sovereign power to decide who deserves protected status as a civilian in armed conflict and peacetime. Civilians require states, as sovereign powers, to uphold their protections through enforcing

universal human rights, or through the subjective judgement required to guarantee the principles of distinction, proportionality and necessity. In dire situations, such as famine or war, the aim in the first instance is to enable the bare survival of those individuals: 'mere aliveness is the only aim regardless of any concern about the power relation' (Lechte and Newman 2013, p. 21). With legal obligations establishing a duty of care by states to protect civilians in situations of conflict, this element of control translates into a fundamentally unequal power dynamic capable of reducing civilians to 'an irrelevant form of bare life, incapable of political agency or autonomous action' (Lechte and Newman 2013, p. 11).

Therefore, to be deemed human, and not a form of bare life, depends on a combination of sovereign authority and legal status beyond those afforded by abstract universal rights. Whilst it is through rights that individuals are included in the civil sphere as citizens, in the context of remote warfare this inclusion coincides with a growing erosion of rights, and a readiness on the part of the state to sacrifice them in the name of security (Lechte and Newman 2013, p. 7).

The Creation and Maintenance of 'the Civilian' as a Stable Category for Protection

Agamben's thesis (1998) helps to pull out the fundamentally unequal relations of power between states and civilians in warfare. The civilian nevertheless occupies a primary position in society. Though disadvantaged in terms of power, the civilian has been made undeniably visible (particularly since World War II), with expectations of protection embedded in the concept. To understand the terms on which this visibility and protection lies, it is important to explore more deeply how the civilian is made visible in this space. Butler's ideas of how 'grievable life' is framed and formed (2016), and the implications this has for the category of the civilian, are particularly useful here.

In warfare, according to Butler, human lives are either seen as grievable and worthy of protection, or not. The conduct of war seeks to distinguish those lives to be preserved from those whose lives are dispensable. War produces precarity as a norm of everyday life for civilians and combatants alike. This is because military advantage in warfare is predicated on increasing the precarity of one side, and decreasing it on the other, albeit in a manner that is seen as 'just'. The tactics deployed in warfare are therefore governed by normative codes, most prevalently international

law, outlined above. As seen, civilian immunity under international law is not absolute, and so remains dependent on how the civilian category is established during warfare. Beyond the role of states in abiding by the normative codes dictated by international law, Butler argues that the process of framing underpins these codes. Framing does this by creating and maintaining the civilian as a stable category for protection in state and public consciousness and by determining who falls within this protected legal category. Frames 'do not simply exhibit reality, but actively participate in a strategy of containment, selectively producing and enforcing what will count as reality' (Butler 2016, p. xiii). Such visual and conceptual frames are presented as a way of building and destroying populations as objects of knowledge and targets in war, the frame itself becoming 'part of the materiality of war and the efficacy of its violence' (Butler 2016, p. xiii).

Assessing the Human Experience of Remote Warfare

This chapter heeds Holmqvist's (2013) call by examining the impact of remote warfare on the lived experience of civilians in conflict areas, as well as the experience of 'turning war into a permanent socio-political condition' for the public of countries waging remote warfare (Riemann and Rossi 2021, p. 1). Understanding both ends of human experience is fundamental in appreciating both remote warfare's societal consequences as well as how societal acceptance of remote warfare's logic and tactics is central to its continuance.

The idea of 'undoing' as outlined by Holmqvist (2013, p. 16) usefully connects analysis of warfare as both phenomenon and experience. Barkawi and Brighton (2011a, b) argue that intrinsic to the phenomenon of war is an 'undoing of all that stands as essential in human orders'. Barkawi explains that war has an 'intrinsic capacity to *unmake* and cast into motion all kinds of "truths" [resulting in] the *undoing* of certitudes and in the *generation* of new ones' (2011, p. 139). Butler (2016), on the other side of the argument, argues that being 'undone' by each other is a fundamentally human condition, thereby linking the phenomenon of warfare with human experience (Holmqvist 2013). Building on Barkawi's argument of the 'unmaking' and 'generating' elements of warfare on truths and certitudes, this chapter argues that there is a similar double-edged 'generative–destructive' dynamic inherent in remote warfare that warrants

closer attention and that has significant consequences from the perspective of human experience.

When looking at remote warfare as a phenomenon, the creation of novel elements at the policy and operational levels clearly reflects the generative dynamic Barkawi and Brighton (2011a, b) outline. Whilst the development and use of technology, risk-averse strategies and creation of networks are part of this generative dynamic, this chapter focuses on the truly novel elements that remote warfare has generated, building on Demmers and Gould's analysis (2018): remote warfare's spatial and temporal reconfiguration to a 'battlescape'; and emergence as a fundamentally networked phenomenon.

It is only by applying these two critical phenomenal elements to remote warfare's dual-edged 'undoing' dynamics—thereby linking its impact on human experience— that we can see its true societal consequences. In assessing remote warfare as human experience, this chapter shows that this phenomenon of warfare requires the erosion of the civilian to continue. It requires a political and societal reimagining of the civilian through law, state action and framing to underscore the tactics, normative codes and relations of power that remote warfare depends on.

USRW and its network of partners is a useful site for examination and will be the focus of this chapter. The USA is one of the world's major proponents of remote warfare and its ambitions to shape the national security environment in its 'Global War on Terror' have had an enduring global legacy (Demmers and Gould 2018). US actions can be seen to have 'undone' the conventional ties between war, space and time, generating its novel elements, setting in motion both destructive and generative impacts on the international order, and leaving civilians to bear the brunt.

Examining each of the three elements of the civilian by turn in order to assess human experience, this chapter will analyse (1) the 'undoing' generative–destructive impacts of remote warfare's novel elements and (2) the networked impacts of this erosion of protection.

To heed Holmqvist's call to bring the human experience to the fore, this chapter uses individual witness testimony to recount lived experience reported to NGOs and journalists working in areas of USRW. First-hand interviews are undoubtedly the best source of information; however, it is hoped this limited secondary approach provides a start for deeper studies utilising original interviews in-country.

The 'Undoing' Impact of US Remote Warfare

Generating a New Legal Order

As outlined above, legally, the protection of civilians has been a central principle underpinning modern warfare. Crucially, however, this protection hinges on two criteria: clearly and decisively identifying civilians from combatants, and clearly determining the existence of an armed conflict as opposed to a situation of peacetime (Crawford 2018). The destructive–generative dynamics of USRW can be seen clearly in this legal space, most significantly the impact of its temporal and spatial reconfiguration. Since 2001, the USA has worked with a network of state partners to establish a new legal order, which is slowly eroding established legal limitations on when, where—and most importantly for this chapter—against whom it is permissible to use lethal force. Though the US-led legal framework is hotly contested, when taken together, this reshaping of the global legal environment deeply undermines civilian status and sets in motion the reimagining of this protected category via law, state action and framing.

The Temporal Reconfiguration of US Remote Warfare

The generative effects of USRW most clearly manifest in the US' attempts to create a new legal order. When looked at from the intersection of phenomenon and experience, we can see USRW has a double-edged 'undoing' dynamic, resulting in the concurrent creation of new legal orders and the destruction of existing protections. Building on the Bush Administration's redefinition of an 'imminent threat', in 2011 the Obama Administration further evolved the definition by eliminating two of its key traditional components: the immediacy and certainty of the threat (Badalič 2020). Beyond the 'open-ended' temporal reconfiguration of warfare articulated by multiple scholars (Demmers and Gould 2018; Gregory 2011), this novel interpretation further reshaped the temporal boundaries of war by enabling pre-emptive attacks. It fundamentally changes the temporal boundaries of force used in self-defence from 'instant, overwhelming, leaving no choice of means and no moment for deliberation' (the Caroline Standard, in Miller 2008) to 'vague, abstract or potential' (APPG on Drones 2018; Lubell and Derejko 2013). A state does not have to say when or where the attack would take place. It needs only to provide an assessment that there are no other means available, apart from the use of force, to prevent the threat from materialising

(APPG on Drones 2018). This new definition of imminent threat enabled the US military to start launching anticipatory attacks with drones, which emerged as the 'weapon of choice' in military operations against alleged insurgents (Badalič 2020; Schmidt and Trenta 2018, p. 202).

This has resulted in the sharp increase of strikes and operations undertaken by the USA outside of armed conflict, repackaged as 'areas of active hostilities' (Turse 2020)—and accompanied by a huge rise in civilian deaths without accountability. Building on the legal legacy left by Presidents Bush and Obama (Purkiss and Serle 2017), the Trump Administration massively increased the scale of strikes taken outside of armed conflict. During the first two years of Trump's presidency, the USA conducted (at least) 163 strikes in Yemen; an almost three-fold increase over the 59 strikes President Obama took in his last two years in office (Purkiss and Serle 2017). This escalation in strikes resulted in the deaths of least 227 people, and possibly as many as 331 in Yemen. Associated Press found that in the first ten months of 2018, almost 33% of those killed in Yemen were civilians (Keath 2018). This increase in the number of strikes and casualties was also seen in Somalia, with the Trump Administration conducting more strikes in Somalia in 2017 and 2018 than the previous 10 years combined. Recent reports show how 14 civilians were killed in Somalia, and 8 more injured in just 5 strikes (Amnesty International 2019). Despite a decrease in strikes in Yemen and Somalia by the Biden Administration in response to civil society calls for an overhaul of US civilian harm mitigation and accountability, strikes outside of armed conflict in Yemen and Somalia rose once again from 2023 to 2024 after only a short hiatus (Airwars 2025a).

The Spatial Reconfiguration of US Remote Warfare

This temporal expansion has paved the way for a further spatial reconfiguration of war generated by USRW that simultaneously destroys existing legal protections. This moves away from the established geocentric approach that bounds an armed conflict territorially to a target-centred approach (Chamayou 2015) focussed on tracking human beings that are deemed a threat to US security. This completely upends traditional notions of an armed conflict and enables the USA to see the whole planet as the boundaries of its stated armed conflict with members of Al-Qaeda, ISIL and any affiliates, wherever they may be located. For example, in

2002, the US Department of State estimated that Al-Qaeda was a 'multinational enterprise with operations in more than 60 countries', enabling anticipatory attacks in all those countries (Badalič 2020; US Department of State 2003, p. 4). This target-centred approach was given further teeth by an accompanying expansion of who the USA deemed as a combatant and legitimate target under the laws of armed conflict under the 2016–2020 Trump Administration. For example, the US notion of self-defence would permit targeting of those responsible for 'provision of material support essential to attacks', argued to be contrary to the jus ad bellum, and in most circumstances, to international humanitarian law (Wilmshurst and Wood 2013).

This novel interpretation underpins the US' vast remote warfare architecture, utilising a combination of covert and conventional methods that are driven by increasingly sophisticated technology. This legal framework enables the spread of policies of targeted killings via drones, conventional airstrikes, mercenaries, special forces operations, (historically) rendition—and even torture—thereby transforming the traditional battlefield to a global 'battlescape' (Graham 2010; Demmers and Gould 2018). January 2020 saw the US' greatest legal leap yet in the unilateral assassination of Iranian General Qasem Soleimani. In a further 'undoing' move, the USA escalated its own novel legal precedents by targeting a state official rather than a member of a non-state group, conducting the lethal strike without permission of the host nation (Iraq), and violating its sovereign territory. This has been viewed as an attempt to further expand where and against whom force would be permissible, bringing all soldiers across the world into view as a legitimate target under the 'first shot' theory (Callamard 2020). This strike has set the stage for new, disruptive rules of exchange whereby assassinations on the global stage are normalised and established protections on when, where and against whom you may use force are simultaneously undermined, if not disregarded. If this state of affairs is even tacitly accepted—what rules will be left? (APPG on Drones 2020) Bringing together the temporal and spatial reconfiguration of warfare by the USA and the legal leaps that it has generated, we can see that in USRW, Gregory's (2011) articulation of the global 'battlescape' is indivisible from its legal policy scaffolding and is therefore best understood as a 'legal battlescape'.

US Remote Warfare as a Networked Phenomenon

The USA, however, has not and could not create this new legal battlescape alone. A fundamental aspect of remote warfare is its assembled and networked nature, unifying multiple actors within a 'military assemblage' (Demmers and Gould 2018). The creation of this new legal order, underpinned and enabled by the US-led expansionary interpretation of self-defence, can be seen as a joint endeavour. This interpretation is based on principles drafted by (UK diplomat) Sir Daniel Bethlehem in 2012. The formulation of these principles is understood as a joint effort by a group of senior government officials from like-minded states—led by US officials—and working behind closed doors. Bethlehem's principles were adopted in a 'concerted push' by the USA, UK and Australia (Milanovic 2017). Though some have argued that this joint process may have restrained some excesses of US legal doctrine (Watson 2017), the endorsement of these principles emboldened partner states to undertake strikes outside of armed conflict. Indeed, the UK's 2015 strike against Reyaad Khan and Ruhul Amin in Syria was undertaken against the express wishes of Parliament and justified via the Bethlehem principles (APPG on Drones 2018). The ability of the USA to conduct pre-emptive strikes and joint military operations therefore relies at minimum on the tacit acceptance of this legal approach by allies—but also relies on host states' consent, conscripting them into propping up this new legal battlescape. Governments of states—such as Yemen, Somalia and Iraq, where a large proportion of remote operations take place—have provided their consent for the use of force by the USA against specific terrorist groups on their territory. True to Demmers and Gould's analysis, this arrangement is 'full of friction' (2018) and dependent on careful balancing of state interests. For example, the Soleimani strike, in violating Iraq's sovereignty, set in motion calls for US withdrawal from Iraq, with the Iraqi parliament voting to expel US troops in January 2020 (Callamard 2020).

'Undoing' the Legal Status of the 'Civilian'

'Undoing' Impact on Civilians: The Destructive Cost of US Remote Warfare

I blame the governments of Pakistan and America. They are responsible for destroying my family. We were leading a happy life and I didn't have any links with the Taliban. My family members were innocent. Why was I

victimised? Gul Nawaz, a Pakistani civilian from North Waziristan, on the death of eleven family members by a US air strike in 2009 (Elliott 2010).

The generative dynamics of remote warfare at the policy level, outlined above, have resulted in a concurrent and devastating human cost. If left unchecked, the continuation of these double-edged dynamics will further erode the already fragile status of the civilian, and effectively destroy civilian protection.

As outlined above, the new legal battlescape created by USRW exposes many more civilians to its policy of targeted killing outside of armed conflict according to an overly expansive definition of 'combatant'. Crucially, this has created a new spectre of insecurity for civilians on the ground: the defaulting of states to IHL— or the laws of war—even in situations where there is no declared armed conflict (Callamard 2020, p. 11). This fundamentally collapses the distinction between war and peace and undermines the protection and accountability mechanisms states have worked towards previously. First, civilians are exposed to the highly subjective 'double-negative' status given to non-state combatants in non-international armed conflicts—namely, civilians who have forfeited their protections. Second, if the laws of war are accepted to apply even in situations that do not meet the threshold of armed conflict—which many argue is true for US actions in Yemen, Somalia and Pakistan (Amnesty International 2019)—this means that USRW is effectively 'undoing' the human rights protections civilians have been afforded in peacetime. This also means that civilians can be killed legally, if the international community accepts the US' consideration of these casualties as collateral damage, proportional to achieving the military objective in question.

'Undoing' with Others: The Networked Nature of the Legal 'Battlescape'

The new legal battlescape created by the USA and its allies outlined above also has a pervasive indirect influence on the conduct and tactics used by other states. Essentially, if the USA can conduct its military operations in the way it wants to without consequence, why should other states disadvantage themselves when conducting operations against non-state actors? This dilemma adds a deeper layer of insecurity for civilians, directly attributed to the shared framing of self-defence that unifies these military assemblages. This increasingly permissive environment for employing use of force is seen, for example, in the Saudi-led coalition's remote campaign

of airstrikes in Yemen since 2025, and in the large-scale Israeli operations in Gaza following the 7th October attacks by Hamas. The Global Centre for the Responsibility to Protect reports more than 19,200 civilians, including over 2300 children, have been killed or maimed as a result of coalition airstrikes alone in Yemen. The conflict has displaced at least 4 million people and created one of the world's largest—and increasingly ignored—humanitarian crises (GCR2P 2025). Israeli operations in Gaza have resulted in the death of more than 46,000 Palestinians, according to the Hamas-run health ministry, and much civilian infrastructure across the strip has been levelled by air strikes (BBC et al. 2025). The unchecked scale of harm in Gaza demonstrates the stretching of the bounds of acceptable use of force to unprecedented levels going far beyond stated military objectives and proportionality assessments. Indeed, evidence of repeated violations of international law and intentional targeting and displacement of civilians over fifteen months now forms the basis of allegations of genocide in a landmark case against Israel brought before the International Court of Justice. UN Secretary General, António Gutierres, lamented in his 2019 report on the protection of civilians in conflict that casualties resulting from the use of air-launched weapons increased by 60% on the previous year—the highest number in a single year since the UN began documenting civilian casualties in 2006 (Guterres 2019). This trend is only increasing as the boundaries of acceptable use of force continue to be stretched out of recognition. His 2024 report raised the alarm that 'in 2023, almost 30,000 civilians were killed and injured by the use of explosive weapons in just six conflicts: Gaza, Myanmar, the Sudan, the Syrian Arab Republic, Ukraine and Yemen (Guterres 2024).

Sovereign Power, 'Bare Life' and Citizenship

New Biopolitics: The 'Undoing of Bare Life'

> They killed my daughter, and injured two of my daughters, one aged 14 and another 9. They also injured my mother who is very old. We are powerless and they know it. Only God can stop America. We pray He stops them. We have no other power but prayer.
>
> Kusow Omar Abukar, on the death of his daughter, Nurto Abukar, by a US strike in Jilib, Yemen, February 2017 (Mohamed 2020)

By bringing together the ideas of Arendt on the relationship between humanity and legal rights, and Agamben's writings on sovereign power and bare life, we see that in warfare the power relationship between states and civilians is fundamentally unequal. Central to this power dynamic in USRW is its departure from the aim of controlling territory whilst ensuring global reach through its temporal and spatial reconfiguration. Demmers and Gould (2018, p. 366) argue that this aim reflects 'the rejection not just of geopolitical territorial confinement, but also of biopolitical notions of controlling the life and death of populations, along with the related responsibilities and costs of order and nation-building'. This denial of responsibility and rejection of 'biopolitical notions' has been argued to be a key feature of remote warfare. However, when viewed as part of the 'destructive–generative' dynamic of remote warfare's 'undoing' impacts, remote warfare does not reject biopolitical control—it reshapes it. In the process, this denial of responsibility also reshapes the biopolitical fate of civilians at the sharp end of operations.

Biopolitics refers to the power 'to foster life or disallow it'. Agamben's thesis on sovereign power and bare life intersects with this idea by showing how there remains a biopolitical relationship through the 'inclusive exclusion of natural life' (1998, p. 9). In choosing which approach to use in any given operation, state militaries make biopolitical choices about either 'fostering life or disallowing it' (Foucault 1978, p. 138). If states, for instance, used a human security (Kaldor 2007) or at minimum population security (Kilcullen 2007) approach, then the status and protection of civilians is elevated as either the referent object of security, or as a strategic priority. In this way, life can be allowed to foster even in situations of war. However, human security approaches with all their obligations are patently disregarded in the covert realm of the US' legal battlescape. Many have warned that the shift from geocentric to target-centric warfare (Chamayou) enables the killing of individuals by the USA and its partners with no due process, and no means of remedy (Tutu 2013; Rogers and Michel 2020). Lechte's (2013, p. 12) link between biopolitics and sovereign power shows that in remote warfare 'what is essentially human is deemed to be the biological body [and] if understood in this way, the body becomes the pure plaything of sovereign power within the terrain of biopolitics'.

As previously outlined, the upholding of the laws of war relies almost solely on state judgement and is predicated on establishing civilian status (McDonald 2017). Individuals are reliant on the same state powers to

make decisions about who deserves protected status as a civilian, as well as to uphold these obligations. This makes them particularly vulnerable to legal abandonment if deemed unworthy. McDonald (2017) explains that in the USRW, instead of being abandoned by the law, sovereign authority is exercised by defining which body of law (IHL or international human rights law) applies, rather than through complete exclusion from the legal system. In the US' legal battlescape, what manifests is a strategic instrumentalisation of IHL to erode civilian status, specifically in situations where there is no declared armed conflict. For example, allegations of civilian casualties from US actions in Yemen and Somalia are either ignored, completely denied or justified to be within the limits of IHL (US Department of Defense 2019, p. 5). This leaves civilians seeking justice outside of armed conflict in the impossible situation of having to accept deaths and damage as legal within the limitations of IHL—or receive no acknowledgement at all.

Defaulting to IHL is therefore central to the US' legal battlescape. It prevents complete legal abandonment, but still exercises sovereign power by 'being placed beyond the law and [simultaneously] included within it' (McDonald 2017, p. 186). In doing so, the USA enables the killing of civilians outside of armed conflict, if deemed within 'acceptable collateral damage' or defined as a 'legitimate target based on the US' expanded definition of combatant (McDonald 2017). This 'inclusive exclusion' strips civilians of their meaningful status, relegating them to bare life that is exposed and threatened. An example of this relegation to bare life is encapsulated by Ali, a Somalian farmer, whose sister-in-law and 10-year-old nephew were killed in a US strike (Castner 2019). Neither family member was a member of Al Shabaab, nor expected to be targeted. Shaking with grief and horror, Ali told the reporter he was not going back to his village. 'There is no life there', he said.

Destruction of Accountability: US Remote Warfare and the Civilian

So, where then, does this leave the civilian in the context of remote war? What voice do they have in the policy debate? And who can they turn to uphold their rights? The double legal abandonment within the US' legal battlescape, above, leaves civilians in a perilous place. At the same time as eschewing responsibility, states keep civilians at the mercy of the systems they control. When analysing the phenomenon of remote warfare, the destructive side of its 'undoing' power is thus most clearly seen in

the impact on accountability for civilian harm. Remote warfare effectively dismantles established mechanisms for accountability of military action—either by sidestepping them via domestic oversight loopholes, or by bringing all activity under a covert or classified umbrella.

US accountability for civilian casualties differs between its conventional armed conflict in Iraq and Syria and its covert drone campaigns, outside of armed conflict. Due to pressure from Congress and civil society, progress has been made on increasing transparency on civilian casualties and harm caused during US air campaigns in Iraq and Syria. Whilst transparency is vital, every confirmed civilian death has been justified as collateral damage or proportionate to the military advantage, leaving very little space for additional scrutiny.

When it comes to its covert campaigns conducted outside armed conflict, however, the USA sidesteps accountability almost completely. For example, despite carrying out hundreds of drone strikes over more than a decade, the USA has admitted to killing only five civilians in Somalia (Airwars 2025b): 'A near-perfect record and a denial of reality' according to the New York Times (Castner 2019). Investigations into two airstrikes that US Africa Command (AFRICOM) claimed had only killed Al-Shabaab fighters showed 'no evidence' the two victims killed were militants. In response, Amnesty International stated 'we've documented case after case in the US' escalating air war on Somalia, where AFRICOM thinks it can simply smear its civilian victims as 'terrorists', no questions asked' (Amnesty International 2020).

It would be incomplete, however, to conclude there have not been efforts to address the accountability gap for strikes outside armed conflict. There have been many—from civil society and within the US government and Congress. For example, the US' Civilian Harm Mitigation and Response Action Plan (CHMR-AP) reflects a years-long process of sustained pressure by individuals, civil society, journalists, activists and legislators to challenge the way the US military conducts itself in the battlefield, and force the Department of Defense to review its practices. However, its purely forward-looking scope prevents meaningful accountability for past incidents (Airwars 2022). At one level, the discrepancy in numbers can be linked to the lack of structures required to adequately assess casualties, demonstrating the importance of these initial steps forward. However, the persistent omission of these tools for past harm and for covert operations lays bare the priorities of USRW logic and its increased likelihood to persist and grow away from scrutiny. The

progress in the realm of conventional operations is welcome and vital. However, in the more covert realm, and according to the central logic of remote warfare, there are no casualties if you cannot see them; and no accountability needed for casualties that do not exist.

The Networked Impact of Sovereign Power

As remote warfare is a networked phenomenon, it is apt that the exercise of sovereign power—and bestowal of the rights that afford people their humanity—are also networked. The USA and its allies are eschewing responsibility for the civilians in their care by default; whilst also keeping them at the mercy of the statist system. As warned by Arendt, if, in situations of conflict states are not willing or able to afford their citizens their rights, then the 'abstract rights of man' afforded by the human rights regime simply reduce the claimant to bare life, leaving civilians vulnerable to be marked an outsider and less than human (1973).

A central element of USRW therefore is this double legal abandonment, involving the denial of responsibility for populations both by states such as the USA who are conducting the violence, and by host states allowing foreign use of force within their territory. The tension between the two rights regimes and the crucial role of civic rights (Arendt 1973) is seen clearly in the example of US and French operations in Niger. In February 2018, the African Commission on Human and Peoples' Rights (ACHPR) reviewed Niger's compliance with its human rights obligations. The Commission issued a pioneering pre-emptive recommendation, placing specific legal obligations on Niger. The ACHPR singled out Niger as a state that not only consented to the use of armed drones, but explicitly requested that the US use them (Hussein et al. 2018). This pre-emptive recommendation no doubt stemmed from the US' track record of conducting lethal strikes outside armed conflict; combined with the inability or unwillingness of states who had given their consent to the USA for use of force (such as Somalia or Yemen) to fulfil their citizens' human rights. The necessity for a regional authority to attempt to pull rank above the jurisdiction of states themselves reveals the interconnected and unequal nature of sovereign power in remote warfare—and the consistent relegation of civilians by these military assemblages to the realm of bare life.

'Framing' the Civilian

The noise of the plane was louder than before, the day the attack happened. When the [strike] happened, everything ceased. I was so frightened. I couldn't watch on the farm at all. I went under the shelter of the tree and hid. These three young men were not expecting to be killed by a plane, and we did not expect the world to be silent.

Liban, a farmer from Darussalam village, on the death of three farmers by a US air strike in Shabelle, Somalia in November 2017 (Amnesty International 2019).

A crucial aspect of USRW's 'undoing' impact is the simultaneous generative–destructive power of frames of the civilian that pervade Western society and ensure the complicity of Western citizenry. USRW engenders the creation of two powerful frames which are steadily eroding the civilian's place in society and policy. First, there is the frame of the 'problem civilian', and second, the frame of 'precision' warfare. These frames engender the reimagining of the civilian as a target for destruction, their lives dependent on the ability of western publics to apprehend them as living (Butler 2016).

Generation of the 'Problem Civilian' Frame

In USRW, the generation of the frame of the 'problem civilian' sets in motion a multitude of acts initiated through weaponry and finished off via reporting of casualties (Butler 2016). This frame manifests clearly in the idea of 'human shields' (Sassòli et al. 2011) whereby civilian populations are problematised as 'duplicitous shrapnel' (Butler 2016). Within USRW's target-centric framework, civilians' very bodies are thus perceived as being part of the defensive and manipulative machinery of war. This results in 'living humans becom[ing] cast as instruments, blockades, shields and targets', regarded as 'no longer living' and most importantly—a threat to life (Butler 2016, p. x). For example, General Michael Flynn refers to civilian populations where non-state armed groups were present as 'civilian clutter' (Flynn et al. 2008, p. 57), civilian life instantly devalued as a worrisome obstacle, and violence legitimised on the assumption combatants are hidden amongst them. The controversial US practices of 'signature' strikes (whereby people are targeted based on patterns of suspicious behaviour rather than personal identification) and

'double tap' strikes (whereby two strikes are conducted in quick succession in order to target those who try and help the wounded) epitomise the severity of violence legitimised by the 'problem civilian' frame (De Luce and McLeary 2016). Violence is also explained away by blaming the civilians themselves, as was seen in the 2017 al-Bayda raid which killed at least 14 civilians, including 9 children. US Colonel John J. Thomas 'blamed AQAP for the civilian casualties', telling the media that AQAP has 'a horrifying history of hiding women and children within militant-operating areas and terrorist camps … that's what makes cases like [the al-Bayda raid] so especially tragic' (Human Rights Watch 2017; US Central Command 2017).

Armed with this legitimising power of the 'problem civilian' frame, in the hundreds of airstrikes and raids undertaken in the pursuit of USRW (Airwars 2025a)—if reported at all, civilian casualties are consistently reported by default as collateral damage or proportionate to the military objective. For example, the first Trump Administration's description of the January 2017 al-Ghayil raid as a 'well thought out and executed effort' which was 'highly successful' contrasts starkly with reports that the operation killed up to 25 civilians including nine children under the age of 13. The harrowing testimony of 5-year-old Sinan Al-Ameri whose mother died in the raid illustrates how 'the bullets were coming from behind' as those fleeing were shot at, and as he kept running, how his mother fell to the ground still clutching his baby brother (Craig 2017). The idea that these deaths were inevitable, or even necessary was articulated candidly by Trump and he is now poised to reassert this framing again in his second term: 'the other thing with the terrorists is you have to take out their families' (Shabibi and al Sane 2017). In this way, if their 'very bodies are construed as instruments of war' in the frame of the 'problem civilian' then 'they are already deprived of life before they are killed [and] so by the time we seek to apply the norm, 'thou shalt not kill', we have already lost sight of what and who is alive' (Butler 2016, p. xxx).

Framing Civilians as Legitimate Targets for Destruction

Simultaneously, the continuance of this frame in USRW is resulting in the steady destruction of expectations of civilian protection. Butler posits that if we agree that it is unacceptable to 'slaughter' civilians in war—and decades of just war theory and international law consensus does

agree (Rengger 2013; Sassòli et al. 2011)—then what civilian protection depends on in warfare is the ability to 'apprehend as 'living' those targeted populations' (Butler 2016, p. xix). Similarly, in USRW, the principle of protecting civilians is only applied if we are willing to call their destruction 'slaughter' (Butler, p. xxix). Whilst transparency on casualty data has steadily increased (Woods et al. 2020), the destruction caused remains understood as a necessary part of warfare underpinned by the 'problem civilian' frame. Butler argues that international law presupposes a 'clean' war, where no civilians are killed, is possible. However, every example of warfare shows us this is impossible. Civilians are always killed, most often legally, classified as collateral damage. The concepts of collateral damage and the civilian are therefore intimately linked, and subject to how each is framed by the narratives, techniques and tactics used in warfare. The 'problem civilian' frame enables this transformation of human lives to 'duplicitous shrapnel', relegating civilian deaths as necessary to save American lives. The racial and 'othering' impacts of the 'problem civilian' frame undeniably add to the dehumanisation of individuals in conflict. Connecting the US airstrikes killing 18-year-old Nurto Kusow Omar Abukar (whose father is quoted above) and 53-year-old farmer Mohamud Salad Mohamud in Somalia in February 2020 to the murder of George Floyd by a white police officer in the same year, Neajai Pailey and Niang (2020) point out: "in the fate of Abukar, Mohamud, and Floyd lies a glaring connection: Whilst US militarization in Africa frames the black body as an "enemy without," American policing deems the black body an "enemy within…And whilst there has been almost no public uproar about black African civilian casualties of America's War on Terrorism abroad, they parallel black civilian casualties of domestic law enforcement at home". This lack of outcry is driven by USRW's 'temporalisation of difference' (Hindess 2007), portraying those on the ground as underdeveloped, backwards and morally bankrupt (Riemann and Rossi 2021).

'Precision' Warfare: Frames and the Fragility of the Network

USRW's success and ability to continue is based on the successful conscription of both its state allies and of the USA and allies' publics to support actions taken in their name. This is where the frame of 'precision' warfare is crucial (Rogers 2017; Callamard 2020). The frame of the 'problem civilian' succeeds in framing populations overseas as targets

for destruction, but its success is contingent on the frame of 'precision' which 'solicits our complicity with this practice of the visual and discursive normalisation of war' (Butler 2016, p. xvii). These frames have a networked effect, with state allies also taking on these narratives to secure the support of their own publics. This process is clearest when looking at the numbers of civilian casualties recorded by both the USA and its allies, and how casualties are reported. Whether in Iraq, Syria, Somalia or Yemen—the huge disparity between civilian casualties counted by monitoring organisations and the official number reported by states shows a clear differentiation on who is deemed to count as a civilian, and—in Butler's view—who is deemed to count as 'a life' (2016). Airwars commented on the much-criticised single civilian casualty reported by the UK in Iraq and Syria, stating that the UK repeatedly cannot see civilian harm, 'but all of the modelling indicates that we should be seeing civilian harm' (Woods 2017). In 2025, this figure has still not been rectified despite the UK being the second largest contributor to the anti-ISIS coalition.

The frame of 'precision' further desensitises war through presentation of painless and 'surgical' operations (Friedersdorf 2012). A veneer of cleanliness is already provided by virtue of remote warfare's distance, with all violent deeds carried out far from domestic awareness and scrutiny. When examining the statistics of civilian casualties in remote warfare, however, we see that there is no such thing as clean warfare. For example, whilst the commander of the US-led anti-ISIL coalition argued that the campaign was 'the most precise campaign in the history of warfare', it resulted in a civilian casualty rate ten times that of NATO's campaign in Afghanistan (Beale 2019). The vast scale of destruction has engendered concern among partner militaries, with some UK officials warning the single civilian casualty reported "could be giving the impression that intensive combat like this could be carried out completely cleanly" (Knowles and Watson 2018). However, over and again, casualties and civilian harm reported by civilians and NGOs are either unacknowledged as 'not credible', or instantly reported as legitimate targeting of 'militants' both by state and media, thus stemming dissenting voices.

In providing a reassuring explanation whilst controlling what is seen and heard, public discourse is delimited and 'the sensuous parameters' of war disposed of (Butler, p. xi). Together, the frames of the 'problem civilian' and 'precision' seek to institute an 'interdiction on mourning in warfare'—there is no destruction, no loss, and so no outrage or

opposition. The frame of 'precision' warfare is thus crucial to allay the concerns of the public. This coalesces with scholars' findings that in remote warfare, war is rendered invisible and normalised, a permanent socio-political condition, 'fuzzy at the edges' with no clear definition of military victory'—or loss (Demmers and Gould 2018; Riemann and Rossi 2021). This contradiction is central to the understanding of remote warfare as both phenomenon and experience: the acceptance by the public across allies' countries that 'war is not war', and that 'civilians are not civilians' (Butler 2016), so nothing is wrong. For example, in January 2021, in a rare act of transparency, France admitted to conducting an airstrike in Mali, killing '30 Islamist fighters'. Locals, however, insist a wedding was hit, with 19 civilians killed (Human Rights Watch 2021). We can see the implementation of both frames inherent in Florence Parly, the French minister's reassurances: that there was 'no wedding, no women, no children, that there were men and exclusively men' (France Inter 2021).

Remote warfare has thus had a deleterious effect on the primacy of the civilian in past wars to a fragile and conditional place, dependent on the normative judgement of states and the apathy of their publics. These 'ungrievable lives' are those that cannot be lost and cannot be destroyed because 'they inhabit an already lost and destroyed zone' (Butler 2016, p. xix).

Conclusion

By using the interdisciplinary idea of 'undoing' and its simultaneous 'generative–destructive' impact to analyse remote warfare as both phenomenon and experience, this chapter shone a light on the steady erosion of the status and protections afforded to civilians in conflict—and highlights the urgent need for further study of human experience in remote warfare. By assessing the impact of USRW's phenomenological elements—its networked legal 'battlescape'—on human experience as encompassed by civilian status, we see that this label is not just easily subverted in USRW, but this erosion and devaluing of human life is also central to the continuance and support of remote warfare by allies and Western populations.

The simultaneous 'generative–destructive' impacts of remote warfare as human experience clearly erode each element of the civilian. We see a new generation of legal orders and a concurrent destruction of established

protections. The simultaneous creation of a new form of biopolitical sovereign power coincides with the dismantling of any means of accountability. Crucially, we can see that the pursuance of remote warfare is fundamentally networked at the level of human experience. Its continuation and growth rely on the acceptance of dehumanising, othering and desensitising frames that make allies and publics complicit in pursuing 'war that is not war', and able to ignore the deaths of 'civilians that are not civilians'.

Ultimately, the growth and development of modern remote warfare—without robust accountability checks, and without meaningful legal protections—risks hollowing out decades of recognition and protection for the civilian. The important steps forward taken by the Biden Administration to review the US' civilian harm assessment and mitigation capabilities provide a foothold to demand meaningful protection in conflict, and allows for a re-examination of conflict not just as a phenomenon, but also as human experience. As we look to the next chapter of operations under President Trump, we need to rethink the logics and priorities that have driven remote warfare to date and refocus attention on holdinggovernments and the institutions to account for the trail of human devastation remote warfare has wrought. By recognising the impact of warfare on human experience—on our lives, psyches, thoughts and emotions—we can re-appraise how conflict is both framed and fought, rooting the protection of civilians at the centre of modern global security. In place of the destructive logic of remote warfare, the value of the civilian, and our shared humanity, might then drive the resolution of today's conflicts.

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International Law Is Dead, Long Live International Law: The State Practice of Drone Strikes

Amelie Theussen

Introduction

Remote warfare, characterized by the absence of troops on the ground (Knowles and Watson 2018), has plunged the legal normative order regulating the use of force into crisis. Where the other chapters in this book address the technologies of remote warfare, its use and its connection to other areas of politics, this chapter takes a closer look at the effect of remote warfare on the laws regulating the use of force in international relations. But rather than simply assessing the legality of remote warfare, the chapter makes the case that while remote warfare by armed drones poses specific challenges for international law, laws are still very much

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applicable. When it comes to remote warfare, international law is far from dead.

The general understanding is that 'armed drones pose a major threat to the general prohibition on the inter-state use of force and to respect for human rights' (Casey-Maslen 2012, p. 597) and many legal scholars have criticized the US policy of lethal drone strikes against members of terrorist organizations in countries such as Pakistan, Yemen and Somalia. Philip Alston, the former United Nations Special Rapporteur on extra-judicial, summary or arbitrary executions, has said that the policy shows 'a highly problematic blurring and expansion of the boundaries of the applicable legal frameworks – human rights law, the laws of war, and the law applicable to the use of inter-state force. Even where the laws of war are clearly applicable, there has been a tendency to expand who may permissibly be targeted and under what conditions' (Alston 2010, para. 3). It is precisely this blurring of legal frameworks and defiance of straightforward legal categorization Rosa Brooks identifies as fundamental challenge to international law: 'drone strikes […] constitute a serious, sustained, and visible assault on the generally accepted meaning of certain core legal concepts, including "self-defense," "armed attack," "imminence," "necessity," "proportionality," "combatant," "civilian," "armed conflict," and "hostilities"' (Brooks 2014, p. 83). These key notions of international law are losing their meaning, Brooks argues, breaking down consensus on acceptable state behavior; 'and although legal rules may continue to exist on paper, they no longer ensure that states will behave in a predictable, nonarbitrary fashion' (Brooks 2014, p. 84). A 2020 report from the Secretary-General of the United Nations confirms this, noting that the proliferation of drone technology to an ever-growing number of states 'reinforces long-standing concerns over compliance with international humanitarian and international human rights law, accountability and transparency' (Secretary-General 2020, para. 36). The report also notes that the absence of debate addressing the acquisition and use of such technologies creates a political vacuum that urgently needs to be addressed (ibid.). Also a report by another former Special Rapporteur on extrajudicial, summary or arbitrary executions, Agnès Callamard, puts these concerns front and center: 'drone technologies and drone attacks pose fundamental challenges to international legal standards' (Callamard 2020, para. 1) in a time, where 'a vast array of State and non-State actors are deploying ever-more advanced drone technologies, making

their use a major international security issue' (ibid., para. 5). Put somewhat provocatively, it seems as if international law is dead in drone warfare.

Yet, this chapter argues that international law in remote warfare is not as dead as it might seem. Often overlooked, actors employ both traditional and alternative means of legal norm creation and re-affirmation, creating a more nuanced picture than the US-centric debate depicts. By focusing the analysis on state practice, the chapter reveals a continuing relevance for international law and its legal norms in remote warfare. It does not wish to add yet another voice discussing the legal challenges of drone warfare, which has been done thoroughly and in detail by for example Brooks (2014), Hernández (2015), Heyns et al. (2016) and Saura (2016). Instead, this chapter aims to supplement the dominant perspective—that international law is ill-suited to address drone warfare—with a more nuanced look at how legal norms emerge and change and how actors approach the use of drones for remote warfare. Contrasting the primary focus on the United States with a broader perspective on legal norms maintained and diffused by other state actors in their practice, this chapter allows an assessment of the state of international law in remote warfare.

In its focus on the overall state of international law in remote warfare by drones, this chapter does not address the strategic, operational, and political risks and opportunities of remote warfare, and it also does not conduct a wider assessment of the countries' domestic law frameworks for drones strikes, unless where directly relevant for the application of international law. Finally, it also does not investigate individual drone strikes and their adherence to international legal norms, but only considers overarching state practice—the context in which those states that have armed drones in fact employ them.

The remainder of this chapter proceeds as follows: first, the next section sheds a light on the challenges remote warfare poses for the legal norms regulating the use of force, zooming in on the legal challenges caused by new technologies of remote warfare—drones, cyber and autonomous weapon systems. Then, the subsequent section combines the traditional pathways of international law formation with literature on norm emergence from the field of international relations and shows how a focus on theories of norm emergence, change and practices can help to identify a more nuanced picture of the role of international law for remote

warfare. The chapter then moves on to an analysis of different states' practices of drone strikes as the most prominent method of remote warfare. This analysis shows that, while remote warfare by drones poses persistent challenges to the existing international law and clarification of and transparency about the applicable legal framework will have to be improved, international law is not in as desperate a state as it is made out to be. There still is a window of opportunity to strengthen norms regarding the use of armed drones rooted in international law.

Remote Warfare's Challenges for International Law

The increase in remote warfare over the last two decades has called the applicability and appropriateness of international law regulating the use of force into question, causing speculations about the 'end of international law' (Dreyfuss 2008). Remote warfare is a broad term that covers a multitude of different means and methods of warfare, all characterized by the distance at which the threat is countered. The unifying characteristic is the absence of a large number of troops from the frontlines (Knowles and Watson 2018), but aside from this the notion of remote warfare covers a broad range of different types of warfare. In their introduction to *Remote Warfare: Interdisciplinary Perspectives* Abigail Watson and Alasdair McKay list as means of remote warfare the support of local security forces, the use of special operations forces and private military security contractors, the sharing of intelligence with frontline partners as well as airstrikes and air support by unmanned and manned aircraft (Watson and McKay 2021). Others also include cyber warfare as a means of remote warfare (Donnellan and Kersley 2014; Watts and Biegon 2019). These activities often remain in the shadows, largely away from public scrutiny, and are employed as means in grey zone conflicts below the threshold of war (Watson and McKay 2021).

It is important to note that, while technology has a significant impact on certain types of warfare that fall within the remote warfare category, the overall idea of a light footprint, reduced casualty numbers, and distance to the battlefield is not a new one (Watson and McKay 2021). Proxy wars have been around for centuries, and experienced a heyday during the Cold War (Mumford 2013; Hughes 2014). Even the idea of drones and the importance of digital networks has been around for decades: the first unmanned aircrafts were developed already during World

War I (Everett 2015) and at the latest in the early 1990s the Revolution in Military Affairs [RMA] perceived networks as the cause for disruptive change in how wars are being fought (Cohen 1996; Arquilla and Ronfeldt 1997, 2001; Cebrowski and Garstka 1998).

Nevertheless, the development that the use of both drones and the internet in warfare have undergone is remarkable and raises fundamental questions for the applicability of international law and the future of war. This is not to say that proxy or 'surrogate warfare' (as it recently has been termed) does not also rise substantial questions (Krieg and Rickli 2019), but this chapter zooms in on the technological aspects of remote warfare that challenge international law, focusing on the distance to the battlefield more than the aspect of delegation.

The legality of drone warfare has been debated over the course of the last 20 years. Most scholars and practitioners agree that armed drones themselves pose no challenge to international law, but their uses outside active battlefields do (International Committee of the Red Cross, n.d.). In this case, it is not the nature of the drone technology that creates a challenge for the application of the law, but it is the use of the technology that does. As Henderson, Keane and Liddy put it 'there is no point of legal distinction, in terms of the precautions that must be taken in attack, between a weapon system that is operated by a human inside it compared to one that is operated by a human remotely' (2017, p. 336). This also means that similar uses of other technology or other means of warfare under the umbrella of remote warfare, such as special operations forces, will create the same legal challenges. It is also not the nature of *remoteness* per se that causes legal challenges (it might cause substantial moral challenges though; Ohlin 2017), but again the specific *use* of the technologies or means of remote warfare.

Much has been written about the legal challenges of the key technologies of remote warfare—drones, cyber, and autonomous weapon systems (AWS). A synthesis of the existing literature shows that there are four main areas of challenge for international law regulating the use of force: first, when and where these technologies are used; second, who operates them; third, whom they target; and fourth, a general lack of transparency regarding the first three aspects.

The question of when and where these remote warfare technologies are being used is crucial. It boils down to whether the situation is one of armed conflict or peace, as very different rule sets regulate these distinct

states of affairs in international relations.[1] Used outside of active battlefields, the question of which rule set applies is far from straightforward. In the case of drones, the first legal challenge is posed by the geographical extent of the battlefield—can an existing armed conflict truly be 'global' in scope, allowing state to target suspected terrorists in other countries around the globe, and what (level of) connection do these targets have to have to the ongoing armed conflict (Lubell and Derejko 2013)? Otherwise, outside such connection to an ongoing armed conflict—an active battlefield—the legal challenges become whether the use of drones constitutes self-defense under Art. 51 of the UN Charter (Schmidt and Trenta 2018) and whether the level of intensity of repeated drone strikes can amount to the level of protracted armed violence necessary to establish the state of an (non-international) armed conflict (Radin 2013). Similar questions will arise in the future for AWS. Also for the cyber domain, similar legal questions arise as to the applicable legal regime, as cyber-attacks currently do not necessarily meet the threshold of violence (i.e. physical or bodily harm) required for a situation to amount to armed conflict or to make up an 'armed attack' which can be responded to with conventional self-defense under Art. 51 (Schmitt 2012).

The second field of legal challenges caused by remote warfare focuses on who participates in remote warfare, for example by operating drones or cyber weapons. This is closely connected to the principle of distinction, one of the fundamental principles of the laws of war: parties to an armed conflict must at all times distinguish between civilians and combatants; only combatants have the right to target, but also may be targeted, while civilians not directly participating in the hostilities must not be targeted.[2]

[1] A situation of armed conflict means international humanitarian law (IHL) applies, which is much more permissive regarding the use of armed force. In peacetime, international human rights law (IHRL) applies, which is much more restrictive regarding the use of force. However, IHRL does not fully cease to apply in situations of armed conflict, where IHL is applied as the *lex specialis*. The exact relationship between the two rule sets is subject to extensive debate.

[2] Traditionally, and somewhat simplified, combatants are members of the armed forces of a state (with a few exceptions such as medical and religious personnel, who are classified as non-combatants, despite being members of the armed forces), and have a duty to distinguish themselves from civilians. With the recognition of combatant status, which only exists in international armed conflicts (i.e. between two or more states), comes the right to participate directly in hostilities. Combatants may target other combatants and civilians directly participating in the hostilities, but in turn, they themselves may also be targeted. Civilians lose their protection from attack when they participate directly in the

The operation of drones and cyber weapons, for example by employees of civilian intelligence services, puts this distinction into question. These operators do not have the so-called combatant's privilege—the right to participate in the hostilities and use armed force—which means that they could be prosecuted for their actions, and their participation potentially makes them legitimate targets, as they could be seen as directly participating in the hostilities (Crawford 2015). For AWS, the challenge goes a step further as the machine makes autonomous decisions, no longer requiring a human operator in or on the loop. Here the question moves beyond civilian/combatant status and becomes one of responsibility and accountability for mistakes and violations of the law (Dunlap, 2016; *The Campaign To Stop Killer Robots*, n.d.).

Also the third field of challenges is connected to the principle of distinction, relating to who is targeted by remote warfare. Arguably, distinguishing between civilians and fighters is one of the advantages of drones with their advanced loitering, surveillance, and precision strike capabilities, but also this has been debated (Gusterson 2016). Distinguishing between civilian (illegal) and legal targets is particularly difficult in the cyber realm, where many potential targets are dual use, serving both military and civilian purposes. Additionally, malicious software can be hard to control and might spread more widely than intended, or intentionally use civilian devices as botnet or similar (Rowe 2017). For AWS, the challenge is whether they can be reliably programmed to obey the laws of distinction in their targeting decisions (Szpak 2020).

Fourth, the final and arguably biggest challenge of remote warfare for international law lies in the secrecy that shrouds the policies guiding the use and deployments of these technologies. Michael Boyle observes that

> Over the last twenty years, multiple administrations have shielded the targeted killing program from Congressional, judicial, and public scrutiny, thus pushing the United States' embrace of drones deeper into the shadows. But the world has paid attention. Today, as more countries are getting drones, they are experimenting with targeting killings of their own and eroding the traditional barriers against killing people outside of wartime. (Boyle 2020, p. 23)

hostilities, but do not share the combatants' right to engage in the hostilities and may thus be prosecuted for their involvement in an armed conflict.

And Harold Koh, a legal advisor to the US State Department under the Obama administration and one of the key figures behind the American legal justification for targeted killings through drone strikes, remarked after his resignation that the Obama administration's 'persistent and counterproductive lack of transparency' caused 'a growing perception that the [drone] program is not lawful and necessary, but illegal, unnecessary, and out of control' (quoted in Gusterson 2016, p. 118). Here, the lack of transparency seems to create a perception of illegality. A standard phrase often encountered in publicly available strategies and policies states that international law is considered to apply. This simple statement, however, does not solve the existing legal challenges outlined here that deal with the question of which legal rule set applies when, and under which circumstances; and how the principle of distinction is interpreted in this the context of remote warfare.

These debates and the noted lack of transparency create the impression of remote warfare as lawless realm. But, as the following sections argue, the use of drone strikes by states, even without agreement on its legal basis, has the ability to change the norms on the use of force and in consequence impact the law, its interpretations, and applicability.

International Law and the Creation of (Legal) Norms

This section looks at the sources of international law and draws on norm theory in International Relations (IR) to construct a theoretical argument that state practice can be considered to have the potential to create, maintain, and change international legal norms. As state practice is one constitutive part of customary law and every action changes the norms it references, this section suggests that by looking at state practice of remote warfare the state of the law can be assessed.

Five different sources of international law exist: primary sources are international treaties, custom, and the general principles of law; while judicial decisions and the 'teachings of the most highly qualified publicists' make up the secondary sources of international law (Statute of the International Court of Justice 1945, Art. 38). International legal norms are thus traditionally formed either through the creation of a new treaty between states or through the emergence of customary law, with customary law defined as 'general practice accepted as law' (Statute of the International Court of Justice 1945, Art. 38). For a norm to achieve the

status of customary law, two elements must thus be present: widespread and uniform state practice and the belief that this practice is required by law. The latter is known as *opinio juris sive necessitatis* (*opinio juris* in short).[3] Based on the discussion of the legality of remote warfare above, it is clear that because of the widespread disagreements, there is a general perception that 'we need a new treaty' (Ohlin 2017, p. 10). However, considering the secrecy and lack of transparency and accountability that shrouds remote warfare, any agreement between states on the creation of a new treaty to cover the means and methods of remote warfare is very unlikely. The standard approach would be to fit new forms of warfare under existing treaty law or customary rules, but the discussion above already highlights that also in this regard there currently is no agreement to be found on which rules apply when and how. Nevertheless, the state practice enshrined in customary law gives a potential opening towards the crystallization of legal norms of remote warfare. By conducting remote warfare states create practice that can serve to confirm existing rules, as the basis for a re-interpretation of the existing laws, or the creation of new laws altogether. While the element of state practice has been subject to controversies, with scholars debating the kind of activities that constitute state practice as well as the required duration, frequency and spread among the almost 200 states in existence (see e.g. Petersen 2008), the focus is on what states *do*.

Drawing on norm theory in international relations helps clarify this argument and focus on what can constitute state practice. International law can be seen as 'a complex of norms which regulate the mutual behavior of states' (Kelsen 1968, p. 85). Law and norms are not identical; law is indeed made up of legal norms, but norms—defined as 'standard[s] of appropriate behavior for actors with a given identity' (Finnemore and Sikkink 1998, p. 891)—exist beyond what is prescribed by law. Norms change through a 'life cycle' of three stages: first, the norm emerges because norm entrepreneurs push for the recognition of this particular norm; second, if the norm entrepreneurs are successful in persuading a sufficient number of states to adopt the new norm, it then is accepted by a larger number of states; and finally the norm might become internalized (Finnemore and Sikkink 1998). It is important to recognize that

[3] The relationship between these two elements is complicated, with diverging views highlighting one over the other, and a discussion of these views goes beyond the scope of this paper. For analyses of these different positions see (Petersen 2008; Baker 2010).

throughout the first two stages of this life cycle, the norm is highly contested. Ambiguity and conflict about a norm can stem from disagreements about the 'norm's meaning, its formal validity, or its application in a given social context but also … from competing norms' (Wunderlich 2013, p. 39). In fact, norm disputes and related norm change is ubiquitous: a given actor will base a justification for their choice of action on existing norms; but because general norms can never cover every specific situation with its unique set of circumstances and there often are contrasting norms in existence as well, there invariably arise disputes between actors on which norms govern the course of action taken by the first actor and whether the action lives up to the requirement of the norm(s) deemed applicable. As a result of the process the norm changes: it might strengthen, weaken, become more or less specific or narrow (Sandholtz 2008). Not only discursive deliberations are relevant here: in fact, Antje Wiener notes that 'actors contribute — through practices — to the (re)construction of that normative structure' (Wiener 2004, p. 195). This also means that normative change can emerge through practices (Bode and Huelss 2018).

This ties back into the emergence of customary law out of state practice. Every use of armed drones for the purpose of remote warfare thus either reaffirms the existing (legal) norms or drives forward their contestation, and through state practice specific international norms regulating remote warfare can be identified. When state practice is (or becomes more) uniform and widespread, and additional evidence can be found that states follow this practice because they consider it required by law, customary law exists. On the other hand, excessive violation of a rule, for example through state practice, can lead to desuetude, causing 'the rule to be replaced by another rule that permits unrestricted freedom of action' (Glennon 2005, p. 940). Michael J. Glennon argues that in such assessment more weight is given to evidence of violations, while evidence confirming the rule in form of rhetoric and behavior consistent with the rule is discounted (Glennon 2005). The following section thus investigates state practices of drone warfare to assess the state of international law in remote warfare, including behavior violating and conforming with the overarching framework of international law. While there are certain grey areas, this analysis of state practice shows that international law is not as dead in remote warfare as it might seem.

Dead or Alive? The State of International Law in Remote Warfare

In line with the argument made above about the importance of state practice to discern the state of international law in remote warfare, this section turns to analyze the state practice of all states employing drone strikes. The chapter concentrates on drone warfare as one of the most striking means of remote warfare, due to the increasing proliferation of drone technology to state and non-state actors and rising number of drone strikes by multiple states. This focus on one single method of remote warfare allows a thorough analysis of the state practices of all states that employ armed drones. As the previous sections of this chapter show, however, many of the challenges connected to remote warfare by drones are valid for other means of remote warfare as well. This is in line with Agnès Callamard's argument that 'drones are a lightning rod for key questions about protection of the right to life in conflicts, asymmetrical warfare, counter-terrorism operations, and so-called peace situations' (2020, para. 6). In its analysis of state practices of remote warfare by drones and their connection to international law, this section argues that international law is widely applicable to remote warfare and claims of a lawless realm have been exaggerated. International law is not dead in remote warfare, at least when it is conducted by drone strikes.

Before turning to state practice, the first argument that can be made in favor of the importance of international law in remote warfare is the omnipresence of legal analysis and legal arguments. Kennedy has observed that legal arguments are ever-present in contemporary war. Questions of right and legitimacy in warfare are answered by reference to legal categories and the framework of international law; but these categories have increasingly become blurred and permit different answers by different actors (Kennedy 2012). Law has become 'a strategic asset, able to be spoken in multiple voices—an ethically self-confident voice of sharp distinctions, a pragmatic voice of instrumental assessment—we can anticipate that it will be used differently by those with divergent strategic objectives' (Kennedy 2006, p. 116). The point is not that there has to be agreement on the rules or that the rules have to be followed at all times, but rather that

> Law – legal categorisation – is a communication tool. And communicating the war is fighting the war. This is a war, this is an occupation, this is

> a police action, this is a security zone. These are insurgents, those are criminals, these are illegal combatants, and so on. All these are claims with audiences, made for a reason. Increasingly, defining the battlefield is not only a matter of deployed force – it is also a rhetorical and legal claim. When people use the law strategically, moreover, they change it. (Kennedy 2012, p. 166)

Daniel Connolly even goes so far as to argue that "[l]egal gaps do not exist naturally; rather, they are being engineered through lawfare […] [which] encompasses exploitive behavior, such as the use or abuse of existing laws and concepts, as well as productive behaviors, which seek to generate new law and norms" (Connolly 2018, p. 148). This might be an extreme point of view, as the above analysis highlights certain grey zones that do exist, but it highlights the role of states and their practices in relation to the law. The role and applicability of international law certainly has been discussed extensively for remote warfare, and observes have noted that both sides of the remote warfare debate make ample reference to legal arguments (Hernández 2015, p. 55).

New America reports that as of July 2020 the following 12 states have conducted air strikes with armed drones: Azerbaijan, France, Iran, Iraq, Israel, Nigeria, Pakistan, Russia, Türkiye, the United Arab Emirates, the United Kingdom and the United States. In addition to these 12 states, another 27 states maintain armed drones in their arsenals (Bergen et al. 2020). In the years since this chapter first was published as an article in 2021, the list has grown to 22 states that have conducted strikes with armed drones. As of February 2024, Drone Wars UK lists the following additional states: Burkina Faso, the Democratic Republic of the Congo, Egypt, Ethiopia, Mali, Morocco, Somalia (uncertain), Saudi Arabia, Sudan, and Ukraine (Drone Wars UK 2024).[4] The following paragraphs analyze the state practice of the states that have conducted drone strikes, focusing first on the paradigmatic user of armed drones, the United States, and then turning to those states using drone strikes outside their own territory. The analysis ends with a short look at those states only using drone strikes domestically, and two additional states that are important for their state practice, even though they at the point of writing do not yet conduct drone strikes.

[4] New America stopped updated their list of countries that conduct drone strikes in 2020.

The Paradigmatic Case of Drone Warfare: The United States

Most analyses of state practice have focused on the US, which by far has conducted the most drone strikes (a few examples are Boyle 2015; Cortright et al. 2015; Hasian Jr 2016). This focus is understandable, due to the US pioneering the technology and the sheer number of US drone strikes over the last two decades. However, the US also employs drone strikes in a variety of contexts, making their policy the most debatable regarding its legality and legitimacy. The wider literature on remote warfare also often focuses on the US. Rubrick Biegon and Tom F.A. Watts for example analyze how remote warfare allows the US to flexibly and sustainably project power and thus maintain its primacy (Biegon and Watts 2020); an American approach to remote warfare characterized by 'delegation, danger-proofing, and darkness' that Thomas Waldman terms 'vicarious warfare' (Waldman 2018, 2021). This predominant focus on the US has distorted conclusions regarding the role of international law and legal norms in remote warfare through drones.

The US has used its drones not only in armed conflicts in Iraq and Afghanistan, but also outside of active battlefields in the boarder context of the 'war on terror' in countries such as Pakistan, Somalia, and Yemen. US practice thus undermines long-standing prohibitions against targeted killing outside wartime. Despite the fact that most observers agree that attacks conducted by drones (or in fact any other weapon) outside an existing armed conflict are illegal under most circumstances, as they would be governed by much stricter international human rights law standards and not international humanitarian law (see e.g. Callamard 2020), the US has engaged in explicit legal justification for its drone strike policy. This serves as evidence that, while there is major disagreement about the applicable law, it is perceived of utmost importance by the US to justify their policy by reference to its legality under international law (see e.g. Gregory 2015; Sanders 2018).

The US bases its legal justification for the use of drone strikes outside active battlefields on the UN charter's permission of self-defense in cases where there is an imminent threat or consent given by the territorial state. In cases where consent has not been given, drone strikes might still be used if it is determined that a state is 'unable or unwilling to deal effectively with a threat to the United States' (former Attorney General Eric Holder quoted in Gusterson 2016, p. 121). According to the US position

there are no geographical boundaries to such use of force (Lubell and Derejko 2013; Gusterson 2016, pp. 120–121). After the terror attacks of 9/11, the US Congress authorized the use of force against the planners and perpetrators of these attacks and the countries who harbor them (US Congress 2001), and this Authorization for Use of Military Force (AUMF) remains the basis for US drone strikes in its Global War on Terror. The lack of temporal and geographical limits becomes visible in the example of the fight against the Islamic State, for which the AUMF served as legal basis, despite the fact that the Islamic State terrorist organization did not exists in 2001 (Brandon 2017).

Boyle highlights the contradictions in the Obama administration's legal justification of the use of drones: 'the Obama administration has tried to use the traditional legal and moral standards of armed conflict as a shield to protect itself from criticism, while simultaneously suggesting that the shield itself is fundamentally inadequate for the threats that the US and its allies face in the twenty-first century' (Boyle 2015, pp. 105–106). President Trump inherited these policies and justifications, and went on to remove the few remaining restrictions the Obama administration had put in place and increased the number of drone strikes. Trump for example reversed the Obama administration's move to give control over drone strikes back to the Pentagon instead of the CIA, designated additional regions as 'areas of active hostilities' to avoid tighter restrictions put in place under Obama's 2013 Presidential Policy Guidance (see Obama 2013) and reduced transparency measures the Obama administration had introduced (Atherton 2020; Boyle 2020).

This has caused concern that such justification will set a precedent for other states employing drones, leading to a weakening of the international legal norms regulating the use of force (Callamard 2020, para. 53). In light of the widespread proliferation of drones, in 2016 the US together with 52 other countries signed a position paper calling for 'transparency measures to ensure the responsible export and subsequent use of these systems' and recognizing '[t]he applicability of international law, including both the law of armed conflict and international human rights law, as applicable, to the use of armed or strike-enabled UAVs, as with other weapon systems' (US Department of State 2016). Yet, while more and more states are maintaining armed drones and conducting drone strikes, no other country has employed armed drones in a similarly wide-ranging style as the US. In fact, by analyzing other states' practices of using armed drones, it becomes clear that, in general, there is more

respect for international law than the precedent set by US policy would imply.

Drone Strikes Beyond Borders in Armed Conflicts: Azerbaijan, France, Iran, Israel, Russia, Turkey, United Arab Emirates, United Kingdom, and More Recently Saudi Arabia, Burkina Faso, Morocco, and Ukraine

The state practice of the vast majority of the states employing armed drones shows that they have used drone strikes on the territory of another state only in the context of an ongoing armed conflict. This analysis of state practice only shows that the existing international law regulating the use of force still applies to most cases of drone strike; it does not make any claims about states' adherence to these rules in their use of drones as means and method of (remote) warfare.

The conflict between Azerbaijan and Armenia in autumn 2020 has received much attention because of the countries' use of drones. It stands out from the other examples of state practice analyzed here, as it is one of only two armed conflicts taking place directly between two states. Azerbaijan was able to deploy a large number of sophisticated Israeli and Turkish drones, taking control of the airspace, overcoming limited Armenian air defense systems and destroying tanks and armored vehicles. The technological advantage allowed the country to achieve battlefield success (Shaikh and Rumbaugh 2020; *The Economist* 2020). The fact that drone strikes were decisive in this conflict is surprising, as '[t]he general understanding among experts used to be that drones wouldn't play a big role in inter-state wars, as they are vulnerable to anti-aircraft fire' (Ulrike Franke quoted in *The Economist* 2020). But while this might be valid for armed conflict between major powers, in smaller conflicts this is not the case. The following numerous examples are a testament to this fact, while the war between Russia and Ukraine addressed later on in this section further nuances the picture.

France carried out its first drone strike on 21 December 2019, in central Mali. Reportedly the drone strike occurred in support of ground troops engaged in a larger operation. France has been present in Mali since 2013 and expanded its presence under Operation Barkhane in cooperation with five regional states' governments (Burkina Faso, Chad,

Mali, Mauritania, and Niger). The French drones were stationed in Niger (France 24 2019) until France first withdrew from Mali in early 2022 and then also from Niger in late 2023.

Also Iran has used drones to strike targets abroad with domestically manufactured drones. In 2015 suicide drones struck a target in Syria and in 2019 Iran was held responsible for the attack on Saudi Aramco oil processing facilities in Abqaiq and Khurais (Rubin 2020). Houthi rebels in Yemen had claimed responsibility for the attack, citing the Saudi-Arabian led intervention in Yemen as reason for the attack, but the US, European countries and Saudi Arabia among others consider Iran to be responsible (Pamuk 2019). In spring 2024, Iran launched a barrage of drones and missiles against Israel in retaliation for a suspected Israeli strike that killed Iranian military commander, Major General Mohammad Reza Zahedi, in Damascus, Syria, two weeks prior (Al Jazeera 2024). In the attack Iran launched more than 170 drones, 120 ballistic missiles and 30 cruise missiles, most of which were intercepted by Israel and its allies. Among the weapons used were the Iranian-produced suicide drones Shahed-131 and Shahed-136 (Akbarzadeh 2024).

Israel is also among the states employing drone strikes and a leading exporter of drone technology., Already prior to the country's ongoing war against Hamas after the terrorist attack of October 7, 2023, most of the reported Israeli uses of drones took place in Gaza; but there are also reports of drone strikes against Iranian or Hezbollah targets in Syria (The Defense Post 2020) and Lebanon (Drone Wars UK 2024), ISIS in Egypt (with the consent of the Egyptian government; Gross 2016), and other targets in Sudan (Skinner 2019). There are differing reports regarding the legality and transparency connected to Israeli drone strikes: Skinner notes that reports of drone strikes on foreign soil are 'shrouded in official secrecy', with no comments by the Israeli military in most cases (Skinner 2019, p. 21); while Knowles and Watson argue the country 'has been relatively open about its targeting policies and has formalised oversight mechanisms' (Knowles and Watson 2017, p. 14). In 2006, the Israeli Supreme Court found that Israel was engaged in an armed conflict with terrorist organizations; thus, the laws regulating the use of armed force apply. It concluded that targeted killings are not always legal, but also not always illegal, and established four conditions to be assessed individually for each case: there needs to be reliable evidence, no alternative courses of action to protect Israel's national security, absolute minimal collateral damage, and a thorough investigation after the attack (*Public Committee*

v. Government of Israel. Judgement 2006). This leads some to conclude that 'Israeli targeted killing operations are far more exposed to public scrutiny and democratic approval than the US ones' (Raemdonck 2012, p. 15), even though the Israeli policy attracted significant backlash in its early days, among others by the US (US ambassador to Israel, quoted in Mayer 2009) and the EU (Council of the European Union 2004). Since Hamas' terrorist attack on Israel on 7 October 2023, Israel's attacks—which include the use of drone strikes—against Hamas in Gaza has been widely criticized for its disregard of civilian lives (United Nations Human Rights Office of the High Commissioner 2024).

Russia is also working on developing its drone arsenal and capacity, and in 2019 it was reported that the country had completed first test strikes in Syria (Axe 2019) of its Orion drone. The country also produces Israeli reconnaissance drones under license, which it has modified into combat drones (Drone Wars UK 2024). Generally, Russia has some indigenous drone models, but Western sanctions have hampered the country's domestic drone industry. For its war against Ukraine, Russia thus largely relies on imported Iranian one-way attack—or so-called kamikaze—drones. The two countries apparently have entered into a partnership where Iranian drones will be manufactured on Russian territory (Thompson 2024; see also Eslami 2022). Some sources say that Russia already has large domestic production capacity, which allows it to increase the frequency of its aerial attacks on Ukraine. Using a combination of one-way attack drone swarms and different types of missiles, Russia brings Ukrainian air defenses to its limits and has in autumn 2024 had some successes in targeting Ukraine's energy infrastructure (Adams and Armstrong 2024).

Türkiye on the other hand designs and manufactures many of the drones in its arsenal domestically and has used them to strike PKK targets at home, Kurdish militias in Syria, Iraq and even targets in Libya (Sabbagh 2019; Harding 2020; Hofman 2020; Reuters 2020).The country has become the leading exporter of armed drones, with Baykar Technologies, Türkiye's largest manufacturer, claiming to have exported its drones to 33 countries (International Crisis Group 2023).

The United Arab Emirates (UAE) are using their drones to strike targets in Libya (*BBC News* 2020) and Yemen, at least since 2018. This is generally perceived to be part of a larger policy of the UAE to expand their regional influence, as part of which there are expanding their military presence throughout the region. Importantly, it seems the UAE's

expanding role aligns with US interest in the region, and the country sees Yemen as 'one of the battles where they think they can improve both their credentials and capabilities' (Farea al-Muslimi quoted in Shaif and Watling 2018). As mentioned above, during his first administration President Trump increased the number of US drone strikes in countries such as Yemen.

The United Kingdom (UK) is also one of the states employing drone strikes in a larger number. The country's drone program evolved directly from the US program, and there are still close links between the countries' programs (Burt 2020). Nevertheless, the UK has used drone strikes mainly in wars in Afghanistan, Iraq and Syria, distancing the country from the US practice of using drone strikes for targeted killing outside active battlefields. From early on, the British government used language to suggest it was following international law in its use of drone strikes, equating the legality of drones with any other weapon. For example, former Secretary of State for Defence Philip Hammond pointed out that 'Reaper pilots follow the law of armed conflict and rules of engagement in exactly the same way as pilots of manned aircraft' (2013). Drones are also operated by the Royal Airforce (RAF). However, there is one case that falls outside the UK's policy of using of drone strikes only in the context of ongoing wars. On 21 August 2015, two British citizens, Reyaad Khan and Ruhul Amin, were killed in Syria in a strike conducted by a RAF drone (*BBC News* 2015). Additionally, there are reports of further RAF drone operations (but not strikes) in Syria during that period (Cole 2017). Interestingly, at that point the official use of military force against ISIS had not yet been expanded to Syria—a decision the British parliament first made in December 2015 (Piper and MacLellan 2015). The justification given for the drone strike was that it was self-defense against terrorists 'known to be actively engaged in planning and directing imminent armed attacks against the United Kingdom' and connected to the armed conflict in Iraq (Rycroft 2015). An inquiry by the Joint Committee for Human Rights later confirmed that 'the drone strike in Syria was part of that wider armed conflict in which the UK was already engaged, to which the Law of War applies, and that the Government therefore did not use lethal force outside of armed conflict when it targeted and killed Reyaad Khan on 21 August' (Harman et al. 2016, p. 7). The inquiry also concludes that 'it is clear that it [the Government] does have a policy to use lethal force abroad outside armed conflict for counter-terrorism purposes', and that '[c]ertain aspects of the Government's view of the

legal basis for its policy require urgent clarification' (Harman et al. 2016, p. 7). In 2020, reports surfaced about suspected drone operations and potential strikes outside the UK's operation against IS in Iraq and Syria, but whether operations occurred remains unconfirmed (Doward 2020). In any case the concern about a lack of transparency remains (Knowles and Watson 2018). Max Brookman-Byrne criticizes that nearly half of the reports published by the UK Ministry of Defence about RAF strikes in Iraq and Syria do not contain 'enough information for a broad determination as to whether a given strike seemed to accord with or violate relevant law' (Brookman-Byrne 2018, p. 7).[5]

Among the states that have used drone strikes more recently, Saudi Arabia supposedly uses armed drones in Yemen and Libya (mentioned in Callamard and Rogers 2020), and is building its own combat drones under a Chinese license (DefenseWorld.net 2020). Burkina Faso purchased armed drones from Türkiye in 2022, and has employed them mainly domestically in counter-terrorism operations (Drone Wars UK 2024). Interestingly, it seems Burkina Faso used a drone strike to target militants across the border in Mali in November 2023 (Human Rights Watch 2024). Also Morocco has recently purchased both Chinese and Turkish drones, and operates second-hand Heron drones from France. In 2024 it was revealed that the country produces military drones in cooperation with the Israeli company BlueBird Aero Systems (Aublanc 2024). In 2021, Algeria accused Morocco of a drone strike on Algerian trucks in Western Sahara (Triebert 2021).

The final newcomer among the states employing drone strikes is Ukraine. In the year before the full-scale invasion of Russia, Ukraine had received Turkish drones which it used to target Russian-supported separatist forces in eastern Ukraine. After the full-scale war between Russia and Ukraine begun in February 2024, Ukraine used the drones to strike inside Russia (Soylu 2022). As Kristen D. Thompson writes for the Council of Foreign Affairs, "the inability of either side to break through the other's integrated air defenses has forced them to increase the agility of their fielded forces and rely more heavily on standoff weapons, including long-range artillery, missiles, and drones" which has driven the development of new drone technologies (Thompson 2024). As the war progressed,

[5] This lack of transparency also expands to other means of remote warfare, such as the use of Special Operation Forces and the use of local partners (Knowles and Watson 2017).

Ukraine's larger drones became easier targets for Russian air defenses; and Ukraine shifted towards smaller, one-way attack (also called 'suicide' or 'kamikaze') drones to strike Russian targets, including on Russian territory. Ukraine's allies provided some of their systems, for example the American Switchblade tactical unmanned systems and Phoenix Ghost drones, a type of loitering munition (Eslami 2022). But Ukraine also started to rely more on commercial technology. These drones are cheap, quickly and widely available, highly precise and because of their small size and large numbers less vulnerable to Russian air defenses (Thompson 2024). Over the course of 2024, Ukraine has successfully targeted dozens of valuable Russian targets, including oil refineries, armament production facilities, and military sites such as airbases. The large-scale use of these smaller one-way drones has strengthened Ukraine's drone industry, and in the summer of 2024 the country introduced its first long-range missile drone Palyanytsya (Revishvili 2024; Thompson 2024).

Domestic Use of Armed Drones: Iraq, Nigeria, Pakistan, and More Recently the Democratic Republic of the Congo (DRC), Egypt, Ethiopia, Mali, Sudan and possibly Somalia

The three remaining states on New America's list of states employing armed drones only use them to strike domestic targets at this point: using Chinese drone technology, Iraq has targeted ISIS and Nigeria has targeted Boko Haram on their own territories. Also Pakistan allegedly armed one of its drones to strike terrorists within its own borders (Bergen et al. 2020; Boyle 2020).

At the point of the update to this chapter, in 2024, the list of countries employing armed drones for operations within their own borders has tripled. It is reported that the DRC uses drones to target the Rwandan-supported M23 rebel group; and the rebel group in turn has been supplied with drones by Rwanda (ADF 2024). Egypt seems to have used Chinese-supplied drones in counter-terrorism operations, while Ethiopia relied on Chinese, Turkish, and Iranian drones in is war in the Tigray region. Mali also employs Turkish drones in its fight against militants (Drone Wars UK 2024). There also appear to be Iranian drones used in the civil war in Sudan, as well as possibly drones from the UAE (Taleb 2024). Finally, there is uncertainty about Turkish drones that may

have been spotted in Somalia, with local sources reporting in 2021 that Somalia had received drones from Türkiye, but other reports indicate that it is Turkish military forces in Somalia that use the drones for counter-error operations, similar to the US (Drone Wars UK 2024; see e.g. Caato 2022).

Interesting Absentees: China and Germany

Two additional states deserve attention in this analysis of state practice regarding drone strikes: China, because it does not figure on list of states using their armed drones, and Germany. China is an interesting case, as one of the main exporters of drone technology (Horowitz et al. 2020). While Chinese manufactured drones have been used in strikes by other countries, China itself has so far shown restraint. In 2013, the country reportedly considered targeting a Myanmar drug lord, but opted to capture him instead (Perlez 2013). Aside from this instance, China has not armed the drones it deploys, despite producing combat drones and 'swarms of suicide drones' (Svensson 2020). This, Tobias Burgers and Scott N. Romaniuk argue, makes China a norm-entrepreneur 'laying the groundwork for a norm prohibiting the use of targeted killing via unmanned drones' in East Asia, in direct contrast with the norms the US policy on drones is advancing (Burgers and Romaniuk 2016). The policy is in line with the restrictive position the Chinese government takes on sovereignty, advocating for non-interference. If the country were to consider the deployment of drones for military purposes abroad, it would most likely strive to receive a credible mandate to do so, either through a UN Security Council resolution or the territorial country's explicit consent (Erickson and Strange 2013). Until the time of writing in 2021, as well as the update in 2024, this analysis seems to hold, as China has made no attempts to use armed drones either domestically or abroad.

Another state that needs to be mentioned in this analysis of state practice is Germany, even though the country first leased armed Heron drones from Israel in 2024. For more than a decade it was debated whether Germany should take the step to arm its drones to support its military in deployments abroad. The issue remained contentious until after the 2021 election, where the new government agreed to allow armed drones in their coalition contract and the German parliament approved the decision in April 2022 (Bundesministerium der Verteidigung 2022). But Germany is interesting for another reason: A higher administrative court in the state

of North Rhine-Westphalia found in 2019 in relation to the US use of Ramstein Airbase in Germany for its drone operations that

(a) Germany has jurisdiction over a drone strike conducted by the United States by virtue of the assistance it provides and the central role it plays in United States strikes. In other words, Germany has a duty to protect the right to life of those targeted;
(b) There is no basis in international law for preventive self-defence;
(c) Germany should make greater efforts to ensure respect for international law in United States military operations involving German territory (Ramstein airbase);
(d) United States assurances regarding the legality of activities undertaken through Ramstein airbase are insufficient;
(e) The provision of assistance to unlawful United States strikes is a matter of law, not politics, and thus cannot be justified through foreign policy alone (Callamard 2020, para. 28).

This reaffirms the fundamental role of international law in remote warfare conducted by drones, and shows that the reinterpretation of legal norms the US is pushing with its practice of drone strikes has not been accepted by the German court. Also the German government "reject[s] extrajudicial killings – including by drones" in the coalition contract of 2021 (SPD, Bündnis 90/Die Grünen and FDP 2021, p. 118).

While this analysis of states' practice to use drone strikes in the context of remote warfare demonstrates an increasing use of drones in conflicts, it also shows that this happens in limited fashion. Up until this point in time, only the US has developed a policy of a geographically unlimited use of drone strikes, while most other countries limit their use of drones to existing armed conflicts, with the single exception of the UK's strike on Khan and Amin. Thus, drones might be new weapons in these countries' arsenals, but they are not operating in a lawless realm. Rather, and just like with conventional airstrikes made by fighter jets, in these cases drones strikes are governed by the laws of armed conflict. An interesting finding is the Chinese reluctance to employ armed drones and the very limited amount of drone strikes in East Asia, while there is a clear regional focus of drone strikes in Africa and the Middle East. This points to the fact that the US precedent has not yet taken hold, despite fears to the contrary, and there still is time to reaffirm the role of international

law in remote warfare. Yet, the update written in 2024 also shows that a rapidly increasing number of states uses drones, internationally and especially domestically. While it is still the case that the use of drones is linked to existing armed conflicts, there are also instances of cross-border use, for example by Burkina Faso or Rwanda's alleged support to M23 rebels, and use in disputed regions, such as by Morocco in Western Sahara; as well as fundamental secrecy in a lot of cases, as exemplified by the UK and questions surrounding drones in Somalia. These instances might be seen as pushing the limits of international law; and the time to reaffirm the role of international law in remote warfare might in fact soon be running out.

Concluding Thoughts

The aim of this chapter was not to deny that there are fundamental questions regarding the application of international law in remote warfare, and the use of drone strikes in particular, but rather to argue that the outlook is not as bleak as it is generally perceived to be. While drones have proliferated, the analysis of state practice above shows that most states employing drone strikes do so in the context of an existing armed conflict. Of course, this does not guarantee that these states use their drones in accordance with the laws of war; but it shows that the fear of a 'problematic blurring and expansion of the boundaries of the applicable legal frameworks' and a 'tendency to expand who may permissibly be targeted and under what conditions' (Alston 2010, p. 3) set by US precedent has not yet occurred to a large extent.

What does this mean for a world in the 'second drone age', where drones are continuing to proliferate to state and non-state actors all the while they are 'becoming stealthier, speedier, smaller, more lethal and more easily operable' (Callamard 2020, p. 11)? In response to the developments Callamard and Rogers rightly call for 'robust standards for the design, export, and use of drone', where 'any drone sales agreement must include civilian protection and adherence to international human rights and humanitarian law', and '[s]tates must work together to adopt a dedicated process of operational end-use monitoring to report transparently on the outcome of drone strikes and their impact on civilians and so-called "targets"' (Callamard and Rogers 2020). The analysis of state practice conducted here stresses this need for transparency; but it also contributes a perspective that shows the US use of drones as exceptional, with little

evidence of other states adopting the changes to the legal norms regulating the use of force the US has been establishing for itself. Simply insisting on the adherence to international law will not solve the challenges remote warfare poses. Moving the focus away from the exceptional use of drone strikes by the US towards other states and their practices of using drones in existing armed conflicts might open avenues to strengthen cooperation on how to ensure that such drone strikes are conducted in line with the existing rules of international law regulating war.

Remote warfare creates a distance between the theatre of war, the states that fight it, and their citizens, for whom the perception of clean and risk-free wars fought by unmanned drones results in an expectation of zero casualties. In a world where legal norms have become the language of war, this creates unrealistic expectations about what international law requires. Yet, the last almost three years of war between Russia and Ukraine have confirmed that drone warfare no longer serves to create distance, but rather brings death and destruction to ordinary citizens far behind the front lines in Ukraine and Russia. The move away from larger drones to cheap, fast and easily manufactured one-way attack drones seems to be a harbinger of what is to come in the future with rapid proliferation of drone technology to states and non-state actors alike.

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Blurred Lines: How Converging of Military and Civilian Uses of AI & Data May Threaten Liberal Democracy

Shama Ams

Introduction

For centuries, militaries have competed to deliver the most innovative, technologically advanced tools to stay one step ahead of potential threats from their rivals. These systems have often employed certain automated functions ranging from rudimentary sensors in land mines to the invention of the Norden Bombsight and V-1 buzz bomb in World War II, '…computer systems…linked to sensors involved in the dynamic control and application of lethal force' (Allen and Chen 2017, p. 13). At the height of the Cold War, the USSR put in place a system known as Dead Hand or 'The Perimeter', which relied on an automated control mechanism for the deployment of nuclear-armed intercontinental ballistic missiles (ICBMs). Although Dead Hand is not currently in use, it can be 'turned on' by the Russian Federation should it be deemed necessary (Hoffman 2018). The development of these technologies follows militaries' priorities in areas such as speed, stealth, precision, efficiency

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and the promise of fewer human soldiers put in harm's way. Today, the competition for automated superiority has manifested not just in the realm of hardware like missiles, fighter jets, and drones, but also in software and digital tools, like AI-enabled algorithms. In the past decade, the development and sophistication of AI has grown exponentially largely due to the increased availability of vast quantities of data and drastically improved computing power, often exceeding the projected pace set by Moore's Law.[1] To punctuate the gravity and scale of this trend, Russian President Vladimir Putin noted in 2017 that, "…he one who becomes the leader in this sphere [AI] will be the ruler of the world" (The Associated Press 2017). In the press conference, Putin envisioned a future in which the outcome of military engagements would be settled by drones, and therefore, '…it would be strongly undesirable if someone wins a monopolist position' (The Associated Press 2017). The risks associated with AWS have been heightened by the increasing use of AI and data in remote warfare, in which state and non-state actors have turned to AI-driven hardware like drones as a less costly way to achieve military objectives than deploying human forces (Rogers et al. 2020). The prospect of increased automation as well as physical and psychological distance in military engagements presents a related challenge around the need to provide meaningful human control or 'human in the loop' when deploying potentially lethal systems (Amoroso et al. 2018).

Against this backdrop, there has been marked growth in the military uses of AI on the battlefield, which has been a source of alarm for the international community (United Nations Institute for Disarmament Research 2014). Most prominently among these are autonomous weapons systems (AWS). Many, including U.N. Secretary General António Guterres, have called for autonomous weapons systems, for instance, to be banned altogether (Guterres 2019). Yet, during a 2018 UN Convention on Certain Conventional Weapons (CCW), many countries, including the United States, the United Kingdom, Israel and Russia blocked a proposed ban. Among the concerns raised by these countries were the restrictions on research and development that could result from the law, which, they argue, would work against their national interests. However, many signatories to the AWS ban, including Austria, Brazil,

[1] In 1965, Gordon Moore, former CEO of Intel, predicted that the number of transistors on a microchip will double every two years, enabling an exponential expansion in the micro-processing industry over time.

and China,[2] have suggested that the development of AWS risks setting in motion a potentially catastrophic military arms race that could lead to further instability around the world.

In the absence of international law circumscribing the use of AWS, militaries around the world have begun to develop their own codes of conduct governing the deployment of AWS. These codes often reflect the strategic and tactical priorities of the militaries concerned and vary according to the laws, norms, values, and interests of the country deploying AWS. The latitude granted to militaries to govern the use of AWS by a lacuna of international consensus parallels that which has been granted to civilian law enforcement to employ autonomous decision systems in surveillance, targeting suspects, and sentencing—even among countries with robust human rights and legal protections. However, underlying this, there is an increasing convergence of civilian law enforcement with militaries concerning the use of AI and data systems. This has followed from the convergence of other overlapping elements of civilian and military law enforcement, including technology, research and development (R&D), hardware, software, culture, and personnel.

To evidence this process, the chapter begins by exploring the nature of AI-enabled technologies deployed in military and civilian contexts. Here, these systems are conceived in the broader context of the social, political, and ethical controversies which surround them. The chapter then explores the cases of the United States and China to understand the nature and development of civilian and military logics concerning the merging of technology, research and development (R&D), hardware, software, culture, and personnel. The chapter ends by reflecting on the potential trajectory of this trend in light of recent events surrounding police brutality and the militarization typified by the murder of George Floyd on May 25, 2020.

Methodology

Methodologically, the chapter relies on a case study model examining the exchange of laws, norms, culture and personnel between military and civilian law enforcement arms. The United States and China have been

[2] China states that its call is to ban the use of fully autonomous weapons, but not their development or production. Source: "Campaign to Stop Killer Robots" 2018.

selected purposively as both countries have strong civil-military institutional, personnel and knowledge sharing and lead the world in AI and data technological development. In social science, according to Yin and Schramm, the case study method attempts to '…illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result' (Schramm 1971; Yin 1994, p. 12). The case study method affords the research the ability to investigate '…a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' (Yin 1994, p. 13). By digging into the context of specific cases, and understanding the similarities or differences between cases, one contextualizes the nature of observation and outcome. Moreover, case studies mediate the challenge of coding more variables of interest than data points. They also rely on varied sources of evidence in a triangulating fashion and build on prior theoretical frameworks for data collections and analysis (Yin 1994, p. 13).

Civilian and Military AI & Data Systems in Context

Before diving into these issues, it is worth defining civilian and military AI and data systems. As noted above, AWS have existed in military contexts for decades, from the most rudimentary land mines to the Soviet Union's autonomous nuclear deterrent, Dead Hand. However, as Amanda Sharkey notes (Sharkey 2017), while there has been considerable debate among experts concerning the definitional boundaries of autonomous weapons, some common themes have emerged. For example, the U.S. Department of Defense defines AWS as weapons that are able, '…once activated, to select and engage targets without further intervention by a human operator' (Department of Defense 2017). Meanwhile, the International Committee of the Red Cross (ICRC) defines AWS as '…weapons that can independently select and attack targets, i.e. with autonomy in the 'critical functions' of acquiring, tracking, selecting and attacking targets' (ICRC 2014). In other words, AWS represents systems which can make independent determinations in selecting targets for surveillance or attack. In this sense, many have pointed out that AWS represents systems which lack meaningful human control, which could pose significant and potentially catastrophic risks (Amoroso et al. 2018).

This challenge has raised ethical concerns about the use of AWS across different sectors of the international community from the UN, signatories

to the AWS ban, as well as major technology entrepreneurs and scientists like Bill Gates, Elon Musk, and Stephen Hawking. However, the AI systems embedded in AWS represent the same computational functions as those autonomous decision systems found in self-driving cars, financial trading instruments, and medical diagnosis (European Union 2018), but with appreciably different objectives. In the context of civilian law enforcement agencies, however, the objectives and incentive structures shaping the use of ADS in surveillance, targeting suspects, and even securing convictions, mirror those of militaries. Theoretically, such a potential convergence is buffered by the separation of these two domains by their respective regulatory and normative standards—one governed by the laws of armed conflict, the other by domestic legal provisions. In practice, however, regulatory and normative standards often converge as ADS technologies become an increasingly convenient solution to practical law enforcement challenges. Rogers, for instance, notes how autonomous drones have been used by governments like China to monitor protests in Hong Kong (Rogers 2019). Similarly, in the U.S, as of August 2015, police in North Dakota have been permitted to use drones equipped with less-than-lethal weapons such as Tasers, pepper spray and rubber bullets for crowd control. The legislation permitting the use of these armed drones passed in North Dakota less than 5 months after police in Baltimore, Maryland were criticized for using surveillance drones in response to protests which emerged in response to the death of Freddie Gray in police custody (Bourne 2015).

Given that American police have faced criticism for brutality and implicit bias particularly when dealing with minority communities, local police departments may feel pressure to seek automated solutions to issues like crowd control during protests or riots, by for instance, programming rules of engagement into autonomous drones. Proponents of this solution could argue that the crowd control algorithm would be regularly tested and audited for bias in a way that could result in fairer and more transparent outcomes than would be possible with normal procedures involving human officers. While there may be some advantages of using ADS in policing, doing so without robust safeguards or meaningful human control (Amoroso et al. 2018) could result in dangerous and potentially catastrophic consequences.

The risk of ADS in policing is compounded by the fact that where civilian and military law enforcement institutions intersect, there is a

tendency for civilian law enforcement tactics and procedures in surveillance and targeting to mimic those of the military, which has been shown to result in increased civilian deaths (Lawson Jr 2018). This tendency is particularly pronounced in countries where there are weak protections for speech and privacy. It is in this context that the ethical, social and political concerns voiced by the international community about AWS become even more profound. Indeed, the ethical challenges of AWS are inextricably linked with those of civilian forms of ADS used in law enforcement.

Given their potential to impact modern and remote warfare, AWS have, understandably, garnered attention among academics, international lawyers, ethicists, and military experts. In particular, there has been a lively debate among experts in favor and against AWS in combat. Many experts oppose the adoption of AWS in warfare, citing potential violations of human dignity exacerbated by an increased propensity toward military engagement (Saxon 2016). Others point out the difficulty of AWS to '…fully comply with international humanitarian law, except…in some very narrowly subscribed circumstances' (Sharkey 2016). Sharkey further notes that, '…apart from problems with the principles of distinction and proportionality in determining the legitimacy of targets, AWS are, by definition, less predictable than other weapons systems'. This means that '…it is unclear as yet how we could guarantee the quality of Article 36 weapon reviews for both hi-tech and lo-tech nations' (Sharkey 2016, p. XXX). The unpredictability of AWS suggests that it would be difficult to apply a consistent regulatory standard or prevent machine error with a high degree of confidence.

At the same time, there is growing concern about the ethical implications of ADS across a variety of domains, including human resources, finance, insurance, and law enforcement. The common concern across these areas hinges on the nature of algorithmic bias embedded in the underlying training data which risks reinforcing problematic social perceptions or stereotypes based on statistical patterns and the models used by algorithms to interpret them. This has gained particular attention in the latter category of law enforcement, as AI-enabled algorithms have been used for determining bail, predictive policing and surveillance (Propublica 2016).

Independent of one another, AWS and ADS present thorny ethical challenges in their respective domains of military and civilian law enforcement. When these two spheres begin to merge, the combined ethical as

well as practical challenges grow considerably. Even as exchanges of technology, skills and expertise between military and civilian law enforcement have remained commonplace for centuries, the dimensions through which these exchanges have taken place have deepened in recent years. Nowadays, the exchanges are not merely confined to unclassified technology transfers, but extend into areas of research and development (R&D), hardware, software, personnel and culture. This depth of embeddedness between civilian and military law enforcement risks intensifying the ethical and practical challenges associated with AWS and ADS as these technologies are developed, shared, and deployed.

In the following section, the exchange of technology, personnel and culture between civilian and military arms of the state will be explored. These exchanges become institutional mechanisms in which norms, procedures, and practices are diffused, assimilated and eventually established. Both themes will be explored in theory and in practice in the United States and China. Even as they represent competing visions of global AI and data governance, both countries have strong civil-military institutional, personnel and knowledge sharing and lead the world in AI and data technological development.

Blurring Lines: Exchange of Technology, Hardware, Software Personnel and Culture

Militaries have long histories of their technologies being adapted for civilian purposes (Buzman and Sen 1990). From portable two-way radio communications to nuclear technology, the internet, and satellite navigation, technological innovations on the battlefield have often propelled advances in modern civilian life. In recent years, however, the pendulum of R&D spending has swung in the direction of civilian uses, particularly within the Information and Communication Technology (ICT) sector. This section will explore instances of military to civilian technology transfer as well as emerging challenges in such transfers in reverse.

Research & Development

A number of joint civil-military research and development (R&D) initiatives have emerged in the United States including the Defense Technology, Defense Laboratories and Federal laboratories (University of Southern Mississippi 2018). The research labs are designed to promote

and share '…best practices in technology transfer and community engagement' (University of Southern Mississippi 2018). The goal of these labs is to create an environment in which innovations can flourish for the benefit of national defense as well as promoting local entrepreneurship and economic development through public-private partnerships (PPPs) (University of Southern Mississippi 2018). The US Department of Defense operates more than 60 laboratories and engineering centers across the United States, employing over 38,000 scientists and engineers across 22 states (Ormond and Williams 2015).

For example, in the small town of Vicksburg, Mississippi in which the US Army Corps of Engineers is based, community leaders have begun connecting with Engineer Research and Development Center (ERDC), the ERDC Information Technology Lab, ERDC Environmental Lab, and the ERDC Coastal and Hydraulics Laboratory to explore areas of collaboration and potential PPP. The US army has encouraged efforts to promote technology transfer and economic spinoff from its facilities, with hopes of fostering technology-led economic development (University of Southern Mississippi 2018). These civil-military partnerships have been forged with the explicit aim of allowing military technological advances to stimulate economic growth in often remote areas of the US in which military installations are based. It demonstrates a long-standing cultural norm of technology, knowledge, and funding transfer between civilian and military domains that has become deeply rooted and institutionalized.

Knowledge transfer in R&D also takes place dynamically between the civilian and military spheres as well as the public and private sectors. For example, a 2012 US National Defense report details how Mymic, a small business specializing in modeling and simulation, created the Learning Enriched Virtual Environment product that takes soldiers into an Afghan home where they converse with its residents in a non-offensive manner while also watching for threats. The underlying software was converted for port security applications. Truck drivers entering a port are now taught how to look for hazardous material spills, suspicious activity, and other issues to the Occupational Safety and Health Administration. This sort of technology transfer is indicative of what James Der Derian describes as 'virtuous' warfare, in which '…military war games and computer video games blend, mock disasters and real accidents collide, producing on screen a new configuration of virtual power' (Der Derian 2009). While it is standard practice for some professions to use computer simulations for training, the practice requires additional scrutiny in context of AWS,

ADS, and remote warfare which risks distorting the perceptions of the true costs of war. Mymic has sold its system to the Virginia Port Authority in Hampton Roads, Virginia. The company's Critical Incident Response Training Simulation for combat medics was adapted into a first responder simulation for fire departments and EMT. Other examples of civil-military R&D technology transfer include games for team training by the US Air Force operations center being subsequently used as a police operations center (Magnuson 2012). The ease with which military technologies are adapted for civilian purposes (and vice versa) in both public and private sectors further illustrates the embeddedness, in some areas, of civil-military R&D in the United States.

In China, there has also been a significant national push toward integrating civilian and military technologies, particularly in data and artificial intelligence. For example, the Chinese Communist Party's (CCPs) Military-Civil Fusion (MCF) strategy, aims to enable China to advance its military's technological capabilities by eliminating barriers between the country's civilian research and commercial sectors as well its military and industrial sectors. The stated goal of this integrated strategy is to establish China as a world class military by 2049. A 2020 US State Department report notes that the CCP is systematically reorganizing the Chinese science and technology enterprise to ensure that new innovations simultaneously advance economic and military development. Chinese President and CCP General Secretary Xi Jinping personally oversees the strategy's implementation. He chairs the CCP's Central Military Commission and the Central Commission for Military-Civil Fusion Development. The US State Department further notes that CCP is implementing this strategy through its own R&D efforts as well as by '…acquiring and diverting the world's cutting-edge technologies-including through theft-in order to achieve military dominance' (US Department of State 2020). Key technologies being targeted under MCF include quantum computing, big data, semiconductors, 5G, advanced nuclear technology, aerospace technology, and AI (US Department of State 2020).

Hardware

However, as stated previously, the United States also maintains a strong integration between military and civilian law enforcement. Beyond incubation hubs for R&D such as the ERDC, there are significant transfers of hardware from the US military to local American police departments.

In particular, through the 1033 Program, which came about through the National Defense Authorization Act for FY 1990 and 1991, local police departments are entitled to request surplus military equipment, including assault rifles, submachine guns, grenade launchers, armored personnel carriers (APCs), and AI-enabled surveillance tools. This exchange of military hardware has led to public concerns about increasingly militarized police forces in the United States (BBC 2020). By using military hardware, including weapons, intended for theaters of war, it follows that local police forces may begin to adopt military tactics. Although there are specialized units within police forces tasked with dealing with high-risk encounters, such as SWAT (special weapons and tactics) teams in the US, these forces have traditionally been used in very specific circumstances. Indeed, as the transfer of military hardware to local police forces has become more prevalent, the number of SWAT teams issuing 'no-knock' warrants has also grown. Criminologist Dr. Peter Craska estimates that the use of SWAT teams to execute search warrants has increased 15-fold from 1980 to 2000 (Craska 2007).

Whereas the US military's role is to protect the homeland from foreign threats to US citizens, interests, or government property, the remit of local police is circumscribed by state as well as the local laws of their territorial jurisdiction. Police forces are intended to serve communities by keeping the peace, respecting citizen's constitutional rights, enforcing the laws of the land, and maintaining order. In recent years, as military hardware has become widely available to and widely deployed by local police forces in the United States, the scope of their remit as well as their tactics have become blurred.

For example, in July 2020, President Donald Trump sent American troops, and unidentified military officers to quell protests in Portland Oregon and Chicago (NBC Chicago 2020). Many experts suggested that this action, apart from being politically motivated, was unlikely to be constitutional. Additionally, in June 2020, a predator drone operated by US Customs and Border Patrol (CBP) was spotted overhead in Minneapolis, MN while conducting surveillance on protests in response to the murder of George Floyd. This drone was diverted from its usual route on the Canadian border intended to provide 'operational awareness' for the ongoing protests (Heilweil 2020). However, the fact that such actions were taken with scant regard for long standing constitutional practice and cultural norms demarcating military and civilian law enforcement on American soil and with cooperation of certain military units

underscores how accustomed some military and civilian law enforcement officials have become to the blurring of their responsibilities.

Personnel and Culture

United States

In addition to the exchange of hardware and software capabilities, the US offers a model on exchange of military and civilian personnel. In particular, veterans of the US. military have had a long tradition of transitioning to other roles in law enforcement at federal, state, and local levels. At the state and local level, even as veterans represent 6 percent of the general population in the United States, 19 percent of police officers are veterans, according to an analysis of US Census data performed by Gregory B. Lewis and Rahul Pathak of Georgia State University for The Marshall Project (Weichselbaum and Schwartzapfel 2017). Policing is the third most common occupation for American veterans, behind truck driving and management (Marshall Project 2017).

This increasing integration between the military and civilian law enforcement has been associated with and increased use of force on the part of local police. In a 2017 investigation, The Marshall Project found that officers in Boston and in Miami with military experience were more likely to have a use-of-force complaint filed against them. In addition, one-third of the 35 fatal police shootings in Albuquerque from January 2010 to April 2014 involved police who were military veterans (Weichselbaum 2018).

Texas researchers looked at 10 years of Dallas police and military records going back to January 2005. They examined an officer's on-duty shooting history, race, gender, age-range, veteran status, branch of military and whether the person was deployed to Iraq or Afghanistan. In total, 516 police officers, with and without U.S. Armed Forces experience, were examined. According to the study, nearly one-third of officers involved in a shooting had a military background, whereas military veterans made up only 16 percent of officers who had no shooting incidents.(Weichselbaum 2018).

This phenomenon is not surprising given the different standards, laws, norms, and responsibilities of the military operating in combat zones overseas versus in a domestic, civilian context. Veterans returning from deployment often report struggling to transition from military to civilian operating procedures and rules of engagement. Indeed, in a

study conducted by the Department of Justice, one veteran focus group participant noted the following:

> In SWAT, no one can get shot. When we enter a building or room [in the military] we yelled 'down' and shot anyone who didn't, but not in SWAT. You have to make a judgment call. By military standards, I am successful if I take less than 13 percent casualties but in SWAT, you can't take any casualties. (United States Department of Justice 2019).

Although there is a concerted effort to support the integration or reintegration of military personnel into federal, state, local, and tribal law enforcement, the transition can often be difficult for many service members. In addition to growing accustomed to softer standards in the rules of engagement many veterans also often struggle with disparities in their rank, mental health challenges such as PTSD, diminished autonomy, as well as heightened levels of vigilance developed through years of combat experience that may not always be suitable in social settings.

In this way, the training and experience of military veterans provides a framework in which to understand law enforcement that does not always match the rules, standards, and operation procedures of civilian policing. When these standards begin to merge by virtue of increased military personnel, equipment, and tactics in local police forces, there is a commensurate level of risk that the outcome for civilian law enforcement becomes more militarized.

China

President Xi Xingping's centralization of executive control in China has resulted in the consolidation of the Chinese People's Armed Forces within the umbrella of the military, a move which effectively removes the distinction between civilian police and military forces. Both law enforcement arms now report directly to President Xi's Central Military Commission (Chan 2017). This consolidation of military and civilian arms of law enforcement effectively formalizes the exchange of personnel, culture, and practices between the two branches. Beyond centralizing power, the move also serves to unify norms, practices, and procedures in both military and civilian engagements. In practice, this means that for the average Chinese citizen there may be no meaningful distinction between the regulations, cultural norms, and practices of the country's military and civilian personnel. This integration also factors into the country's approach to

data and AI, particularly in the national social credit system. Through AI-enabled tools of surveillance such as facial recognition algorithms and predictive modeling of behavior, Chinese citizens are actively monitored and evaluated by authorities according to activities deemed to be socially beneficial, such as volunteering for charity or donating blood, or socially negative, such as failing to sort recycled waste or violating traffic rules. In the case of the Chinese civilian and military technology ecosystem, there seems to be a clear level of integration that offers a model for what a nearly complete integration of civilian and military knowledge, technology, hardware, personnel, and culture could look like.

Software: Data Sharing and AI Capabilities

Unlike China, as evidenced by a 2019 TikTok case (Jennings 2019), there has been widely-publicized trepidation on the part of the private sector to cooperate with law enforcement on AI development for national defense. For example, in 2018 Google decided not to renew its contract with the Pentagon on Project Maven, which used artificial intelligence to interpret video images and could be used to improve the targeting of drone strikes (Wakabayashi and Shane 2018). The tech giant cited ethical concerns about the program voiced by its employees, which culminated in widespread protests. However, where there is an emerging rift between public and private sectors regarding the end game for AI, autonomous weapons, and autonomous decision systems, AI capabilities and data sharing between U.S. military, other federal law enforcement agencies, as well as state and local authorities remains robust and, indeed, only continues to strengthen.

In 2018, for example, the US Department for Homeland Security implemented an AI-enabled automated service designed to '…improve the efficiency of requesting and sharing investigative information' (ICE 2019), called the Law Enforcement Information Sharing Initiative (LEISI). This program, which sits within Immigration and Customs Enforcement (ICE), and Homeland Security Investigations (HSI), aims to transform the DHS Law Enforcement Information Sharing Environment by integrating '…cultures, governance, business processes and technologies and with external partners to ensure the right information is delivered to the right person(s) at the right time in the right way' (ICE 2019). The LEISI algorithm's developmental aim is to consolidate not just information sharing but '…cultures, governance, and technologies…'

to deliver information in the '…right way…' (ICE 2019). However, the 'right' procedures, norms, and practices associated with military and civilian cultures, governance and technologies, as yet, will necessarily vary. Even as intelligence sharing remains an effective way to prevent crimes, the distinction in remit between local, federal, civilian and military law enforcement arms is critically important. Otherwise, there is a risk of slippage in and blurring of the procedures, norms, and cultures between civilian and military law enforcement, particularly in relation to data privacy. This trend also risks amplifying the existing ethical challenges in ADS across several domains of civilian life, including law enforcement, compounded by ethical and practical concerns associated with military uses of AI and data.

What is more is that, according to DHS, Immigration Customs Enforcement will be leading the law enforcement data sharing, including biometric data for all DHS law enforcement component agencies. This, DHS claims, is aimed at overcoming '…policy issues that may inhibit law enforcement information sharing, and develop approaches to overcome traditional barriers to information sharing' (ICE 2019). While intelligence sharing is admittedly a hugely important way to prevent crimes, the manner in which the data is shared and accompanying AI-enabled tools deployed warrants scrutiny.

For instance, the rationale behind DHS' designating ICE as the hub for this information sharing is unclear. In recent years, ICE has been criticized for unlawful detention of aliens, residents, and US citizens alike. These practices culminated in the Trump administration's Zero Tolerance Policy, in which children, including infants and toddlers, were separated from their parents at the US border and detained in inhumane conditions while awaiting a hearing (Propublica 2019). It has also been criticized for deploying unidentified federal agents to carry out unlawful detentions of American citizens in Portland, Oregon in response to protests against police brutality (Hannon 2020). The fact that DHS has designated ICE to coordinate this inter-agency and cross-jurisdictional information sharing program despite the whirlwind of controversy surrounding it, in many ways, telegraphs DHS's intent. Ostensibly, ICE's coordination is aimed at preventing serious crimes, maintaining convicted sex offender records, and criminal history information sharing programs. However, given ICE's track record, without a way to probe or audit the LEISI system for algorithmic bias, there is a serious and glaring risk of potential abuse.

The potential for abuse remains the most significant risk when it comes to the transfer of military personnel, codes of conduct, practices, and technology into civilian spheres. The sort of abuse that occurs as the lines between civilian and military domains blur may not be intended but nevertheless more likely to occur as institutional, legal and normative barriers become eroded. I've argued that these barriers are central to liberal democracy, and that their slow erosion has given rise to authoritarian tendencies among civilian law enforcement agencies. As we have seen previously, increased militarization among policing in the US has resulted in increased civilian deaths (Lawson Jr 2018), a factor that was made painfully clear with the murder of George Floyd. What we have discovered in this chapter is that the forces driving the militarization of police include overlapping dimensions of civil-military linkages in R&D, hardware, personnel and culture, which have consolidated around AI, data, AWS, and ADS technologies. Absent appropriate safeguards on the operational use of these technologies in both military and civilian domains, there is a growing risk of authoritarian threats to the foundations of democracy, possibly on the order of those seen when the US capital was stormed by insurrectionists in January 2021 (BBC 2021).

Conclusion

The murder of George Floyd, following a long and horrific pattern among law enforcement of killing unarmed black people, is indicative of what many have described as the militarization of American policing (Kraska 2007). The process of militarization however, has not occurred in a vacuum. There are a number of overlapping factors which produced this outcome, including increasing levels of exchanges in R&D, hardware, software, personnel and culture between military and civilian law enforcement, accelerated by policies like the American War on Drugs. These factors have also found expression in China where the merging and consolidation of civilian and military law enforcement personnel, AI and data-enabled technologies, tactics, and culture has been intentionally sought. To avoid what appears to be 'mission creep' between civilian and military law enforcement in the new frontier of AI and data-driven technologies, it is important for governments to be aware of the risks posed, and make concerted efforts to protect human rights in order to prevent the abuse of AI and data-driven technologies. Otherwise, as the

existing ties between civilian law enforcement strengthen, the laws, practices, procedures and cultural norms distinguishing military and civilian life erode, so too do distinctions between civilians and combatants. It would be a tragedy if the lines between civilians and combatants were unclear for a soldier or police officer, far worse if these lines were blurred in the eyes of an algorithm widely used and accessible to both.

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Remote Warfare, Coercion, and Combat

Can Drones Coerce? The Effects of Remote Aerial Coercion in Counterterrorism

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Introduction

On November 14, 2001, 2 months after the terrorist attacks of September 11, the USA launched its first successful drone strike in Afghanistan, killing Al-Qaeda's military chief and third in command, along with seven other militants (Kaplan 2016). In the years since, striking by remote control has come to define US counterterrorism strategy. From fewer than 50 drone strikes conducted during the Bush years, the use of armed drones surged to more than 500 strikes under the Obama administration (Bureau of Investigative Journalism 2017). The latter embraced Remote Warfare as an alternative to sending large ground contingents into war zones or chronically unstable countries like Pakistan, Yemen, and Iraq. The Trump administration leaned even more heavily on Remote Warfare,

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carrying out thousands of drone strikes under loosened rules of engagement and greater secrecy (Purkiss et al. 2017). These drone strikes have been used for both brute force and coercion, including efforts to dissuade terrorists and supporters from conducting attacks and, failing that, to limit the geographic reach and intensity of their violence.

Though remote aerial coercion has emerged as a pillar of US counterterrorism strategy, we still know relatively little about the effectiveness of drones as instruments of coercion, specifically intra-war coercion. Academics and policymakers alike have debated the potential legal, ethical, and battlefield consequences of this new technology (Aronsson 2014; Brooks 2014; Buchanan and Keohane 2015; Horowitz et al. 2016; Gilli and Gilli 2016), but few studies have examined the implications for coercion, and, even then, they offer inconsistent and often contradictory findings. On the one hand, scholarship suggests drone strikes constitute credible threats (Zegart 2018) and can effectively influence the capacity and behavior of terrorist groups, particularly targeted killings to disrupt and degrade these organizations (e.g., Byman 2013; Johnston 2012; Price 2012; Johnston and Sarbahi 2016; Mir 2018). On the other hand, some studies find drone strikes are ineffective at best and counterproductive at worst (e.g., Cronin 2013; Jordan 2009, 2014a; Lehkre and Schomaker 2016). Rather than positively influencing the behavior of terrorist groups, critics claim, drone strikes tend to embolden and even strengthen terrorist groups (Jordan 2009, 2014a). Terrorist groups are also quick to learn and adapt their organizational practices to reduce their vulnerability to strikes (Jordan 2009, 2014a). Whether armed drones are effective instruments of coercion is thus still an open question.

Building on coercion theory, we argue that drones, as a unique 'technology of coercion' (Powell 1999, p. 14), exert weaker coercive effects than traditional manned airpower, owing to changes in persistence, lethality, and relative risk. While drones can effectively degrade organizational capabilities and impose significant costs, they complicate the tasks of signaling clear and credible threats and assurances. That is, persistent surveillance combined with lethal and low-risk strikes renders armed drones highly effective at altering the cost–benefit calculations of terrorists. Yet these same technological attributes cause them to be less effective in terms of clear communication, credibility, and assurance—the other key factors necessary for coercion success (Borghard and Lonergan 2017). Given these realities, prevailing optimism about the coercive effectiveness of armed drones is largely unwarranted.

More broadly, these findings contribute to the literature on coercive diplomacy by offering a conceptual framework for assessing the effects of new technologies on coercion outcomes. Few studies have theoretically or empirically investigated whether different technologies of war affect coercive leverage against targets. This chapter identifies three attributes of military technology—persistence, lethality, and the reduced costs and risks of use—as critical to coercion. Specifically, it offers theoretical and empirical evidence for the impact of each of these attributes on the critical requirements for coercion success—sufficient capability to affect the cost–benefit calculus, clear communication, credibility, and assurances. Simply put, not all technologies of war perform equally on these requirements, affecting how targets of coercion evaluate and respond to coercive threats.

This chapter proceeds as follows. The first section assesses the technological characteristics of armed drones, specifically why they might constitute distinct technologies of coercion. The next sections outline the logic of coercion theory and the role of coercion in US counterterrorism policy, before examining how the characteristics of drones influence the effectiveness of coercion. The paper concludes with policy recommendations and directions for future research.

Why Armed Drones Are Different from Traditional Manned Aircraft

From the start, scholars and policymakers alike have viewed remotely piloted aircraft, or drones, as transformative weapons technology (Singer 2009; Kasher and Plaw 2013; Zenko and Kreps 2014; Plaw et al. 2016, pp. 30–36). Specifically, compared to traditional manned aircraft, drones enhance persistence and lethality, even as they reduce political, military, and financial costs and risks associated with their use.

First, drones have the advantage of *persistence*, allowing the aircraft to loiter for extended periods over the battlefield (United States Air Force [USAF] 2014, pp. 13–14). Technological advances in propulsion and aerodynamics have enabled this persistence, allowing for fuel-efficient engines and lighter airframes capable of carrying more payload and fuel in place of onboard crew and life support systems (USAF 2014, pp. 13–14). The unmanned platform, the MQ-9 Reaper, can remain airborne for up to 30 hours during intelligence, surveillance, and reconnaissance missions and up to 23 hours when carrying a full weapons load (Trevithick 2018).

In contrast, an equivalent traditional manned aircraft, like the F-16 reconnaissance variant, can remain airborne for only a few hours, because it requires refueling or the onboard crew needs rest (USAF 2014).

Optimized for long endurance, drones continuously monitor targets in real time, facilitating information collection to more accurately identify suspected terrorist targets. With persistent surveillance, coercers can also choose opportune moments to strike in order to minimize civilian causalities (Byman 2013; Walsh 2018, p. 162). As John Brennan, the then-chief counterterrorism advisor to the president, offered, drones 'provide us greater proximity to targets for a longer period of time, and as a result allow us to better understand what is happening in real time on the ground in ways that were previously impossible. We can be much more discriminating' in the use of force (2012). Ceteris paribus, the greater persistence of drones allows for greater information collection, thus improving the accuracy of targeting intelligence compared to traditional aircraft in counterterrorism operations.

Second, drones increase the *lethality* of airpower over traditional unmanned aircraft, as the combination of persistent surveillance precision weapons, and real-time intelligence collection and analysis closes 'kill chain' (i.e., the time from target acquisition to the release of munitions) (Hebert 2003) makes strikes more precise (Byman 2013). In other words, drones increasingly make quick-reaction, high-speed, precision strike strikes possible (Brose 2020). Lethality refers to a combination of weapon and delivery system accuracy (probability of arrival) and weapon system effectiveness (probability of kill) (USAF 1998). Compared to traditional manned aircraft, armed with the same precision-guided munitions, drones offer improved abilities to detect and observe targets for days or even weeks at a time. Drones, like manned aircraft, remain vulnerable to human errors. The ability to loiter over targets and review video streams from high-resolution cameras and advanced sensors, however, provides drones with more time to verify targets than the pilots of a manned aircraft, who have only minutes to make the same decisions. These capabilities improve drone targeting accuracy (Johnson 2013, p. 177) and offer more opportunities to strike with fewer civilian causalities (Mir 2018; Walsh and Schulze 2018, pp. 2–3). By combining the roles of sensor and shooter into one weapon system, drones solve the 'time critical targeting' problem, shortening from hours to mere minutes the time between finding the target and destroying it (Marzolf 2004; Williams 2013, p. 23; Zenko 2013, p. 6). Success so often hinges on

seizing fleeting windows of opportunity before terrorists disappear back into hiding, the fast reaction of drones makes them especially lethal in counterterrorism operations.

Finally, compared with manned aircraft, drones reduce many of the political, military, and financial *costs* and *risks* associated with the use of force. Most importantly, they eliminate the risk to the lives of pilots and support crew, who remain safe, located thousands of miles away from the physical danger (Rogers and Michel 2020). Few non-state actors have the capability to shoot down manned aircraft but, still, the crews are always at some risk, particularly when flying at lower altitudes to minimize the harm to civilians from strikes (Walsh and Schulze 2018, pp. 2–4). Drone technologies are also relatively cheap. Even the most advanced combat drone, the MQ-9 Reaper, costing $16–20 million per aircraft, is still a fifth the cost of the latest manned, multi-role fighter, the F-35 Lighting II, at $100 million per aircraft (Gregg 2017).

These reduced human and financial risks make drones a more politically attractive option than manned aircraft or ground deployments (Cronin 2014; Walsh and Schulze 2018). The US public widely supports the use of armed drones in overseas counterterrorism operations (Preston 2014; Ceccoli and Bing 2014; Kreps and Wallace 2016; Schneider and Macdonald 2016; Walsh and Schulze 2018). Those shirking costs and widespread political appeal have made it possible for the USA to sustain perpetual counterterrorism operations (Zegart 2018). Despite awareness of the significance of this new technology, we still know relatively little about remote aerial coercion. Does the combination of greater persistence and lethality and lower costs and risks produce different or greater coercive effects than manned airpower, particularly in the context of counterterrorism operations?

Coercion

Coercion exploits what Thomas Schelling referred to as 'the power to hurt,' using the 'the *threat* of damage, or of more damage to come' to 'make someone yield or comply' (Schelling 1966, p. 5). Critically, coercion is not limited to peacetime; once hostilities begin, intra-war coercion seeks to limit the geographic reach and intensity of the violence (Snyder 1977, p. v). Coercion comes in two types: deterrence and compellence (Schelling 1966, pp. 69–78). Deterrence aims to prevent the target from changing its behavior, threatening it with painful retribution should the

target act. Compellence, in contrast, involves the threat or limited application of force to bring about a change in the target's behavior. Existing scholarship suggests that deterrence is easier than compellence because the latter involves forcing an adversary to accept losses (Schelling 1966, pp. 74–75; Art 2003b) and incur damage to its reputation (Sechser 2010; Huth 1997; Mercer 2010; Press 2005; Tang 2005; Weisiger and Yarhi-Milo 2015). Still, in both, the coercer seeks to convince the target to act in ways contrary to existing values and preferences (Art 1980, 2003a; Art and Greenhill 2018).

To achieve compliance, the coercer issues threats outlining the violent consequences to come should the target not concede to its demands. These threats come in two forms: punishment and denial (Snyder 1958). A punishment threat promises to inflict great costs and unacceptable pain on the target by attacking its civilian population and cities, and killing large numbers of combatants, while a denial threat reduces the probability that the target will be able to achieve its political goals by attacking its military forces and combat capabilities (Pape 1996, pp. 13–15). Both punishment and denial threats thus aim to convince the target that it is preferable to concede now rather than continue its present course of action.

In this way, coercion is distinct from brute force, which aims to destroy the adversary's military resistance, leaving the opponent with no choice but to accept the demands imposed on it. In contrast, coercion seeks to convince the adversary to concede now rather than suffer the consequences of its present course of action, the outcome turning on the enemy's decision calculus (Schelling 1966, pp. 2–5). Coercion and brute force are two ways to achieve the same political goals, but coercion, if successful, offers a less costly alternative than fighting to a complete military victory (Pape 1996, pp. 13–15; Haun 2015, pp. 22–24).

Intra-War Coercion as Policy

Since 9/11, the USA has used a combination of brute force and intra-war coercion in counterterrorism. To be sure, the USA has sought the defeat and elimination of terrorist groups like Al-Qaeda and the Islamic State by brute force. Policy statements issued by the Bush, Obama, and Trump administrations uniformly promised to defeat terrorist groups with global reach. The Bush administration set the US strategic course, vowing, 'our war on terror…will not end until every terrorist group of global

reach has been found, stopped and defeated' (Bush 2001). Following his example, the Obama and Trump administrations promised, respectively, to 'degrade and ultimately destroy' the Islamic State (Obama 2014) and to 'defeat them handily' (Trump 2017). Military operations undertaken to defeat these terrorist threats have used drones to directly kill terrorist fighters and destroy their capabilities, as well as provide surveillance and close air support to ground forces (Smith 2016; Rogers and Michel 2020).

At the same time, however, coercion has remained a critical component of US counterterrorism policy. Because most depictions of US counterterrorism strategy emphasize the brute force goal of defeating terrorism, they tend to overlook its containment and coercion logics. This strategic narrative emerged from the Bush administration's construction of Al-Qaeda as a dangerous and fanatical enemy after 9/11 (Young 2008) and continues to shape the strategic discourse. To this day, many observers continue to discount the use of coercion against terrorist groups, claiming it is strategically infeasible and politically impalpable, because so doing would seem to imply a willingness to tolerate the continued existence of some terrorist groups. This strategic narrative fails to account for the logic intra-war coercion, however, that is, the use of threats or displays of force to deter certain terrorist activities and compel restrictions on the geographical scope and/or destructiveness of terrorist attacks within an ongoing conflict (Wilner 2013; Adamsky 2017).

Practicing intra-war coercion, successive administrations in Washington have sought to contain terrorist groups and their activities, even as US military went on the offensive to defeat terrorist groups abroad. To this end, the USA has often relied on coercive drone-based threats against terrorist groups. In 2011, for example, the Obama administration practiced intra-war coercion against the Somalia-based terrorist group, Al-Shabab, by manipulating the power of drones to 'hurt' the group. Specifically, the Obama administration decided not to carry out drone strikes on known Al-Shabab training camps, despite Washington's ongoing efforts to militarily support the Somali government in fighting and defeating the extremist group. A senior administration official explained the decision in terms of intra-war coercion. 'Al-Shabab can increase the danger to themselves if they attack us, or engage in actions designed to hurt our people… We can act in self-defense, but also to send the message that if you threaten us, you do so at your own peril' (Ignatius 2011). Put simply, so long as Al-Shabab limited their attacks to

Somalia, the USA would assist the Somali government but abstain from drone strikes against the group. The attempted containment and coercion of specific terrorist actors and their activities has thus occurred within the long war against terrorism (Knopf 2008; Troy 2020). This policy of intra-war coercion originated with the Bush administration but continued under Obama and Trump administrations. In the immediate aftermath of the 9/11 attacks, the Bush administration questioned the effectiveness of coercion, including deterrence, against terrorist groups. Reflecting such doubts, the 2002 *National Security Strategy* concluded that '[t]raditional concepts of deterrence will not work against a terrorist enemy whose avowed tactics are wanton destruction, and the targeting of innocents; whose so-called soldiers seek martyrdom in death and whose most potent protection is statelessness' (White House 2002). Such skepticism was short-lived, however, as the administration developed the concept of intra-war deterrence into 'tailored deterrence' against terrorist targets (Almog 2004–2005; Davis and Jenkins 2002; Knopf 2008; Kroenig and Pavel 2012; Schmitt and Shanker 2008, 2011; Wilner 2010, 2011, 2013, 2015). By 2006, the Bush administration had found a role for intra-war coercion in counterterrorism, admitting the 'network of individuals and institutions' supporting terrorism were suitable targets of coercion, even if the 'hard core of the terrorists cannot be deterred' and needed to be 'tracked down, killed, or captured' by brute force (White House 2006, p. 12). Since then, both the Obama and Trump administrations have practiced intra-war coercion, seeking to 'deter terrorist activity' (Obama 2011) and 'deter and prevent future attacks' (White House 2018) while concurrently waging wars of brute force against terrorist groups.

Reflecting these dual objectives, armed drones have been employed to both brute force and coercive ends against terrorist groups. Distinguishing coercion from brute force is a matter of intent, whether the drone strike sought to disarm and defeat a target or influence its calculations. Indeed, a single drone strike may serve both purposes, intended to diminish the capability and willingness of terrorist groups to attack certain targets while simultaneously contributing to the group's ultimate defeat. For example, the primary purpose of a drone strike might be to degrade terrorist capabilities by eliminating a cell leader, to contribute to the eventual military defeat of the group. At the same time, the strike can produce a secondary coercive effect against other cell leaders and individuals involved in terrorism, threatening them with the same punishment if they continue to attack US interests (Wilner 2013, pp. 759–760).

The line between coercion and brute force is not precise, but even if US drone strikes fall nearer to the brute force end of the range, analysis of these cases offers valid and useful insights into the effectiveness of drones as coercive instruments in counterterrorism (Byman and Waxman 2002, p. 4).

Coercion Theory Applied to Drones

Coercion seeks to influence the decision calculus of the target, specifically how it *perceives* costs and benefits. The coercer must meet several necessary conditions to succeed (Art and Cronin 2003; George and Simons 1994). Eric Borghard and Shawn Lonergan distill this list of factors into four fundamental requirements for coercion success, finding that coercive threats must be linked to the target's *cost–benefit calculus*, *communicated clearly*, made *credible*, and offer some measure of *reassurance* (2018). If coercion is difficult to achieve with traditional airpower (Pape 1996), it is still harder with remote-controlled aircraft. While armed drones can degrade organizational capabilities and impose costs, they complicate the equally critical tasks of signaling clear and credible threats and assurances.

Cost-Benefit Calculus

Coercion success turns on convincing the target that threats, if executed, would make the costs of defiance exceed the gains it hopes to achieve from resisting such threats (George 1991, p. 12; Pape 1996, pp. 15–18; Byman and Waxman 2002, p. 10). The individuals who carry out terrorist attacks may value death and martyrdom above life, but what matters is that the leaders of these organizations send them to their deaths in pursuit of strategic goals (Abrahms 2008; Crenshaw 1985, 1987, 2007; Cronin 2009; Hoffman 2006; Horgan 2004; Kydd and Walter 2006; Lake 2002; McCormick 2003; Pape 2006; Richardson 2007; Sageman 2004; Sprinzak 2000; Bloom 2005; Wilner 2015). These groups choose a strategy of terror because it is best suited to realize their goals. Those cost–benefit calculations create opportunities for coercion.

Coercion cannot succeed, however, unless the coercer understands what targets value, whether territory, legitimacy, popular support, social cohesion, or wealth and resources (Wilner 2015, pp. 39–40). Such an understanding is simple in theory but difficult in practice, particularly given the underlying intelligence challenges. Moreover, even if the coercer

knows what targets value, it still may not be able to impose sufficient costs to affect their decisions. Religious extremists and ethno-nationalist/separatist terrorist groups are often willing to suffer extreme costs to achieve their goals, so long as there is some hope of success (Hoffman 2006). The alternative is to convince terrorist groups that they will not prevail in the dispute (Smith and Talbot 2008). Because terrorist groups highly prize the values at stake, it may require costly, time-consuming, and massive amounts of force. Short of this level of effort, coercers may not be able to convince terrorists that they will not succeed, that expanding their geographic reach or accelerating the pace or ferocity of attacks, let alone fighting to the end, is pointless.

Cost-Benefit Calculus with Armed Drones

Armed drones are particularly well suited, however, to the manipulation of terrorist cost–benefit calculations. The technological characteristics of persistence, lethality, and lower relative costs and risks combine in a form of selective violence (Walsh 2018, pp. 161–164) that punishes terrorists and their supporters and denies groups their strategic goals, and in turn, alters cost–benefit calculations.

Practicing coercion by punishment, drone strikes exploit the advantages of persistence and lethality to influence terrorist group behavior. With combined capabilities for persistent surveillance and lethal strikes, drones create the possibility for sustained harm to what terrorist groups, individual terrorists, and their supporters' value most (Wilner 2013, p. 749). First, armed drones use wide-area persistent surveillance and rapid strike to punish groups by raising the personal costs, to terrorist leaders and their operatives. Capable of loitering for long periods of time, and striking at a moment's notice, armed drones are highly effective at tracking and targeting individual terrorists, as the large number of high-value terrorists killed in drone strikes in Afghanistan and Pakistan attests (Williams 2010, 2013; Bergen and Rowland 2015; Waltz 2015; Cockburn 2015). For the foot soldiers determined to die, who value martyrdom above life, fear of punishment may have little coercive effect, but most terrorists are not suicide bombers. In fact, most terrorists prefer to go on living, including terrorist leaders, who prioritize organizational and personal survival (Crenshaw 1985; Stein 2012). Drones looming overhead present them with a persistent and worsening threat to their survival. These remote killings induce sustained fear and weaken

the morale and confidence of surviving terrorists, what USAF Major-General Charles Dunlap referred to as the 'hopelessness that arises from the inevitability of death from a source they cannot fight' (Dunlap 2007, p. 65).

The persistence and lethality of drones make them particularly effective at imposing sustained punitive costs. Even if terrorists manage to elude death for a time, living under the constant threat of persistent surveillance attack takes a psychological toll. As a Pakistani militant reports, 'We now often sleep in the riverbeds or under the eucalyptus trees' (Schmitt and Perlez 2009). Compared to other standoff weapons, such as artillery or traditional aerial bombardment, drones offer a kind of persistent lethal surveillance that further blurs the line between battlefields and civilian safe zones. As Kindervarter (2016) argues, what is distinctive about armed drones is that intelligence, surveillance, and reconnaissance is linked directly to targeted killing, fusing mechanisms of surveillance and knowledge production with 'decisions on life and death' (p. 214). The effect is what Gregory (2011) terms, 'everywhere war,' characterized by 'eventful' violence that can occur anywhere, that is geographically and temporally 'blurred,' or more 'slippery' than traditional battlespaces. Consequently, the threat of punishment drives terrorist suspects to hide out of sight and to distance themselves from family and supporters, or risk detection (Plaw et al. 2016, pp. 70–72; Wilner 2015, pp. 97–100). The result is a life of hardship and fear that should dissuade many would-be terrorists from joining the fight and cause even the most hardened terrorists and their supporters to weigh the costs and benefits of their actions, and, by extension, influence the group's actions (Wilner 2013, pp. 761–762; Walsh 2018, p. 162).

By exploiting the lower costs and risks associated with their use, armed drones can also gain coercive leverage over terrorist groups by imposing sustained punishment on their supporters, families, and local communities (Trager and Zagorcheva 2005/2006; Bowen 2004; Almog 2004–2005). Individual drone strikes may well be more precise and result in fewer civilian causalities than traditional airstrikes, but the reduced costs and risks of use are a mechanism for sustained—perhaps perpetual—low-level conflicts. Though precision limits civilian casualties, the accumulated costs of perpetual war are significant in the long term. According to Gerald Steinberg, targeting families and supporters 'will cause even the most radical leaders to weigh the costs and benefits of their actions' (2001). Threatened with harm, communities and individuals themselves

may decide to pull back support for groups or even directly pressure terrorists to end their activities. Israel has used military force, including drones strikes, to mete out collective punishment against the relatives of terrorists as well as villages suspected of terrorist activities (Kober 2009; Saif 2016), Similarly, constant surveillance and frequent drone strikes cause societal harm: parents are afraid to send their children to school; women and men shy away from walking in markets; and families are afraid of gathering together to attend weddings and funerals (Stanford Law School and NYU School of Law 2012, pp. 80–88). Whether that punishment causes communities to end their support for terrorism, and, in turn, generates pressure on terrorist groups, or backlash against the coercer is still debated (Jordan 2009, 2014a; Johnston 2012; Johnston and Sarbahi 2016; Lehkre and Schomaker 2016; Williams 2010, 2013), but there is no denying that these strikes raise the costs on communities of facilitating or passively supporting terrorist activities (Kilcullen and Exum 2009; Boyle 2013; Shah 2018). Critically, remote-controlled precision strikes produce the presumption that the point of doing so is to minimize civilian casualties. It may well allow for sustained punishment campaigns that would otherwise be seen as impropriate or otherwise impermissible. Practicing coercion by denial, drones exploit the advantages of persistence and lethality to threatening the anticipated gains or payoffs from terrorist attacks (Wilner 2013, p. 746). With persistent surveillance and strike capabilities, drones make it possible to detect, identify and track terrorist training camps, financial assets, and suspected terrorists and to strike more quickly, precisely, and accurately. Such strikes reduce the operational capabilities of terrorist groups and, in turn, threaten to put their strategic and tactical goals out of reach. They undermine the ability of terrorist groups to plan and launch attacks, particularly the targeted killings that remove leaders and other operatives with a special skill, knowledge, or ability, such as passport forgers, bomb makers, financers, and recruiters (Neumann et al. 2011). In his analysis of targeted killings, Bryan Price finds that the loss of top terrorist leaders creates organizational chaos and contributes to the collapse of newer and religious terrorist groups (2012). As Osama bin Laden warned in a letter to a top lieutenant, drone strikes lead to 'the rise of lower leaders who are not as experienced as the former leaders and to the repeat of mistakes' (2010, p. 3). Those groups that survive display reduced organizational capability and effectiveness (Johnston 2012; Jordán 2014b; Williams 2010). Critically, drones make it more difficult for terrorist groups to communicate and to train new recruits.

In order to avoid attracting drones, terrorists try to minimize electronic communications or large gatherings in open areas (Bin Laden 2010, p. 2). Frequent drone strikes in northwest Pakistan led Al-Qaeda leaders to avoid visiting training camps, and to reduce training of would-be bomb makers from several weeks to just a few days (Gregory and Mehsud 2012; Zelin 2012). Drone strikes disrupt how militants operate on the ground, hindering their ability to communicate and their capacity to carry out terrorist attacks. Even if terrorist groups adapt into more decentralized, or networked, organizations (Moghadam 2013; Jordan 2014a), drone strikes still force them to divert more of their limited resources and time to organizational and personal survival at the cost of ongoing operations. Such targeting can cause significant disruption to these groups, constraining the movement of operatives, preventing them planning and launching attacks, and degrading overall capabilities.

The one-sided experience of risk, responsible for the lowered costs and risks of drone use, produces other, more indirect denial effects. Drone technologies transform war from a violent contest between warriors and closer to the 'action of a living force upon a lifeless mass' (Clausewitz 1984, p. 77). For the individual terrorists who aspire to martyrdom, the remoteness of drones is a way to deny them what they want, to die while killing the enemy. 'We pray to Allah that we have American soldiers to kill,' said one Afghani elder, 'These bombs from the sky we cannot fight' (Bearak 2001). For Muslim tribesmen, Akbar Ahmed argues, this manner of killing is 'dishonorable' and 'blasphemous' (Ahmed 2013, p. 2). Rather than dying gloriously in battle, they die a passive death that violates tribal honor codes emphasizing courage, pride, and revenge (Ahmed 2013). In the words of Maj. Gen. Dunlap, the 'denial of a meaningful death' is one consequence of Remote Warfare (2007, p. 65). By denying terrorists that meaningful death, coercers reduce the motivation of individuals to participate in terrorist violence, in turn, terrorist group motivation and behavior.

In sum, the greater persistence and lethality of drones, as well as the reduced costs and risks of use interact to affect the cost–benefit calculus of terrorist groups, making terrorism costly and painful to both terrorists and civilians, while also reducing the likelihood that terrorism will bring strategic success.

Clear Communication

Even if drones can inflict costs and put strategic goals out of reach, coercive success still requires *clear communication*. The coercer must make clear to the target what behavior must change for the threat or actual use of force to stop, the time schedule for acquiescing to demands, and the costs associated with compliance versus resistance (Schelling 1966). Despite the need for clarity, political imperatives and cognitive limitations can lead to ambiguous threats. Political leaders often issue vague and ambiguous threats in order to retain strategic flexibility, and in turn, escape from costly and onerous commitments (Borghard and Lonergan 2017, p. 455). The international system also creates incentives to bluff in crisis bargaining (Fearon 1995), as vague threats incur fewer international and domestic political costs (Snyder 2015, pp. 46–51).

Such ambiguity leaves greater scope for the misperception of coercive signals, and in turn, the miscalculation of consequences. As Robert Jervis explains, signals frequently fail 'because the perceiver does not understand what message the actor is trying to communicate' (2002, p. 304). In other words, signals are subjective, such that the coercer and target may not interpret threats in the same way. Importantly, the target's longstanding beliefs about the coercer will tend to color its interpretations of signals—seeing events as confirming its expectations, while ignoring or discounting evidence to the contrary (Jervis 1989, 2002; Yahri-Milo 2014). Given that radical Islamists believe the West and Israel are waging a war against all Muslims, they are more likely to perceive coercive threats as wanton anti-Muslim aggression (Perry and Negrin 2008, pp. 1–10; Powers 2014, pp. 411–421). For coercion to succeed, then, the coercer must integrate signals into a coherent strategic narrative—a story, to explain its actions—and convince the target of its narrative (Freedman 2006, pp. 20–26, 90–91). This is no easy task, but the construction of this shared meaning is the essence of clear coercive communication.

Clear Communication with Armed Drones

Drone technologies complicate the effective communication of coercive signals. At first glance, it might appear that the characteristics of persistence and lethality would signal clearly the potential consequences of any terrorist action, that is, to strike hard and quickly. As unmanned weapons systems, armed drones can accept the risk of flying at lower altitudes to

signal presence and, in turn, the intent to use force (Lyall 2015). Terrorists and civilians on the ground find such actions threatening, fearful a strike is imminent. 'When you can hear the drone circling in the sky, you think it might strike you,' a Pakistani reported, 'We're always scared. We always have this fear in our head' (Stanford Law School and NYU School of Law 2012, pp. 80–88). But fear alone is not sufficient; successful coercion also hinges on communicating to the target that it has active choices.

Communicating intra-war threats is a daunting task, however, because it requires coercers and targets to develop a shared understanding of what terrorist activities are considered within the current limits of the war or an escalation of it. It also requires a shared understanding of the coercive meaning of drone strikes. Such shared meanings develop slowly over time from previous experiences of the actors, determining both what signals will be used, and the meanings given to them. According to Jervis (1989, p. 19), communication includes both verbal discourse and symbolic actions. The persistence, lethality, and low costs and risks of drones cast a constant shadow over all terrorist activities, allowing the coercer to impose a set of tacit rules for penalizing terrorist groups for what it deems unacceptable behavior. To many Muslims, though, armed drones epitomize American oppression; their very remoteness renders their use inherently unfair, unjust, and cruel. Analyzing Al-Qaeda propaganda, Jan Ludvigsen (2018) finds the group considers the one-sidedness of drone warfare as evidence of American cowardice. In *Inspire* magazine, Al-Qaeda asserts, 'America is using these weapons [sic: drones] in Yemen, Waziristan, Libya, Somalia and other Muslim countries cowardly. Instead of using them in battlefields, they are used in residential areas' (quoted in Ludvigsen 2018, p. 38). From this perspective, drone strikes are symbolic of an all-out attack on Islam, which Al-Qaeda has called 'more savage and barbaric than previous stages of [the] crusade' (Ibid., p. 36). Put differently, the very same technological advantages of persistence, lethality, and reduced costs and risk that make them attractive to use continuously and widely make them harder to communicated tailored threats. Put simply, continuous drone strikes can look a lot like eradication, making it even harder for the coercer to send clear signals of intra-war 'red lines' and to communicate that punishing drone strikes are contingent on specific behaviors and thus coercive. If targets believe otherwise, there is little incentive for them to behave any differently.

Problematically, the public perception in the West, particularly the USA, of drone strikes as offering persistent presence and precision lethality at low-cost reduce incentives for greater transparency and oversight of these programs. Indeed, the absence of a human pilot and associated lighter support footprint increase their utility in covert operations. When the use of force is covert and shrouded in secrecy, however, coercive signals sent through limited drone strikes risk becoming lost in translation. From the perspective of the target, it is harder to decipher intent if the identity of the sender is unknown. Leaving to question the identity of the coercer, as well as the nature of the coercer's intent may have a counterproductive impact on coercive success, leaving unanswered questions to be filled by propaganda invoking an American war to eradicate Muslims (Ludvigsen 2018). As eradication comes to dominate the narrative, communicating any restraint on the part of the coercer breaks down, further deepening what Alex Wilner calls the defeat-deter paradox (2013, p. 742).

Unfortunately, given the low costs and risks associated with the use of drones, political leaders have few incentives to enhance transparency by issuing clear threats. Even if the public prefers drone strikes to boots on the ground, it may still be sensitive to foreign civilian causalities (Walsh 2018). Political leaders can mitigate this danger with covert drone programs. For more than a decade, as the USA conducted covert drone strikes in Pakistan and Yemen, it refused to acknowledge the existence of these highly classified drone programs in order to avoid public scrutiny (McCrisken 2013). In 2012, President Obama became the first senior official to remark publicly on these highly classified drone programs, and in the following year, his administration issued a public 'fact sheet' on the rules governing armed drones in counterterrorism operations (with the full drone strike 'playbook' released to the public in 2016; Gerstein 2016). The guidance laid out the process for approving targeted killings, including 'signature strikes,' but it was conspicuously silent on the standards used to justify a strike. Cameron Munter, the former Ambassador to Pakistan commented on the guidance's ambiguity: 'The definition is a male between the ages of 20 and 40. My feeling is one man's combatant is another man's—well, a chump who went to a meeting' (Currier and Elliott 2013). Rather than clarify the standard, the Trump administration increased the secrecy of drone campaigns, revoking Obama-era disclosure requirements on civilian casualties and designating large sections of Yemen and Somalia as 'areas of active hostilities' subject to less restrictive,

war-zone rules (Savage 2019; Savage and Schmitt 2017; Rogers 2017). The Biden administration recently initiated a broader review of Trump-era rules and procedures governing such attacks, signaling the potential for a policy change on drone use outside of active warzones (Savage and Schmitt 2021). In the absence of greater transparency, however, drones will continue to complicate clear signaling, for the coercing state cannot couple drone strikes with a formal diplomatic message, explaining the rationale for the action and the message it intended to convey to the target. If the target cannot infer the intent behind a signal, coercion has no chance of success.

Credibility

Success also depends on the credibility of threats—the target must believe that the coercer has the political will, military capability, and resolve to carry it out (Schelling 1966, p. 36). Credibility is difficult to assess in practice, because it involves a set of complex political calculations about the coercer's interests, capabilities, and reputation. A target may doubt the credibility of a threat if it thinks the coercer lacks either the capability or interest to carry out the threat, or because the coercer lacks a reputation for resolve (Mercer 1996; Press 2005). All else being equal, costly threats are more credible than low-cost threats, for only a highly motivated actor would be willing to pay high costs (Schelling 1966; Fearon 1997). To generate costly signals, political leaders must back up their threats, or 'cheap talk,' with observable actions that bind them to their commitments. Two ways to do this according to Fearon are to 'tie hands by creating audience costs that they will suffer *ex post* if they do not follow through on their commitment,' or to 'sink costs by taking actions such as mobilizing troops that are financially costly ex ante' (Fearon 1997, p. 82). According to Fearon and others, democracies are better able to create audience costs, because their leaders face higher domestic audience costs for reneging (e.g., Fearon 1994; Weeks 2008; see also Snyder and Borghard 2011; Downes and Sechser 2012). By generating costly signals, however, the coercer accepts ever-increasing amounts of risk. In other words, efforts to bolster the credibility of threats lead the coercer onto the dangerous path of raising the risks of war to avoid war (Fearon 1997, pp. 82–83).

Credibility with Armed Drones

To be credible, threats need to convince the target that the coercing state will both execute the immediate threat *and* escalate the use of force should the initial threat fail to induce compliance (Chamberlain 2016). Armed drones offer persistent surveillance and lethal strikes, but such capability alone is not enough to render their threats credible. Given the low costs and risks associated with their use, drones make for cheap threats. For this reason, drone strikes are highly effective in signaling a willingness to initiate military action but are less effective in signaling a high motivation to persist in a long and costly conflict.

To explain why such threats fail to coerce terrorist groups, it is important to distinguish between what Dianne Pfundstein Chamberlain refers to as a threat's *immediate* and *ultimate credibility*. She argues that the credibility of a threat is a function of both the coercer's willingness to execute the immediate threat and its willingness to apply more force if the initial threatened action fails to induce a change in the target's behavior (Chamberlain 2016, pp. 20–26). The threat of drone strikes vis-à-vis terrorist targets has immediate credibility, precisely because striking is so cheap. In other words, because drone technologies reduce the costs of using force, armed drones make it easier for political leaders to initiate and sustain conflicts (Walsh 2018, pp. 58–62). The persistence and lethality of drones play a part in achieving immediate credibility as well. If the coercer can accomplish what it threatens at low cost, arguably, more likely, with the persistent lethal surveillance of drones, targets should be less likely to doubt the immediate credibility of such threats (Press 2005, p. 21). Amy Zegart contends that the current trend of long, limited conflicts mean a coercer must convince terrorist organizations that it has a 'willingness to sustain combat' (2018, p. 17). As a low-cost method of fighting, armed drones make fighting more sustainable and thus threats to 'stay the course' more credible. If the aggressive expansion of the drone programs under the Obama and Trump administrations signaled anything at all, it is US capability and will to do as threatened.

But the threat of drone strikes is unlikely to be effective, if terrorist groups expect the USA to carry out remote attacks but doubt its underlying motivation to, if necessary, escalate the conflict (Chamberlain 2016). In other words, terrorist groups may perceive drone strikes as a form of cheap talk, which neither sink enough costs nor tie the hands of the coercer. Because the one sidedness of drone warfare inherently lowers

risks and imposes fewer costs on the coercer, states may be more willing to commit to their use in situations where they would otherwise be unwilling to pay significant costs to change terrorist group behavior, such as introducing ground troops.

Even in an ongoing conflict, escalation dominance works only if intra-war coercive threats are ultimately credible. The technological qualities of the drone itself, specifically the physical remoteness of the operators, give the target no additional information about the coercer's determination. If anything, the use of remote technology communicates some hesitancy to incur substantial costs and risks. In *Inspire* magazine, Al-Qaeda openly doubts Washington's ultimate credibility, depicting US drone strikes as 'living evidence of America's crumbling economy which cannot engage in direct war' and reminding US leaders that 'the war between us is not ceased in this way' (Ludvigsen 2018, p. 35). If terrorist groups like Al-Qaeda interpret the use of drones as a bluff, because of the reduced costs and risks of use, they are likely to hunker down and wait out drone strikes in the knowledge that they do not face the risk of further escalation (Walsh 2018, p. 175).

For coercion to work, the coercing state needs to convince the other side that it would be willing to go all the way to achieve its objectives, prepared to accept higher levels of brutality against the enemy (Knopf 2012, p. 28; Merari 2002, pp. 29–30; Malka 2008, p. 17; National Institute for Public Policy 2008, p. 40). To render such threats credible, the coercer may need to use demonstrative force, expanding the scale and scope of drone strikes and, if not effective, committing ground troops (Art 2003b, p. 360). Since mid-2008, the USA has launched so-called signature strikes to target anonymous suspected terrorists on the basis of their 'pattern of behavior'—such as gathering in groups, traveling in a convoy of trucks, or bearing arms (Boyle 2013, pp. 8–9). Unsurprisingly, signature strikes have raised significant concerns both within and outside the US government, as well as significant domestic and international criticism, about civilian casualties (Holewinski 2015, pp. 45–46; Shane and Becker 2012). But the advantages of persistence, lethality, and reduced costs and risks of use have generated a public perception that drones are better able to discriminate between combatant and non-combatant than traditional airpower. Because armed drones seemingly make it easier to avoid civilian harm, the public has grown ever more sensitive to such deaths (Walsh and Schulze 2018, pp. 129–150). These domestic and normative constraints undermine the credibility of liberal democracies

threatening unrestricted drone warfare (Merom 2003). Despite threats of collective punishment against the populations of Gaza and the West Bank, Israel has repeatedly bent to international and domestic political pressure, apologizing for drone strikes that have inadvertently killed civilians at the expense of the credibility of those threats (National Institute for Public Policy 2008, pp. 29–42; Rogers 2014). So long as targets have reason to doubt the ultimate credibility of threats, they have every reason to wait out drone strikes and continue to resist demands.

Assurances

Finally, for coercion to succeed, assurances of restraint must also accompany threats (Schelling 1966, p. 74; Knopf 2012). The target must gain an understanding that if it complies with demands, it will not be subject to more pain or loss. As Schelling advises, 'the pain and suffering have to appear *contingent* on his behavior; it is not alone the threat that is effective—the threat of pain or less if he fails to comply—but the corresponding assurance, possibly an implicit one, that he can avoid the pain or loss if he does comply' (1966, p. 4). Despite the inherent tension, the coercer needs to couple credible threats of harm with believable promises of restraint—to refrain from unwarranted and needless uses of force (Christensen 2011, p. 3; Wilner 2015, p. 184). In counterterrorism, because coercion occurs alongside military operations to defeat terrorist groups—efforts that will continue regardless of coercive success or failure—reassurance is especially difficult. It requires restraint from both sides but bargaining with terrorist groups to delimit the scope and scale of conflict involves significant commitment problems (Kydd and Walter 2006). In particular, when the coercer is more militarily powerful than the target, the very capability that enhances the credibility of threats makes it harder for the target to believe that the coercer will refrain from issuing more demands if it complies with the initial threat (Sechser 2010). Credible coercive threats may thus fail because corresponding assurances are in doubt.

Assurances with Armed Drones

Assuring a target that the punishment will cease once it cedes to demands is exceedingly difficult with armed drones. Because the use of armed drones is relatively cheap, even as it substantially increases capabilities

for persistent lethal surveillance, coercers cannot credibly commit not to come back in the future and demand even more. Aware of this incentive, terrorist targets are likely to conclude that they will suffer pain regardless of whether they change their behavior, incentivizing them to stand firm. To allay such fears, the coercer needs to signal an ability and willingness to practice restraint.

Restraint is difficult to practice, however, because drones make it easier and cheaper to use military force. They create a moral hazard, in which the coercer takes greater risks in using them because the technology shields it from most of the costs (Kaag and Kreps 2014). The USA has increasingly relied on so-called signature strikes, running greater risks of mistakenly striking civilians, particularly in regions where it is common for young men to congregate or carry guns as an ordinary part of daily life (Holewinski 2015, pp. 45–46). By expanding strikes past targets known for clear transgressions to also include targets on account of their patterns of behavior, the coercer cedes the ability to offer credible assurances that it has limited objectives and is thus willing to accept certain restraints on its use of force (Crenshaw 2003, p. 311; Knopf 2010, p. 11; Wilner 2013).

The attributes of persistence, lethality, and low costs and risks of use also encourage the employment of drones in a variety of than other counterterrorism roles, which further undermine assurances of coercive restraint. Most drones engage in intelligence, surveillance, and reconnaissance, because they offer persistent and real-time information collection at such reduced costs and risks compared to manned aircraft. For this reason, they are likely to be the preferred platform for monitoring coercive compliance. On the ground, however, there can appear little difference between a drone engaged in information collection, and one readying to launch a missile into a terrorist safe haven. As Rohde reported from his time in captivity, the Taliban 'would watch very closely whenever a drone was overhead and tracked how many drones appeared. They thought when several drones gathered overhead, a strike was about to happen (Rohde 2009, p. 9). As long as drones fly overhead, terrorists and communities continue to live in constant fear of the next strike. Absent credible assurances, they will have no reason to end their support or active participation in terrorism.

Conclusion

This chapter uses a conceptual framework to assess the coercive potential of remote control drones. Recognizing unmanned aircraft is fundamentally different from traditional airpower; we argue that technological changes in persistence, lethality, and relative risk have largely negative consequences for coercion. While drone technologies can effectively degrade organizational capabilities and impose significant costs, they complicate the tasks of signaling clear and credible threats and assurances of restraint. Persistent surveillance combined with lethal and low-risk strikes render armed drones highly effective at altering the cost–benefit calculations of terrorists. Yet these same technological attributes cause them to be less effective in terms of clear communication, credibility, and assurance—the other key factors necessary for coercion success. Overall, armed drones are poor instruments of coercion in counterterrorism.

Our findings give cause for serious concern about the direction of US counterterrorism strategy. The Trump administration dramatically expanded the frequency and geographic scope of US drone strikes, classifying regions of Yemen and Somalia as 'areas of active hostilities' in order to ease rules intended to protect civilians, giving the CIA new authority to conduct covert drone strikes, delegating greater strike decision authority to military operators, all while telling the American public less about drone activities (Dick and Stohl 2020). But more drone strikes, more suspected terrorists killed, should not be mistaken for an effective strategy (Rogers 2017). The Biden administration has placed temporary limits on the use of drone to kill suspected terrorists outside recognized war zones, while it conducts a broader review of Trump-era rules and procedures governing such attacks (Savage and Schmitt 2021). This review urgently needs to be accompanied by greater transparency about America's continued reliance of lethal drone strikes. Covert drone operations and ambiguous rules governing the use of armed drones only create confusion and muddle the coercive message. Lost messages stand no chance of coercion success.

Instead, US counterterrorism policy would benefit from clearly defined and limited strategic goals and a sharper communicative strategy. US policymakers need to have realistic expectations about what armed drones can accomplish in affecting terrorist group behavior. In attempting to distance

the 'passions of the people' from the Clausewitzian trinity (Clausewitz 1984), remote technologies, like drones, give political leaders and military strategists a useful mechanism for never-ending wars, in which tactical victories never turn into strategic success. Put simply, drone strikes, in the absence of other military actions, are likely to produce at most, limited concessions. Still, coercing terrorist groups has its place in counterterrorism policy. The US practice of coercion against terrorist groups and their supporters leaves much to be desired. In communicating threats, the USA needs to be clear about what specific behaviors must change and the consequences of continued defiance. Those communications must also include clear and credible assurances of restraint, that the coercer's counterterrorism goals are indeed limited and thus target compliance will cause the end of drone strikes. Following the withdrawal of American troops from Afghanistan, the USA is likely to rely even more heavily on armed surveillance drones to prevent a resurgence of Al-Qaeda, making the need to better understand the advantages and limitations of this remote technology even more urgent. US political rhetoric all too often speaks of defeating and destroying terrorist groups, giving terrorists and civilians on the ground ample reason to suspect there will be no end to strikes, even if they comply with demands. Instead, Washington would be well advised to recast its counterterrorism goals and drone operations in the language of containment, violence management, and coercion (Staniland 2018).

Our findings also have broader implications for the study and practice of Remote Warfare. In short, not all technologies of warfare perform equally on the critical determinants of coercion success, specifically cost–benefit calculus, communication, credibility, and assurance. The technological characteristics of remote technologies, such as armed drones, generate distinct coercive effects. While scholars have begun to examine coercion in cyberspace, more work that explores the coercive effects of other remote technologies, such as social media and autonomous weapon systems, is urgently needed. For many Western nations, remote warfighting technologies appeal because they allow states to project military power without putting their personnel in harm's way. Critically they render the use of force relatively cheap and low risk. But those shrinking costs are far less useful for coercion. Incurring costs adds to the credibility of coercive threats. Put simply, costly signals are more credible than cheap ones. The cost-minimizing effects of Remote Warfare make it easier to credibly signal a willingness to use force but simultaneously harder

to convey a willingness to escalate, and bear costs, over the long term to achieve its goals. Given Remote Warfare is here to stay, scholars and policymakers need to rethink the determinants of credible signaling and examine the impact of remoteness on the sequence of decisions involved in intra-war coercion, not just the initial decision to use force. While the technology itself is important, what really matters is the meaning of the technology to the participants in the conflict. Coercion is more difficult when the coercer and target lack a shared set of understandings, meanings, and ideas about actions (Adler 2009). As we demonstrate, the use of remote technologies, like drones, may have different meanings to the coercer and the target, creating the potential for misperception and miscommunication and, in turn, leading to coercive failure. It will be important for future scholarship to explore the cultural impacts of remote technologies, to better understand how remote coercion may collide with the targets' cultural norms and increase the risk of inadvertent escalation. Remote Warfare challenges us to rethink the dynamics of coercion in international politics.

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Light Footprint: Heavy Destabilizing Impact in Niger: Why the Western Understanding of Remote Warfare Needs to Be Reconsidered

James Patton Rogers and Delina Goxho

Introduction

Our argument is that remote warfare—defined as a purportedly high-tech, light footprint, and low-cost form of warfare—has been taken up by a number of allied Western state actors who, when analysed as the full sum of their parts, and not just on an individual basis, now combine to saturate sovereign states and distant zones of conflict with a collective heavy footprint. When considered in this holistic manner, it is clear that there is very little that can still be characterised as 'light footprint'

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in contemporary remote warfare.[1] This change in perception is important and necessary to note. The perpetuation of, what we argue, is now an outdated 'light footprint' framing risks overlooking the considerable collective military footprint deployed as part of the Western allied responses to international security threats under the banner of 'light footprint' remote warfare.[2] In addition, such a perception risks neglecting the considerable domestic institutional, international political, and militarily strategic pressures that go hand in hand with larger-level force deployments and thus risks misdescribing the character of contemporary Western warfare. With the technologies and tactics that facilitate remote warfare (such as armed drones) likely to diffuse to an increasing number of Western allied nations over the next decade, but also more broadly to

[1] We recognise that 'remote warfare', as it is framed in contemporary academic and policy discussions, is far from a new concept. This form of 'indirect' warfighting (as explained in detail below) can be traced back to British colonial air power in the 1920s and 30s, the strategic thought of B. H. Liddell Hart, or indeed a long history of strategic culture within the French context. However, we argue that the contemporary iteration of remote warfare evolved to point that it is now being misdescribed. For a more detailed history see McKay, A. Watson, A, & Karlshøj-Pedersen, M. (2021). Remote Warfare: Interdisciplinary Perspectives. Bristol: E-International Relations Publishing. Also see Biegon, R. & Watts, TFA. (2020), Remote Warfare and the Retooling of American Primacy, *Geopolitics*, (Early Online Publishing—https://doi.org/10.1080/14650045.2020.1850442).

[2] In military circles, this form of warfare is referred to more broadly as an 'indirect approach'. The approach is an additional option, alongside a 'direct approach' to attacking enemy forces with one's own forces. As Scott Morris has argued, such an approach 'networks U.S. government power as a force when used in concert with allies and local partners. Global networking along with balanced precision raid…exponentially increase the utility of SOF power and position it to appropriately complement all domains to tackle twenty-first century challenges'. Today, the indirect approach has been stretched to include the Western reliance on a 'network' of local partner forces who absorb much of the risk to life and in return Western forces provide training, advice, equipment, and close air support for their local partners. As Scott stated, where Western intervention is needed, small detachments of highly trained covert Special Operations Forces are chosen for priority missions. Within the academic literature, but also within Western political representations of contemporary warfare, as we show later in the chapter, it is this approach that has come to be known as 'remote warfare'. As we seek to influence the definitional debate on 'remote warfare' in academic, but also policy circle, we have chosen to prioritise the use of this term and to explicitly challenge the 'light footprint' perception of the use of force. See Morrison (2014), Redefining the Indirect Approach, Defining Special Operations Forces (SOF) Power, and the Global Networking of SOF. *Journal of Strategic Security* 7, (2): 48–54.

non-allied nations across the globe throughout the 2020s and 2030s, we aim to move the academic debate on remote warfare forward.

We do this by highlighting how, in the case of Niger, contemporary Western remote warfare is far from 'light footprint'. Instead, Niger provides an illustrative case study in support of our core argument. We explain how it is more accurate to describe Western remote warfare in the country as a saturating heavy-footprint that has produced unforeseen idiosyncrasies and dilemmas in the practice of 'stabilising' the region. To provide specific reasoning for why the Western understanding of remote warfare needs to be reconsidered in light of this key example, we analyse how the ability of multiple states to deploy remote warfare elements and full operations in Niger has not necessarily lead itself to additional effectiveness and may actually undermine the security and stability of the region in which multiple forces are active.[3] We utilise a 'traffic jam' analogy to highlight how mixed national interests, competing objectives, a lack of coordination, inconsistent training, disconnected endgames, institutional overstretch, varying levels of transparency, oversight, accountability for civilian harm, poor communication channels, and a lack of regard for national sovereign control, governance, civil society, corruption, or public perception, can lead, and have led to, situations where Niger is destabilised by this deluge of so-called 'stabilising military activity' (European Union Council Conclusions Sahel Strategy, April 2021, and Cold-Ravnkilde and Lindskov Jacobsen 2020). We note that multi-actor engagements (and the associated issues of coordination, oversight and communication etc.) have long been a feature of international deployments in conflict-affected states or in the context of complex multidimensional peacekeeping and stabilisation missions (Rogers and Kennedy-Pipe 2014; Charbonneau and Chafer 2014; Brosig and Sempijja

[3] This is not to say that remote warfare was previously 'effective' when the US led the way on its deployment, especially with the use of Armed military drones and pinpoint precision strikes. As Amos Fox has argued, the use of Precision Guided Munitions (PGMs) does not directly result in an increase in effectiveness. In essence, being precise, or light footprint, does not equate with being effective. As Fox has argued, the Battle of Mosul gave us the 'Precision Paradox', or the spidering wave of destruction that follows a precise, but ineffective PGM-driven battle. Our point here is that when all allied nations are deploying such force it only compounds these established issues. See Fox (2019). What the Mosul Study Group Missed, *The Modern Warfare Institute*. Retrieved from: https://mwi.usma.edu/mosul-study-group-missed/.

2017). What we observe in the case of Niger, therefore, is best understood as an influx of these existing patterns into the context of the latest, ongoing, most up-to-date example of Western remote warfare. With President Macron's announcement in June 2021 that France's Operation Barkhane will undergo a 'profound transformation' by reducing French forces in favour of an international multi-nation approach to counter the growing threat of Islamic State (IS) and Al-Qaeda (AQ) affiliated terrorism in the region, the issue of 'saturation' in Western warfighting risks becoming entrenched, compounded, or even overlooked within the academic debate, if left unchallenged (Le Monde 2021; Paquette 2021; Africa Intelligence 2021). Thus, this combined saturating heavy-footprint is likely to only get heavier in Niger and our aim is to contribute to the academic debate, but also strategy and policy discussions, by refuting the idea that the Western deployment of remote warfare continues to possess a 'light footprint' characteristic.[4]

Definitional Debates

Our use of the term 'saturation' is not used in the military sense of 'saturation bombing', but more in the broader sense of its everyday use in describing an 'overloading', 'inundation', or 'deluge' of military activity. We note that our broader, collective, conceptualisation of remote warfare as a 'saturating' heavy-footprint is not the norm, yet we see our reassessment of 'remote warfare' and our rejection of the 'light footprint' framing as an important contribution to an academic field—along with Western policy and strategy discussions—which need to react to the way in which Western deployments of 'remote warfare' are carried out in practice, not just in declaratory policy or academic theoretical framings.

Scholars of remote warfare have, to date, largely focused on individual state deployments, especially those conducted by the USA. Given the small number of actors that had been practicing remote warfare, and with the dominance of the USA in this domain over the last decade, this

[4] Indeed, in the light of the withdrawal from Afghanistan (August 2021), we should not overlook the consequences of what may happen to Niger if France, and the many other nations deploying a 'light footprint' approach withdraw all at once. By understanding the real-world collective heavy footprint of these 'light' remote warfare operations, we can begin to understand the detrimental impact such a sudden withdrawal would have on the stability of the Nigerien state.

traditional focus had been justifiable and the notion of a 'light footprint' when compared to previous incarnations of US force deployment had been understandable.

For instance, scholars, such as Ohlin (2017), chose to focus on the perceived utility of US military drones, cyber warfare, and future US Autonomous Weapons Systems (AWS) when discussing emerging and future form of US remote warfare. As Ohlin argued, when combined, these weapons technologies produce 'a potentially new form of warfare…allowing operators to use ever more discriminating force while also receding further in time and space from the target of the military operation' (Ohlin 2017, p. 2). This point of view was complimented by the work of Watson (2018), who reached similar conclusions, yet focused less on the future and more on the present state of 'remote warfare'. Watson (2018) argued that '[a]t its most basic, remote warfare refers to the countering of threats at a distance, without the deployment of large military forces'. In this sense, Watson stated that the remoteness of modern warfare 'comes from a country's military being one step removed from the frontline fighting—which tends to be carried out by local groups or regional coalitions'. For Watson, unlike Ohlin, it was less about the military technologies that define remote warfare, and more about the distance, limited size, and intentioned remote character of military deployments. Waldman (2018) offered a comparable take. By developing the term 'Vicarious Warfare', Waldman provided an additional structure through which the contemporary shift in American conflict can be described and delineated. Through his three-stage analysis of 'Delegation', 'Danger Proofing', and 'Darkness', Waldman explained how the burden of war has been externalised to focus on local actors and how a premium has been placed on 'minimizing physical harm to American personnel' (Waldman 2018, p. 192). Alongside this, Waldman argued that covert action and special forces operations are now prioritised by the USA in the hope of achieving 'easy wars' (Waldman 2018, p. 196). The work of Rogers (2013) supported this conclusion. Through his focus on 'warfare by Remote Control', Rogers described 'the increasing use of special forces, private military and security companies and remote systems at the expense of the engagement of large forces' (Rogers 2013, p. 14). It should be said that as with each scholar mentioned, Rogers was not suggesting that the conflicts themselves are

small, per se, with mention made to private militaries and local forces that occupy the battlefield. Instead, they refer more to the smaller US or smaller Western footprint of war. Finally, building on their pioneering 'Intimacies of Remote Warfare' project, Demmers and Gould (2020) once again underlined and reinforced the importance of emphasising how modern warfare has become 'characterised by a shift away from "boots on the ground" deployments, towards light footprint military interventions' (Demmers and Gould 2020), with 'a spatial and temporal reconfiguration' (Demmers and Gould 2018, p. 364) occurring in how warfare has been practiced by the US and selected allies.[5]

Within their extended bodies of work, each of these scholars proposes their own differing take on the perceived utility, or drawbacks, of remote warfare, resulting in critiques of liberal democratic oversight, the 'ease' and frivolousness of Western, or specifically American, force deployment, increased civilian harm, or the overarching lack of an American 'grand strategy' when it comes to the seemingly disparate deployments of force around the world. Yet, what unites all the above approaches is the understanding that the 'light footprint', 'low-risk', or remotely 'distant' features of contemporary American and allied conflict combine to give remote warfare its distinctive character and appeal. Whether utilising military drones, crewed aircraft, and special forces—or providing concerted tactical support and training to an array of local actors—it is the light, low, and distant elements that appeal to American decision makers, and increasingly to those of other Western (and non-Western) nations, while keeping the visceral impact of war out of sight and out of mind of the voting public (Rogers 2017).

All the core tenets of remote warfare outlined above are important to identify and document. They help us understand the latest perceptions of modern Western conflict, and they provide us with a useful typography

[5] In terms of criticism, there is a growing body of scholarship that deconstructs the use of 'remote warfare' as a term altogether due to the lexicon reinforcing the 'othering' and distancing of nations where the West is engaged in 'remote danger-zones' (Andersson 2019; Frowd 2020). It is also important to note that within the framework of an Oxford Research Group and University of Kent 2019 joint conference (and subsequent publication Remote Warfare: Interdisciplinary Perspectives) remote warfare was placed alongside concepts such as Surrogate War (Krieg and Rickli 2019), Liquid Warfare (Demmers and Gould 2018; Mutschler 2016) and Proxy War (Mumford 2013; Rondeaux 2019), which all share some elements with the common understanding of remote warfare in the American context.

of what 'remote warfare' has come to denote in the academic literature. In addition to epoch defining labels like Proxy Warfare (Mumford 2013; Rondeaux 2019), Liquid Warfare (Demmers and Gould 2018), Surrogate Warfare (Krieg and Rickli 2018), Vicarious Warfare (Waldman 2018), Virtual Warfare (Ignatieff 2000), and Virtuous Warfare (Der Derian 2000), 'remote warfare' epitomises the mood, modes, and methods of American and allied force deployment over the last decade.

Even just a cursory glance at the landscape of American and allied conflict over the last 10 or so years—from Yemen (2009) and Libya (2011), to Syria and Iraq (2014)—provides empirical support for these claims of a 'light footprint' compared to the decade prior. Over this period, warfare was indeed increasingly waged through the deployment of remote control armed military drones and crewed airpower assets. Alongside, or indeed below, these aerial systems the in-theatre elements of conflict were comprised of highly trained special operations forces and local proxy, partner (Watling and Reynolds 2020), or surrogate actors (Krieg and Rickli 2019). Politically attuned, publicly detached, comparatively economical, and deemed to be militarily effective, this mix of self-aware politics and interlinked military assets were the spearhead of American warfare in the 2010s; a place they will likely maintain into the late 2020s and 2030s.[6] With this perceived success by Western governments and 'ease of war fighting', however, has come the inevitable proliferation of both remote warfare means and methods to an increasing array of state actors who, to varying degrees, have been drawn in by the allure of political and military 'remoteness'. It is here we start to see the heavier footprint emerge.

[6] It is understood that today the US military and its Western allies are heavily investing in large-scale combat operations and multi-domain operations to face a peer competitor, such as China. Indeed, in terms of where the money is being spent for future wars, and in terms of large-scale peer on peer confrontations, it is becoming increasingly clear that Western powers are in the midst of a perceived Cold War 2.0 (Ferguson 2021). Yet, as with the last Cold War, less overt proxy actions by rival Great Powers will be used to stoke the embers of terrorism in unstable regions of Africa (and around the world) and these will be dealt with through established 'light footprint', distant, limited, and so-called economical 'shaping operations'; namely remote warfare. This is especially likely as the 'big money' and larger Western force deployment will be reserved for 'more important' grander threats and large-scale military exercises. In essence, remote warfare is here to stay and it is for that reason we need to understand its changing character.

The USA, UK, and France have long been associated with the deployment of 'remote warfare', yet a number of smaller states which benefit from being a trusted partner in the remote warfare structural matrix, now play a core role in achieving the aims of any allied remote warfare deployment. From hosting drone bases or other types of remote and intelligence gathering technology within their own territory— such as Germany and its Ramstein base, Italy with Sigonella, and of course Niger with its US drone base in the Agadez desert—through to logistical support, training, Special Operations Forces deployment, or military hardware, a range of nations, with differing political considerations, have now become involved in what was once considered 'light footprint' warfare (Rogers 2020). Some, like Italy, Canada, Spain, Belgium, Germany, and the Netherlands (to name but a few) have been supplied (or are in the process of acquiring) advanced American or Israeli Medium Altitude Long Endurance (MALE) military drones (New America 2020). Many of these nations also utilise pre-existing crewed airpower assets or now deploy their own troops and/or special forces to common regions of the world that are deemed vital to international security or vital to the shrewd politics of being an 'ally that counts' (Schmitt 2018). Here, they provide assistance to local forces, while also pursuing their own national agenda. It is here, therefore, that we start to mount our challenge to the established perceptions of remote warfare within the existing academic literature. The 'light footprint' aspects of 'remote warfare' disappear as allied military deployments combine (not always successfully or coherently) within the bounds of a nation state or region and form a heavier, destabilising and disjointed conglomerate of allied military force.[7]

[7] It could also be considered that 'remote warfare' has never actually been light footprint at all and that multi-national inclusion within previous American led deployments have long complicated and made 'heavier' the load of Western force deployment. One point here, however, is that the case of Niger is a perfect storm of these issues, with previous missions (such as Operation Inherent Resolve) having clearer end goals, communication channels, and leadership (although by no means perfect). As we explain, the case of Niger is one that has an increased number of actors, with a decreased clarity in aims, communication, and consistency.

Method

Our specific argument is based on in country analysis in Niger in 2019 and 2021 and research interviews with US, French, British, Nigerien, and Danish militaries and well as members of the EU delegation, SOF, military advisors embedded with EU troops, European Union Capacity building mission in Niger (EUCAP Niger) personnel, US intelligence officials, and a wide number of local and international Civil Society actors in and around Niamey and Agadez. We also spoke with Nigerien security officials, as well as with European member state's police personnel in Niamey. A two-stage methodological process was adopted for these interviews. Stage one involved a traditional document analysis and broad literature review in order to devise overarching themes for our research and to focus on the gaps in the literature on remote warfare (Bowen 2009). Indeed, to be explicit, this chapter seeks to urge academics of remote warfare, most specifically, but also policy makers and military practitioners, to reconsider their conception of the terminology around remote warfare. Stage two involved semi-structured research interviews with participants from state and non-state affiliated organisations based in Niger and the broader Sahel. Once a gatekeeper was identified, a snowballing practice of participant recruitment was conducted. Each person was anonymised at their request, yet a broad nation and agency identifier remains to add creditably, perspective, and transparency. Each interview was conducted intensively over one-hour and in person where possible in line with best practice (Hochschild 2009). All notes were written during the interviews and cross-referred between the authors after each meeting to ensure fidelity of findings. The cross-referencing process also helped identify themes and questions that added to subsequent interviews. We now analyse the pertinent case of Niger.

The Sahel: Cross-Roads and Traffic Jams

This section provides a detailed description of the military actors currently present in Niger—or providing training and support from afar—and their activities within Nigerien borders. As the core of our argument lies precisely in the overabundance of such presence and the quagmires that this provokes, we will use the traffic jam analogy (Cold-Ravnkilde and Lindskov Jacobsen 2020) as a launchpad for our challenge to the light footprint notion within contemporary understandings of remote warfare.

The Sahel stretches across West and Central Africa and, in its simplest form, it is made up of Mauritania, Mali, Burkina Faso, Niger, and Chad. Niger is located at the cross-roads of this regional hub (Goxho 2021). It is both the linchpin to regional security and represents an ideal case study to help understand and address the civil-military-political issues that arise from the spread of remote warfare, as many actors are currently intervening there 'remotely'. According to the United Nations, Niger is one of the poorest and least developed countries on earth and is a barometer for the impact the global climate crisis is having on the stability of developing nations (United Nations 2018). Nevertheless, it is vital to European nations who are involved in the Sahel, as the fall of Niger as the last bastion of regional stability would arguably make it difficult for European, allied American, and United Nations forces to continue their fight against armed groups, stop unwanted migration into Europe, and bring lasting stability to the region. Niger, it should be noted, affords these countries bases from which they deploy special operations and training forces, armed drones, and attempt to patrol Niger's vast 5000 km of borders and fight terrorism in Libya, Mali, Nigeria, and Burkina Faso (Karlsrud 2019). In July 2021, Niger's President Mohammed Bazoum agreed to host the leftovers of French Operation Barkhane, whose partial drawdown is foreseen to take place by 2023 (Armstrong 2021). Niger has also acted as a remote border nation for Europe, halting and processing migrants and asylum seekers who wish to move from sub-Saharan Africa towards Europe (Frowd 2019, 2020). In recent years, the security situation in the country has deteriorated, prompted by Malian and Burkinabé instability on its south-western border, Boko Haram insurgency on its south-eastern border and the consequences of the Libyan crisis in the north. As Niger has become enclosed on all fronts by armed groups, it is also being saturated by uncoordinated external assistance and its civilian population is suffering from abuses perpetrated by local security forces; as the mass graves found in the Tillabéry region in April 2020 demonstrate (RFI 2020). The presence of foreign actors is also giving rise to several conspiracy theories, which are hard to counteract for both the Nigerien government and civil society actors (DW News 2019).

There is a vast array of external actors operating in various types of constellations in Niger. The country has many bilateral and multilateral agreements in place, receives security support, training, humanitarian and

development aid from a large amount of regional and foreign powers[8] and hosts military bases that carry out defence operations, cross-border raids and intelligence gathering operations not just in Niger, but in the Sahel region (Osland and Erstad 2020). The table below is our attempt to summarise the most relevant intervening actors in Niger (also considered in terms of potential growth), showcasing the sheer number of interventions, all to be categorised as light footprint and remote on their own, but as representing a 'security traffic jam' and saturating heavy-footprint when taken together. The EU Training Mission to Mali (EUTM) has been included, as we can foresee an expansion of this mission following the drawdown of French Operation Barkhane. UN Peacekeeping mission MINUSMA has been included only insofar as the member countries present in Niger.

NB—This table, and chapter, reflect the force composition at time of writing (2021), which was prior to the French drawdown and military coup (2023).

Actors currently involved in Niger	*Type of engagement*	*Main objectives of missions*	*Means of reaching the objectives*
USA	> 800 troops, Special Forces; Armed and surveillance drones; Operation Juniper Shield; Permanent and non-permanent air bases across the Sahel	To conduct counter-terrorism operations; To police drugs and weapon smuggling; To increase US national security	Training of local troops; Deploying armed and surveillance drones across the entire region; Creating air and drone bases
Canada	Canadian Special Operations Regiment (CSOR)	To combat terrorist organisations	Training of host nation troops (basic soldiering, communication, first aid and planning)

(continued)

[8] This is not a provision of security material or training per se, but does have security consequences: the European 'comprehensive approach' rhetoric condones security interventions as long as they are accompanied by funds for development and aid.

(continued)

Actors currently involved in Niger	*Type of engagement*	*Main objectives of missions*	*Means of reaching the objectives*
European Union	European Union Training Mission to Mali (EUTM), with approximately 700 troops from 22 EU member countries and 3 non-member states (Georgia, Moldova and Montenegro), also covers the border with Niger; European Union Capacity Building Mission to Niger (EUCAP Niger)	To contribute to the improvement of the capabilities of the Malian Armed Forces; To support G5 Sahel, through the consolidation and improvement of the operational capabilities of its Joint Force; To support the Nigerien Internal Security Forces (National Police, Gendarmerie and the National Guard) in the spheres of technical and practical knowledge transfer, organisational and strategic planning and infrastructure provision	Training of Malian military units; Advice at all levels to the Malian Armed Forces; Contribute to the improvement of the military education system; Provide advice and training to G5 Sahel Joint Force headquarters; Direct assistance to law enforcement structures in order to facilitate access to justice
EU Member States Germany	Presence within UN Peacekeeping mission MINUSMA (1100 troops) and EUTM in Mali and about 40 troops located at Niamey airport. Creation of Special Forces mission Gazelle. (To be considered under the EUTM and as German contribution to Niger's SF capability development and to the creation of a SF Training Centre (train the trainer)	Presence within UN Peacekeeping mission MINUSMA (1100 troops) and EUTM in Mali and about 40 troops located at Niamey airport. Creation of Special Forces mission Gazelle. (To be considered under the EUTM and as German contribution to Niger's SF capability development and to the creation of a SF Training Centre (train the trainer)	To guarantee border security and defence; To manage migration routes through border controls

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Actors currently involved in Niger	*Type of engagement*	*Main objectives of missions*	*Means of reaching the objectives*
France	Armed military 'Reaper' drones and fighters; Operation Barkhane (consisting of approximately 5100 troops (Le Parisien, 2020), to be scaled down to 2500 or 3000); Operation Takouba, as multinational Special Forces joint operation	To conduct counterterrorism operations; To counteract terrorist actions (Macron, 2018). To control transit to and from Libya; Fight terrorism in the Sahel region (particularly in the triborder area); Gradually replace Barkhane and reduce France's military engagement in the region	Actively deploying armed drones; Creating air bases; Accompanying G5 Sahel forces in battle; Involve as many EU countries as possible; Increase Takouba Area of Operation
Denmark	Within Operation Barkhane (2 helicopters and 70 personnel) and MINUSMA (1 helicopter and 65 personnel);	To help ease the situational awareness of MINUSMA; To increase the security of MINUSMA forces; To obtain higher military prestige and show allied support by taking part in these conflicts	Providing intelligence units to partner security missions
Belgium	Operation New Nero (ONN), a Special Operation Forces (SOF) mission with a stabilisation Strategy (LS)	To harmonise SOF efforts in the wider Sahel region with a special focus on Niger. Close allied support	Coordinating special operation forces efforts of intervening countries (US, Canada, Italy, Germany, Belgium) and Nigerian demands
Italy	Unconfirmed number of troops deployed to Niger specifically for training and capacity building activities.	To increase security in the region by supporting Local Armed and Security Forces to control migration and illegal trafficking. Close allied support	Providing border control capabilities; Providing Capacity Building; Providing equipment

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Actors currently involved in Niger	*Type of engagement*	*Main objectives of missions*	*Means of reaching the objectives*
African Union	Multinational Joint Task Force, about 3000 personnel	To degrade terrorist groups in the Sahel; To stabilise the wider region	Operations mainly directed at armed groups such as Boko Haram
Gulf Countries	Aside from development and infrastructure projects, Saudi Arabia has recently signed a security accord with the Nigerian government; The United Arab Emirates has declared that they will establish a military base in Niger, near the Libyan border	To set up a security presence near the Libyan border; To maintain a presence in a relevant security area; Likely to be part of the UAE's proxy war in Libya against Turkey (LNA conflict against GNA)	Operations mainly directed at armed groups such as Boko Haram
Turkey	Turkish company Summa is the sole operator of the Diori Hamani airport in Niamey, which hosts the major military airbase 101, used by both French and U.S. armed forces; In July 2020 Ankara and Niamey signed a secret defence attachment on military assistance to Niger (mainly training of troops)	To protect economic interests through investments in security; To maintain a presence in an area relevant to Turkish national security)	Providing $5 billion to the G5 Joint Force; Training Nigerien security forces against Boko Haram insurgency
Russia	No precise numbers, but the number of Russian Private Military Contractors (PMC) is expanding	To help control terrorist groups in the borders; To undermine European efforts made in the area	Helping internal security forces; Supplying weapons and attack helicopters; Spreading misinformation

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Actors currently involved in Niger	*Type of engagement*	*Main objectives of missions*	*Means of reaching the objectives*
China	No current security support, other than some security personnel to support Chinese businesses in Niger. Examples of business cooperation include: Sino-Nigerien *friendship bridge* Oil Refinery in Zinder Integrated Oil Project in Diffa	To maintain regional stability; To protect business investments; To sell military equipment	Supporting business development; Supporting infrastructure, energy, agricultural and medical assistance; Supplying military equipment (battle tanks, vehicles, artillery to Nigeria)

To further build-on and illustrate the impact of the actors in this table, we can explore the recently built US drone base in the Agadez desert, where continued crashes of US armed drones raise local concerns about drone safety and military competence (Aïr-Info Agadez 2020). Both the US military and the CIA maintain a 'remote' presence in Niger, through Special Forces and drones (both armed and unarmed) and through the provision of security force assistance (Rogers 2020; Marsh et al. 2020). The US drones do not (as of yet) conduct missile strikes in Niger. As our interviews confirmed, '[t]he drones don't strike here, but we see them and hear them every day, at least 3 or 4 times a day—they monitor, they carry out surveillance missions, but they strike somewhere else, probably Libya' (Interview with Community Leader, Agadez, October 2021). US military personnel in Niger amount to approximately 800 men and women, whereas the number of CIA operatives and private military contractors (PMCs) remains unknown (White House Statements 2019). The former Operation Enduring Freedom-Trans Sahara (OEFTS), now Operation Juniper Shield—whose mandate is to conduct counterterrorism operations and policing drugs and weapon smuggling in the Sahel was approved by the US Congress under the Trans Sahara Counterterrorism Partnership strategy in 2004.[9] In 2008, responsibility for this strategy and its military component was transferred from both

[9] This follows the 2002 training operation Pan Sahel Initiative.

CENTCOM and EUCOM to AFRICOM, which had just been created (Associated Press 2008). The deployment of special forces mostly consists of training of host nation troops and the deployment of drones by both US Air Force and the CIA, and it serves to monitor militants coming in and out of Niger and, as stated, assists with operations into Libya (Penney et al. 2018).

Up to 2017, US presence in Niger was not a contentious topic for both the media and policy makers in Washington, but the 4 October 2017 Tongo Tongo ambush, in which four Green Berets and five Nigerien troops died, drastically changed that showing the extent to which the US was taking part in operations with local forces and exposed US intentions to expand into the region (De Jonge Schulman 2020). It had the twofold effect of showing the US and the global public that US advisory personnel had been accompanying their Nigerien counterparts and had taken an overtly active role in combat and that they intended to increase their presence in the region through drone bases (Trevithick 2017). Investigative work, carried out chiefly by *The Intercept*, has shown that Green Berets are on the ground 'training' Niger's special forces and also carrying out capture missions with them from the outposts of Ouallam near the Malian border, Aguelal near the Algerian border, Dirkou along the main transport routes between Niger and Libya, and Diffa, along the south-eastern border with Nigeria and Chad (Turse 2020). As for air bases, Agadez and Niamey are considered an *enduring footprint*, which in AFRICOM's posture plan means lasting up to a decade, whereas Arlit, Diffa and Dirkou (which serve to control most of the Nigerien desert) are a *non-enduring footprint,* hence more flexible and less long lasting (Headquarters U.S. Africa Command 2019).[10] The 2019 US planning documents for the country recommend that Arlit and Diffa be upgraded to a semi-permanent status, demonstrating an interest in making some of this presence more permanent (Turse 2020). In Diffa, which is located in the southern border with Nigeria, US Special Operations Forces train and assist the Nigerien Special Intervention Battalion, which is tasked with conducting counterterrorism operations in the Lake Chad region (Turse 2020). The same occurs in Arlit, whereas in Dirkou, the US holds its CIA drone base. The Canadian Special Operations Regiment (CSOR) has also confirmed they were present in Niger, as early as 2016 (Canadian Armed

[10] The latter three bases were confirmed back in 2017, when mobile exercise app Strava published jogging patterns globally and showed concentrated activity around the bases.

Forces 2017) until at least 2019 (and likely continuing). In Mali, in 2011, CSOR Canada deployed teams to help combat Al-Qaeda in the Islamic Maghreb (AQIM) in the Sahara through training the Malian military in basic soldiering, communications, planning, first aid, and aid to civilians (Pugliese 2011). Operation Naberius, which belongs to the Canadian Armed Forces (CAF) is training the Forces Armées Nigeriennes (FAN) in order to help them counter terrorist groups in the region (Government of Canada 2020).

As for Europe, Germany's relationship to Niger and to the region in general has been one historically focussed on development cooperation. Together with Nigeria, Norway, and the UN, Germany promotes projects to stabilise the Lake Chad area, but since the 2015 migration crisis, German engagement in Niger has been more centred on border security and defence (Federal Foreign Office 2020). During her visit in 2018, former German defence minister Ursula von der Leyen (now President of the European Commission) handed over 53 military transport vehicles to Niger's former Defense Minister Kalla Moutari in order to boost the country's military capabilities (DW News 2018). In May 2020 the German Parliament approved the extension and strengthening of the German presence in UN peacekeeping mission MINUSMA and EU training mission EUTM in Mali and the Sahel. In MINUSMA German troops total 1100 personnel, mostly based at Camp Castor in Gao—this mission also includes an Israeli made Heron 1 drone for surveillance and a contingent at Niamey airport, which counts about 40 troops and also provides medical evacuation for MINUSMA (Tull 2020a).Peacekeeping missions, such as MINUSMA, are also succumbing to the appeal of remote operations: the Dutch and Swedish contingents have employed short to medium range surveillance drones (Boeing Scaneagle and Swedish made Örnen), but debate within UN missions and the peacekeeping literature has been fierce, given the reputation of such technology (Karlsrud and Rosén 2013; Kennedy-Pipe and Rogers 2015). As for the European Training Mission to Mali (EUTM Mali), its mandate includes an extension of training operations into the entire region, with a focus on Burkina Faso and Niger. As reported by Tull (2020b), Germany plans to integrate *Mission Gazelle*, a small contingent of German Special Operations Forces, to EUTM, but has ruled out providing personnel to Takouba, the new French-led Special Operations Forces mission for the Sahel, as Berlin is reluctant to take part in yet another security mission in the region. This is a clear demonstration of the unease countries such as

Germany feel with the number of foreign military operations in the Sahel (Tull 2020a, b).

Denmark has long positioned itself as 'a capable and willing expeditionary ally' (Jakobsen and Rynning 2019), with the aim being to seek prestige through its military contributions to conflicts in which the US and larger European powers are involved (Jakobsen et al. 2018). The Danish military deployment consists of contributions to MINUSMA, and Operation Barkhane. A single C130J-transport aircraft, with up to 65 personnel, was sent to MINUSMA 'for six months from mid-November 2019' (Ministry of Foreign Affairs of Denmark 2019). An intelligence unit, of up to 10 people, was also sent to aid MINUSMA, with the task being 'to help strengthen the mission's situational awareness and increase the security of MINUSMA forces' (Ministry of Foreign Affairs of Denmark 2019). In terms of Operation Barkhane, Denmark deployed two EH-101 transport helicopters, along with up to 70 persons and staff officers (Ministry of Foreign Affairs of Denmark 2019). In recent years, Italy has also provided military assistance in Niger, with 470 troop 'joining other European nations and the US in their efforts to help President Mahamadou Issoufou better control Niger's territory and borders' (Reuters 2018).

Another European country which has a significant presence in Niger is Belgium. After not being involved in the security of the region for many years, the Belgian defence ministry is now increasing its presence in the Sahel, both multilaterally (Belgium contributes personnel to peacekeeping force MINUSMA, EU capacity building mission EUCAP Sahel Niger and EU Training mission to Mali EUTM), but also bilaterally through the Belgian Special Forces Group (SF Gp). As reported by Wilén (2019), Belgian Operation New Nero (ONN) and its Localisation Strategy (LS), conducted by the SF Gp intends to build resilience by 'adapting principles of minimalism and less authority to encourage imagination and creativity with partner forces'. As of 2018 this Belgian deployment brought together other special operation forces (mainly US, Germany, Canada and Italy) and created a 'fusion cell' with the Nigerien military, in order to better coordinate and avoid duplication of efforts. In addition, Belgian development agency, Enabel, is currently developing a programme for 2022, which will last 5 years and will focus on themes such as education, health, agriculture and the three Ds (Diplomacy, Defence, Development). Aside from defence and diplomacy, the programme will also look at a regional climate portfolio for the Sahel, focusing on the

Niger River and the Great Green Wall. The Belgian case provides a good case example of a small, yet significant, intervention with important ambitions, as exemplified in the title of the 2019 policy brief by Wilén ('Belgian Special Forces in the Sahel: A Minimalist Footprint with a Maximalist Output?').

As numerically detailed in the above table, French forces also offer a considerable presence in Niger, where they conduct anti-terror operations, share the US air base in Niamey and operate two others of their own in the country. After the successful attempt of Opération Serval at chasing away armed groups from the north of Mali in 2013, and following the request of the Malian government, in August 2014 France launched Opération Barkhane, which focuses its counterterrorism efforts on the whole Sahel region, including Niger. Within this framework, France also built an airbase at Madama in the north of Niger, in order to control for transit to and from Libya (Fourt 2019). Armed French Reaper drones (supplied by the US) and French Mirage 2000 jet fighters operate in the region, conducting lethal strikes, such as those undertaken by Niger-based drones in the central Malian region of Mopti. It was here, in December 2019, that French President Emmanuel Macron announced that French forces had 'neutralised' 33 jihadists (France 2019). More recently, in August 2021, a French Reaper drone in Mali's Liptako region (bordering Niger) killed (again, 'neutralised' in the words of Macron) Islamic State in the Greater Sahara (ISGS) leader Adnan al-Sarhaoui, the instigator of both the 2017 Tongo Tongo ambush and the killing of 6 aid workers and their Nigerien guide. Barkhane has gone through a change in strategy in recent years, as French forces have been diverted from Madama to the tri-border area, Liptako-Gourma, between Niger, Mali and Burkina Faso, in order to obtain clear, visible results in a circumscribed territory through a combination of conventional and remote tactics (Ministère des Armées 2020). As mentioned above, but repeated here for context and clarity, in July 2021, Macron announced a drawdown of French troops within Barkhane and a new 'coordination device' to be located precisely in Niamey, which should be a new hub for all external interventions in the region (Jeune Afrique 2021). This new development clearly shows how remote warfare has become a strategy of choice even for those countries that harbour important interests in certain regions: such is the case with France in the Sahel. Despite large investment and a long-term commitment in the region, even French policy makers prefer to deploy a multilateral, reduced and remote capability to the Sahel,

which gives a strong indication that remote light-footprint operations, involving many actors, are considered to be a more politically suitable type of intervention.

Within the European multilateral context, the EU is Niger's most important donor. Niger is the largest recipient of EU development funds and funding from the EU's Trust Fund (EUTF) for Africa. Since 2012, the EU has established EUCAP Sahel Niger, a Capacity Building Mission to Niamey (a recent office being opened in Agadez) with the explicit mandate to fight terrorism and organised crime (EUCAP Sahel Niger 2019). The mission is civilian and does not take part in combat, as its main activities consist of training for Nigerien internal security forces (*police nationale*, *gendarmerie* and *garde nationale*). However, a number of developments in Brussels and Paris (Korosteleva and Flockhart 2020) have meant that the EU strategy for the region is shifting towards more long-term participation and a revision of the 2011 Sahel Strategy.

As for regional multilateral initiatives, in order to coordinate actions pertaining to security, development and policy making, the Heads of State of the Sahel created the G5 Sahel in 2014, an intergovernmental cooperation framework, in order to put forward a regional response to the various challenges faced by the region. One of the structures launched by the G5 in the field of security is the G5 Sahel Joint Force, created in 2017 by the 5 heads of state (Sandnes 2021). On July 2 2017, G5 Sahel leaders officially launched the Cross-Border Joint Force in Bamako,[11] pooling their resources to fight security threats in the Sahel region. The United Nations Security Council (UNSC) welcomed the creation of this Joint Force in Resolution 2359 of June 21 2017, which was sponsored by France (France Diplomacy 2017). At full operational capability, the Joint Force will have 5000 soldiers (seven battalions spread across three zones: West, Centre and East) and will receive training and support from external partners (France Diplomacy 2017).

There is also an interest on the part of the African Union to supply military help to governments in the region through the provision of a force made up of another mission, the Multinational Joint Task Force

[11] The Joint Force has been endorsed by the African Union Peace and Security Committee (PSC) and fights terrorism, cross-border organized crime and human trafficking in the G5 Sahel zone. It carried out its first operation in November 2017 with the armies of Burkina Faso, Mali and Niger.

(MJTF)[12] and 3000 extra troops 'in order to further degrade terrorist groups in the Sahel' (Diatta 2020). As the mandate of the MJTF, made up of troops from Benin, Cameroon, Chad, Nigeria and Niger, is to bring an end to the Boko Haram insurgency, it is likely that such a force will be also operating where the group is most active in the Sahel, in the southern Niger border region of Diffa. Nigerian troops are also active in Nigerien territory in the Lake Chad area, through Operation Deep Punch 2, which counts amongst its ranks Cameroonian, Nigerien and Chadian troops. This multilateral force primarily aims at degrading Boko Haram in the region, with frequent incursions into Nigerien territory (Nigerian Army 2018).

As for non-Western and non-African states, Russia is also toying with the idea of further expanding into the region, after some successful attempts at increasing its presence into the Central African Republic (CAR), Mozambique and Libya through private military contractors (PMCs) (Hauer 2018) and inviting African leaders to Sochi in October 2019 (Devermont 2019). Such engagement is bearing some results in the Sahel as well, as in 2018 all G5 countries appealed to Moscow to help their militaries and internal security forces fight the rise in terrorist activity within their borders (Schmitt and Gibbons-Neff 2020). It is hard at this stage to be able to assess what this engagement consists of, but the Kremlin's intentions are being widely debated in policy circles and interviews with a number of European mission representatives showed a certain degree of concern over Moscow's expansion (Italian and French MFA representatives, 2020 Interviews in Rome). This is due to a lack of clarity over Russian intentions for the region: an official of the French foreign ministry stated that there is widespread fear that the Russian misinformation campaign is directly targeting French operations in the Sahel (Official of French Foreign Ministry 2019, Interview in Niamey). In Niger in particular, Russia secured a deal to supply 12 Mi-35 attack helicopters to Niamey in 2019 (Reuters 2019), after signing the Russia-Niger agreement in 2017 (Zhou 2017). This for civilians in the region

[12] The AU Commission and its Peace and Security Committee, the Economic Community of West African States (ECOWAS) and the G5 Sahel Secretariat have been holding meetings throughout 2020 in order to finalise the deployment, but some issues, such as financing, command structure and integration into an ongoing mission are yet to be addressed. The most relevant problem with such mission however is sustainability, as it is supposed to run for 6 months due to issues with financing.

means that yet another actor is seeking to creep into a fragile security environment and adding to the confusion.

As for China, its presence in Niger is one mainly focused on business development and support to infrastructure, energy, agriculture and medical assistance (Cabestan 2018). In May 2019, Chinese president Xi Jinping also stated that China will continue to aid the development of the G5 Sahel Joint Force in maintaining regional stability (CGTN 2019). Chinese manufacturer Norinco also sold 152 million US dollar worth of military equipment such as battle tanks and vehicles, as well as artillery, to the Nigerian army throughout 2020 (DefenceWeb 2020). Such weapons will allegedly be used in the north of the country, on the border with Niger, against Boko Haram and other armed groups (Africa Intelligence 2020). Chinese support is symbolised, according to Nigerien civil society representatives we spoke with in and around Niamey, by the sino-nigerien *friendship bridge* and the General Seyni Kountche Stadium in the capital, the Oil Refinery in Zinder and the Integrated Oil Project in Diffa in the south (Niamey and Kouré). Such projects were all built or funded by the Chinese government: 'they come all together, build very quickly and only using imported manpower and leave as swiftly as they came' one interviewee told us (Interview in Niamey). As for Turkey, its General Directorate of Mineral Research and Exploration will be conducting 'exploring activities' in southwest Niger (Daily Sabah 2020). In addition, Summa, a Turkish company is the sole operator of the Diori Hamani airport in Niamey, which also hosts the major military airbase 101, used by both French and US armed forces for counterterrorism operations. Saudi Arabia has recently signed three accords and a Memorandum of Understanding with the Nigerien government (Saudi Gazette 2017). One of the agreements focuses on security cooperation and the others on infrastructure and development projects. The United Arab Emirates, currently on the other side of drone proxy war with Turkey in Libya (Rogers 2021), has declared that they will establish a military base in Niger, near the Libyan border (North Africa Post 2019).

Overall, this long list of forces operating in Nigerien territory—through airpower, training and accompanying missions, provision of weapons and other military equipment, and special forces operations—gives an indication of the scale and 'traffic jam' of so-called light-footprint remote warfare in the region. As Wilén (2020) has termed it, each actor operates, in a large part, on 'a logic of its own'; a logic that perceives one's

own deployment of force as 'light' and 'remote', while neglecting the broader impact of collective military action in the nation. As such, our task is now to explain how this collection of actors combine to defy contemporary academic understanding of remote 'light-footprint' warfare. As we now argue, it is this 'heavy' multitude of deployments that impact and contribute to the destabilising of Western, allied, and partner missions in the country and the Nigerien state.

An Excess of Hard-to-Address Problems

An intervention that is designed to be remote, light and easy to sustain, ends up being heavy and destabilising in the context of Niger, because the number of above intervening actors has turned it into a collective, although not consistent, coordinated, or necessarily connected, large deployment. Why does this matter? Well, whether recognised by the individual deploying states, or not, this real-world manifestation of 'light footprint' remote warfare deployments in Niger poses an array of problems for the national government, but also the Western and allied military missions, many of which we will now address. First it contributes to the erosion of trust between Nigerien citizens and the government. The citizens of Niger are rarely able to partake in public debate around external force deployment and given little information about who is operating in the country. Instead, they see only ad hoc interventions and differing intervening actors that keep on coming for a litany of unclear reasons, yet are supported by the government. 'We don't know whether it's the EU or Germany or France or someone else […]' one interviewee told us, a sentiment that was repeated by many during our time in Niger (Senior Nigerien, Interview in Niamey). Following the media attention dedicated to the death of the four US Green Berets in October 2017, a number of Nigerien civil society organisations and activists mounted a campaign (which resulted in no concrete government actions) to ask for more transparency around Western involvement in Niger and denounced an increasingly oppressive and undemocratic political culture in their country (Maclean and Saley 2018). The need for democratic oversight and the consequences that result from the interaction with remote operations become particularly apparent if we return to the example of the U.S. drone bases built in the country.

At the beginning of 2013, the US and Niger signed a bilateral agreement allowing the US Air Force to operate drones from and in Niger

(Associated Press 2013). Air Base 201 technically belongs to Niger, but only the US military works in the base. From exchanges with US personnel in Niamey, we learnt that whenever a drone operation is launched, Nigerien counterparts are informed at varying times, and to varying degrees, often through WhatsApp messages (Pentagon operative 2019, Interview in Niamey). An informal and inconsistent exchange of information about potentially lethal operations through end-to-end encrypted WhatsApp messages may severely impact democratic oversight and representation in Niger, as Parliament is not kept overtly abreast of operations.[13] Such a lack of transparency, or indeed secrecy, can also cause damaging rumours to surface about what is 'actually going on' in these US bases. As The Intercept's Joe Penney revealed in February 2018, people in Niger worry that the American drone base and the fight against terrorism might well be a front for the extraction of the nation's gold, oil, uranium, or underground water reserves. As Penney explained, '[i]n my two weeks in Niger, I heard theories that the Americans were fomenting the terrorists themselves, digging for gold, or they're after uranium, or oil, or even possibly the natural water aquifer beneath the Sahara, one of the largest in the world. Other than government officials, no one believed the Americans were here for security' (Penney 2018). In reality, according to the Nigerien military, 'the Americans communicate with us, they tell us what they see with their drones' as a means to help counterterrorism in the country (Interview with Forces Armes Nigeriennes October 2021). Nevertheless, without clear public documentation, rumours like this build upon the colonial history of Niger and with sufficient traction (or political meddling) can undermine and destabalise any Nigerien government that supports the external Western presence (DW News 2019; Guichaoua 2020).

A second issue is accountability and effectiveness. Measuring the effectiveness of all these operations is also proving harder to achieve in this 'security traffic jam' environment. Knowing the impact of such light-footprint deployments is hard to assess even within the same mission: Barkhane is made up of small actions and its progress is measured in 'neutralised terrorist actors' (Macron 2018). This is a limited, short term, and blunt way to measure the effectiveness of an operation. French representatives were particularly keen to publicise the death of Drukdel, leader of

[13] In practical military terms, it also risks a lack of coordination with Nigerien military personnel operating in the region.

Al-Qaeda in the Islamic Maghreb, as a significant military victory. Leadership decapitation as a counterterrorism strategy is a hotly debated topic among scholars, as although it could increase the probability of organisational collapse, it can also cause counter-productive destabilising results; such as a boost in membership, vicious reprisals, or the rise of a next generation of more competent or ruthless leaders (David 2002; Ganor 2005; Jordan 2009; Kaplan 2004; Pape 2003). In addition, each nation involved in Niger also has its own political goals and military cultures that are not necessarily akin in terms of definitions of 'success' and 'effectiveness', leading to disjointed end goals and exit strategies. As was seen in Afghanistan in 2021, a lack of agreement on such matter can leave allies in disarray and a country destabilised and even in a state of collapse.

A third issue is the limited impact of disjointed, individual 'light' deployments sparsely spread across the largest country in West Africa. A closer look at the recent efforts of Operation Barkhane to adapt to the increasing complexity of the security situation in Niger simply shows that deploying small numbers of troops separately across a region as wide as the Sahel may lack impact and effectiveness which add to instability. Before Macron announced a drawdown of troops in June 2021, French forces had already been diverted from Madama in the north of Niger to the tri-border area.[14] Still, such change has meant that some areas had been left uncovered by intervening forces, which has in turn meant that traffickers and traders are afraid to make the journey through Niger and resort to deadlier transport routes within Mali (Tchintabaraden government representative 2019, Interview in Tchangaré). Diverting forces to the most problematic location each time, without coordination or cooperation with other forces to cover those areas previously protected, will only contribute to creating a 'whack-a-mole' scenario which is unlikely to lead to mission success, stability, and intervention sustainability.

Another destabilising factor of multi-state deployments of remote warfare in Niger is the way military training is delivered. Training is inconsistent and carried out by small detachments of individual national forces in a decentralised fashion, leading to varying levels of training quality, incompatible techniques, and disjointed military cultures when Nigerien forces re-group. There is also reportedly minimal oversight over

[14] As part of the concentration of efforts in Liptako Gourma, the Madama base in Niger was put on standby. The fact that it is not a closure makes it possible to maintain the ability to increase performance and, if necessary, to intervene.

the detachments of larger Nigerien forces by the small deployments of training forces. We have seen in recent years an increase in accusations against Nigerien and other Sahelian security forces of committing abuses against civilians in the region. A particularly dramatic case emerged in the Tillabéri region in April 2020, when 102 bodies were found in a mass grave near Inates, where a terrorist attack had taken place in December 2019 (Thurston 2020a, b). This prompted several questions about the quality of training received, the responsibility of the training nations, and sparked local protests, as the abuses were allegedly not committed by vigilante or self-defence groups, but by national troops, although the Ministry of Defence representative Minister Katambe denied the incident (Anyadike 2020). If the provided assistance and training of local forces is not accordingly planned, coordinated, supervised, funded, and evaluated, Western forces jeopardise the strategic effectiveness of their endeavours in the longer term and risk public backlash against their force, the government and Niger's forces. Another important consideration about training is that prioritising the training of certain forces over others or not consider proportional training of all ethnic groups—given ethnic tensions in the country—risks raising tensions and reopening old rifts. Niger is considering the integration of peripheral populations, often nomadic communities, into the army. This project had already been discussed with the former national intervention and security forces (FNIS). However, some actors, such as Fulani herders, seem reluctant or marginal to the process (Assemblée Nationale 2020). This could have unforeseen consequences and contribute to mounting ethnic tensions, as has been seen in the national police. Thus, an international presence that does not coordinate and add to its trainings and provision of military assistance a strong ethnic sensitivity component may cause more harm than good. By deploying multiple remote assistance, the danger is that less operational aspects of an intervention are overlooked or not consistently implemented.

Fraud is another problematic feature of multiple remote interventions: an audit published in May 2020 adds to claims of irregularities within the Nigerien government by unveiling an alleged diversion of more than a hundred million euros (76 billion CFA) by the Ministry of Defence between 2014 and 2019 (Jeune Afrique 2020). By differing Western and allied nations aligning themselves with local security forces and by formally placing trust in a government and Defence Ministry that are non-transparent, allegedly corrupt and lacking in respect for rule

of law principles, Western forces risk not just their reputation but also destabilising the security situation further. Providing disjointed individual nation-based financial incentives, often in uncoordinated ways with no central database, makes it hard to keep track of what has gone where and may end up disproportionally undermining the military apparatus. Or, in the case of Mali and Chad, the extra money and strengthening of the military apparatus with direct investment from multiple states has, in part, led to military coups (Powell 2021), causing controversial imbalances between civil and military rule and the true seat of power (Wilén 2020).

A broader conversation around the aims of intervening forces must also take place (European Union Council Conclusions (2021). Aside from supporting allies, obtaining force experience, and wanting to be present in the next 'hot' conflict, one aim that most intervening countries have in common is the will to 'stabilise'. But stabilising a country is a hard task in single coordinated large deployments, let alone multiple distant deployments. In addition, MacGinty (2012) shows how stability should not be the end goal, as it will not last if grievances and the need for reforms are not addressed. In other words, placing an emphasis on obtaining 'order' could mask the need for social change and institutionalise corruption (Keen and Attree 2015), which are dangers in a country like Niger and in the wider region.

Conclusion

As a means to conclude and reiterate our core argument, the Table 1 summarises the number of issues these remote, and as we argue 'heavy and saturating', interventions pose in country.

Overall, therefore, after providing an academic definitional discussion of remote warfare and the key literature we moved to present our intervention into the academic field. This challenged, yet built upon and added to, existing definitions of remotely conducted force by robustly critiquing the use of 'light footprint' to describe contemporary (and future) Western remote warfare. To support our academic argument and intervention, we provided a historical background to modern American conflict, which we stated has increasingly shifted towards a remote, technologically advanced and politically cheap form of warfare, that is also deemed to be militarily effective. For the last decade, American (and select allied partner) conflict has been decreasingly defined by the loss of American and allied lives, we

Table 1 Main issues concerning the efficacy of operations and stability

Main issues concerning the efficacy of operations and stability	
No transparency and no oversight	The sheer number of actors makes it almost impossible for citizens in the recipient country to gauge the objectives of operations. This is amplified by the lack of clear communication between intervening countries and Nigerien personnel
No clear way of measuring strategic effectiveness	Progress is usually measured in "neutralized terrorist actors", which as an indicator leaves much to be desired. Disconnected multi-nation deployments tend to not allow for precise overall analysis
Blind spots	The Niger (and the broader Sahel area) are simply too vast for the small number of troops deployed in individual missions; some zones are therefore left uncovered by intervening forces, which causes many blind spots for operations
Training of troops may be causing more harm than good	The small number of troops in charge of training local forces means that it is difficult to effectively monitor trainees and provide consistent levels of training: there have been situations where civilian casualties were caused by the same military that was trained by Western forces (Anyadike 2020)
Fraud	Trusting governments and Defence ministries that are not transparent caused huge financial losses in Niger between 2014 and 2019; diverted funds supplied by multiple intervening nations may be relevant factors to the destabilization of the security situation in an area, as it disproportionally funds the strength of the military apparatus (in Mali and Chad, for example)

(continued)

Table 1 (continued)

Main issues concerning the efficacy of operations and stability	
Lack of context sensitivity	Any action that favours a specific actor or ethnic group may produce extreme consequences to the fragile balance of the region and reignite long running civil conflicts (For example, the lack of consideration for the integration of nomadic communities in Niger). When deployed individually, each state military must coordinate to ensure proportionate levels of each ethnic group are trained, or risk one group being trained and armed more than others (with potentially dire consequences)
Inability of intervening countries to agree on what "stabilisation" entails	Stability should be the main concern for all intervening actors, but there is usually a lack of agreement on the long-term objectives, and how to achieve them. Indeed, many states may be involved to help allies or gain experience without their own understanding or how they contribute to the overall 'end game'

argued, but by the use of tactics and technologies that are often detached and disconnected from public awareness as a means to avoid the disquiet that had come to be linked with the Afghanistan and Iraq campaigns. By analysing the case of Niger, however, we highlighted how these means and mechanisms of remote warfare have now proliferated to an increasing variety of state actors, operating both bilaterally and multilaterally, with varying ambitions, who now combine their 'light-footprint' operations and saturate distant zones of conflict. We show that even if remote warfare is adopted by states as the blueprint for militarily effective global force deployment, there are several problems with such deployments; problems which combine to have a heavy and destabilising impact on the conflict beleaguered nation. Lack of transparency and oversight, no clear way of measuring effectiveness, presence of blind spots, more opportunities for fraud, lack of context sensitivity, counter-productive training of partner forces, inconsistent end games, and a general lack of consistent vision

about why states choose to intervene, all contribute to making light footprint operations heavy and saturating in areas considered to be 'strategic choke-points'.

Thus, this chapter concludes that it is no longer politically useful, militarily effective, or academically accurate to consider remote warfare as 'light-footprint' at all.

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The (Over)Promise of Remote Warfare in the Age of AI

Ash Rossiter

Introduction

There is a growing belief among policymakers, scientists, and business leaders that advances in artificial intelligence (AI) will irreversibly alter global affairs. In the realm of strategic affairs, many theorists posit that AI will provide distinct advantages for those best able to harness its potential, including on the battlefield (Horowitz 2018b; Johnson 2019; NSCAI 2021). The US 'Third Offset' strategy, for example, makes the claim that AI offers such strong benefits to the technological leader that it will largely determine the future balance of power between nations (Payne 2018a; Horowitz 2018b; Pecotic 2019).

With academics, policymakers, and military practitioners all fervently engaged with figuring out how AI may impact international affairs and transform warfare, a burgeoning literature and intense policy discussion has emerged (Allen and Chan 2017; Geist and Lohn 2018; Horowitz 2018b; Payne 2018a, b, c; Brundage et al. 2018; Horowitz et al. 2022). Scholarly treatment of this issue is nascent and dynamic, due to AI's

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unpredictable technological trajectory. With the exponential growth in data, computing power, and new machine-learning techniques, it is often difficult for non-specialists to keep abreast of developments and to forecast potential effects. Discussion about AI's shaping effect war often lacks specific and detailed examples of how military practices will be changed. Part of the reason for this is that AI can best be thought of as a general-purpose technology, akin to say electricity or the combustion engine; it is not a military capability in and of itself, but rather an enabler (on this point see Horowitz 2018a; and Ding and Dafoe 2023).

The marketing materials of leading defense companies, as well as the speculations of technologists and future-gazers, however, contend that AI will, in the near term, significantly enhance a range of existing military tasks and systems associated with remote warfare—as understood and practiced by Western nations.[1] This chapter questions this proposition. In making my argument, the chapter proceeds as follows. I first set out what remote warfare is (and is not) and show why it is central—or paradigmatic, even—to recent Western warfare. The next sections critique claims of AI's near-term contribution to this warfare paradigm. I suggest AI's impact in the immediate period ahead is overestimated while the vulnerabilities associated with reliance on the technology are overlooked. I then propose why, over the longer run, AI may lean towards some modes of warfare that are antithetical to remote warfare—as has been understood and practiced in the West. The concluding parts of this paper reflect on the implications of the preceding analysis for future warfare and international politics.

Pursuing Remote Warfare

It should be pointed out from the outset that in describing Western *warfare* as one defined in good part by the pursuit of precision and remoteness, I do not attempt to debate the higher order issue of the current Western *war* paradigm. This chapter's scope is limited to one of the leading means by which military force is employed rather than the ends and motives for doing so, which has been described elsewhere as a form of risk management (see in particular Schmitt 2020). A further point of clarification: this author's understanding of the 'West' in Western

[1] Author's impression from attending and participating in multiple defense industry-led events on emerging technology and future defense and security.

warfare is not essentialist; it is thought of here as an aggregation of similar military practices adopted by armed forces of nations who consider themselves allies or close partners. This rough grouping includes NATO members but also Australia, Japan, Sweden, and others (see again Schmitt 2020). This simplification does not mean that there are not significant differences among them—there are. And while each in the grouping possesses its own strategic culture, most have emulated—to the degree that this is possible—the military power of the day—the U.S.

Western governments and militaries have long been enticed by the prospect of applying violence with ever greater precision. Precise and discriminatory attacks on military targets as well as industrial and transportation assets of an opponent (Freedman and Michaels 2019) became a real prospect in the 1970s with the advent of 'smart' bombs or precision-guided munitions (PGMs). Munitions with a guidance system allowing for the weapon to be steered towards the target (Stone 2007, p. 140) were later combined with the Global Positioning System (GPS) (Rip and Lusch 1994) and new sensors to locate and identify targets more efficaciously. In the 1980s, Soviet military thinkers analyzing the combinational effects of these military technologies labelled this a 'precision-strike complex' and thought it a revolution in military affairs. Western military analysts agreed. 'Between 1991 and 2003', Thomas Mahnken (2011, p. 51) writes, 'PGMs grew from a niche capability to represent a new standard of warfare'. These manifold capabilities and attributes associated with precision were demonstrated to devastating effect by the U.S. and some of its more capable allies during the Gulf War (1991) and subsequent uses of military force thereafter.

Reducing unwanted destruction through precision gave rise to expectations among political leaders that violence could be directed more discriminatorily against enemy combatants, reducing civilian suffering (Coker 2001, p. 2; Zehfuss 2011), and thus represented a form of humane or ethical warfare (Mandel 2004; Farrell 2005, p. 161). Military analyst Andrew J. Bacevich's (1996) point that '[a]s precision increases, so do expectations, constantly "raising the bar" of acceptable performance' was prescient. Civilian deaths occurring from 'precision' strikes in Iraq, Afghanistan, Syria and elsewhere (Human Rights Watch 2003, p. 20) have made stark the point that, conceptually speaking, precision is relative and never absolute (see also Kennedy-Pipe et al. 2016; Sharkey 2009), especially when accuracy is traded for speed of action (see Conetta 2002; Weber 2005).

Precision warfare is often spoken about as though it is a single technology capability—the use of precision-guided munitions. But it has come to mean much more than this. Advances in inter-linking capabilities have raised this mode of warfare from the tactical level and one weapon (and typically one aircraft, manned or unmanned) to a whole approach to military operations. Precision, in Zehfuss' telling (2011, p. 544), 'is not merely a technical feature of high-tech weaponry but involves wider targeting practices'. Reverting to the Soviet description, (Horowitz and Schwartz 2024, p. 3) define the 'reconnaissance strike complex' as 'the integration of surveillance assets, strike platforms, and munitions to strike targets (in any domain of warfare) quickly, from a distance, and with greater precision, with a lower probability of being detected or destroyed first'.

Most importantly for this broad definition of remote warfare is that reproducibly accurate and fast targeting is accompanied by the desire to increase the distance between combatants and their targets. In this way, we can increasingly think of the combination of remoteness, speed, and accuracy as remote warfare (Rogers and Michel 2020; Benjamin 2013). As James Rogers (2017) notes, remote warfare saw the 'coupling [of] long-range surveillance and loitering capabilities with the instant justice of the precision missile'. This ability to strike accurately from distance has fueled much of the enthusiasm for drone warfare and the more general pursuit of what Shaw (2005, pp. 94–95) coined as risk-transfer warfare (see also Rossiter 2019).

Recent scholarship has expanded remote warfare's empirical referents to include seemingly any method that distances conventional ground forces from frontline fighting, such as, *inter alia*, special forces, private military companies and the training and use of local proxies (Biegon and Watts 2020). This paper adopts a more reductionist interpretation of remote warfare that is both closer to its original conception—born as it was by the 'Second Offset' strategy with its focus on precision to counter quantity[2]—and one that has greater relevance for how many Western nations are developing their military organizations to prepare for a period of intensified great power rivalry. It is also a materialist interpretation, in the sense that remote warfare is understood here through the

[2] The 'Second Offset' sought 'advanced technologies for precision attack in order for NATO to whittle down superior numbers of Soviet tanks and other conventional forces to battle-manageable levels' (Grant 2016).

technologies that have permitted military action from distance, including advancements in satellites, robotics, and information technology more broadly (Demmers and Gould 2018, p. 366; Gusterson 2016).

The West's strategic competitors—most prominently China and Russia—have been making efforts to replicate the West's capabilities associated with remote warfare or blunt the comparative advantages afforded by them. They have increased emphasis on protecting assets through concealment or by making them mobile. They have also invested heavily in anti-access/area denial (A2/AD) capabilities (Tangredi 2013; Biddle and Oelrich 2016; Frühling and Lasconjarias 2016). Beijing and Moscow have simultaneously imitated some aspects of remote warfare, notably in armed UAVs, albeit within the parameters of their own technological, political, and organizational constraints (McDermott and Bukkvoll 2018; Fravel 2019).

These developments have raised questions in Western capitals about remote warfare's continuing ability to produce an edge in a great power setting. Yet even with the focus of Western defence planning shifting from irregular warfare to high-intensity conflict with peer-competitors, a commitment to remote warfare remains intact. The US and other Western powers are looking at ways to refine their remote warfare 'toolbox' (Mayer 2015, pp. 773–774; Haas and Fischer 2017), especially through weaponizing AI (Haner and Garcia 2019). In particular, the Pentagon's 'Third Offset' strategy, announced by then Defense Secretary Chuck Hagel in 2014, is designed to leverage advances in AI technology to counter military modernization efforts by China and Russia (Wyatt 2020, p. 4). The 2018 US National Defense Strategy similarly emphasizes the 'military application of autonomy, artificial intelligence and machine learning, including rapid application of commercial breakthroughs, to gain competitive military advantages' (US Department of Defense (DOD) 2018, p. 7). In sum, AI is increasingly touted as a means by which Western militaries can 'up their game' (Lin-Greenberg 2020; NSCAI 2021).

It is unsurprising that AI is considered an enhancing technology for remote warfare. The pursuit of precision and remoteness has always encouraged strong enthusiasm for cutting-edge technologies, demanding increasingly exquisite technological solutions (Rossiter 2023). What is more, various tasks and systems associated with remote warfare already rely on some forms of narrow (or weak) AI, including navigation for

unmanned naval, aerial, and terrain vehicles, the production of collateral-damage estimations, and deploying 'fire-and-forget' missile systems. But it is further advances in AI that are believed to hold out the promise of propelling forward remote warfare and sustaining the West's comparative military advantage.

Overpromising AI's Near-Term Advantages?

There is no one commonly agreed definition of AI, even among computer scientists and engineers. The US Department of Defense (2018) defines AI as 'the ability of machines to perform tasks that normally require human intelligence' such as 'recognizing patterns, learning from experience, drawing conclusions, [and] making predictions'. Yet this definition describes a wide range of tasks with substantial variation in difficulty levels. A more practical distinction can be made between weak AI (referring to IT systems with a sole or specific objective) and artificial general intelligence (AGI), which can perform many tasks, even setting goals for itself while the system works without human intervention. Although no current system can properly be described as incorporating AGI, its potential drives much of the expectations about AI's future impact.

AI, which Google's CEO Sundar Pichai declared to be 'probably the most important thing humanity has ever worked on' (Parker 2018), has been hyped for more than a generation of halting progress (Hoffman 2017/2018, p. 21; Brooks 2017; Rossiter 2023). Although the commercial world has seen qualified success in many aspects of AI, the results have not been as transformative as projected. The field of AI, like many novel technologies, has promised more than it has delivered (Rossiter 2018). Indeed, its developmental arc has included several 'false starts', leading to 'AI Winters' whereby interest and funding dropped off. Despite this record, there is seemingly an unflinching belief among defense planners and military practitioners that AI will have a revolutionary impact on military affairs (see White 2017; Lewis 2017; NSCAI 2021).

Hype, characterized by *excessive* expectations about the timeframe for accruing advantages from new technology (Rossiter 2018; Van Lente et al. 2013), can blind enthusiasts to the technical hurdles and adoption challenges. IR scholars and military historians have observed, albeit episodically, that new technologies with military applications often trigger hype among civilian leaders, defense planners, and military officers (Rossiter 2018; Mahnken 2008; Fino 2013; Freedman 2018). On one

level, this is unsurprising. The continual pressure to produce and deploy new systems, often in response to the peer-competitor's technological achievements, creates underlying enthusiasm for possible technological breakthroughs (Mearsheimer 2014, p. 231). At the same time, interested parties on the supply and demand side can act as technology 'boosters', overstating the contribution particular new technologies might make (Dombrowski and Gholz 2009, p. 106). Indeed, defense companies are incentivized to attract state funds to pay for high-risk R&D by talking up the revolutionary potential of a technology (Rogerson 1994). Armed forces may also overestimate the benefits of future weapons (and underestimate their costs) to gain government approval for the program (Gholz and Sapolsky 1999/2000, p. 16).

Hyperbole around AI, which is primarily a commercial technology but one with important national security and military applications, stems in good part from its promotion by tech-evangelists and self-interested investors (Love 2016). Although AI is typically employed in a range of mundane military tasks (Cummings 2017), much policy and scholarly writing in the West focuses on the prospect of AI revolutionizing warfare. The result is a disequilibrium between expectations and the technology's readiness to deliver.

The Limits of AI-Enhanced Remote Warfare

AI's prospects for revolutionizing warfare are fueled by developments in machine-learning and deep-learning and how these will combine with processing data feeds and enabling greater autonomy for uncrewed systems (Hoffman 2017/2018, p. 20; Scharre 2018; Rossiter and Layton 2024). A brief assessment of AI's technological readiness, however, suggests more caution needs to be injected into analysts' assertions about AI's scale of effect on remote warfare in the near term. Such an evaluation, which abstractly breaks up remote warfare into three stages (*sensing and analyzing*, *force dispatch to target*, and *decide and act*) is admittedly reductionist in scope; AI will—and already does—enhance a range of military activities and tasks that are not strongly associated with remote warfare (see Ray et al. 2020).

Sensing and Analyzing

Possessing a superior ability to find and identify targets is critical to remote warfare. Indeed, a hallmark of modern warfare is the increasing

flow of information and data through a variety of sensors and sources (Ray et al. 2020, p. 121; Lieber and Press 2017). Enhancing the collection, processing and exploitation of this information is thought to be one of the most promising applications of AI. In particular, defense analysts believe that AI-guided intelligence, surveillance, and reconnaissance (ISR), in combination with battle-management systems, will provide commanders with enhanced situational awareness (Wolfe 2020). Major defense companies are making the claim that AI will soon form part of the analytical processes for finding and identifying targets. New machine-learning techniques are projected to help dig through vast quantities of imagery and video data to pinpoint objects of interest, like military vehicles, with little human involvement (Pellerin 2017; Lockheed Martin 2019). AI employed with advances in Synthetic Aperture Radar (SAR), an important sensor due to its all weather, day/night, high resolution imaging, and long standoff capability, is touted as a future game-changer in finding targets (Furukawa 2018).

Although AI is already employed in target identification—perhaps most infamously in the National Security Agency's (NSA) Skynet program, which uses probabilistic algorithms to sift through metadata to identify likely terrorists (Zetter 2015; Badalič 2023)—it is of the weak variety (Le et al. 2012; Sermanet et al. 2014). In scenarios that are uncertain, vague and ambiguous, the current breed of algorithms is unable to understand the solution space (Scharre and Horowitz 2018). Building an AI-enabled detection and designation system will be extremely difficult in the short term. For one thing, targets' appearance in radar images changes with the orientation of the sensor, the time of day or night or weather conditions, and the type of sensor employed, making AI-enabled recognition incredibly challenging. The problem may be compounded as conflict increasingly moves to the messy venue of dense urban areas. Whilst building algorithms that can carry out the real-time processing of optical radar, infrared images and electronic signals is hard, there may be a long-term solution through utilizing artificial neural networks (ANN) that can learn how to solve problems independently and with unique approaches (Waller and Morgan 2019, p. 46). However, such advanced machine-learning techniques are beyond near-term capabilities and the current limitations of computers to identify specific targets with a high degree of certainty will pertain for some time.

Current technological limitations are also apparent in attempts to integrate AI tools into analytical processes. Whilst machines are effective at

searching a large set of known options and adhering to deterministic parameters, they remain inferior to humans outside of highly controlled environments.

Force Dispatch to Target

AI is increasingly part of the software used to operate the physical systems which deliver force from distance for remote warfare, including in crewed/uncrewed platforms and AI-powered munitions. The advantages for making such systems more autonomous with AI is clear. With the proliferation of A2/AD systems, it may be impossible or too dangerous for a human to achieve the necessary access to locations where cognition is required (Kott and Alberts 2017). In movement and maneuver, physical autonomous systems have advantages, such as no instinctual need for self-protection. Autonomous uncrewed undersea vehicles (UUVs) could become expendable platforms for launching precision strikes within an A2/AD environment, for example. 'Increased automation or autonomy', Hall (2017, p. 87) asserts, 'can have many advantages, including increased safety and reliability, improved reaction time and performance, reduced personnel burden with associated cost savings, and the ability to continue operations in communications-degraded or -denied environments'. Driven both by the highly contested nature of the electromagnetic spectrum, both sides in the Ukraine War have sought to increase levels of AI-enabled autonomy for drones in both target selection and engagement (Meaker 2023).

On the munition side, air-ground weapon systems with autonomous electro-optic scene matching algorithms could make it possible to strike accurately in GPS-denied conditions. AI-powered munitions may also develop an ability to avoid countermeasures through in-air autonomous maneuvering. While details about AI-enabled munitions are limited, current reports suggest that little progress has been made in this area. Even the new bomb designed by Israeli Rafael Advanced Defense Systems (publicly disclosed in June 2019), which boasts an AI and deep-learning automatic target recognition (ATR) feature, only really uses AI in the final stages of guidance to home in on the predefined target (Valpolini 2019).

Overall, however, the use of AI in physical systems has to date been rather limited. AI's near-term impact will be constrained by technological limitations. Autonomous systems do not just need massive amounts of computational performance; they also require deep neural network development for the exhaustive training required for operating autonomously.

These challenges multiply in AI-enabled systems for land (Rossiter and Layton 2024) when compared to the air and sea domains where the comparative lack of complex human interaction and physical challenges make them more immediately suitable for AI.

Decide and Act

Remote warfare has long prioritized speed alongside precision (Schmitt 2020; Brown 2018).[3] General Mattis (who commanded the 1st Marine Division in the 2003 Iraq War) even declared: 'We knew that the center of gravity was speed … speed equals success' (quoted in King 2019, p. 259). In response to the challenges posed by pacing competitors, General Allvin, the then US Joint Staff's director of strategy, plans and policy, previously declared that U.S. forces will 'have to up [their] game in speed of recognition, speed of decision and speed of action' (Garamone 2019), which in essence means a compression of the 'kill chain', a conceptual framework intended to capture key stages of remote warfare.

It is predicted that autonomous systems powered by machine learning will have a speed-based edge in decision-making and reaction time (Horowitz 2019, p. 769; and Boulanin 2024). Autonomy in this decision-making context means that the system has ability to independently decide among different courses of action. Given AI will compress the timeframe decision-makers have to make critical calls in tactical or strategic situations, the pressure to outsource decisions to machines could become irresistible (Johnson 2021). Delegated decision-making to autonomous systems has the potential for substantial efficiencies between stages of the kill chain, compressing the time it takes from identifying a target to destroying it.

There are already some weapons systems that can autonomously attack targets, such as an Israeli loitering attack munition (LAM) *Harop* (or *Harpy II*), which can dive-bomb the sources of recognizable radar signals (Geist and Lohn 2018). Nonetheless, Western governments will likely remain hesitant taking humans out of attack decisions outside of clearly defined parameters. Ethical and legal reasons are important for this reluctance to hold but so too are technical limitations. AI-powered weapons systems making attack decisions may not achieve the precision—that is,

[3] Much of the intellectual foundation for this emphasis on speed was put down by John Boyd in the latter stages of the Cold War with his OODA (observe–orient–decide–act) loop, which was a way of conceptualizing the role of tempo and speed in warfare.

replicated expected outcome—that many proponents believe they will. New sources of uncertainty will likely be introduced due to algorithmic degradation and systems learning and adapting in ways that are inconsistent with intent (Hoffman 2017/2018, p. 27). Autonomous systems of this nature develop courses of action using a probabilities approach and are not capable of reasoning in the human sense (Haas and Fischer 2017, p. 286). Reasoning probabilistically with a given a set of data inputs from sensors, they inevitably make guesses about best possible course of action.

Vulnerabilities of AI-Reliance

Much of the discussion about AI's impending contribution to military power occurs without much thought to how others may counter or undermine it. This is a serious omission. After all, weapon systems' abilities are relational to the presence or absence of the means to blunt, deflect or repel them. Remote warfare, as a way of prosecuting wars of 'risk management', was effective so long as it was a form of punishment meted out against weak opponents. Western nations no longer enjoy such military asymmetry vis-à-vis adversaries. The emergence of more capable competitors—namely China and Russia—and the diffusion of anti-area/access denial (A2/AD) capabilities and other equalizing technologies have diluted many of the advantages they formerly enjoyed (Mahnken 2011, p. 45). AI-enabled technologies might not be enough to resuscitate some of these earlier advantages. For one thing, future capabilities could be evenly distributed between attacker and foe. If both sides possess AI-enabled technologies, crucial advantage could lie with the side able to find avenues to exploit the other side's reliance. And systems reliant on AI will undoubtedly contain flaws and vulnerabilities.

Remote warfare is built upon the acquisition and exchange of information. Should competitors be able to disrupt networked information, they would immediately blunt or even deny this approach. Indeed, potential adversaries already realize that Western warfare is heavily dependent on C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) capabilities and have thus developed tools to counter such systems through jamming, interference and disruption of communications and radar systems or combat platforms (Lawson 2019; McDermott 2017). Orbiting satellites, wireless technologies, conventional cabling, or undersea cable (Roblin 2018) critical for navigation, targeting, and decision-support are all potentially vulnerable

(Livingstone and Lewis 2016). As Barnes and Stickings (2018) argue: 'The cost and concomitant lack of redundancy associated with the current paradigm of precision thus precludes resilience'.

Western dependency on information technologies—and the vulnerabilities that come with such reliance—will inevitably increase as AI is incorporated into more military systems, platforms, and munitions. Miniaturized, AI-enabled electromagnetic jammers, for example, could be used to interfere with targeting sensors. Every sensor within an automated system has the potential to be exploited in a variety of ways (for example, jamming, intercepting, hacking, or spoofing); integrating these tools into a more comprehensive AI-enabled network will amplify existing vulnerabilities by opening new attack vectors, especially from cyberspace (Becker 2018).

Artificial intelligence attacks—that is, 'the purposeful manipulation of an AI system with the end goal of causing it to malfunction' (Comiter 2019, p. 10)—can take different forms that strike at different weaknesses in the underlying algorithms. 'Data poisoning' attacks could allow adversaries to manipulate algorithms by injecting bad data into training datasets with serious consequences for activities such as ATR. Absent robust countermeasures, this threat will likely grow as algorithms become more complex and their training data becomes more voluminous (Corrigan 2019). Data poisoning attacks could also exacerbate other risks in AI, like its brittleness or inability to handle new and uncertain environments.

The corollary of this is potentially a higher chance of miscalculation by decisionmakers or headquarters whose information sources or databases are compromised (Hoffman 2017/2018, p. 27). Furthermore, sharing datasets across a military organization creates a single point of vulnerability for system-wide attacks. In the case of input attacks, an adversary could find attack patterns to engineer an attack on any systems trained using the shared dataset. In the case of poisoning attacks, as Comiter (2019, pp. 37–38) notes, 'an adversary would only need to compromise one dataset in order to poison any downstream models that are later trained using this poisoned dataset'.

AI is frequently discussed as a means of providing resilience in environments where communications can be disrupted or denied. To be sure, systems with a measure of autonomy will better be able to operate independently until reconnected to the logistics and information structures of the remainder of the force. Whilst this is a fair proposition, it is not often accompanied with assessments of potential vulnerabilities. The

current shift to edge computing, for example, is one of those vulnerabilities that is increasingly being discussed (Ometov et al. 2022). Rather than sending data to a centralized cloud infrastructure for processing, with edge computing the data and AI algorithms are stored and run directly on the systems deployed in the field. The loss and capture of this equipment, however, could be a serious setback (Comiter 2019, p. 38).

Disrupting the Western Warfare Paradigm?

Anticipating how new technology will ultimately shape the world is usually a futile exercise full of too many unknowable factors. Yet some types of technological change are *thought* to have more predictable effects than others. In his classic analysis of arms races, Samuel P. Huntingdon (1958) drew a distinction between qualitative and quantitative changes in military capabilities. A *qualitative* change involves the introduction of what might be considered a 'new form of force'. Contrastingly, a *quantitative* change involves the expansion of an existing form of force. This has similarities with the distinction between disruptive and sustaining innovations introduced by Christensen et al. (2015). The latter two—Huntingdon's quantitative change or Christensen et al.'s sustaining innovation—are easier to perceive as they fit with existing mental maps. As Garfinkel and Dafoe (2019) argue, changes that essentially improve upon existing capabilities are conceptually easier to digest than changes that introduce fundamentally new capabilities.

The instances in which AI is discussed as a 'sustaining' rather than a 'disruptive' technology are usually related to military operations in the air domain. The current tranche of AI technology is most effective in environments whereby the input variables are most limited—that is, where there is the least environmental complexity (Waller and Morgan 2019, p. 49).[4] AI's sustaining possibilities, especially in terms of greater

[4] Whilst the air domain is environmentally the least complex it may increasingly become an extremely congested space through the presence of numerous small and cheap drones. I am grateful to James Rogers for making this point.

autonomy in physical systems, at first glance seem to provide Western governments with good reasons to 'double-down' on precision effects from greater distances with ever-more exquisite and complex military assets. According to Biegon and Watts (2020, p. 18) '[autonomous weapons systems] AWS could conceivably provide planners with additional tools to pursue military action without the need for 'boots on the ground', in turn generating more technologically mediated forms of remote warfare with different expressions of (geo)political distance.' This conclusion is reached because technologies associated with AI and especially AWS could compress decision-making timelines for both strategic and operational leaders. This makes AI an attractive candidate technology for sustaining remote warfare in an age of renewed great power competition (Adams 2011/2012).

It is far from a foregone conclusion, however, that AI will enhance and entrench existing approaches to Western warfare. Some emerging applications of AI lend themselves more naturally to competition on the basis of quantity, such as swarms of drones intended to overwhelm an enemy's defenses. If the trend toward increased capability per unit of mass (and per dollar) goes up, it should also mean more—not fewer systems on the battlefield. Scharre (2014b) has argued that the military utility of swarms may lie in the fact that they offer an opportunity to substitute quantity for quality. In this way, AI could be more of a disruptive technology, shifting emphasis from precision to mass (Plichta and Rossiter 2024; and Horowitz 2024). Rather than AI sustaining and enhancing existing warfare paradigms, the technology could produce new ways of warfighting. As Scharre (2014a, p. 8) speculates:

> forces [will] shift from fighting as a network to fighting as a swarm, with large numbers of highly autonomous uninhabited systems coordinating their actions on the battlefield. This will enable greater mass, coordination, intelligence, and speed than would be possible with networks of human-inhabited or even remotely controlled uninhabited systems.

A large swarm of individually expendable drones may be able to overwhelm the defenses of individual weapon platforms, such as aircraft carriers, by attacking from more directions or in more waves than the platform's defenses are capable of managing.

For other analysts, AI is leading us toward a 'new algorithmic battlefield that has no boundaries or borders, may or may not have humans

involved at all and will be conducted across all domains including cyberspace and space' (Hoffman 2017/2018, p. 20). Leaders might find AI more beneficial to targeted cyber campaigns, for example, rather than for violence. Such projections of AI usage fit more with the idea of qualitative change or disruptive innovation, insofar as the technology might lead to radical and new ways of warfare.

Conclusion

This chapter has examined the ways in which technological advances in the field of AI might sustain (or disrupt) the dominant modern approach to Western warfare, which is based upon the complimentary pursuits of precision, speed and distance—i.e., remote warfare. The analysis offered here makes no claim about the definitive effects on AI on future approaches to warfare, but it does suggest greater humility is needed when making claims about AI's near-term impact on military affairs. For one thing, we simply cannot say for sure the purposes to which the technologies we create will be put. It may be that AI will eventually enhance important aspects of existing modes of warfare. But there are also credible reasons to think that AI will lead to new ways of generating and employing force, producing a bouleversement in the current character of war. The shift to swarming masses on the battlefield, to lethal autonomous weapons systems, and migration of much of interstate conflict to the cyber domain are all prospective ways in which AI can be considered a potential disruptive technology as much as a sustaining one. Such seismic change will place extraordinary pressure on Western military organizations to adapt.

It is also inherently hard to anticipate the development trajectory of emerging technologies. AI—like other significant, long-fuse technologies before it—will mature along a 'thorny path' (Cummings 2017), and there will be many instances of 'artificial stupidity' along the way (Freedberg 2017). Indeed, expectations about what the technology can deliver in the short term are probably overstated and we should be wary of hysteria or hype about AI. This is not to say, however, that we are on the cusp of another AI winter. Nonetheless, oft-made claims made by some technologists and defense companies about AI's transformative effect for current approaches to Western warfare require circumspection. AGI, which will drive much of the shift towards greater autonomy in systems, is still in its infancy. Moreover, the growing capabilities of adversaries to deny the

previous advantages enjoyed by the West's warfare paradigm may not be rectified by incorporating AI. Indeed, greater reliance on AI may even exacerbate existing vulnerabilities.

None of this is to say that current and impending technological developments in AI do not hold much promise for enhancing key aspects of remote warfare, including in areas of target identification, autonomous platforms, and decision-making speed; they clearly do. In the immediate term for international politics, at any rate, it may be less important whether military applications for AI affect the balance of power. It may be enough to convince others that one has advanced AI capabilities and is readily accruing even more. This in turn will likely lead, however, to an AI arms race.

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Drones All the Way Down: The Evolution of (Remote) War on the Battlefields of Ukraine, 2022–2025

Michael John Williams

Introduction

Has the utilization of drones in the Ukraine War (2022–2025) heralded a revolution or evolution in land war? And what are the implications of (r)evolution? In July 2023 Google founder and technologist Eric Schmidt wrote in the *Wall Street Journal* that: 'The future of war will be dictated and fought by drones.' He went on to assert that for Ukraine to win this war it needs to rethink 100 years of traditional military tactics focused on trenches, mortars and artillery (Schmidt 2023). Schmidt's reality obscuring enthusiasm is not new. 'Observers constantly describe the warfare of their own age as making a revolutionary breach in the normal progress of methods of warfare' wrote Cyril Falls, Chichele Professor of Military History at Oxford University, in 1953, but he went on, 'it is fallacy, due to ignorance of technical and tactical military history, to suppose that methods of warfare have not made continuous, and on the

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whole, fairly even progress' (Cyril 1962). The war in Ukraine is no exception to Professor Falls' assertation, but rather confirmation. The realities of the war in Ukraine have thus far proven Mr. Schmidt wrong—drones have greatly assisted in Ukraine's defense, with Kyiv the global frontrunner in the integration of UAV with major ground operations (with Russian not far behind at every turn), but even with such integration drones have not revolutionized war (Calcara et al. 2022, pp. 130–171).

Even if they have not revolutionized war, drones may be transformative in the years to come (Coker 2013). The most significant take away from the war is that drones are not simply the purview of air forces or special operators such as the CIA as they were in the first drone age (Rogers 2023a, pp. 256–259). The Ukraine War has shown they are integral across domains, and this means that land war will not be solely conducted under drones in the air controlled by an Air Force, but also by soldiers in the land component in perhaps both specialized advanced corps as well as in smaller formations. Drones will proliferate through all earth-based services in the years to come making warfare drones all the way down.

The war in Ukraine (2022–2025) represents an evolution of land war, but not a revolution. Much Ukrainian success at the outset can be attributed to Russian failures rather than revolutionary technology. At the end of the day, if one country wants to invade and occupy another, it will still require: soldiers, tanks and artillery. The tank is far from obsolete (Lee 2022). Land can't be occupied from the air with drones, soldiers on the ground are necessary, but drones are most certainly evolving the battlefield in unique and surprising ways. Ukrainian and Russian forces have both greatly benefited from drone technology in the war, but drones have been a complement to, not a replacement for, more traditional military technology such as artillery and tanks. This trend is likely to endure. Drones have not (yet) precipitated wholescale change in how land warfare is conducted.

But drones are only one variable at play here, the other variable is social—to what extent do western countries want their soldiers to fight and die in combat? In short, they increasingly do not want to (Coker 2002). In post-modernity, western countries struggle to meet force quotas and society writ large does not want to sacrifice their young to war. This social driver, along with drone technology and general artificial intelligence (AGI), has the potential over the medium to longer term to revolutionize warfare. As Andrew Krepinevich once wrote, 'while

advances in technology typically underwrite a military revolution, they alone do not constitute the revolution' (Krepinevich 1994). The revolution in war during the Napoleonic period had as much to do with society change (nationalism enabling large scale, fervent conscription) as it did with technology. It is how (and why) society utilizes technology that results in revolutions in warfare.

As the war in Ukraine has unfolded over the past decade since the first phase to annex Crimea in 2014, the United States military has been slowly transitioning to a new warfighting doctrine. Driven by the imperatives of great power conflict, the Department of Defense, and more specifically, the US Army has moved away from the doctrine that dominated the first 15 years of the twenty-first century—counter insurgency—towards one called 'multidomain operations'. Multi-domain Operations (MDO) is the method the US Army, as a component of a joint force, believes it can best fight and win against a near-peer opponent that can contest the US across all domains (air, land, maritime, space and cyberspace) (U.S. Army 2018). But the Ukraine War reveals that some assumptions in this new doctrine are faulty and need to be revised. Moreover, it is questionable if the Army is moving in the right direction, as debates around the integration of drones into the Army demonstrate. It remains to be seen if the second Trump Administration will super-empower the DOD to integrate drones (and AI) or stymie it with dysfunction and chaos.

To explore lessons observed for future land warfare this chapter briefly outlines the history of the RMA, compares the theory of the RMA to the conduct of the war in Ukraine from 2022 to 2025 and then extrapolates some observation for future land war doctrine. Finally, to add value to the evolution vs. revolution debate on drones in warfare, the chapter concludes looking at how drones and other technology such as AI, may possibly revolutionarily impact doctrine and force employment within a US context.

A Brief Overview of Revolution(s) and War

Much ink has been spilt writing on the revolution in military affairs (RMA), thus it is necessary here to offer only a brief summation of the origins of the RMA debate and its implications for this chapter. Contemporary scholarship on military revolutions can be traced back to two primary works: Michael Roberts' (1956) inaugural lecture at Queen's

University, Belfast titled 'The Military Revolution, 1560–1660' and Geoffrey Parker's (1996) book *The Military Revolution: Military Innovation and the Rise of the West, 1500–1800*, which expounded on Roberts' earlier work. (Roberts 1967). Roberts argued that technological advancements led to a reorganization of the Swedish military and that this reorganization into a larger and more complex institution in turn impacted the development of the Swedish state. To field and fund the larger military the central administrative state needed to be more developed and expansive. Parker on the other hand, contended that the revolution occurred because of defensive fortifications. Here, one cannot help but remember Tilly's phrase 'war made the state and the state made war' (Tilly 1975, p. 42). Although both works have been heavily criticized on the particulars of their arguments in the intervening years, the core notion of military revolution continues to seize strategic studies. The most critical aspect of military revolution based on these early writings is the interplay between technology, military organization and society.

Contemporary notions of a 'military technical revolution' within policy circles date back to Soviet military analysis in the 1970s (Adamsky 2008). Military theorists were expected to identify and theorize about discontinuities in the character of war that may lead to fundamental changes. Burgeoning new technologies such as 'microelectronics, laser, kinetic energy, radio frequencies, electro-optic, electro-magnetic pulse, remote control and particle beam technologies' were all animating features of their theorizing (Adamsky 2008, p. 263). The Soviet theorists were especially seized of computer assisted decision support systems and communications advancements that would 'potentially extend the depths to which future systems would operate' through the use of precision guided munitions (PGM) (Adamsky 2008, pp. 263–264). According to the theorists 'the future battlefield was seen as increasingly complex with various kinds of forces participating in combined arms theater operation' (Adamsky 2008, p. 270). This thinking was precipitated by concern over the susceptibility of Soviet military doctrine. By the middle Cold War (1960s), the Soviets needed to reduce the vulnerability of massed forces to NATO long range nuclear strikes, whilst arranging maneuver forces so that massing to breach enemy lines was possible. The conflicting imperatives born of this strategic reality led the advent of a new Soviet military doctrine based on 'echelonment'—forces were arranged in multiple dispersed rearward echelons to avoid NATO nuclear strike. Once the Soviet nuclear strike degraded the NATO defensive line, the first echelon could breach the

line, quickly followed by successive waves to strike in depth destroying NATO defenses and allowing deep penetration of NATO territory (Mansfield 1979). Changes in Soviet doctrine, when discovered by NATO allies, led to a rethink on the allied side of the equation.

The NATO nuclear weapons that prompted the change in Soviet doctrine were, for the better part of two decades, the alliance's answer to the Warsaw Pact's conventional force superiority. The Soviet ecehlonment strategy, however, once again raised the problem of conventional force size for NATO. As in the 1950s, technology would offer the solution for NATO planners as they sought to 'extend the battlefield' away from the front line, back towards the rear echelons developing 'Follow-On Forces Attack' (FOFA) which was adopted by NATO's Military Committee in October 1981 (Congress of the United States, Office of Technology Assessment 1987). Ironically, though the Soviets were theorizing about the implications of technological innovation on how the US and NATO allies would fight a war, the US—the country actually leading the way technologically—was not. Although western intelligence obtained, translated and distributed the Soviet think pieces including Scientific-Technical Progress and the Revolution in Military Affairs (1974), it wasn't until the very late 1980s that some US analysts began to truly theorize about the RMA and its implications for American warfare (Krepinevich 1992). But when the American writers engaged with the subject it was less about theorizing about a revolution in military affairs and more about how to make it happen. 'To realize their potential' wrote Krepinevich (1992) 'technologies central to this Military-Technical Revolution must be incorporated into military systems or munitions. Because of the nature of this revolution, the ability to integrate military systems into—and across—networks of systems (or system architectures) will be of great importance if they are to achieve a dramatic increase in military effectiveness.' But it was another Andrew, Andrew Marshall, director of the Office of Net Assessment at the Pentagon, who penned perhaps the most widely cited definition of an RMA as 'a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alters the character and conduct of military operations' (Thierry Gongora and Riekoff 2000, p. 1). This definition is the benchmark against which this chapter pins its analysis.

Around this same time, the administration of George H. W. Bush assembled an international coalition to oust Saddam Hussein from Kuwait

and protect Saudia Arabia from potential Iraqi attack. American forces made up the bulk of the force, and although resistance was expected, the US and coalition troops routed the Iraqi military in a matter of days. The aerial bombardment started on January 17, 1991, and Kuwait was liberated just over a month later on February 28, 1991. The ground campaign lasted only around 100 hours, and this rout was seen by many as heralding the revolution in military affairs. As Keith Shimko put it, the decade from 1991 to the September 11th attacks, was the 'heyday of the RMA' (Shimko 2015). But not all were convinced the war was all that revolutionary (Biddle 2004).

There is no doubt that US operations in the brief war fielded breakthrough technology that had an impact and signaled the future direction of symmetrical peer on peer battlefield conflicts (Rogers 2023b). But the Gulf War was far from an ideal laboratory of force transformation because military forces facing off were not symmetrical, not even remotely so. Iraq was not a peer competitor of the United States. Iraq was not even a peer competitor of second-tier NATO allies such as the UK and France. The American, British and French troops greatly outperformed the enemy in Desert Storm. Moreover, although the US fielded some smart technology and had more aerial reconnaissance than ever before, most of the bombs were not precision munitions and the IT and sensor technology utilized in the campaign was largely nonfunctional. It was for all intent and purposes Cold War-style Air Land Battle, but faster and a bit more precise.

Air Land Battle doctrine informed the US Army's thinking in Europe from 1982 when it was adopted and into the late 1990s. The doctrine built upon coordination between maneuver ground forces and air forces who attacked the rear-echelon enemy forces that were feeding and reinforcing the front line. Instead of the Gulf War being revolutionary some, such as Stephen Biddle, argued that instead it was about a 'modern system' of force employment integrating technology, organization and doctrine. Effective military power relies on how forces are employed, not just their size or technology (Biddle 2004). Biddle was not alone with his skepticism of the RMA, British theorist Colin Gray was likewise unconvinced and saw the focus on the RMA as 'strategy for chaos.' Gray believed that America RMA proponents ignored historical lessons, assuming that new technologies would render past experiences irrelevant. Moreover, he thought that proponents of the RMA in Washington underestimated warfare's complexity, unpredictability, and inherently human character (Gray 2003). Americans thought technology would give them

an out, an 'easy war' to quote Princeton sociologist Paul Starr, and this belief fueled American militarism (Starr 2003). The result would eventually be two decades of wars which the U.S. would lose (Carvin and Williams 2015).

But in the wake of the resounding victory of US forces in the First Gulf War, enthusiasm for the so-called RMA abounded in the halls of power in Washington DC, and American policy makers set out to further implement the concept. The RMA would serve as the foundation of Rumsfeld's 'shock and awe' doctrine underwriting the 2003 Anglo-American invasion of Iraq (Michaels 2013, pp. 81–106). Institutionally, the RMA concept reached an apogee in 2005 when then Secretary of Defense Donald Rumsfeld, established an Office of Transformation, to monitor and implement the RMA across the department and service branches. The cornerstone of this office was a concept called 'network centric warfare'. The aim of network centric warfare was that in networking sensors, commanders, and shooters the military hierarchy would flatten, reducing the operational pause, enhancing precision, and increasing speed of command. But Rumsfeld's desire to advance 'defense transformation' as the process to achieve the RMA was called at the time, ran aground the rocks of insurgency in Iraq and later Afghanistan.

Despite quick wins in major combat operations against Iraqi and Taliban forces (that again supposedly signaled the onset of the RMA), it turned out the most powerful military on earth was rather terrible planning and was unprepared for the counter-insurgencies that would following major combat operations. In an era defined by improvised explosive devices and insurgency, the RMA seemed far less shiny and attractive, and soon military analysis and scholars abandoned the notion of traditional state on state war and instead focused on a future that defined by insurgencies and what Christopher Coker, Mikkel Rasmussen and others have called wars of 'risk management.' The result was a strategy of chaos predicted by Gray. The early 2000s RMA got caught up in how to make the use of military force more effective, rather than addressing the problem that it was solving, and this in turn was abandoned in favor of counter-insurgency. But Russian's invasion of Ukraine in 2014 prompted, once again, a chance in thinking—suddenly major war was back.

The War in Ukraine, 2022–2025

Ukraine has been a testbed for the integration of new, non-military technologies into contemporary war. In particular, the extensive use of commercial drones, as opposed to just military platforms, has been eye-opening. This section does not conduct an extensive review of the war, as there have been many useful studies, but instead draws on the extensive secondary literature to distill the most pertinent information for the argument in this chapter. Although one currently sees an evolutionary war, revolution looms over the horizon. The war represents a complex overlay of traditional military forces and planning (or lack thereof) with an admixture of new technology that has resulted in tactical adjustments. We have not seen a wholescale rethinking of land warfare, but the war demonstrates ways that future forces may reconstitute in a revolutionary nature in the coming decade. In the end, this change will be driven as much by social change as by technology.

The supposedly 'stalemated' nature of the war and the losses incurred by both sides, first in the Russian invasion of 2022, and then in the Ukrainian counter offensive of 2023, are more symptomatic of poor planning and blunder, than they are technological advancement. Russia's 2022 invasion of Ukraine was predicated on a successful Special Services campaign to destabilize Ukraine, not on major combat operations. When Russian forces encountered serious resistance, they were unprepared. 'The defeats suffered by the AFRF in the battles of Kyiv, Kharkiv and Kherson were primarily the consequences of an initial miscalculation in the planning of the invasion, and the employment of forces improperly structured and commanded for conventional warfighting' (Zabrodskyi et al. 2022, p. 27). Russian ground forces performed terribly partly due to operational security reasons, which meant that orders were distributed just before the start of the campaign. They were ordered to proceed in administrative columns since their presence was more a demonstration of power than actual employment of military force. This resulted in literal traffic jams as Russian military tried to proceed along the same routes. Poor information awareness meant that Russia forces using outdated maps needed to stop and ask for directions from Ukrainians. When they did, they could be more easily targeted by heavy Ukrainian artillery, which led them to abandon equipment and retreat. Three days into the war the Russians shifted from a coup de main to full-scale combat operations. But by

then, it was too late to succeed in easily ousting the elected Ukrainian government.

As Russia continued its offensive, the fighting became more contested, and there was a real chance the much larger invading force might overwhelm defenses around Kyiv. Ukrainians contested all Russian axes of attack but focused their resources, including special forces and reserves, on defending the capital, leaving other areas with shortfalls. Russian forces had the most success in the southern offensive, due to insufficient Ukrainian artillery in the region and because they had previously destroyed Ukrainian air defenses in the south with cruise missile strikes. In contrast to the campaign in the south, the attack on Kyiv encountered fierce resistance and was quickly bogged down, with Russian troops taking heavy casualties. By the end of March, the Russian attack on the capital had completely stalled. On March 25, the Russian Ministry of Defense (MOD) proclaimed that, having met its initial goals, Russia's main objective would now be conquering and annexing the remainder of the Donbas region of eastern Ukraine—which remains to current focus of large-scale military operations in Ukraine.

In the first phase of the campaign, there was extremely limited use of drones, but in the second phase there was an increase on both sides. Russia, which in phase one used drones mainly as decoys, began to engage in electronic warfare and Ukraine began to deploy commercial and military drones to locate Russian troops, focus artillery fire and strike Russian forces. The commercial drones allowed Ukraine to make up for lower troop numbers and a lack of conventional military air assets. In this second phase, Russia's Medium Altitude Long Endurance (MALE) drones were heavily targeted and took sustained losses. For both sides, drones became the principal reconnaissance and target acquisition platform for artillery units and were used at most echelons of the ground forces.

Instead of being used as a strike platform, military and commercial drones were primarily used as spotters or forward observers, sent to find time-sensitive targets for engagement by artillery units. Although valuable for both sides, the drones were mainly used to augment infantry and artillery, rather than substituting for those conventional assets. Drones have extended the vision of a unit for both offensive and defensive purposes, but the drones alone have not taken and held land.

Arguments that drones were going to be a substitute for close contact warfare have so far been very incorrect (Hammes 2013; Sharkey 2012).

Rather than drones changing 'the nature of land power' thereby undermining 'existing force structures' as Francis Fukuyama argued, we see an evolving symbiotic relationship, with human operators, and conventional ground forces, indispensable to the operation (Fukuyama 2021).

In Ukraine, drones have not provided the offensive with an advantage as some have argued, nor have the drones been an equalizing force (Gregory 2012). All things considered the Ukrainian military has still required copious amount of traditional military hardware, such as long-range fires and tanks, as well as well-trained infantry force. The idea that distance would become irrelevant and close combat, anachronistic, seems questionable (Mumford 2013). So if drones have not revolutionized warfare in Ukraine, what have they done on the battlefields of Ukraine?

Observations on the Operational Art in Ukraine

The war in Ukraine has been a unique laboratory of modern warfare and despite Russia's bungled start to the war, the Russians have displayed considerable adaptability over the past 2 years. The Ukrainians, outgunned from the start, have survived (with western weapons) due to boatloads of ingenuity and the rapid take-up of commercial drone technology which advantaged their infantry and artillery units. For the United States and NATO allies, the war has enabled them to field technologies for Ukraine that for the most part were not highly germane to the Global War on Terror (GWOT) and had not been tested in major land warfare conditions. Systems that the US thought invincible, have proven not to be (Seligman 2023). Moreover, the war has revealed weaknesses in how the US and NATO allies think and train for contemporary war. In September 2023, *Politico* reported on Ukrainian criticism of NATO training against the realities of the war in Ukraine.

> It seems the training Ukrainian soldiers received was based more on what NATO forces have been most used to in recent years—counterinsurgency warfare, with some American-style 'show-and-awe' thrown in. And while Ukrainians praise the drills on basic infantry tactics, reconnaissance and how to get close to the enemy unseen, as well as methods taught for storming trenches and buildings, they cite a lack of training on drone and mine awareness, explosive ordnance disposal and defensive combat.
> When it comes to integrating drone warfare and how to overcome enemy drones, they received scant counsel—most likely because NATO forces

> have not yet caught up and adapted their own infantry training to the technology. (Dettmer 2023)

As such the hard-fought lessons from the war in Ukraine should be absorbed by NATO allies and Washington. Among them the most pressing change has been the evaporation of distinction between the front and rear of a battlefield. In Ukraine drones have gone from being reconnaissance and one-off strike platforms as they were for the allies in the GWOT, to tactical weapons integral to targeting. These weapons have greatly illuminated the field of battle, undermining many US Army assumptions about future war. In 1996 Eliot Cohen voiced the questioning of some in the [US] force about the future of war.

> Ground soldiers are particularly dubious about the system of systems. They wonder whether any technologist can disperse what Carl von Clausewitz called the fog of war and ask what will happen when an opponent attempts to conceal its force or attacks the information systems that observe it. (Cohen 1996)

What Ukraine decidedly demonstrates is that drones do indeed continue to reduce the fog of war on the battlefield and render relatively useless notions of 'the front' and 'rear echelon'. Just as arrows, rifles and artillery slowly expanded the notion of the battlefield in earlier eras, so drones continue the trend today. Throughout the war it has become increasingly evident that long-range precision fires make even territory far from the line of combat, part of the front line. Russia learned this the hard way when several command posts and rearguard stockpiles were targeted and destroyed by Ukraine. Crombe and Nagl (2023) captured this challenge well, writing:

> The Russia-Ukraine War makes it clear that the electromagnetic signature emitted from the command posts of the past 20 years cannot survive against the pace and precision of an adversary who possesses sensor-based technologies, electronic warfare, and unmanned aerial systems or has access to satellite imagery; this includes nearly every state or nonstate actor the United States might find itself fighting in the near future.

The US Army is already aware of this and has been testing retrofitted legacy platforms, as well as newer systems, to account for this changed reality and bring about 'distributed mission command' (Perez 2024). And

whilst mobility is critical to survivability in this new land war environment, so too is continual electronic warfare. One does not have to physically destroy a drone to render it useless. The ability to stymie communications with drones makes them just as operationally ineffective. This means that forces need to have continuous EMS interference and disruptive capability. As Pettyjohn notes, denial will be limited, but the EMS warfare capability must nevertheless be continual (Pettyjohn 2024). But just as EMS denial is an integral part of the new warfare environment, so too is the ability to flood the battle space with cheap, easily replaced drones rather than the larger legacy systems favored by western countries.

Earlier writings on drones theorized that drone swarms would become a default type of attack, and that they would thus overpower an enemy. We have not seen this yet because the technology does not yet exist to make this possible. But what one does see in Ukraine are drones operating in stacks and in rudimentary 'drone swarms' (Rogers 2018). A drone stack is a vertically integrated grouping of multiple drones operating in the same vicinity but at different altitudes. 'The drone stacks used by both sides in the war in Ukraine have been coordinated through multiple drone operators using software-based battle networks, traditional means of communication, or commercial communications platforms' (Pettyjohn 2024, p. 40). But these drone stacks have not revolutionized the battlefield, and instead what we see are that conventional systems such as howitzers remain critical to combat. Drones are the 'eye of war' and help traditional platforms achieve increased lethality (Bousquet 2018). The same goes for airspace, where drones have not replaced traditional airframes in the quest for air superiority. Nor have they replaced infantry—which brings one to a very real societal challenge, personnel.

This societal aspect of the war in Ukraine cannot be ignored, as it may well be the catalyst for eventual military revolution. Since the start of this war in 2014, with the annexation of Crimea, Ukraine has found itself both outgunned and outmanned. Innovation has allowed the military to hang on, but the size of Russia's population and manpower reserves does not bode well for Ukraine's ability to stalemate the conflict. And although Russia has a manpower advantage, Ukraine's ingenuity has resulted in the loss of some 700,000 Russian soldiers, and some 2600 Russian tanks—which holds stark warning for the US about the ability of a less than peer competitor to defeat US capability. In this war, a less populous nation, with a far smaller military has fought smarter and utilized technology and tactics in a way that has caused it to extract a serious toll on the

aggressor nation. One challenge this raises for the US is that American battlefield personnel assumptions may be incorrect. The casualty figures out of Ukraine highlight the need for personnel depth. In the current war, Ukraine's smaller size is the challenge. But for the United States, a country of some 350 million people, the challenge in a future peer-on-peer war will be recruitment. As Crombe and Nagl (2023) note, 'the Individual Ready Reserve, which stood at 700,000 in 1973 and 450,000 in 1994, now stands at 76,000.' Since the creation of the all-volunteer force (AVF) in 1972 the portion of the population that has served in the armed forces has declined. But over the last few years the drop has been precipitous. Fiscal Year 2022 was the worst year ever for US military recruitment and although the trend become more positive in 2024, personnel shortages remain a serious concern (Kleykamp et al. 2023). The same is true across NATO, where seemingly western publics no longer want to fight wars themselves (Coker 2002). In 2023 more people quit the British military than signed up and in Germany the dropout rate from the Bundeswehr is 30% (Saballa 2024). This is highly problematic, and this social fact will be a major factor in future war. Milley and Schmidt's assertion that 'few forces bring more change than technological development' neglects the critical societal impact on military revolution (Milley and Schmidt 2024, p. 29).

So, what does this mean for the future of land war? The next section explores two ideas—first, we look at the emerging US warfighting doctrine, and then explore what this new doctrine means for the basic building block of the US Army—the Brigade Combat Team (BCT). The aim of this vignette is to facilitate thinking about how the near future could bring revolutionary change rather than evolutionary change. This is important because the United States is currently at a fork in the road with regard to the integration of drones into the Army—should drones be integrated into existing units such as the BCT or should efforts concentrate on a specialized drone corps?

Theorizing Revolution: Multidomain Warfare, Mosaic Warfare, and the Brigade Combat Team

Based on the war in Ukraine one can draw a sketch of the potential key features of future land warfare in a peer vs. peer/near peer conflict. Overtime warfare has undergone a paradigm shift, transforming from a competition between discrete units, services, and weapons platforms to

a much more complex contest between operational systems and a trend towards non-linear warfare (Bousquet 2008, 2022). The building blocks of this shift go back decades to the early twentieth century with the mechanization of war.This mechanization, now digitally connected and enabled, is leading to a systematic, rather than disparate approach to war as evidenced in Ukraine.

A systemic approach to warfare recognizes that interconnected networks, capabilities, and processes collectively shape a military's operational environment. In future peer-on-peer land warfare it is highly likely that the US and allies will see what is called 'system confrontation.' While largely below the radar of public discourse, the notion of system confrontation has been developing for some time now. A 2018 RAND published a report on Chinese thinking on contemporary war introduced the concept (Engstrom 2018). In that same year DARPA, Defense Advanced Research Projects Agency of the Department of Defense, began articulating a theory of mosaic warfare to counter what China calls 'systems confrontation,' through multi-domain warfare (Magnuson 2018, pp. 18–19). In the next section, I will outline the chief characteristics of systems confrontation, then consider how the US is responding to this via the theory of mosaic warfare, and finally, extrapolate how this might impact doctrinal change and force structure against the relief of the Ukraine war.

System confrontation is a comprehensive strategic framework developed by the Chinese People's Liberation Army (PLA) that aims to disrupt and degrade an adversary's operational systems, not just specific pieces of platforms (Engstrom 2018). The systems confrontation approach to war encompasses four interconnected dimensions. The first dimension is information degradation, which aims to disrupt the adversary's information flow by targeting networks, data links, and key nodes. This strategy, referred to as 'information isolation,' renders operational system elements ineffective by severing their connection to vital information and the broader operational network. Degrading or disrupting the flow of information, an adversary's operational system becomes increasingly fragmented and incapable of coordinated action.

The next goal is to neutralize critical nodes and functionalities within the adversary's operational system. Specifically, targeting command and control, intelligence, surveillance and reconnaissance, and firepower compromises the system's essential elements, rendering it nonfunctional or useless. Disabling key components has a disproportionate impact on

overall system efficacy, greatly reducing the enemy's capability without the need to destroy all parts of the system.

The strategy aims to degrade or disrupt the broader operational architecture of the adversary's system, which occurs by impeding inter-element collaboration and support mechanisms, compromising the adversary's capacity for coordinated action in the battlespace. Operational disruption creates an environment in which individual components struggle to operate effectively, thereby undermining the system's overall performance.

Finally, the systems confrontation approach works to erode the opposing sides operational tempo, or OODA loop, through deception, nodal failures, network and data link outages. This induces friction, confusion, and chaos to the OODA loop and slows, or at best paralyzes, the adversary's decision-making process. The gaps in the enemy's OODA loop create temporal space which can be utilized by enemy forces on the ground to make territorial gains. With the expectation that enemy states will utilize to stymie NATO military forces, the question for the US and allies is how to overcome a systems confrontation approach to war. The answer can be found in another DARPA concept that has received little attention outside of specialist circles—mosaic warfare.

The mosaic warfare framework employs a robust network architecture comprising redundant nodes, facilitating multiple kill paths which enhances overall system survivability, so that even when parts of the system are degraded, the tiles of the mosaic can be reordered and continue to advance along an axis of attack (Clark et al. 2020; O'Donoughue et al. 2021). By decentralizing critical functionality across numerous nodes, the vulnerability of individual nodes is minimized, thereby reducing the likelihood of total systemic disruption. This design enables US forces to maintain operational effectiveness in contested environments and fosters adaptability across the spectrum of military operations. The mosaic warfare framework integrates the capabilities of advanced, high-end systems (such as the F-35) with the agility and scalability afforded by smaller, more numerous, and cost-effective force elements (used to demonstrated effect by Ukraine). These modular components can be reconfigured into diverse presentations, offering a highly flexible and diverse set of operational responses as well as an optimized kill chain (Fig. 1).

The modular architecture of mosaic warfare allows for tailored force packaging. Analogous to the tiles of a mosaic (hence the name), mosaic

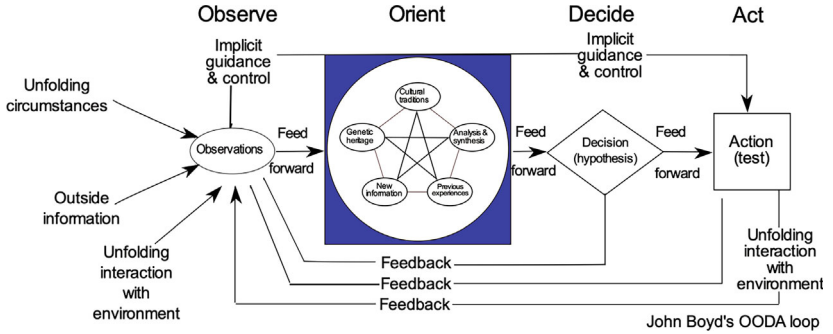

Fig. 1 John Boyd's OODA Loop. (Illustration from Wikicommons)

warfare enables the creation of customized configurations that can effectively target an adversary's system, thereby ensuring strategic success. Most importantly, mosaic warfare makes the system redundant—a core lesson observed in the war in Ukraine. The need for modular forces that can repurpose in new groupings when a primary grouping is destroyed is evident in the battlefields of Ukraine. This differs from earlier American thinking on contemporary warfare, such as network centric war, where expensive platforms, such as the F-35, manage and integrate all combat functions. In mosaic warfare the functions are dispersed and shared across a fluid network that is resilient in the face of continual disruption.

But what might a doctrine of mosaic warfare mean for force structure? How should drones be utilized across military services? In this brief chapter it is impossible to theorize about how future war will look across the full spectrum of capabilities across all services, but it is possible to look at how one current force package, the most elemental of the US Army—the Brigade Combat Team—might be impacted and how it could be re-visioned as part of a broader military revolution driven both by technical advancement and societal priorities.

Implications from Ukraine: Reconceptualizing the Brigade Combat Team

The brigade combat team (BCT) is the basic building block of the US Army. The BCT gives the land component commander (LCC) or the joint task force (JTF) commander close combat capabilities for the various

engagements that make up a battle, and the overall campaign. Usually commanded by a colonel, BCTs came out of a 2003 US Army reorganization of maneuver brigades. A BCT is a combined arms unit that includes an HQ element, two or more maneuver battalions and enablers. Depending on the type—infantry, armored (heavy) or Stryker—a BCT is composed of around 4500–4700 personnel. But how well suited is the modern BCT to the realities of modern war evident in Ukraine, and the Army's thinking about multidomain war? Generals Rainey and Potter recently argued that the 'current brigade combat team commanders lack the capabilities to serve as the primary tactical unit on a battlefield dominated by sensors and high-responsive fires without guaranteed air dominance' (Rainey and Potter 2023). Evolving the BCT framework considering the realities of war in Ukraine is therefore necessary.

An infantry BCT is composed of three infantry battalions, an engineer battalion, an artillery battalion, a cavalry squadron, and a support battalion (Vasquez 2020). The existing BCT framework, established during the Army's downsizing from four to three BCTs per division, prioritizes infantry combat power within the seven subordinate battalions, three of them are infantry. However, this structure neglects critical aspects of multidomain operations evident on the battlefield in Ukraine where one sees that electronic warfare, air defense, and manned reconnaissance assets will play vital roles. Amidst continual disruptions to communications and unmanned systems, enablers become even more critical. Engineers, air defense specialists, and electronic warfare experts are all necessary to get the infantry 'on point' component of the BCT and increase their effectiveness on the battlefield.

The current BCT configuration assumes a deliberate pre-deployment integration phase with external supporting units forming the enabler battalion. But as Vazquez notes, it looks increasingly like rapid response requirements render this assumption rather questionable (Vasquez 2020). It is highly likely that commanders will lack the time required to synchronize external enablers and conduct training before deployment, making it imperative that this capability is integrated beforehand. Moreover, the army needs to reckon with broader societal challenges such as a more resource constrained budgetary environment, as well as the reality that Americans (and allied citizens) increasingly do not want to fight in the military as was discussed above (DOD 2024). Thus, a real driver for change here is not technology alone, but an interplay between technology

and society in mutually constitutive loop, that leads to a revolutionary leap following years of evolution (Moskos 1999, 99-01).

Vazquez argues that removing one infantry battalion enables the integration of a Special Troops Battalion, enhancing engineer and reconnaissance capabilities, and augmenting firepower within remaining infantry battalions. The revitalized Special Troops Battalion integrates signal and military intelligence companies, electronic warfare capabilities, and air defense assets. This restructuring initiative enhances air and electromagnetic spectrum capabilities and provides layered air defense protection against hostile aircraft, helicopters, and drones.

> The special troops battalion would gain the signal and military intelligence companies currently in the engineer battalion and the forward support and headquarters companies from the defunct infantry battalion. Additionally, the battalion would be assigned an electronic warfare company to fill a critical gap in capability. The last addition to the new battalion would be an air defense company with short-range air defense platoons and a man-portable stinger (MANPADS) platoon. The short-range platoons and man-portable missiles will create a layered air defense that will be able to protect the brigade from both enemy attack jets and attack helicopters. This will prove crucial to preserving the brigade's ability to fight throughout a high-intensity conflict. These layered air defense units will provide a critical resource against not only hostile drones but also opponents who have been improving their own ability to conduct close air support over the past decade. (Vasquez 2020)

The result will be the improved ability of BCT to put the two infantry battalions on target more effectively on the modern battlefield. But this in turn will also require the military to more fully develop this capacity and probably merits the creation of a new specialization in the US army via the establishment of a new drone corps as introduced in HR8070 in 2024. Under the Biden Administration, the White House rebuffed calls for a drone specialization, calling it unwarranted (White House 2024). The Army position has been that in a period of experimentation, the focus on the creation of a Drone Corps was nonsensical. Historically the Army has pursued both courses on action. In the early twentieth century, the advent of airpower led the Army to create the Army Air Corps, which eventually led to the formation of an independent Air Force. The problem here was that strategic thinking about air power became detached from that of actual warfare (Biddle 2002).

But when it came to another WWI development, the tank, use was restricted to integration into existing infantry and calvary unit, which hindered the development of the tank for specific missions in favor of strategic subjugation of calvary and infantry needs. Realities on the ground in Ukraine point to the need for specialized training, rather than just the drone as gun approach favored by the army. The drone stacks that have been in use imply that simpler systems will be utilized and integrated into units, such as the BCT, to help advance infantry purposes- this is the drone as enabled approach. An advantage here is that one may see more innovative uses as functional communities employ the technology. At the same time, it would most likely be wise for the Army to develop depth in drone operations via the creation of a Drone Corps as suggested by Congress, whilst still broadly training the wider soldiery in drone usage. One implication for procurement is more localized buying of commercial platforms in smaller batches that both reduce procurement time lags and allows for the Army to stay on top of technological advancement (Krepinevich 2024).

Conclusion

The war in Ukraine evidences the further compression of the battlefield. The notion of the frontline has been eclipsed by the reality that modern war is layered, and that depth offers little refuge from the prying sensors or missiles of drones. The idea of a joint operation at the strategic level is being overtaken by the reality that brigades are themselves joint combining infantry, armor and their own aerial capability via drones. Moreover, these combat units need to work with a flexible, re-deployable and light HQ structure to evade enemy destruction. This structure will increasingly utilize private sector technology to avoid a cumbersome and detectable heavy placement. The US military's concept of multidomain operations captures the broad contours of the emerging character of modern peer-to-peer war, but as of yet the force has not made major transformative attempts to adapt to this new reality. Reconceptualizing the Brigade Combat Team as a total unit, with integrated EMS capability, as well as drone assets, could be a step in the right direction.

More broadly the war in Ukraine highlights several issues for the United States and NATO allies to consider. First, the conflict illustrates the notions of network centric warfare that dominated transformation in the early twenty-first century is being superseded, in part due to drones,

by a more decentralized approach to warfare. Mosaic warfare seems to offer a solution to this evolution on the battlefield. Of concern to the US and NATO should be the near total dominance of China in small, commercial drone production. Second, the trend in western militaries has been towards smaller, professional forces. This trend shows little sign of abating given recruitment challenges in the US and across NATO allies. Technology has traditionally been a way for a smaller force to advantage itself (Carvin and Williams 2015)—drones, and in the future AGI will augment professional forces allowing force size to stay comparative small in relation to twentieth century militaries.

It would be wrong, however, to think that soldiers will not be necessary. The Ukraine War has shown that soldiers remain integral to the contemporary battlefield. What we will likely see is drone technology (aerial and eventually land based), coupled with AGI, and operated by a highly skilled, professional soldier, will allow one soldier to punch above their weight. But this advantage hinges on the opposing force—fighting against a peer competitor with less skilled and less technologically enabled forces but with larger numbers of personnel that can be thrown into the meatgrinder of war, the technologically enabled western soldier may not be as victorious as envisioned.

Drones are currently impacting how war is fought and will impact the future battlefield in ways we have not imagined. Their use will be contingent on what is technologically capable as well as the social imaginary of war in the society that is deploying them. Within the west, and in the United States especially, this will lend itself to reinforcing notions of 'easy war,' perhaps leading to excessive use of force in environments where it is not the ideal tool. For the last 30 years the imagination among American elites led them to believe war was an answer to all the ills of the world, but those wars rather than solving challenges, only proliferated them. While the uptake of new technology to war is inevitable, policy-makers must also resist the urge to see the decoupling of techno-war from the society that wages it as an invitation for its liberal use.

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Not So Remote Drone Warfare

Jean-Baptiste Jeangène Vilmer

In war as in love, to end it, you have to see each other up close
Napoléon Bonaparte (Gourgaud 1823, p. 115).

Introduction

In recent years, research on 'remote warfare' (RW) developed considerably as an important dimension of the changing character of warfare in the twenty-first century. Defined as 'a strategy of countering threats at a distance, without the deployment of large military forces' (Watts and Biegon 2017, p. 1; Knowles and Watson 2018, p. 2), RW encompasses a broad set of actions, including the use of proxies (local security forces), of private military and security contractors, of special forces, and of air strikes. It is undoubtedly a trend of contemporary warfare and it involves many perils, in terms of protection of civilians, long-term instability, and democratic control, to name just a few (McKay et al. 2021).

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RW is first and foremost characterized by distance. And the use of drones is a preferred illustration of such distance, and by extension of RW itself, because the pilot can sit several thousand kilometers from his target. However, it is not that simple, as this chapter would like to demonstrate. This chapter denounces the common perceptions and clichés which often portray a rather negative image of drones as remote killing tools.

The literature on RW contains many fantasies on drones, starting with what they are. For example, some speak of 'the agentic capacity of drones; the absence of human bodies' (Demmers and Gould 2020). In reality, drones do not have an 'agentic capacity' because they do not decide (choose and engage their targets): some of them do contain automated flight features allowing them to take off and land without human intervention, and even conduct 'intelligence, surveillance, reconnaissance' (ISR) missions with humans largely 'on the loop,' only supervising the aircraft. However, as far as selecting and engaging the targets are concerned, humans are very much 'in the loop.' Even partially autonomous lethal weapon systems currently in development 'cannot take lethal initiatives' (Vilmer 2021).

Such common confusion with autonomous weapons contributes to the demonization of drones. Indeed, drones require significant human support: for the US Air Force, operating an orbit of four MQ-9 Reaper within a 24 h shift requires 210 personnel, including pilots, sensor operators, intelligence analysts, and lawyers (Elish 2017, p. 1104). That makes a lot of 'human bodies,' so much that Colonel Fontaine, the first French MQ-9 Reaper squadron commander, is known to repeat that there is 'nothing more manned than an unmanned system' (Fontaine 2020). For all those reasons, it is preferable to talk about 'remotely piloted aircraft systems' (RPAS) rather than 'unmanned aircraft systems' (UAS), because the latter gives the false impression that drones do not have a crew.

This chapter is mostly based on the French experience of this matter, which can be useful to put things into perspective, for a number of reasons. First, because France is a counterexample to a presumed Western affinity for RW, Paris has not taken a decision to avoid boots on the ground, opting to deploy more troops in recent years than in the previous decades (Fernandez and Vilmer 2020). Second, France is also less risk-averse than most of its allies and it has a widespread reluctance toward the idea of fighting from a distance (CDEC 2019). Third, France, only the second European country to deploy armed drones in strike operations

since December 2019, also has the specificity of deploying its drone pilots in theater.

Based on extensive interaction with French drone crews in France and in the Sahel since 2013, and interviews in 2020, this chapter argues that many of the foundational arguments for drones as remote weapons are myths, namely: that the remoteness of drone operators is or expresses something new; that they are always distant from their targets; that they are really different from the pilots of 'manned' or 'inhabited' aircrafts,[1] to the point that drone pilots are often mocked as 'cubicle warriors' (Mayer 2009), 'desktop warriors' (Calhoun 2011, p. 379) being part of a 'Chair Force' (McCloskey 2009); that physical distance makes them affectively indifferent, making killing easier (and RW problematic); and finally that operations are riskless (Henriksen and Ringsmose 2015).

Not So New

RW, particularly the use of drones, is often described as 'a new way of war' (Rogers 2012; Gross 2016; Martin and Steuter 2017; Demmers and Gould 2020). However, human capacity for killing at a distance dates back to the Paleolithic era (Churchill and Rhodes 2009) and it 'has been key to survival throughout history' (Rogers 2019a, p. 90). As Colonel Ardant du Picq (1947, p. 54) wrote in his notes before being killed in 1870, 'to fight from a distance is instinctive in man. From the first day he has worked to this end, and he continues to do so,' using missile weapons operated by muscle power (javelin, sling, bow), mechanical power (catapult, crossbow) or chemical power (guns, cannons, rockets, missiles) (Krebs 2004, pp. 243–244). And always, it has provoked moral indignation.

In Ancient Greece, 'archery was stigmatized,' like other means (stones, slings, javelins) of leveling the battlefield 'in favour of the coward who fights from afar' (Trundle 2010, p. 145). Archery was commonly associated with cowardice, deception and treachery, for example in Homer's *Iliad* (Homer 1951, p. 119 and 244). Then came the first artillery: when, around 370 BC, Archidamus, the king of Sparta, first saw 'the missile shot by a catapult,' he lamented that 'Man's valour is no more!' (Plutarch 1961, p. 133). In the Middle Ages, the use of bows and crossbows against

[1] In this chapter, I will use inhabited/uninhabited rather than the usual manned/unmanned terminology for the reasons highlighted above.

Christians was banned by the Second Lateran Council (1139), without much effect. In the sixteenth Century, the chevalier de Bayard[2] had captured crossbowmen executed 'on the ground that their weapon was a cowardly one and their behaviour treacherous' (Keegan 2004, p. 333).

The introduction of firearms provoked a similar backlash. In Egypt, the Mamluks refused to adopt them: 'God curse the man who invented them, and God curse the man who fires on Muslim with them' (Ayalon 1956, p. 93). In Europe, the gun, like the bow, was a threat to the social order because of their equalizing power: In his memoirs, Blaise de Montluc, a sixteenth century Marshall of France, wished that the arquebus was never invented, because it allowed 'so many brave and valiant men to die at the hand of the most cowardly and fearful ones, who dare not look in the face of the one they kill from afar' (de Montluc 1592, p. 6).[3] A couple of years later, Miguel de Cervantes in *Don Quixote* (1605) denounced the artillery as 'an invention which allows a base and cowardly hand to take the life of a brave knight' (de Cervantes 2006, p. 364). In 1814, Benjamin Constant lamented: 'The new way of fighting, the changes in weapons, artillery, have deprived military life of what made it most attractive. There is no longer any struggle against danger… We no longer enjoy… the development of our physical and moral faculties, that made hand-to-hand fighting so attractive to the heroes of antiquity or to the knights of the Middle Ages. War has lost its charm' (Constant 1988, p. 55).

The first submarine attacks at the beginning of the twentieth Century triggered a similar reaction. Being invisible from the surface ('the first weapon to glimpse the possibility of vanishing completely from human view') (Germain 2015, p. 1073), able to attack anonymously, and often choosing civilian ships as their targets, the general opinion was that 'the submarine was at best a nuisance and a cowardly weapon employed only by weak naval powers' (Haffa and Patton 1991, p. 259). In 1901, British Admiral Sir Arthur Wilson described them as 'unfair, underhand, and damned un-British' (Lowe 1993, p. 72). 'For them, the war became a game, a sport, a kind of hunt in which, having dispensed and distributed murder, they needed to do nothing but enjoy the spectacle of the agony of their victims. They, meanwhile, would be sheltered from any attacks and, once back in port, they could busy themselves recounting their

[2] Pierre Terrail, seigneur de Bayard (1475–1524).

[3] My translation. Unless otherwise indicated translations are mine.

hunting prowess,' commented the French Admiral Raoul Castex (1920, p. 121).[4] The parallel with the drone debate is striking.

The first aerial bombing happened in 1849, when the Austrians attacked Venice by releasing up to 200 unmanned hot-air balloons, each loaded with a bomb (Kennett 1982). In 1911, the first bombs (hand grenades) were dropped from an Italian plane in Libya, against rebel forces loyal to the Ottoman Empire. WWI was a milestone as, 'for the first time in history… very long-range weapons were used on a massive scale. With artillery guided by radiotelegraphy, and weapons operated from previously unheard-of places (in the air and under the sea), targets were increasingly disappearing from the field of vision of the fighter who was deploying them' (Germain 2015, p. 1068). The longest range of any artillery weapon ever dates back to this period: the *Pariser Kanonen*[5] were able of firing a 106-kg shell to a range of 130 km in only three minutes. They were used between March and August 1918 to shell Paris from a distance of 121 km. In the air, German rigid airships of the Zeppelin Company were designed for long distance: they bombed London between 1915 and 1918. The British press called them 'baby killers' (Fegan 2002) because the bombs killed civilians indiscriminately, and sometimes children.

Drones were born during WWI as well: the French captain Max Boucher invented the first radio-controlled, remotely piloted aircraft, a Voisin 150 HP that flew a thousand meters at an altitude of 50 m with a payload of 95 kg, on July 2, 1917 (Lecerf 1920). The 'Kettering Bug' developed at the same time in the US was a flying bomb, as it exploded on target, and therefore a precursor to guided missiles, rather than drones. In 1936, the French writer Georges Bernanos imagined that 'Tomorrow, the best killers will kill without risk. At thirty thousand feet above the ground, any bloody engineer, nice and warm in his slippers, surrounded by specialist workers, will only have to flip a switch to assassinate a city and then head quickly for home, his only fear being that he will miss his dinner. Obviously, no one will call this employee a soldier. Does he even deserve being called a military man?' (Bernanos 1967, p. 211). Again, the parallel with today's drone debate is obvious.

[4] Quoted by Chamayou (2015, p. 91).

[5] Often confused with the *Minenwerfer-Gerät* (M-Gerät), popularly known as 'Big Bertha,' a siege howitzer that had a much smaller range (9.3 km).

Another important distance weapon of the twentieth Century is the missile. The first examples were the German V-1 and V-2 fielded in 1944; these weapons had a range of 250 and 320 km, respectively. Today, intercontinental ballistic missiles have a minimum range of 5500 km. The Russian SS-18 Satan has a range of 16,000 km. The five permanent members of the United Nations Security Council (China, France, Russia, the United Kingdom, and the United States) 'can hit any place on earth with a missile' (Peçanha and Collins 2018). Finally, the ultimate abolition of physical distance is accomplished by the cyberattack, which can have kinetic, lethal consequences while coming from literally anywhere on earth.

This brief historical survey puts the drone in perspective. It helps to outline that the so-called remote warfare that drones are supposed to incarnate today comes 'after a century-old process of blurring the distinction between front and rear' (Germain 2015, p. 1068). It was in 1944, not in 2010, that American aviator Charles Lindbergh wrote: 'In modern war one kills at a distance, and in doing so does not realize that he is killing' (Lindbergh 1970, p. 920). Far from being the only weapon operating at a distance, the drone is only one of the latest in a millenary history, where risk non-reciprocity, i.e., the ability to reach an enemy unable to fight back, is a constant both as a fact and as a norm: 'reciprocal risk is not, and has never been, an essential component of IHL or the law of armed conflict… the strategic goal in all military engagements has been to maximize lethality to the target while minimizing risk to the operator' (Ohlin 2017, p. 3). Moreover, since 1945, even more since the end of the Cold War, risk non-reciprocity is also a consequence of the asymmetric nature of most engagements.

One can therefore expect the historians of the future to look at our moral debates on drones and 'remote warfare' with the same curiosity we have when we read today of knights' harsh accounts regarding bows or firearms. As a matter of fact, many parts of Chamayou's *A Theory of the Drone*—like this one: 'What is taking place before our very eyes is a switch from one official ethic to another: from an ethic of self-sacrifice and courage to one of self-preservation and more or less assumed cowardice' (Chamayou 2015, p. 101)—could have been written in the Antiquity or the Middle Ages in *A Theory of the Bow*, or *A Theory of the Gun*.

Not So Distant

Distance is a complex and relative notion. First, it is not only objective and physical. It is also subjective and psychological, as explained by James Rosenau with his notion of 'distant proximities,' 'subjective appraisals—what people feel or think is remote, and what they think or feel is close-at-hand' (Rosenau 2003, p. 6). Drones are a good illustration of that because, contrary to regular aircraft pilots (or soldiers operating artillery, mortars and long-range missiles 'who may also have little sense that they are firing at people at all [because] they direct their attacks against points on a map or grid coordinates') (Schulzke 2017, p. 70), drone crews actually *see* what they are doing though a high-definition video feed, and that makes all the difference. Their immersion goes beyond sight: 'When drone crews are called upon to provide close air support to ground troops, their sensory geography expands because they become immersed not only in video feeds but also in a stream of radio communications and online messaging with ground troops via MIRC' (Gregory 2014, p. 10). As a French drone crew member explains: 'when we follow French troops on the ground, we always hear them, and that gives me the impression of being on the ground with them, of being a little closer' (interview 2020).[6] An American officer adds: 'you hear the AK-47 going off, the intensity of the voice on the radio calling for help. You're looking at him, 18 inches away from him, trying everything in your capability to get that person out of trouble.' (McCloskey 2009). For that officer, the perceived distance is 18 inches, the distance from his screen, even though he actually is thousands of km from the combat. And it is reciprocal: 'when the drone leaves the operation zone, the people on the ground or in the air we're in contact with all tell us 'have a safe trip back.' It means that, for them, we're not several thousand kilometers away, we're totally *in* the action,' explains a French drone pilot (interview 2020).[7]

For that reason, proximity should not be reduced to physical distance to targets. The technology having the ability 'to both separate and connect the warrior to the fight' (Campo 2015, p. 8), a drone crew are

[6] Master sergeant X, image operator at the 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[7] Lt. Col. X, head of the 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

both very distant and very close from their targets at the same time. In that sense, it would be 'too reductive' to say that this process of 'respatialization… simply distance drone operators from the battlefield' and 'more accurate to say that they scramble relations of distance, making them simultaneously more elongated and more compressed in ways that are subjectively confusing and paradoxical,' as Hugh Gusterson (2014, pp. 198–199) explains. It is therefore relevant to distinguish between *physical distance* and *perceptual distance*. What matters psychologically is the latter (Martin 2015, p. 6). This is evidenced by the fact we can feel empathy for fictional TV series characters, for example.

Second, as far as physical distance is concerned, the fact is that not everyone is far away in drone warfare. We all heard the story on the Air Force Reaper crews in the US, who 'commute to work in rush-hour traffic, slip into a seat in front of a bank of computers, 'fly' a warplane to shoot missiles at an enemy thousands of miles away, and then pick up the kids from school or a gallon of milk at the grocery store on his way home for dinner' (Martin and Sasser 2010 p. 2). It usually serves to mock those 'office warriors' and lament that 'war is not war anymore' (Calhoun 2011, p. 379 and 377). It is this cliché about drones, spread by movies such as *Good Kill* (2014), that came to incarnate 'remote warfare.' While this is certainly a part of drone warfare today that raises important issues, it is not all of it, and ignoring the rest is a reductionist fallacy, reducing the drone question to a certain kind of drone and a certain use of it, by the US Air Force and CIA.

> First, these so-called reachback or remote-split operations (RSO) are possible only with satellite-linked drones such as medium-altitude long-endurance (MALEs, like the Reaper) platforms or HALEs (high-altitude long-endurance, such as the Global Hawk) platforms. Only the former can be armed. Both are the biggest and best-known drones, but they make up only a small percentage of all drones used in armed conflicts. In contrast to satellite-operated MALEs and HALEs, radio-operated drones making up the vast majority of drones in armed conflict, are characterized by a limited range forcing their crews to be on the battlefield. The most widely adopted drone in the world is the RQ-11 Raven with a range of 10 km. There are smaller drones, like the nano- and micro-drones used by special forces, the size of an insect or a bird, with a range of approximately 1.5 km; and bigger ones, like the tactical drones the size of a small

plane (wingspan of 10 m or so) and a line of sight data link giving a maximum range of 200 km.
Second, not all states having MALEs use them for 'reachback' operations. Out of the 19 states operating armed drones at the time of writing, only 10 of them launched strikes beyond their borders (in chronological order: the US, Israel, the UK, Iran, Turkey, Pakistan, Saudi Arabia, UAE, France, and Azerbaijan).[8] All platforms used in these operations were MALEs, capable of long-distance control. However, most of those operations were launched in the immediate vicinity of the intervening state. It is unclear, for instance, if Turkey used their MALEs as such, i.e., with the satellite link and not the line of sight, for their operations in Syria and Libya. Only the US, the UK and France launched strikes beyond multiple borders, several thousand miles away. And, contrary to a widespread prejudice, the US does not *always* operate its MALEs from home: while the US Air Force and the CIA fly more 'reachback' missions (while also sending pilots to bases in Afghanistan, Iraq or the Sahel), the US Army operates its Gray Eagles drones in situ, in Iraq for instance. This illustrates a difference in strategic cultures between the Air Force and intelligence services on the one hand, acclimated to acting at a distance, and the Army who value physical courage and is more uncomfortable with waging war remotely.

France chose not to use reachback despite having successfully tested the capacity in 2014:[9] French drone crews have always been operating them in situ. They were physically on Bagram Air Base in Afghanistan between 2009 and 2012, and are on Niamey Air Base in Niger since 2013. All the drone crews I asked whether they were under the impression of conducting a 'remote warfare' answered by the negative *because* they were deployed: 'being in operation on the theater means that I don't have the impression of being in a 'remote warfare' more with a drone than with

[8] https://dronewars.net/who-has-armed-drones/.

[9] 'French Air Force tests Harfang UAV's reachback capabilities,' airforce-technology.com, June 30, 2014.

any other military aircraft,' explained a former Rafale pilot now piloting Reaper drones in the Sahel (interview 2020).[10]

This choice, to deploy the drone crews on the battlefield, is the product of several factors. First, French military ethics in general (Vilmer 2020) are dominated by the Army and continue to emphasize contact with the enemy[11] as the gold standard of courage in particular and military virtues in general (Royal 2012, pp. 109–121). There is a deep reluctance toward long-range weapons, driven by the belief that 'soldiers in a war conducted entirely at a safe distance would no longer be anything but technicians of death,' as the Chief of Army Staff explained (CDEC 2019, p. 20). Contact entailing a certain amount of physical risk is valorized, not only as something contributing 'to empathy and a sense of responsibility toward others' (Royal 2012, p. 110); but also as what legitimizes the right to kill (risk reciprocity).

This sentiment is stronger in the Army than in the Navy and the Air Force: to General François Lecointre, the Chief of the Defence Staff, who said that 'It is the sacrifice of one's own life that makes the obligation to kill morally bearable,' Lieutenant Colonel Florian Morilhat, an aviator author of a book on *Ethics and Air Power* (2020), responded: 'It would be a chivalrous duel. The approach is noble but, in my opinion, the goal remains to win the war while preserving as much as possible our population and our system of values. Anything that can avoid putting us in danger is good to take. Fortunately, we are not in a logic of cannon fodder' (Guibert 2020). However, the culture of contact and risk reciprocity ultimately penetrates the entire military as the Major General of the Defence Staff, then an Admiral, confirmed: 'face-to-face confrontation, which remains a constant feature of warfare,' is an important part of 'our national strategic culture': 'Agincourt, Verdun, Monte Cassino, Adrar des Ifoghas [Mali]: suffice it to say that the French armed forces have never been shy about getting involved in close combat' (CDEC 2019, p. 64).

This also partly explains why France missed the turn to drones, compared to the US or Israel, and why it took so long to arm French drones—a decision taken in 2017, when a dozen countries already had

[10] Cpt. X, remote pilot, 33[d] Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[11] *Au contact* was the name given to the reorganization of the French Army in 2015 and is still used as a general conceptual framework for the Army.

armed drones. Among other factors, in particular political prudence on what was then considered a sensitive issue, there was a reluctance within the armed forces for both pragmatic and ethical reasons: some within the Air Force were worried that developing a drone capacity could 'cannibalize' other programs; and others, mostly within the Army, considered that it was illegitimate for drone pilots to kill precisely because of risk non-reciprocity, because they do not put their own lives at risk (Vilmer 2017). Once that decision was taken, the only way to stick to the French military ethos was to deploy drone crews on the battlefield and certainly not do reachback.

Second, the American precedent did play a role of deterrent. It showed the pernicious effects of reachback, not only in terms of its psychological impact on the drone crews waging war from home, but also in terms of human resources: military personnel deployed at home are not available on a 24/7 basis like deployed personnel, meaning reachback missions require more operators than their in situ counterparts. Even if it wanted it, the French Air Force would not have the manpower, today, to conduct its operations in reachback, from Cognac Air Base.

Third, the French military experience identified clear advantages to in situ operations including the clarity of the situation ('we can't be confused, we're at war, there's no ambiguity') and the total availability 24/7 ('we have nothing else to do, no private or professional diversion, we're dedicated to the operation') (interview 2020).[12] Also, the colocation with other services and platforms (ISR planes, fighter jets, ground troops) creates 'a real synergy, we learn to work together, these are real tactical laboratories. For certain missions, for example, fighter jets pilots come to our Reaper cockpit to see the situation before taking off' (interview 2020).[13] Special forces, which are the main interlocutors of drone crews, usually spend a couple of days on the air base before being sent back to France and, often, 'they come see us to discuss the mission, and meet in person the team who helped them from the air' (interview 2020).[14]

[12] Cpt. X, remote pilot, 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[13] Lt. Col. X, head of the 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[14] Chief warrant officer X, sensor operator, 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

Another advantage is financial and symbolic reconnaissance: military personnel receive a bonus when deployed, and they are eligible for medals: 'for master sergeants paid €1,500 net per month, being deployed twice a year puts butter on their bread, and it is a symbolic recognition of what is accomplished' (interview 2020).[15] Finally, being deployed affords more opportunities for intelligence gathering. Even if going out of base is strictly limited for security reasons, discussions with locals help the drone crew to understand the local culture, especially concrete things like family, marriage, children, or cooking. These experiences are relevant because 'these [patterns of life] is what we observe with the camera and this knowledge will help us clearing it out, to identify suspicious activities' (interview 2020).[16]

Another French operational reality is the cockpit of four: The French Reaper cockpit contains not only the 'remote pilot' (*pilote à distance*) and the sensor operator, like in the US version (cockpit of two), but also the 'back bench' made of a tactical coordinator (intelligence officer) and an image operator/interpreter. In the US, those four people are in three different places, sometimes on different continents. In France, the intent was precisely to avoid such segmentation, in the belief that it can 'generate a lot of errors' because 'people only care about their segment' (Dubet and Moricot 2016, p. 153). Colocation offers advantages in terms of cockpit resource management and crew dialogue: freedom of expression, including dissenting opinions, is encouraged. It helps to limit potential perception biases and talking about missions can also help to better 'digest' the stress of seeing very graphic images. The perception among French drone crews today is that 'there is a French model, and now that we have a very satisfactory operational experience, we can say that this model is much more harmonious, in terms of respect for humanist values, than the 'reachback' model' (interview 2020).[17] Other nations currently reluctant to arm their drones could see this 'model' of operating them in situ, and the French precedent in that matter, as an acceptable compromise: in Germany, for instance, the SPD initially supported acquisition of armed drones provided that they are based in theater (in the country in

[15] Lt. Col. X, head of the 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[16] *Ibid*.

[17] Lt. Col. X, head of the 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

which they are used),[18] before changing their mind and finally opposing the weaponizing of drones—for now.[19]

Not So Different

Those criticizing the drone for being a tool of 'remote warfare' seem to ignore similarities between this platform and 'normal' inhabited aircraft. Like drone pilots, today's fighter pilots act beyond the visual range. The evolution of speed (supersonic aircrafts); of radars able to detect and track enemy aircrafts with a range in excess of 100 km; and of air-to-air missiles able to reach them at such distance, all made dog-fights (battles with other aircrafts at close range) increasingly rare. With one exception (the 2019 Indo-Pakistan aerial skirmish), the last dogfights happened during the Gulf War, in 1991. Today, air-to-air battles generally occur beyond visual range[20] and are rare, as planes are mostly engaged for ground attacks. These missions do not require pilots to see their targets, because precision-guided munitions allow them to attack at night, through clouds, and long ranges (some air-to-ground strategic cruise missiles have a very long range of over 2500 km).

Like drone pilots, fighter pilots can follow individuals on the ground. When the sky is clear, they can see their targets with their targeting pod, displaying images in the cockpit. Inhabited aircraft can follow individuals, just like drones do, though with less comfort, definition, and precision owing to their smaller screens. They are also limited by a shorter endurance than drones, and therefore spend a much shorter time over a target.

Like drone pilots, some of them can have a peace/war dissonance issue because they return to a base after missions and conditions can seem quite 'normal.' Lt. Col. Grossman was not referring to drones when he wrote, in 1995, that 'the combatants in modern warfare pitch bombs from 20,000 feet in the morning, causing untold suffering to a civilian population, and then eat hamburgers for dinner hundreds of miles away from the drop zone' (Grossman 2009, p. 99). During the 1999 Kosovo

[18] 'SPD unter' strengen Bedingungen 'für Einsatz bewaffneter Drohnen,' tagesspiegel.de, June 28, 2020.

[19] 'No armed drones for the German army—for now,' dw.com, December 14, 2020.

[20] Beyond-visual-range missiles are capable of engaging targets at ranges of 37 km or beyond.

aerial campaign, French pilots were based in Istrana Air Base, Italy (about 35 km from Venice). One of them said:

> The day before [a strike], we were in a restaurant eating a pizza, having a beer with friends, everything was fine. We're leaving from our hotel, we get to the plane and then we have to convince ourselves that we're over a hostile territory… I go from my air conditioned-sanitized environment to war, in a hostile theater, and that is hard… It was common to see families [of pilots] arriving because Italy is nice and, again, there was this fracture between everyday life and the few hours we spend over a hostile territory to drop bombs… It was a disaster for the families as for the pilots… We should not mix everything up. (Dubet and Moricot 2016, p. 192–193)

Like drone pilots, fighter pilots also have an immersive, computerized video-game-like cockpit. Modern jets have a holographic head-up see-through display on which a computer displays a number of data feeds and instruments (that is not unique to planes, some tanks also use a helmet-mounted heads-up display). A Rafale fighter is so computerized that it is sometimes called a 'Windows plane': 'With Link 16 [a data link network used by NATO], you can fire at someone with no contact. Your partner gives you an info and you fire on that info' (Dubet and Moricot 2016, pp. 115–117). Fighter pilots are now so technology-assisted that 'there is no more good pilots. There are managers, drone-pilots,' laments one of them (Dubet and Moricot 2016, p. 122). It is revealing that, with the always-increasing range (of radars and missiles) and computerization of the cockpit, some fighter jet pilots who started a long time ago on more rudimentary aircrafts, see themselves as becoming increasingly *like* drone pilots.

In many cases, this change occurs in real rather than relative terms: since 2017, there are more drone pilots than pilots of inhabited aircraft in the US Air Force and, in many countries (including France), most drone pilots are former fighter jet pilots. With two rare exceptions (when they have to use their cannons[21] or do a show of force, i.e., a brutal

[21] Rarely, aircrafts use their cannon, when they have no other option, for example when the enemy is too close to friendly troops to which the aircraft provides support, and for that reason cannot use a bomb which would harm them both. That happened a couple of times in Syria/Iraq and the Sahel: Rafale fight- ers used their Nexter 30 canon at a range of 800–1500 m. That of course increases considerably the risk for the pilot, to be hit by an anti-aircraft weapon.

descent to fly very close to the target), the distinction between flying an inhabited or uninhabited aircraft is difficult to discern not in general—the physical experience of flying is indeed a major difference—but in terms of distancing and relationship to the target. Pilots are basically doing the same things, having the same remote and virtual relationship to their targets. A former Rafale pilot who is now remotely piloting a Reaper drone confirms: 'I didn't feel more distance on a drone than on a standard aircraft, really, because we were already distant before' (interview 2020).[22]

Not So Indifferent

Most of the literature on RW is critical: it assumes it is a negative trend because it made 'liberal democracies becoming not less, but more, war-prone. (…) The violence is executed so remotely, that it becomes invisible, uncared for, and even ceases to be defined as such' (Demmers and Gould 2020). This relies on the wide-spread assumption that propensity to killing is proportionate to physical distance from target, as famously argued by Lt. Col. Grossman in *On Killing* (2009, p. 98): the assumption is that, as the physical range increases, human's natural resistance to killing erodes and it becomes easier. It is therefore supposed to be easier with a drone than with a tank, with a tank than with a rifle, with a rifle than with a knife, and with a knife than with your bare hands. As a WWII RAF Bomber Command veteran said 'It's one good thing about being in an airplane at war: you never touch the enemy. You never see the whites of their eyes… You drop a 4,000 lb cookie [high explosive bomb] and kill a thousand people, but you never see one of them.' About the night bombing, he said: 'Those sparkling lights on the velvet background, they weren't people to me, just the target. It's the distance and blindness which enabled you to do these things' (Taylor and Davison 2004, p. 282–284).

However, this distance rule also suffers serious objections. One is the irrefutable fact that the most atrocious international crimes of the last thirty years (genocides, ethnic cleansing and other crimes against humanity) have occurred at close range: in Rwanda (where the main weapon was the machete), Bosnia, Democratic Republic of the Congo, Darfur, Iraq, Syria (ISIS controlled territory), and Myanmar. This is true

[22] Cpt X, 33d Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

for war crimes caused by combatants as well: US Marine infantrymen killed 24 unarmed Iraqi civilians (including women, children as young as 1, and the elderly) during the Haditha massacre (2005) by shooting their victims from close range. In these many examples, the short distance, face to face and eye contact were not barriers to killing. So much for Levinas' maxim that 'the face is what forbids us to kill' (Levinas 1995, p. 86).

A second objection is the drone itself. Of course, it is possible to find testimonies of drone crews explaining how they became emotionally distant. But it is equally possible to find others saying that they did not. And if we ask jet and bomber pilots if they feel emotionally distant from their targets (the lack of research in that field is itself revealing of a bias presuming that this problem only affects drone pilots), we find the same perception of distance in some of them. There is no evidence uninhabited platforms are worse in this respect. On the contrary, there are reasons to believe they are not. As a Mirage 2000D pilot explains: 'In my plane, I never see blood, I never see people dying, they're nothing but little black dots on the ground. So, I don't have the materialization, in the end, of what I produce as an effect. I see a crater on the ground, smoke, but I never see shreds of flesh, I will never see dead people' (Dubet and Moricot 2016, p. 175). Drone pilots, by contrast, not only have a better view of the effect of their attack, but they also observe their work for longer; while pilots of inhabited aircrafts drop their ordinance and then return to base. Those who killed 40,000 people in one night in Dresden in February 1945 did it by pressing a button. Drone pilots press a button as well, but they maintain permanence, and conduct a detailed bomb damage assessment: counting the dead and seeing burned, mangled bodies is part of the job. This is where it can get very difficult, as an American drone crew remembers:

> We kill him… that's the first time I saw someone dead and we zoom in to view the dead body and get BDA [bomb damage assessment]. Right then, it hit me. My heart just started pumping. I went home that night and couldn't talk with my wife…. then about four days later I started thinking about a kid growing up without his father that I had killed… Finally, about two weeks later I broke down. I couldn't hold it in anymore and I had to seek help. (Campo 2015, pp. 7–8)

From that perspective, the armament of the French Reaper at the end of 2019 paradoxically made things a little easier because 'with the blast of

bomb which saturates the image, the fire and the smoke, we finally don't see much. Before [the armament], there were many missions where we [drone crews] worked with helicopters firing bullets, and we saw more disturbing things' (interview 2020).[23]

'When it is too difficult, we zoom out to protect ourselves,' explains a French image operator. And if they do not, it is the responsibility of the commanding officer to do it, to counter a potential voyeuristic temptation. 'Some images stay with us. At the time, we don't realize. It's after, a few hours or days later, when we still think about it, that we say to ourselves 'maybe it's not normal" (interview 2020).[24] It is, again, the responsibility of the commanding officer to constantly fight this impression of normality, to make it clear to his team that they are in a situation of war.

Moreover, in the case of a strike to kill a particular individual (so-called personality strikes), they not only see the person but know who they are. Crews follow a target for days, weeks, sometimes months. They know the targets family and friends. 'We see them playing with their dogs or doing their laundry. We know their patterns like our neighbours' patterns'; 'I saw them having sex with their wives. It's two infrared spots becoming one'; this is how 'war somehow becomes personal' (Abé 2012). Hugh Gusterson (2016, p. 7) calls this 'paradoxical mix of closeness and distance in the relationship between drone operators and their targets' a 'remote intimacy.' While increasing the physical distance between opponents, drones reduce the perceptual distance and what I called elsewhere the *epistemic distance*, that is, what we know about the other (Vilmer 2013). The pilot who spends weeks observing an individual 24/7 is not exactly distant from them when it comes to killing. In a way, the operators are closer to the target than any combatant on the ground who can make eye contact with their opponent but knows nothing of their life. Time makes the difference, because in that case it produces knowledge: permanent observation of a target, even contactless, through a sensor, produces intelligence and proximity.

However, drone opponents have an additional objection. They say it is not only about distance but also about the interface: in 2010, Philip

[23] Chief warrant officer X, sensor operator, 33[d] Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[24] Master sergeant X, image operator at the 33[d] Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

Alston, then UN Special Rapporteur on extrajudicial, summary or arbitrary executions, wrote in his report that 'because operators are based thousands of miles away from the battlefield, and undertake operations entirely through computer screens and remote audio feed, there is a risk of developing a 'Playstation' mentality to killing'[25]—a point that a British NGO, the Fellowship of Reconciliation, developed a couple of months later in a report (FoR 2010). Like the previous assumption that the propensity to killing is proportionate to physical distance, 'no such evidence of that exists' (Dunlap 2014, p. 126). On the contrary, there are many testimonies of drone crews insisting that 'It's nothing like a video game. Nobody gets hurt in video games. I hate that comparison' (Campo 2015, p. 7). Even ignoring those statements, one would have to consider the following points.

> First, it would again not be a phenomenon specific to drone platforms. The April 2018 missile strikes against Syria as a response to the Douma chemical attack, for instance, involved US, UK and French forces, but no drone. Missiles were launched from submarines, ships and planes, hundreds of kilometers away from their targets. The sailors and aviators never actually saw those targets. Like a drone crew, they undertook the operation entirely through computer screens. Modern planes also have immersive, computerized videogame-like cockpit, as some armored vehicles, ships and submarines. That is not new: commentators used expressions such as 'Nintendo warfare' during the 1991 Gulf war (Operation Desert Storm) to describe 'strategy and tactics plotted on computer screens and executed on remote video displays' (Mitchell 2000, p. 125; Griffin 2010, p. 27). That is not specific to long-distance weapons either: even infantrymen, the ones fighting at the closest possible range, have their interface when they are fighting at night with a thermal-imagery or night-vision device providing 'a superb form of psychological distance by converting the target into an inhuman green blob' (Grossman 2009, p. 170)—demonstrating that one can be physically very close and nevertheless seeing reality through a technological filter.

[25] UN Doc. A/HRC/14/24/Add.6 (May 28, 2010), para. 84.

Second, contrary to a widespread prejudice, 'there are no empirical data supporting the assertion that remote warfare is accomplished in a perfunctory manner and without emotional consequences' (Chappelle et al. 2018, p. 2). On the contrary, psychological studies demonstrated that 'participation in remote warfare elicited emotionally and socially complex responses that included a sense of responsibility and psychological connectedness to the battlefield' (Chappelle et al. 2019, p. 87). One famous symptom is the fact drone pilots experience mental health problems, a huge amount of stress, and sometimes posttraumatic stress disorder (PTSD), not less but as much as inhabited aircraft pilots (Otto and Webber 2013; Chappelle et al. 2014a, b, 2018, 2019). That seems to indicate that, despite the interface, the drone crews are not emotionally disconnected. That is because, just like inhabited aircraft pilots, they are connected through their senses, in particular touch, sight, and hearing (however differently: touch is less pronounced because of the lack of flying sensations, but sight and hearing may be exacerbated); because despite being physically far, they are very close in terms of perceptual and epistemic distances; and of course because they kill. Studies also demonstrated that 'being responsible for the death of another human has emotional repercussions independent of the physical dangers of combat' (Chappelle et al. 2018, p. 2). Such psychological consequences can be caused by an action (firing when one should not, i.e., lack of precaution in the attack), as much as by inaction (not firing when one should, i.e., excess of precaution in the attack— which in the case of a close air support mission could indirectly cause the death of friendly forces).

Third, even if, at the beginning, some drone pilots (particularly those of the younger generation already familiar with videogames) could be under the impression that it would be a similar experience—all the more than videogames themselves are increasingly more realistic and are appreciated by military personnel for that reason—they soon understand the difference. Not only because, as Gregory wrote, 'immersion in video games is discontinuous—levels are restarted, situations re-set, games paused—[while] immersion in the live video feeds is intrinsically continuous' (Gregory 2011, p. 198), but also because of the following factors:

> the methodology used to detect the enemy, the research work requiring attention and vigilance very quickly leads to a fairly strong immersion; and then there is the weight of responsibility, of deciding whether or not someone is an enemy, that power to kill is where you leave the videogame. It's also not as easy as a videogame, in that you spend hours and hours searching or waiting, you don't have the adrenaline (interview 2020).[26]

In that process of educating the drone crews not to see it as a videogame, the cockpit of four is an advantage because of the deliberation and mutual control it implies: 'If pilots were alone in the cockpit, these [distancing] issues could perhaps be a problem. But because we are four, with four different perception biases, they neutralize each other a little. If there's one who is a little too much in videogame mode, there will always be another to remind him 'wait, these are women and children" (interview 2020).[27]

Fourth, that weight of responsibility is actually heavier: 'I feel it a lot more today on drone than I did on a fighter jet,' explains a former fighter pilot who became a drone pilot, because the drone crew does the entire 'kill chain' (find, fix, track, target, engage, and assess). While an inhabited aircraft pilot is given a target and his job is just to drop a bomb on it, the drone crew scans an area, searches for suspicious activities, labels someone as enemy, tracks this person, kills him, assesses the damages and provides a feedback. For the former, the stress is about a technical gesture (making sure the bomb reaches its target): other people decided who the target was, thought of the potential collateral damages, and will assess the damage done. The pilot drops his bomb and leaves. On the other hand, the drone crew chief bears the responsibility of choosing to kill someone, taking the risk of making collateral damages, doing the act itself, and he then sees in great details the consequences of his actions and, perhaps, deadly mistakes. An additional responsibility as mission manager, explains one of them, is that 'I know I'm taking three other persons with me, and I can literally destroy them. If we make an error, if we kill women and children that we didn't see, there will be of course

[26] Lt. Col. X, head of the 33[d] Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[27] *Ibid*.

judicial consequences, but that is ok because I trust my chain of command; on the other hand, there are members of the crew who will never get over it' (interview 2020).[28]

Fifth, and more generally, a large body of literature in psychology has found no link between videogames and violence (Gallar and Ferguson 2020). Therefore, the entire basis of the so-called Playstation's argument against drones relies on a false premise, and seems to be based more on personal prejudice than empirical evidence.

Not So Riskless

In the very specific case of American or British drone pilots doing 'reach-back' from home, not only the risk is not zero psychologically, as we have seen—and those wounds can be unhealable—but one should not artificially isolate them as they are only pieces in a complex system. Out of the 210 personnel it takes to operate an orbit of four MQ-9 Reaper within a 24 h shift, no less than 61 are 'forward deployed, physically near the zone of operation' (Elish 2017, p. 1104). Among them are pilots doing takeoff and landing using line-of-sight data links and therefore 'physically based at an airfield within 500–1000 miles of their targets' (Rogers and Michel 2020, p. 2). All these in addition to the Launch and Recovery crews also stationed in theater; and the fact that drones often support ground forces, Special Forces or allied forces, who are taking a lot of risks. Even at home, the US Air Force and CIA operators are at risk; if their identities were to become known, they would be potential targets for a terrorist attack. With drones now becoming airborne symbols of evil, crystallizing terrorists' desire for revenge, this domestic threat for drone operators is real.

Now, if we do not reduce 'the drone' to the way the US Air Force and CIA use them, then we need to acknowledge that most of the drones used in armed conflict in the world today are operated from the battlefield. For all those operators, from the Special Forces at very close range to those flying MALEs behind the fences of an air base, the risk varies but is never zero. Those air bases in Afghanistan, Iraq or the Sahel have been or can be attacked anytime, by rockets, kamikaze mini-drones, or even ballistic missiles as the ones launched by Iran against the US military Ayn

[28] *Ibid.*

al-Asad airbase in Iraq in January 2020. Everyone on base is a potential target. In that respect, drone pilots are not different: 'they are in the same situation than three quarters of the personnel. I mean, on the 5,000 [French] military personnel currently deployed in the Sahel, how many really go out in the field? Not all of them, for sure,' explains the head of the French drone squadron based in Niamey (interview 2020).[29] Not to mention the support teams, instrumental to killing because they bring munitions, gas and food, but physically far from it.

'The soldier puts himself in the potential to lose his life, that's true. He's taking a risk. But the goal is not to lose it, if we want to win the war. And it's certainly not specific to the drone. There are a bunch of units that shoot from far away' (interview 2020).[30] Indeed, drone crews are in a similar situation than artillerymen 'out there in the field' but firing a launch rocket 70 km from a terrorist position. In both cases, they use tools allowing them 'to project power without projecting vulnerability,'[31] as USAF general Deptula said of drones, and there is no risk reciprocity in that the person killed cannot replicate. Same thing obviously for the sailor launching a cruise missile from the sea, hundreds of kilometers away, and the pilot dropping his bomb high in the sky. As Bradley Strawser asked, 'How fair is the present fight between an F-22 pilot flying at altitude delivering a precision missile and a tribal warrior wielding a rocket-propelled grenade?' (Strawser 2010, p. 356). As these examples show, if asymmetry is a moral issue, then it has nothing to do with the drone itself but is rather linked to the changing character of warfare. Moreover, it is possible to show, as Marcus Schulzke (2014) did, that asymmetry may not be such an issue.

Conclusion: Not So Remote Warfare

This chapter attempted to show how drone warfare is not so new, not so distant, not so different, not so indifferent, and not so riskless. In other words, how distancing is a constant in the history of warfare—which has always, to an increasing extent, been 'remote'—how the cliché

[29] Lt. Col. X, head of the 33[d] Fighter Wing of reconnaissance, surveillance and attack, interviewed by the author in Cognac, on July 7, 2020.

[30] *Ibid.*

[31] General David Deptula at CNN's Amanpour, aired November 24, 2009.

of the drone pilot killing people between the groceries and the family dinner is an impressive but partial reflect of the reality of today's drone warfare, where many drones are operated in situ; how the computerized and videogame-like immersive environment of drone pilots is not that different from the one of modern inhabited aircrafts; how drones contradict the widespread assumption that propensity to killing is proportionate to physical distance from target, because drone crews can be both physically remote and perceptually, emotionally and epistemologically very close to their targets, which can be difficult for them because of the risk of PTSD and the weight of responsibilities; and finally how drone warfare is not that riskless, at least compared to its most likely alternatives which are other long-distance weapons. The logical conclusion to be deduced from all those premises is that drone warfare is not *that* remote.

This is a general conclusion, not limited to the French case, despite the fact that the empirical material for this chapter came from interviews with French drone crews. The conclusion that distancing is a constant in the history of warfare is universal, it isn't specifically French; that drones can also be operated in situ is best exemplified by the French case but the US Army is doing it as well; that the environment of drone pilots resembles the one of inhabited aircrafts stands for all machines, French but also American, Chinese, Russian and Turkish ones; that drone pilots can be both physically remote and emotionally close is best exemplified by the American example (and all studies on drone pilots' mental health problems quoted in this chapter are American); and that drone warfare is not that riskless compared to the most likely alternatives is not specific to the French case, most of the examples given in this section being, again, American.

However, this chapter is limited to the case of drones, which is only a segment (remotely piloted aircrafts) of a larger part (remote weapons systems, including missiles and loitering munitions) of remote warfare (RW) in which 'remote technologies play a role, but remote warfare encompasses a broader set of actions' (Watson and McKay 2021, p. 7), as shown in the introduction. So the question is: to what extent can this deconstruction work be applied to other dimensions of RW? In order to illustrate how a similar approach can be usefully applied to RW in general, the last part of this conclusion will briefly enlarge the focus. Just like drones often sparks off a number of clichés, RW is sometimes caricatured as a zero-risk way of war, specific to liberal Western democracies, hidden

from the public and making governments feel unaccountable (Demmers and Gould 2020). Such a view is indeed questionable.

First, one imagines that the families of the 20 Americans killed in action in Iraq or Syria since 2014, 66 in Afghanistan since 2015,[32] as well as the 50 French soldiers in Sahel operations since 2013,[33] would all disagree with statements such as RW 'allows states to wage bloodless wars,' 'with zero direct risks and no returning body bags,' our soldiers being 'not exposed to the enemy at all' (Demmers and Gould 2020).

Second, it is true that the US—and, to a lesser extent, the UK—led the way, RW being for them largely a blowback of risk aversion and war fatigue after the wars in Afghanistan and Iraq. There was indeed a shift from Bush's large deployments to Obama's 'smart power' and 'stealth strategy.' However, less is not none; today's interventions may have a lighter footprint, but boots on the ground are still the rule rather than the exception for most military operations. Many American and British soldiers are currently deployed in armed conflicts. As this chapter illustrated with the case of France and its use of drones, there are also counterexamples to the presumed Western affinity for remoteness. Moreover, it is now obvious that "this trend of remote military engagement is not confined to 'the West'" (Watson and McKay 2021, p. 10): Russia, Iran, Turkey, the Gulf states and a couple of African states are also increasingly resorting to air strikes, drones, special forces and private military companies—for reasons apparently unrelated to the type of political regime. Also, it is not the U.S. but China who is the biggest proliferator of armed drones in the world: 11 out of 18 countries that obtained armed drones from 2011 to 2019 obtained them from China (Horowitz et al. 2020). Having demonstrated their effectiveness in the 2020 Nagorno-Karabakh war, Turkey is also becoming a major player on the market of armed low-cost drones (Stein 2021). Finally, the use of remote technology is not the sole privilege of states: the use of drones by non-state actors is increasing exponentially (Rogers 2019b; Lasconjarias and Maged 2019).

[32] US Department of Defense, *Casualty Status*, as of June 21, 2021 (https://www.defense.gov/casualty.pdf).

[33] Elise Vincent, "Risques et périls de la fin de 'Barkhane' au Sahel," *Le Monde*, June 11, 2021 (https://www.lemonde.fr/international/article/2021/06/11/risques-et-perils-de-la-fin-de-barkhane_6083674_3210.html).

Third, the belief that RW 'is shrouded in denial and secrecy' (Demmers and Gould 2020) is also debatable: there have never been more books, articles and reports on drone strikes, special forces operations or private military companies. American and French drone bases frequently welcome journalists. Lack of government transparency can indeed be an important problem, but it is also increasingly denounced. In our digital age, where everyone with a smartphone is a reporter and open-source intelligence (OSINT) techniques have developed considerably, it is almost impossible to conduct a completely secret operation. The investigative journalism and OSINT platform Bellingcat illustrates this point with particular impact, having documented the use of chemical weapons and cluster munitions in Syria; extrajudicial killings in Venezuela; the poisoning of Skripal, Navalny, and others; and many other supposedly remote, discreet, or secret operations.[34] And fourth, as for a lack of accountability, there is on the contrary a growing tendency of judicialization of external military action: families sue the state in courts and soldiers are more and more treated as normal citizens (Ekins et al. 2015).

All of this is not to say that 'remote warfare' is not a relevant concept: when defined reasonably, as not specifically new, nor Western (Watson and McKay 2021), it can indeed help in understanding the changing character of war. However, when caricatured, most of the time for ideological reasons, RW becomes a straw man fallacy: like the journalistic 'zero dead doctrine' which no state ever adopted, what is being criticized is largely a construct. Why should we care? Because as long as these clichés about drones or, more generally, RW obstruct the academic and public debate, the legitimate concerns about protection of civilians, long-term instability, and democratic control, among others, cannot be adequately addressed.

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[34] See bellingcat.com.

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Is It Over Now? The Legacies of Remote Warfare

Caroline Kennedy-Pipe

Legacies conjure up the past but also the consequences of decisions made, actions taken, and in war, the unintended, unpredictable, and often tragic blowback. This collection brings together a range of scholars and practitioners to reflect on what has been learnt or not learnt from the last 20 years of remote warfare.

Remote warfare, put simply, is the use of state military violence to achieve political objectives in faraway places, using technological advantage against a variety of enemies, but always ensuring that 'our' troops are rarely placed in harm's way. Drones for reconnaissance and strikes, special operation forces, private military contractors and cyber warfare all replace a large human presence and seem to leave little in their virtual wake. Well, at least in theory. Threaded through this collection is a critique of any easy version of victory, any idea of a clean battle space, an emphasis on the local and a questioning of what constitutes remote or 'out of the way' places.

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Any vision of costless war is not novel, the editors are clear that our recent troubled times have antecedents deep into the past and a desire to win wars through machines, imagination, and distance. The troubling nature of killing could be rendered more discrete, less intimate, and cheaper. Nowhere was this clearer than in the US war in Vietnam when 'toys versus the people' became a way of winning, or rather, as usual, losing. (New England Action Research 1973) In the period covered by the contributors here though we find the analysis located in the post 9/11 era. Inside the War on Terror—the invasion of Afghanistan and Iraq—as the years unfolded, came a grim determination to continue the wars but at lower cost to US and allied troops. The advent of the armed drone rendered, for a while, hope that enemies could be fought and exterminated from the air, from pilotless vehicles and high across sovereign borders. Several of the contributions here are inspired by the fierce legal and ethical battles which characterised the Obama years and 'the drone president's' reliance on and liking for uncrewed systems. (Boyle 2015) That period though was also the landscape in which a growing unease developed over what happened on the ground, in the airspace through which drones operated, killed, maimed, and traumatised. Aside from intelligence mistakes that meant innocents were killed, studies have pointed to the psychological and emotional costs of living under drones. These 'practical' studies, as in Aditi Gupta's chapter 2, are now hopefully in the mainstream of what has become the field of drone studies and has effectively challenged any casual notion of precision and raised the nature and human numbers in the collateral damage that inevitably follows any strike (Patton Rogers 2023a).

The human costs of a drone strike have also been manifested in the rates of PTSD in the pilots controlling these remote systems. It has surprised that even those remote from the business of killing suffer guilt, trauma, and moral injury, stalking those who sit in a booth waiting to strike thousands of miles away. Distance, a lack of risk, also raises the thorny question of whether the heroic in warfare has long vanished (Kennedy-Pipe and Ashraf 2024).

The collection though points to not just the human question but the issue of how communities are inevitably shaped by the infrastructure necessary to wage remote warfare. Bases, contractors, and locals are all necessary to the business of remote war. So as Patton Rogers and Delina Goxho demonstrate in their insightful piece on Niger, those servicing remote patrons are actively involved in the reshaping of community, local

services, and necessary intelligence structures. Indigenous forces are, as in this case, indispensable to the plans of great powers: plus, ca change.

Now It Is Over

The collection of essays was originally gathered in the years between 2018 and 2021 on the cusp of the latest Russian war in Ukraine. In his contribution, Michael J. Williams successfully provokes questions over what this war of attrition means for the concept and reality of remote warfare. There is a stirring account of how the drone successfully atones for a deficiency of artillery and manpower in the gallant defence of Ukrainian soil. Perhaps so, but more recent developments may indicate that traditional numbers, sheer size, and an abhorrent disregard by Putin for the ordinary soldier may yet prevail in any endgame.

Indeed, what the pieces as an entirety raise is whether we should think of remote warfare as characteristic of the first two decades of this century rather than an enduring feature of future conflict. I have already raised the possibility that the war in Ukraine will end not because of technological superiority but rather because of a greater Russian tolerance for slaughter in the European backyard. There are though other changes afoot; Patton Rogers and Wes Hutto describe an end to US hegemony in terms of remote systems. While describing US success using MALE drones against ISIS in and around Ramadi in 2015, both editors point to the reality of the spread of systems to non-state actors equalising the state versus non state actor dynamic. Grieco and Hutto in their contribution emphasise the power of the weak to use technological innovation to produce surprising tactical capabilities and erode the coercive counter-terror capabilities of the great powers. This is a timely reminder of the dangers of the proliferation of systems, the ingenuity of local and regional forces and a rebuke to the complacency of the Obama years. As the editors argue, as remote technologies have proliferated, the US example of light footprint warfare has all but disappeared. The technologies that facilitated the US and its allies' attempts at remote warfare live on, but the politics have changed. With this, a new age of drone technologies has emerged—a second drone age—defined by proliferation, yes, but also new strategies, tactics, and understandings of military effectiveness and victory (Patton Rogers 2023a, b).

The editors have put together an elegy, an elegant one for remote warfare, and as the collection makes clear, many of the 'out of the

way' places and communities have been transformed in this period; the question is what now?

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