Making Drone Violence Strategic: A Conceptual Genealogy of Remote Warfare

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Abstract

This thesis studies the development of the contemporary employment of armed drones within a conceptual genealogy of aerial and remote warfare. While significant attention has been devoted either to the novelty of drone warfare, or to its political, legal, and ethical underpinnings, I situate the use of drones within a lineage of thinking about the strategic purpose of aerial and remote violence in the twentieth century. Through this process, I provide a nuanced account of how armed drones continue and change practices of aerial and remote warfare and situate their employment within broader practices of historical and contemporary warfare.

This thesis analyses three central moments in the development of concepts of remote warfare which contribute to the contemporary conceptual architecture of drone employment, namely the development of strategic bombing doctrines, planning for nuclear warfare during the Cold War, and practices of aerial warfare in the Vietnam War. Subsequently, I situate the employment of American armed drones in the counterinsurgency strategy employed from 2007 to 2011 in Afghanistan, Iraq, and the War on Terror more broadly. Throughout, I offer three principal contributions to scholarship on armed drones and remote warfare. First, I argue that the remoteness of armed drones is actively produced through a number of tactical, strategic, and political decisions and practices. Drawing on concepts of risk-transfer, vicarious, and surrogate warfare, I argue armed drones engage in warfare by manipulating and constructing remoteness. Second, I argue armed drones are part of a long legacy of contestations and marginalisations of concepts of war and that these contestations shape the employment of armed drones in contemporary warfare. Finally, I argue armed drones must be evaluated chiefly in their strategic contribution to contemporary warfare, and thereby reject the exceptionalisation of drone warfare as a fundamentally distinct practice of war.

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Emil Archambault

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School of Government and International Affairs

University of Durham

Supervisor: Professor John Williams

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Statement of Copyright

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Chapter 1 – Introduction

As he campaigned to become the 44th President of the United States, Barack Obama had a clear idea of how he would run American counterterrorism abroad. Affirming his resolve to "kill the people who are trying to kill us," Obama saw in the armed drone a "godsend" which would allow him to draw down American troop presence in the Middle East while focusing on his domestic reform agenda (Shane 2015, 128). In 2013, Obama explicitly drew a connection between "stepp[ing] up the war against al-Qaeda" by targeting its leadership and reducing troop levels in Afghanistan while ending one war in Iraq. The next stage of the Global War on Terror – though Obama abandoned the name – would involve "a series of persistent, targeted efforts to dismantle specific networks of violent extremists that threaten America." At the centre of those efforts were strikes by drones, which seemed to allow for precisely such persistent, expansive, lethal, and risk-minimising counterterrorism while enabling a drawdown of American forces (Obama 2013b; Grieco and Hutto 2021).

In the same speech, Obama spoke of the need, "as Commander-in-Chief, to weigh [the] heartbreaking tragedies [of drone strikes causing civilian casualties] against the alternatives," which consisted in accepting the death toll of terrorist attacks throughout the world, particularly against Muslim populations, which "dwarfs any estimate of civilian casualties from drone strikes." Indeed, when "doing nothing is not an option," the use of drones was seen as particularly appealing, a technological solution that could allow its users to resolve political dilemmas, escape strategic conundrums and balance legal, moral, and tactical imperatives for protection and lethality, particularly when relying on other governments may be unpalatable (Obama 2013b). Obama, throughout his presidency, thus balanced an apparently reluctant duty as commander of drone operations, seemingly weighed down by deep moral questionings as his team conducted "Terror Tuesday" meetings to approve strikes (Shane 2015, 18–19) with an unwavering commitment to employ drones in and outside of zones of declared hostilities as well as a belief in their moral benefits (Jurecic 2015; 2016a; 2016b).

As he left power, he passed this responsibility – along with military operations is Iraq and in Afghanistan – to Donald Trump. The first drone strikes of the Trump presidency took place in Yemen less than 24 hours after his inauguration, under

authority of the regional combatant commander (Starr and Browne 2017). In the following four years, Trump would both increase the pace of drone employment and delegate authority to lower points in the chain of command (Ackerman 2018). By the time Joe Biden acceded to the presidency, despite sporadic airstrikes, the large-scale drone program had largely wound down as Biden instructed a review of drone targeted killing policy, a change compounded by the withdrawal of combat troops from Afghanistan (Ackerman 2021; McKernan 2021; Cohen, Bertrand, and Bo Williams 2021; Savage 2021). It appears the first drone strike of the Biden administration took place on July 20th, in support of Somalian special forces (E. Schmitt and Walsh 2021).[1] The Obama presidency, therefore, arguably institutionalized a program begun under George W. Bush, one which combined major wars in Afghanistan – and later Iraq – with extensive use of drone strikes in Afghanistan and Iraq but also in Syria, Yemen, and Somalia. Within a short time, this institutionalized program became a central plank of American military power projection abroad.

Paradoxically, while Obama is known largely for presiding over the expansion of drone strikes outside of theatres of major war, and while this arguably fulfilled his initial vision of intervening wherever terrorist activity would be found, even in other countries' territory (Shane 2015, 128), he rapidly found himself immersed even further in the wars he was seeking to end. Whether by choice or by obligation, Obama expanded the war in Afghanistan into a full counterinsurgency operation, increasing both troop levels and the pace of operations, much as the Bush administration had done in 2007 in Iraq, though he was sometimes reluctant to acknowledge the change in strategy (Boyle 2010, 333–35). In both the Iraq and Afghanistan counterinsurgencies, drones were extensively employed in a variety of roles. The large majority of drone strikes took place in Afghanistan, with most of those undertaken in conventional operations, in combination with regular ground troops (Woods 2015, xv; 4). If Obama

[1] The strike was authorised by the regional commander, rather than the White House, as it was undertaken in a close air support role. This strike, therefore, does not necessarily impact the moratorium on counterterrorism strikes imposed at the beginning of the Biden administration.

On August 29, 2021, while conducting the evacuation of civilians from Kabul Airport, a newly-formed "Over-the-Horizon Strike Cell" – under command of the ground operation commander – launched a drone strike on a car suspected of carrying explosives to conduct an attack on American forces. The vehicle targeted was not used by armed groups and did not carry explosives. Ten civilians were killed (E. Schmitt 2021).

On October 22, a drone strike in Syria killed a "senior al-Qaeda leader," which Central Command asserted was part of a policy to "continue to target members of al-Qaeda and other terrorist organizations who intend to harm the U.S. homeland" (Rigsbee 2021; 'US Military Says It Killed Al-Qaida Leader in Drone Strike' 2021).

envisioned the drones as a replacement for ground troops, as a means to achieve the opposed goals of increasing the tempo of operations while reducing troop levels, initially the opposite took place: the increase in drone activity mirrored the surge in troop levels and in operations.

Nor were drones the major tool employed for strikes in Afghanistan or Iraq. Between 2001 and 2013, Chris Woods (2015, 4) estimates a minimum of 1670 drone strikes took place in Afghanistan.[2] In comparison, the U.S. Air Force reported 8577 close air support sorties with at least one weapon release only for the years 2010 to 2013 (Serle and Purkiss n.d., 'Afghanistan: US air and drone strikes, 2015 to present').[3] For the same four years, the Air Force reported nearly 133 000 intelligence, surveillance, and reconnaissance (ISR) sorties in Afghanistan, a large number of which would likely have been conducted by drones. While estimates of casualties caused by air strikes are hard to assess, data from the United Nations Assistance Mission in Afghanistan (UNAMA) suggests that the proportion of civilian casualties caused by government-aligned forces attributable to air strikes decreased progressively: while air strikes caused a majority of civilian casualties attributable to government-aligned forces in 2008 and 2009, by 2010 a tightening of rules of engagement significantly reduced this proportion (UNAMA Human Rights Unit 2009, 16–17; 2010, 17–18; 2011, 23–25; Crawford 2016, 5; 2015, 3; Woods 2015, 219; 241).[4]

This thesis examines how armed drones came to become a central actor in the multiple campaigns of the War on Terror. Most importantly, I examine how the use of armed drones builds on earlier forms of aerial and remote warfare, and how the employment of armed drones relates to wider theories of contemporary war.[5] Drones

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[2] This represents approximately two thirds of a total of at least 2426 strikes in Afghanistan, Iraq (158), Pakistan (381), Yemen (64), Somalia (8), and Libya (145).

[3] That data does not necessarily represent the entirety of airstrikes conducted in Afghanistan. The Army controls some air assets, including attack helicopters. Drone and air units under Air Force Special Operations Command (AFSOC) fall under Joint Special Operations Command (JSOC), and therefore would not be included in the USAF data above.

[4] Data on civilian casualties is very hard to access, and largely unavailable through non-government or UNAMA data. The Bureau of Independent Journalism only started counting strikes in Afghanistan in 2010, while the New America Foundation dataset does not cover Afghanistan. UNAMA's 2010 report notes a failure to systematically investigate air casualties by American forces, while noting the greater premium placed on noncombatant casualty avoidance; Crawford offers also a (partial) comparison of NATO and UNAMA datasets, showing wide discrepancies (UNAMA Human Rights Unit 2011, 23–25; Crawford 2011, 22–24).

[5] I avoid as much as possible the term "drone warfare." As this thesis makes clear, I reject the exceptionalisation of 'drone warfare' as separate and different from 'regular' warfare. On the contrary, armed drones are employed with a view to war as a whole, often either in conjunction with other troops or weapons systems, or justified with reference to them, notably to protect ground troops. Terms such

differ from other technologies of war in a plethora of respects. Unlike soldiers engaged in ground combat, drone operators are several thousand miles away from their targets. Unlike other standoff weapons systems, drone operators see their targets, engage in surveillance, remain in control throughout the strike, and can evaluate the damages themselves. Unlike deployed troops, drone operators experience "a unique sense of place and time," where they engage in wartime activity at work, and then return home to civilian life once outside the base (Woods 2015, 10; P. Lee 2018). Drones are not fully remote, yet not fully in the war itself, a distributed assemblage which redraws ethical, visual, legal, and political relations (A. J. Williams 2011; Grayson and Mawdsley 2019; J. Williams 2015; Boyle 2017). Some aspects of drone technology allow military forces to be more effective at accomplishing what they already were doing, notably through real-time surveillance and launching precision munitions (Grieco and Hutto 2021); other aspects embed armed drones in new forms of war which are more networked, more diffuse, and take place in new spaces, outside of zones of declared hostility (Niva 2013; Coward 2013; D. Gregory 2011a). Most importantly, the advent of armed drones may call forth new ways of seeing, thinking, and understanding violence and the world due to increased automation, calculation, and technological mediation (Schwarz 2018; Hall Kindervater 2017; Edney-Browne 2019; Stahl 2013).

That the armed drone came to occupy this central position, however, was both predestined and accidental. As Richard Whittle (2015) has noted in his detailed history of the drone program, the development of the Predator drone was the result of an Israeli immigrant to California building prototypes in his garage, fortuitously meeting audacious investors, and by chance finding patronage in the CIA and the U.S. Air Force. The model of Predator drone which got deployed in Afghanistan acquired its ISR equipment, its satellite communication capabilities, and its Hellfire missiles through an ad hoc process, without master plan to guide its development. As Caitlin Lee argued, the introduction of remote-piloted aircraft was fundamentally at odds with Air Force culture and was far from foretold, to the point of Air Force Chief of Staff Merrill McPeak (1990-1994) outright refusing to engage in drone development. While

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as "mixed drone warfare" and "pure drone warfare" therefore obfuscate much more than they illuminate (Gusterson 2017, 14–15). Furthermore, the term "drone warfare" puts an emphasis principally on the aircraft itself, whereas the employment of drones is embedded in distributed networks of local commands, intelligence collection assets, intelligence analysis "tail[s]," and other systems (Woods 2015, 183).

his successor Ronald Fogelman (1994-1997) campaigned heavily to gain control of drone programs, this encountered heavy internal resistance and required a profound culture change which was far from certain, and far from inevitable (C. Lee 2019). Yet, it is undeniable that the idea of an armed drone responded to long-lasting aspirations. As Katharine Hall has argued, the objective of lethal surveillance can be traced back to World War I, while Billy Mitchell and Henry Arnold – both advocates of American strategic air power between the world wars – both envisioned a "manless air force" as a direct evolution of existing technology (Sherry 1987, 187; Walker 2018, 12; Hall Kindervater 2016). The introduction of electronic surveillance in the American War in Vietnam led General William Westmoreland, shortly after the end of his term commanding military forces in South Vietnam, to envision a "connected" battlefield where perfect sensing would lead to perfect lethality (Westmoreland 1977). As Donald MacKenzie (1990, 92) wrote about independent missile navigation technology, "In one sense, [it] had always been 'needed.' […] Yet in an equally valid sense it was never needed before it existed." Developments of armed drones "created" tactical and strategic needs for themselves "simultaneously with the means of fulfilling them."

My thesis examines the development of these strategic needs for remote warfare capabilities which the drone both fulfilled and created. I do so by looking at three earlier moments in the development of aerial and remote warfare, which highlight crucial dynamics which shape contemporary practices of armed drone employment. The first of these surveys the development of doctrines of strategic aerial bombing, which asserted air power's ability to achieve decisive victory on its own. The second addresses the development of nuclear warfare doctrine during the Cold War, of thinking about the communicative purpose of violence, and the potential for limitations on escalation and force. The third one details multiple uses of air power in the American War in Vietnam, and how tactical and strategic situations were manipulated to create remoteness between American forces and their targets. I do not argue that any of these three moments – or a combination of them – necessarily anticipated the contemporary use of drones. However, by tracing a conceptual genealogy that runs through these multiple instances of remote and aerial warfare, I raise key questions concerning the purpose of aerial violence, its potential use in warfare, and how it can be used to achieve strategic objectives. While the situation in

which contemporary drones are used differs from the large-scale warfare of World War II or the nuclear confrontation of the Cold War, it is the product of a long tradition of thinking about how to make aerial violence purposive and useful.

Contributions

This thesis offers three principal contributions to the study of contemporary warfare, remote warfare, and drone warfare. The first contribution is to the study of the conceptual underpinnings of drone warfare, particularly its spatial constructions. Drawing on conceptual history, I argue that the remoteness of armed drones is not a given, unproblematic fact, but is produced actively through a number of tactical, strategic, and political decisions and practices. As Grégoire Chamayou (2013, 165) argues, "the problem is that what is called 'distance' covers several dimensions that ordinary experience conflates, but that technologies simultaneously dislocate and redistribute spatially."[6] Extensive work has been done on the spatial transformations entailed by the remoteness of the drone (see for instance J. Williams 2015; D. Gregory 2014; Adey, Whitehead, and Williams 2013a), with yet further work on the visual relations which drones establish and transform (Grayson and Mawdsley 2019; Stahl 2013). My thesis contributes beyond these works in two principal aspects. First, I pay particular attention to the construction of remoteness through tactical and strategic practices, drawing on work on surrogate, risk-transfer, and vicarious warfare (see chapter 4). Drones do not engage in warfare *despite* distance, but by manipulating distance. If remoteness is held to allow for more discriminating warfare, or for more protection from enemy action, these are not technical facts but actively constructed strategic-normative conceptualisations. Second, I seek to intersect these spatial productions of the drone with the geographies of counterinsurgency, highlighting the potential tension between a way of war which aims at proximity between the local population and intervening troops, and a technological means which imposes physical distance. This contribution is most manifest in Chapters 4, 7, and 9.

The second contribution is genealogical and adds to our understanding of the trajectories of aerial warfare which make the contemporary use of armed drones possible. I argue that debates over the role of armed drones call forth contestations of the very concept of war, and point to a long legacy of such contestations of what is

[6] Quotations from Grégoire Chamayou's *Théorie du Drone* are my own translation, although I generally compared with Janet Lloyd's translation for accuracy (Chamayou 2015).

meant by war, and of rendering certain forms of war as marginal and distinct. The place of armed drones within the wider machinery of contemporary war depends on how changes in the character or the nature of war are perceived, and on conceptions of military violence made purposive to achieve certain objectives. This, in turn, creates a hierarchy between forms of war that are central and those that are marginal, which is embodied in cultural traditions such as the so-called "American way of war." Throughout the genealogical study of forms of air warfare and of drone employment, I trace debates over the perceived marginalization of certain forms of war, how 'regular' warfare came to define and exclude 'irregular warfare', and how these marginalisations contributed to the parameters of contemporary drone use. Arguments that the employment of drones constitutes a radical departure from conventional conceptions of war, or indeed not war at all, draw on normatively-defined concepts of what counts as war and does not count, which have been applied to a multitude of forms of aerial violence, such as aerial policing in the British Empire (Omissi 1990), nuclear confrontation in the Cold War (Liddell Hart 1980), or what the U.S. military called MOOTW – "Military Operations other than war" – in the 1990s (F. Kaplan 2014, 45–46).[7] If armed drones are part of the reversal of the "traditional U.S. view of war" entailed by counterinsurgency (Petraeus and Amos 2006, 1–144)," their genealogy is by necessity one where the boundaries of these traditional views of war are contested. This argument, present throughout the thesis, is particularly salient in chapters 3, 4, and 8.

The third contribution is to the strategic understanding of the role of armed drones in contemporary warfare. While there is undeniable value to cultural and socio-political analyses of how drones reconfigure political relations, I argue here that military drones must be approached through their strategic contribution, as a means of warfare meant to achieve given strategic objectives. Throughout chapters 5 to 7, I approach different arguments concerning how air power and remote means can contribute to strategic objectives in war, analysing the logic which ties air-delivered munitions to success (or victory). Ultimately, the strategic analysis of the use of armed drones is central to the possibility of an ethical contestation of their use, as ethical analysis depends on an accurate rendering of the conditions of their employment. For

[7] It is indeed in such MOOTW – the American operations in the ex-Yugoslavia – that the Predator drone's predecessor (the GNAT-750) would first prove its worth as a surveillance asset (C. Lee 2019, 14–16; Whittle 2015, 81–82; 100–114; 139–42).

instance, Christian Enemark's (2013, 30) assertion that armed drones are fundamentally unethical as they offer no reasonable probability of success relies on a strategic argument about how drones can contribute (or not) to military success. Through this argument, I reject the suggestion that armed drones are fundamentally astrategic weapons, just as I reject the opposite argument that armed drones can achieve victory alone. I situate contemporary armed drones within developments in the strategies of air power and remote force, and analyse their contribution within strategies of counterinsurgency. Through this, I reject the exceptionalisation of armed drones as a fundamentally distinct technology of war, and argue that they must be appraised within strategic studies more widely. This argument, which again runs through the thesis as a whole, can be found mainly in Chapters 5 to 8.

Thesis outline

This thesis is divided into eight main chapters. Chapter 2 presents the methodological approach guiding this thesis, which combines a genealogical approach with insights from conceptual history. Genealogy highlights how the current employment of armed drones was not predetermined, but a product of "political choices which were made and, therefore which could have not been made" or made differently (Férey 2020, 35). These choices intersect and feed into the constitution of contemporary armed drone use, without determining the trajectory in which it developed. Genealogy also highlights how historical debates concerning the meaning and conduct of war feed into contemporary employment of armed drones. Conceptual history, derived from Reinhart Koselleck's *Begriffsgeschichte*, meanwhile emphasizes the process of concept construction, contestation, and change which underpin the development of technologies and practices of war, as well as the temporalization of political concepts.

Chapters 3 and 4 survey broad contexts of argument which surround the development of practices of drone warfare. Chapter 3 analyses debates concerning the "changing character of war" (Strachan and Scheipers 2011) with regard to a central point of reference, namely interpretations of Carl von Clausewitz's *On War*. I argue that subsequent arguments concerning new forms of war – the 'New Wars' thesis, the Revolution in Military Affairs, and the resurgence of 'small war' – develop either in dialogue with or in opposition to a perceived Clausewitzian legacy, and that these debates about the nature and character of war set the context for the contestations and

affirmations of the role of drones in war. Many of these debates occurred in the late 1990s and early 2000s, just as the Predator drone was entering service in the U.S. military, which makes situating the development of armed drones within these contexts essential. Chapter 4 discusses broad debates about the transformation of war directly applicable to the use of drones, namely the broad currents of "post-heroic warfare" (Luttwak 1995). Armed drones reflect some dynamics of risk-transfer, vicarious, and surrogate warfare, though I argue that assertions of the radical asymmetry of drone warfare are overblown and inaccurate. Against authors who argue that armed drones undermine the foundational reciprocity required in concepts of war (Chamayou 2013; Enemark 2013), I argue that these arguments adopt a mythologized conception of war which is incompatible with practices of war – both historical and contemporary – and, as a result, that they fail to specify in what way contemporary drone warfare introduces a radically new asymmetry. Finally, I survey arguments concerning the rising prevalence of targeted killing, and argue that such widespread campaigns of targeted killing should be considered as a form of warfare, rather than as extraordinary practices of state violence.

Chapters 5 to 7 analyse three moments in the development of remote and aerial warfare theory. Chapter 5 covers the development of strategic bombing theory, first through the interwar work of Giulio Douhet, and later through the attempt to provide a renewed theory of air power-dominant warfare by John Warden and David Deptula. I argue that while Warden and Deptula seek to propose a discriminate theory of air power which does not rely on the massive shock of saturation bombing, Douhet as well as Warden and Deptula fail to specify the logic tying aerial bombing to strategic success. Both their theories hinge on a certain inevitability, whereby sufficient bombing would invariably lead to victory. As a result, the leading theories of air power as a principal instrument for strategic success fail to propose a coherent account of the ability of air power to produce desired strategic effects. Chapter 6 provides an account of the development of nuclear warfare doctrine in the Cold War, with a particular attention to the transformation of conceptions of distance entailed by the new vulnerability introduced by "living with the bomb" and under the bomb (F. Kaplan 1991, 32). I trace discussions concerning how the threat (and employment) of remote force can be used communicatively, as well as how to achieve strategic objectives while controlling escalation in violence and employing less than total force. Chapter

7 discusses the employment of aerial and remote warfare in the American War in Vietnam. I argue that the employment of air power in Vietnam shows processes of manipulation and construction of distance, whereby the strategic and tactical situation was actively shaped to displace risk to American forces. I argue, therefore, that remote, surrogate, and risk-transfer warfare must be grasped as practices that reverberate at all levels of war, and not as mere political-strategic decisions to employ force from a distance.

Finally, chapters 8 and 9 discuss the employment of armed drones in the War on Terror. Chapter 8 analyses the role of drones strategically: after arguing that drones should be assessed in their ability to contribute to strategic success beyond tactical objectives, I argue for the need to evaluate the War on Terror as a whole, through the lens of the counterinsurgency strategy centred on Afghanistan (and, to a lesser extent, Iraq). Chapter 9 delves in depth into the spatial dimensions of drone employment in counterinsurgency, which combines an internal archipelago logic with the definition of external violent borderlands. After discussing the strategic implications of the vertical relations which armed drones produce, and how their employment is rooted in a connection to the ground, I expose the tension between a type of war – counterinsurgency – predicated on close contact between intervening troops and the local population, and armed drones which cannot establish that contact. Consequently, I argue, the notion of a risk-transfer onto drones fails, as the presence of drones in itself redistributes the risks they are meant to minimize.

Limitations

A final note here should be made concerning the limitations to the scope of this thesis. First, I concentrate almost exclusively on the American employment of armed drones. While a number of other countries have openly employed armed drones for strikes – among which the United Kingdom, France, and Israel – the United States is clearly dominant, both in volume of strikes, in chronological development (with the exception of Israel, discussed below), and in agenda-setting power. The United States began employing armed drones before the UK and France, and was therefore integral in shaping the technological means and their conditions of use. The United States has been much more willing to stretch legal and conceptual boundaries to justify an expansive employment of armed drones, and to do so in a variety of roles. The British drone infrastructure has been largely integrated with the American one – one squadron

is indeed flying out of Creech Air Force Base, in Nevada – though with some modifications. Among others, the British drone squadrons operated under restrictive rules of engagement, and deliberately refused to participate in Joint Special Operations Command (JSOC) operations or collaborate with Air Force Special Operations Command, and also applied tighter rules on civilian casualty acceptance (Woods 2015, 90). French drones, meanwhile, began operating as part of the French military operations in the Sahel in 2019. Unlike the United States and the United Kingdom, however, France deploys its pilots in the theatre of operations, and therefore explicitly rejects the notion of a geographically expansive drone campaign (Jeangène Vilmer 2021). Nevertheless, there remains significant questions about how the drone and the global counterterrorism/counterinsurgency architectures interact with allied forces, notably where intelligence-sharing potentially leading to targeted killings is at issue (Woods 2015, 128). While the United States' employment of armed drones may be taken as a preeminent exemplar, there remain limits to how it can be generalized to other countries' drone employment, as rules of engagement, strategic and tactical practices, and legal authorities differ.[8]

The thornier counterpart to the American example of armed drone use lies in the Israeli counterterrorism employment of drones. Indeed, in tracing legal and historical practices of targeted killing or drone warfare, Israel and the United States are often directly compared (Gunneflo 2016; Férey 2020; Jones 2020). The Predator drone's development was in part distantly inspired by the Israeli use of drones in the 1973 Kippur War (Whittle 2015, 10–11), and the United States legal justification for targeted killing looked initially to the Israeli case for inspiration, though it quickly evolved in a different direction (Woods 2015, 52; Gunneflo 2016).[9] Israel indeed began employing drones as part of targeted killings much earlier than the United States, with a drone employing a laser designator to support a helicopter strike in Lebanon in 1992 (Bergman 2018, 382–97). If looking for a pioneer in the (successful) use of armed drones, Israel would arguably pre-date the United States. The decision to leave aside the Israeli case, therefore, is due to two main factors. First, the drone in

[8] In Afghanistan, furthermore, the presence of troops of the International Security Assistance Force (ISAF) complicated matters, as they tended to operate under distinct political and operational parameters. Sean Naylor, for instance, reports JSOC sending Delta Force operators to northern Afghanistan for a time – a region controlled by German forces – to combat al-Qaeda, as "the U.S. military held out little hope that the Germans could take care of business" (Naylor 2016, chap. 25).

[9] The United States has also bought and operated a number of Israeli-built drones, such as the RQ-2 Pioneer (Whittle 2015, 58–59).

Israel has not raised the same interest as the American employment of armed drones in the War on Terror. As the wealth of scholarly literature on the subject suggests, there is something unique about the American use of drones, while the Israeli drones are much more obviously embedded in a counterterrorism and war machine (Weizman 2017; Bergman 2018). The Israeli use of drones is much more readily situated in existing lineages of state violence which, as Bergman traces, can be drawn from the very moment of its founding, if not before. Secondly, the Israeli justification of its employment of drones and air power is tied much more directly to its specific geographical, legal, and political situation, and less reducible to a framework of war. Markus Gunneflo argues that Israel transitioned from a framework of law enforcement under the Law of Belligerent Occupation to one of armed conflict in 2000, while Férey (2020, 73–77) emphasizes the transformational effect of the 2006 Israel Supreme Court case on the legality of targeted killing (see also Gunneflo 2016, 71–73). The case of Israeli drone programs, therefore, calls forth a different genealogy and conceptual analysis. While Férey and Gunneflo do well in drawing parallels between the two, they are also quick to emphasise difference which go far beyond the conditions for employment of armed drones themselves. While further work may be useful in establishing the connections and conceptual exchanges between these two drone programs, that work lies beyond the scope of this thesis.

Chapter 2 - A "Conceptual Genealogy" of Aerial Warfare[10]

This thesis seeks to provide a historical recontextualization of practices governing drone use in contemporary war. I situate the use of drones within broader practices of warfare – that is, as practices of war, rather than as targeted killing, assassination, or occupation (Chamayou 2013; Bergman 2018; Emery and Brunstetter 2015). I seek, therefore, to situate the employment of armed drones within two principal contexts. The first is historical: I trace how the strategic and tactical use of drones follows from earlier instances of remote and aerial warfare, and how it continues and breaks with past practices. The second is conceptual: I situate the use of armed drones within the broader dynamics of the Global War on Terror, and seek to establish how they fit within the conceptual and strategic frameworks for these military operations. My main interest lies in the intersection of conceptual discourses, the logics which justify and enable military violence, and practices of warfare through drones. Accordingly, I proceed through a combination of two methodological approaches – genealogy and conceptual history.

In this chapter, I lay out the epistemological and methodological foundations for the study of lethal drone strikes as a subset of practices of contemporary warfare. In doing so, I assert the presence of continuity between the way drone strikes are conceptualised and previous practices of aerial warfare. This decision to restrict the scope of my study to aerial warfare is due to several factors, length being a significant one, along with two further substantial ones. The first is organisational: since the 1990s, the United States has decided to centralise nearly all its drone operations under the control of the Air Force (Whittle 2015, 110–11; C. Lee 2019, 16). CIA drones are flown by Air Force pilots, Joint Special Operations Command drones are flown by the Air Force Special Operations Command, and regular drone units are overseen by the theatre air commander.[11] While the Army has started fielding its variant of the Predator – the MQ-1C Gray Eagle – the vast majority of drones are controlled by air units, and

[10] I borrow the phrase from Hoffmann and Franzel 2018, xvii.

[11] Some tensions remain over the operational control of conventional drones (as opposed to special operations drones) and their place within the battle order, notably relating to the division between intelligence and combat missions (see Ritter 2021; Woods 2015, 86). Following a major breakdown in communications on October 7, 2001 (the first night of bombing in Afghanistan), the decision was made to coordinate all drones through the joint Air Tasking Order, at least for a time (Whittle 2015, 263; see Woods 2015, 23–27).

treated as such (Woods 2015, 89). This decision, which devolves from and embeds drones in specific service cultures, also shapes conceptions of their operational use (Mahnken 2010, 2; C. Lee 2019). The second is spatial: I inscribe the armed drone within a long history of debates concerning the purpose and value of remote and aerial violence, and how remote means can be used to achieve strategic impact. Drones, like other armed aircraft, engage in particular vertical and remote relationships to the territory they overfly, and these relationships carry significant strategic implications (see chapter 9). Consequently, I situate drones within a genealogy of aerial and remote warfare, in order to emphasise these characteristics.

My thesis, as such, examines understandings, discourses, and practices of aerial war. I am not interested necessarily in operations of aerial bombing in themselves; rather, I concentrate on the logics underpinning uses of aerial warfare and the conceptual frameworks sustaining them ethically, strategically, and politically. Such a study carries implications for the understanding of war as a whole: tracing the evolution of practices and their justifications, of how the range of legitimate practices expands and is restricted, of changing criteria for the legal and legitimate use of force, etc. contributes to trace the outline of concepts of war itself (see chapter 3). In doing so, as this chapter will expose, I draw on a methodological framework derived from Reinhart Koselleck's conceptual history, combined with insights from Foucauldian genealogy. Koselleck's *Begriffsgeschichte* traces the development and transformation of concepts, which – he contends – constitute the foundational building blocks of discourse and thought. For Koselleck – as for Foucault – history is therefore fundamentally a discursive entreprise; history, as a discipline and as a form of writing, exists through the mediation and processing of past events through discourse (Koselleck 2002d, 11). Accordingly, I here concentrate on conceptual discursive narratives and logics which – though derived from actual past events – extend beyond those events, transform across various timescales, and shape future interpretations and constructions of events. In applying this approach to the study of air power and drone power, I trace how contemporary understandings of armed drones were shaped, produced, and justified through past events, so as to construct the "regime of practices" in which they are now embedded (Foucault 2001b, 841). In what follows, I begin by delineating what I draw from genealogy and from conceptual history respectively,

before identifying similarities and distinctions between these approaches and outlining how I will combine them throughout my thesis.

Genealogy

Foucault's methodological principles have remained largely tentative, in part due to his own shifting approaches, but also due to his refusal to explicitly lay down methodological rules. Where Quentin Skinner – or even Koselleck – wrote explicit methodological works explaining the relation of context to text and presenting their epistemological foundations, Foucault's genealogical approach is as much gleaned from various statements, derived from his published works, and produced by later interpretations and systematisations. If one were to attempt a concise definition, genealogy questions "how the development of discursive practices produces truth and knowledge and so shapes and defines subjects and subjectivity" (Prado 2000, 11). In what follows, I survey quickly how genealogy has been used in International Relations and detail two key aspects of this approach, namely its focus on discourses, practices, and rationalities, as well as its investigation of the contingencies that make the present possible.

Genealogy has been employed regularly in critical International Relations and security studies, aiming to unsettle and contest established concepts. At its core, genealogy involves the process of questioning and knowing an object of study which constitutes that object. In other words, in writing about matters of International Relations, scholars shape the objects which they aim to study. Genealogy rejects the notion that stable objects or concepts can be plucked and studied objectively. In security studies, thus, "a genealogical method would treat security not simply as an object of research, but as something embedded in historical struggles over truth, knowledge, authority, expertise and power" (Bonditti et al. 2015, 159). Its fundamental question, therefore, is to investigate how the contemporary present came to be, not by tracing its origins as they develop towards some idealized form, but how it was molded by struggles over power and normative discourses. As Foucault (2001a, 1013) states, rules themselves are essentially neutral, and gain their specifically contingent meaning when employed for a purpose in a given situation. Genealogy serves therefore to demonstrate the political struggles which shaped "regimes of knowledge in specific contexts" and which continue to shape them today (Bonditti et al. 2015, 166).

To attempt a genealogy of political concepts, therefore, is to reject any pretence to universality, as Jens Bartelson (1995, 81) makes clear in his *Genealogy of Sovereignty*. Genealogy is fundamentally a "history of knowledges" and how they, "in all their vigour and truth, were formed out of the past" (Bartelson 1995, 73). For Bartelson, in rejecting teleology, genealogical approaches seek to avoid the two perils of finalism and presentism. The former consists of organizing history according to an extra-historical end point towards which it progresses; the latter consists in following the gradual emergence of a fully-formed idea, whose antecedents can be traced from an essentialized "origin" to the current present (Bartelson 1995, 55–57; Foucault 2001a, 1006). Fundamentally, therefore, genealogy consists in recuperating the accidents, contests, and decisions which produced the current regimes of knowledge which may appear solid and natural, but are in fact products of contingency and of "political choices which were made, and therefore which could have not been made" (Férey 2020, 35).

When it comes to armed drones, the object of study itself is similarly unsettled. There is certainly a tendency, drawing on well-publicised examples of early remote-control aircraft development, to trace a clear narrative history of militarized drones (see for instance Boyle 2020, 27–54). Chris Fuller's (2017) history, for instance, while it emphasizes the changes in definitions of assassination, traces a broad narrative in which the institutionalized regime of drone targeted killings fulfills the vision sketched by Richard Shultz and the Reagan administration in the 1980s. Whittle's (2015) history of the Predator drone adopts a similar unified narrative, though one marked by discontinuities. The development of the Predator was marked by accidents, coincidences, and unplanned developments: the armed hunter-killer which would be employed around the world was not designed as such and was produced as much by ad hoc responses to circumstances as it responded to the vision of its creators and promoters. Yet, the Predator and Reaper drones are much more than a product of accidental technological development; what these shifting technological capabilities demonstrate is a shift in constellations of meaning, and transformations in practices and discourses which they reflect.

Any genealogy of armed drones – including mine – is by necessity incomplete (Foucault 2001b, 839). Indeed, this present conceptual genealogy rests on several other genealogical works, which touch on aspects of armed drone employment in the

War on Terror and of contemporary regimes of drone knowledge. Antoine Bousquet (2018), for instance, has proposed a genealogy of militarized vision and its modes of sensing, imaging, mapping, and hiding, which feeds into regimes of drone knowledge. Michael Dillon and Julian Reid (2009) have proposed a genealogical exploration of liberal war and its expression in the War on Terror, while Sybille Scheipers (2015) has done the same pertaining to the constitution of the category of unlawful combatants, which is essential to the legal and political production of legitimate targets which can be hunted by armed drones. Both of these interrogate how political, legal, and normative forms of appropriate violence were produced through historical discourses, legitimating the violence of the War on Terror of which armed drones are a part. Finally, among drone critics, Grégoire Chamayou sees himself explicitly involved in the ongoing contestation and unsettling of drone knowledges, seeking to identify and counter "the whole lot of theoretical offensives conducted to appropriate, twist and redefine concepts which enable, through naming and thinking, the exercise of legitimate violence." As he sees it, "philosophy is, now more than ever, a battlefield" in which forms of violence are polemically defined (Chamayou 2013, 29; Foucault 2001a, 1013).

My genealogical study, therefore, seeks to investigate the constitution of a strategic rationality for the contemporary use of drones. Armed drones are not in themselves essentially good or bad, effective or ineffective. Such judgments are only intelligible within specific "rationalities" or "regimes of conceptuality" (Koopman 2017, 105). These rationalities produce "regularities" and rules, that is, forms of action, speech, thinking which are rendered acceptable or good within a specific rationality (Foucault 2015, 195; 1972, 144).[12] The fundamental question of genealogy, therefore, lies in uncovering the means through which a given rationality leads to a "regime of practices" with its "own regularity," which is rendered acceptable, effective, and good (Foucault 2001b, 841). Discourses and practices contain and reflect these diverse regularities, and engage in the formation, affirmation, and contestation of these underlying logics (Foucault 2015, 55; 69) As such, Foucault rejects the distinction between ideas, speech, and action: all three contribute to the formation of regimes of knowledge which shape events and history. As he states at

[12] The translations from *L'archéologie du savoir* and *Les mots et les choses* are my own, checked against the English translations.

the end of the *Archaeology of knowledge*, "to speak is to do something" (Foucault 2015, 283; 1972, 209). These regimes of knowledge are constantly in flux, as events, actions, and discourses shape and transform them.

Finally, as noted above, genealogy rejects the notion of essentialized origins which would predetermine what follows (Foucault 2001a, 1006). On the contrary, genealogy seeks to capture the radical contingency of any given regime of knowledge, which is therefore neither necessary nor ideal. The existence of a given regime of knowledge and its established history is in itself political, in that "the validity of a given historical claim rests on the ability of a dominant perspective to 'screen' and in this way define our knowledge of the past" (N. Shah 2010, 633). Historical narratives are simultaneously part of and productive of a given regime of knowledge. Amélie Férey (2020, 33–36) touches on this in her study of the historical legitimation of targeted killing: by constructing a long narrative history of beneficial and legitimate targeted killing, one both reflects a political regime of knowledge which considers targeted killing as desirable and rests this practice on a historical construct which renders it beneficial and legitimate. Genealogy, by demonstrating the contingent construction of a phenomenon taken as stable, therefore "bring[s] into view the multiplicity of discourses, practices, and institutions that are organized around [this] phenomenon" and which are co-produced with it (Erlenbusch-Anderson 2018, 163). In Erlenbusch's account, the definition of a concept of terrorism created the need to produce knowledge of terrorism, which simultaneously reinforces the existence of a concept of terrorism. Similarly, for Férey, the existence of targeted killing in a given regime of knowledge calls forth the narrative history of targeted killing which supports its conceptualization.

By demonstrating the contingency of these regimes of knowledge and how they were produced in given political-strategic situations, a genealogical study of contemporary regimes of drone warfare can demonstrate that the contemporary employment of armed drones is neither inevitable nor necessary. It questions how armed drone use is conceived and thought, and how it relates to broader military practices, and interrogates how knowledge is produced, both *of* the armed drone and *through* the armed drone. Most importantly, genealogy aims at the recuperation of older layers of meaning which "often in some degree remain readable, or operational, despite the prominence of new ones" (Dillon and Reid 2009, 84–85).

Conceptual History

As mentioned above, I complement the genealogical approach presented with conceptual history, derived from Reinhart Koselleck's *Begriffsgeschichte*. Though similar to Foucault's archaeological excavation of historical contingencies and structures of knowledge in several respects, Koselleck's notion of history as "the science of experience" opens up attention to the spatialisation and temporalization of concepts, as well as to processes of conceptual change (Koselleck 2018, 4; Hoffmann and Franzel 2018, xxiv). In what follows, I outline Koselleck's notion of the concept, as well as his theory of conceptual change and of temporalization (and, to a lesser extent, spatialisation).

Koselleck concerns himself primarily with the organization, classification, and understanding of experience into intelligible historical experience. To this end, thought is organised through a number of basic concepts which serve to interpret experience, and which therefore constitute the building blocks of discourse (N. Olsen 2012, 182). In Koselleck's conception, human experience is inextricably temporal and spatial, and therefore grasped through concepts that are equally spatial and temporal (N. Olsen 2021). As such, concepts represent a "collection of experiences and expectations, perspectives and explanations, of historical reality" (Bödeker 1998, 55), structures which pre-exist events but that become implicated in the experience of an event (Koselleck 2002a, 124). Concepts, furthermore, are necessarily terms which concentrate multiple meanings into a single linguistic entity, and therefore remain open to a plurality of interpretations (N. Olsen 2012, 172).

Koselleck's principal contribution to study of concepts, however, lies in his conception of temporality. The notion of "sediments of time", of layers of meaning which move and change on different timescales, provides an innovative and rich account of conceptual change (Koselleck 2018, 3). Like Foucault, Koselleck (2018, 7; 2002f, 60) emphasizes the singularity of events, which he conceives as bifurcations between past and future, undetermined moments in which experiential concepts may be transformed or altered. These moments of singularity, however, occur within patterns of repeated experiences, within larger structures of time, and within "long-term conditions of possibility" (Koselleck 2002f, 60). The challenge of explaining conceptual change, therefore, resides in the notion of concepts as concentrations of experiences and meaning derived from events: new events, new experiences, are

deposited like new sedimentary layers upon pre-conceptualised experiences. Yet, these "multiple layers […] refer to each other in a reciprocal way, though without being wholly dependent upon each other" (Koselleck 2018, 4). Unique, new experiences are superimposed and related to underlying recurring, "longer-lasting structures that enable changes" and which, though they "initially appear to be more static, are themselves also subject to change" (Koselleck 2018, 6). Koselleckian concepts, therefore, do not possess a stable, essential core which would be independent of experience and linguistic use; they do, however, remain united by well-entrenched foundations of experience which may change on slower timescales "and whose characteristic is their *longue durée*" (Koselleck 2002a, 124).

Fundamentally, Koselleck's study of conceptual change is one which is shaped by his understanding of concepts as temporal – and spatial – entities. Drawing on Heidegger, Hoffmann and Franzel (2018, xxv) argue that the fundamentally historical episteme is one of "being in time." While Koselleck (2002e, 108–9) does recognize the centrality of "natural time" in historical thinking, the central concern of conceptual history remains the conscious – and retrospective – experience of change. Concepts serve both the "linguistic facilitation" of events – that is, concepts are directly involved in making change possible – and the retrospective collation and recognition of change (Koselleck 2002c, 24; 36). History, depending on this process of experiential conceptualization, remains therefore necessarily plural and indeterminate, as events can be experienced, interpreted, and re-interpreted in a multitude of ways. Koselleck, as such, distinguishes *Historie* – the "conscious treatment" of experience – from *Geschichte*, the attempt to fixate a totalizing history which would be both object and subject (Koselleck 2002f, 47; N. Olsen 2012, 174). It is in this slippage – from a constantly re-evaluated notion of historical experience subject to constant change and bifurcations to a planned history oriented resolutely towards the future – that Koselleck locates one of his four fundamental changes in the modern historical experience.[13]

Koselleck's main interest, through the study of concepts, is to map epochal transformations in political consciousness, particularly from the 19th century onwards. In his main historical works, he seeks to systematically organize forms of change in

[13] Along with this future temporalisation, Koselleck identifies the democratization (the expansion of the number of people who can shape shared conceptual structures), ideologisation (the abstraction and increasing portability of concepts), and politicization (the increasing use of concepts for political mobilization) of concepts (N. Olsen 2012, 171; Koselleck 2011, 9–15).

this period. Conceptual history, to this end, combines diachronic and synchronic analysis. As he explains in the introduction to the *Geschichtliche Grundbegriffe*, diachronic analysis separates the "layers of meaning" contained in a concept and traces their evolution in time, thereby "uncovering long-term structural transformations" (Koselleck 2011, 18). In particular, diachronic analysis requires the separation of the temporalities of distinct layers and the appraisal of their distinct speeds of change. Different aspects of the meaning of concepts change and may be reconceptualized at different speeds, leading to a situation he terms the "simultaneity of the nonsimultaneous" (Koselleck 2002b, 8; Hoffmann and Franzel 2018, xiii).[14] To capture these contingent simultaneities – when changes occurring on distinct timescales coincide – it is necessary to supplement diachronic analysis with synchronic analysis, situating the meaning of concepts in a specific conceptual constellation, as expressed in a particular event. These two approaches – diachronic analysis and synchronic analysis – remain fundamentally in tension, an event being made possible by underlying structures of conceptual meaning, yet not reducible to them (Koselleck 2002a, 125; 2018, 162).

Koselleck's approach to conceptual history contains multiple crucial insights for my current study. First, it provides further justification for my focus on doctrine and theorisations of aerial warfare. As Koselleck argues, conceptual meaning is created by the analytical filtering of experience; as such, the interpretation and analysis of aerial warfare, of its potential and future orientations is of central importance for the analysis of conceptual change. Texts such as Douhet's *Command of the Air*, the writings of Bernard Brodie in the early Cold War, or David Petraeus's *Field Manual on Counterinsurgency* provide distinct renderings of analysed experience, which shapes how they conceptualise the role of remote and aerial violence. Second, Koselleck's analogy of sedimentary layers draws attention to different speeds of change. Conceptual elements do not alter at the same space, and events – such as the development of nuclear weapons – may disturb some layers while having much more muted effects on others. The conceptual genealogy of armed drones contains many changes and transformations which occur on distinct timescales, sometimes intersecting, sometimes bifurcating. Third, as this study will show, I have attempted

[14] Michaela Richter translates it as "the contemporaneity of the noncontemporaneous" (Koselleck 2011, 18).

to both trace diachronic changes, and locate synchronic meanings. In chapter 7, for instance, I detail the multiple facets of concepts of distance and remoteness in the operations in the War in Vietnam. This represents a moment in which remoteness is transformed, stretched, and actively manipulated. Yet, this event occurs against a backdrop of longer changes in distance, discussed among others in chapters 6 and 8-9. The operations in Vietnam represent both a particular moment when technical, political, and strategic conceptual understandings combined into a specific situation, and a moment of conceptual change within trajectories of reconfiguration of distance in warfare. Conceptual history draws attention both to the moment of conceptual transformation and to its significance on larger, diachronic timescales. Finally, conceptual history draws attention both to the temporality and spatiality of concepts. While Koselleck (2002b, 5) discusses mainly the temporal character of concepts, as Olsen (2021, 3) argues the historical episteme is as much one of "being in time" as one of 'being in space'. Conceptual history, therefore, draws attention to the spatial constitution of experience as much as its temporal construction.[15]

Combining Genealogy and Conceptual History

The case for combining Foucault's genealogy and Koselleck's conceptual history is hardly new or revolutionary; in his preface to Koselleck's *The Practice of Conceptual History*, Hayden White (2002, xiii) notes that Koselleck's work converges with that of Foucault, as well as Barthes and Derrida, "all of whom have stressed the status of historiography as discourse rather than as discipline and featured the constitutive nature of historical discourse as against its claims to literal truthfulness." Similarly, Hoffmann and Franzel explain Koselleck's method as a "conceptual genealogy" (2018, xvii) which, in archaeological fashion, aims at the "excavation of semantic layers contained in concepts" (2018, x), before noting explicitly that, contrary to common conceptions, "the theoretical underpinnings of Koselleck's

[15] Julien Pomarède's article "Archipelagos of Death," which I discuss in chapters 8 and 9, for instance, draws extensively on Koselleck's concept of the "horizon of futurity", which itself represents a spatial rendering of a temporal concept (Pomarède 2020; N. Olsen 2021, 7).

A Koselleckian analysis may also help disentangle the multiple temporalities of drone warfare. Drone activity combines the slowness of long-term surveillance, the weeks-and-months long establishing of patterns of life of targets, and the long hours of loitering in surveilling a target with the near-simultaneity of seeing, sensing, and shooting. The drone network itself is one where multiple temporalities – those of the drone aircraft, of its operators, of its strategic architecture, of its target, and of other potential bystanders or victims – intersect and act upon each other, potentially responding both to demands for increased speed and for the slowness of methodical intelligence collection.

Begriffsgeschichte, including his critique of the ideological use and abuse of modern concepts such as 'history' have more in common with Foucault's archeology than with Pocock's and Skinner's much more contextual interests" (2018, xxiv). White is of course right that a significant part of both Foucault and Koselleck's methodological endeavours consisted in relativizing historical truth – there is, for both of them, no absolute historical truth which is objectively valid; as Koselleck (2002b, 2) writes, "historicity absolutizes relativity." This, in turn, presents several advantages for my study, which I outline here below.

The first similarity between Koselleck and Foucault concerns the focus on the discursive formation of concepts and underpinning structures of thought. For both Foucault and Koselleck, history is fundamentally a history of discourse, in which the most significant elements are not the discourse itself but its structures, functions, and underpinnings. Both being historians, they are concerned fundamentally with historical change; this change, however, lies not in the events themselves, but rather in the manner through which individuals and societies organise their thought, their relationships to each other, and to the world. Koselleck (2002b, 8), thus, repeatedly distinguishes "history" from "chronology," while Foucault (1966, 229–30; 2007, 236) argues that change " is a radical event which spreads across the entire visible surface of knowledge, and of which we can follow step by step the signs, shockwaves, and effects." However, "only thought grasping itself at the root of its own history could provide a foundation, free of doubt, for what was in itself the solitary truth of this event." In other words, it is only by probing the history of thought itself – its changes and transformations, bifurcations and confirmations, that one can arrive at anything approaching truth, this truth being, in Koselleck's words, the fact of human historicity.

In my study, similarly to Koselleck and Foucault, I do not concern myself with surface effects and changes; instead, I seek to understand "the effect of a change in the fundamental dispositions of knowledge" (Foucault 1966, 398; 2007, 422); for this, what must be understood is the conception of the world and of relationships within this world which undergird all practices. In other words, it is necessary to look beyond the immediately visible events to see which assumptions they rely on. As Koselleck (2002a, 124) states, "all events are based on pre-existing structures that become part of the events concerned, but that existed before the events in a different way from the chronological sense of the before." It is these structures of thought which I seek to

understand, and how they undergird practices of remote warfare. In my case, I do not concern myself with the minutiae of bombing operations themselves. Tactical changes, strategic plans, the selection of specific targets, etc. would constitute, in Foucault's words, mere surface effects and signs pointing towards something more fundamental. Rather, what I focus on are the structures and concepts which make such practices of warfare possible. These structures and concepts are not, however, necessarily a systematic and coherent ensemble which unproblematically determines discourse and practice: rather, as Foucault emphasizes, discontinuities and tensions abound, and often these contradictions and opposing forces are as interesting, if not more interesting, than the areas of structural coherence. As such, in seeking to uncover the conceptual underpinnings of practices and discourses concerning aerial warfare, I pay particular attention to tensions between objectives, norms, as well as to unexpected events, bifurcations, and innovations.

This leads to a second point of convergence between genealogy and conceptual history, namely the emphasis on drawing a history of the present, and on establishing conditions of possibility of historical action. Both Foucault and Koselleck are very clear in their rejection of history as a succession of causal links drawing towards a teleological end. The reasons for this are multiple, the first being a question of positionality: if history (as a historical narrative) is written through concepts which are ultimately linguistically bound, it follows necessarily that such a historical narrative is situated within the horizon of this conceptual system. In other words, the teleological end towards which any historical narrative would tend is a product of a specific understanding of the present and of our place within it. Koselleck (2002b, 12) thus explicitly challenges the narrative of history as a succession of necessary causes: as he writes, "the determination of necessity hides a flat tautology," with the conceptual understanding of necessity creating the very necessity it purports to identify. Rather, he advocates a "theory of possible history" (Koselleck 2002b, 12), or what Foucault (1966, 13; 2007, xxiii–xxiv) would call the determination of an "episteme" of "conditions of possibility." As mentioned above, for Koselleck (2002f, 60), a fundamental tension exists between "long-term conditions of possibility" which make an event possible and the radical present of an event in which change occurs, with events being irreducible to either diachronic progression or synchronic immediacy. The task of conceptual history, therefore, lies in situating the singularity of events

within longer "structures of repetition" and structures of experience which both encompass the past and call forth an expected future (Koselleck 2018, 4; 2002c, 30). Such history is necessarily non-linear and plural as distinct forms of experience and conceptual knowledge intersect, clash, and shape each other. For Foucault (2001a, 1004; 1011; 2001b, 841), similarly, genealogy aims at capturing the "singularity of events," thereby understanding how given events and practices came to be and were made possible, without constraining them into teleological narratives.

The corollary of this theory, therefore, is that a study of history is simultaneously a study of the present, of its sources, and of this historicity of conceptions of the present. To understand the present, it is imperative to be conscious of its historical contingency: "A specifically historical question can legitimate itself academically only by going back to the historics that inhabits or precedes it; for the purpose of research, it has to unfold its own theoretical premises." (Koselleck 2002b, 3) As such, Koselleck and Foucault would agree, any understanding of the debates of the present depends on an examination of the history of the formation of crucial concepts of present discourse, their formation, their trajectories, as well as the range of meanings these concepts can take. This is a crucial implication for my research: by going back to key historical moments in the formation of concepts of aerial warfare, I am essentially tracing the history of the present, and of the significant concepts in contemporary warfare. As Koselleck states, attempts to consider contemporary warfare – such as the use of drones – in an ahistorical vacuum, without historicizing the norms and concepts of warfare, are bound to fail.

Conclusion

I conclude with a more concrete operationalisation of the methodological approach described above. From this combination of genealogy and conceptual history I draw several guiding principles. First, as both Foucault and Koselleck argue, I do not seek to draw particular causal relationships between the diverse elements of my thesis. I consider the multiple aspects of aerial and remote warfare discussed to be areas or moments of conceptual transformation, in which particular conceptual understandings were shaped. In so doing, I concentrate mainly on writings, doctrine, and discourses concerning the role of air power. I am interested in how the role of air power was thought, conceptualised, and thus produced as effective and good. In chapter 7, on the War in Vietnam, while I pay closer attention to practices of war, I

remain interested in the underlying spatial concepts expressed through these practices. Chapter 8 and 9, meanwhile, dissect the use of armed drones in the War on Terror, and seek to situate it within a conceptual structure, namely that of counterinsurgency.

Second, as Jens Bartelson (1995, 73) argues, genealogy is by definition not complete, but episodic and exemplary. Genealogy concentrates on "episodes [of conceptual change] which are involved in the effective formation of that which was identified as problematic in the present." It does so by presenting examples which are taken as representative of conceptual formations which contribute to making the present. Necessarily, in so doing, conceptual genealogy engages in tracing the construction of the present and of its past, of "interpretations of interpretations" in which these examples are representative (Bartelson 1995, 76–78). For instance, the fact that Giulio Douhet is considered a "prophet" in the contemporary Air Force makes him a particularly apt exemplar (Kohn and Harahan 2019, xii). On the contrary, the lack of recognition afforded to Amedeo Mecozzi, who Thomas Hippler (2013, 247–48) terms the "anti-Douhet" would make him interesting for a synchronic study of early 20th century air power, though less so for an exemplary genealogy; if anything, his would be an example of an absence, not of a presence. Accordingly, I rely on particularly salient exemplars in each stage of my conceptual genealogy, which provide clear statements of the relation and meaning of key concepts.

Ultimately, therefore, I propose in this thesis a genealogy of how armed drones came to be considered an essential element of contemporary warfare, one which can achieve decisive effects at a distance and contribute to strategic success. This centrality was not preordained, and it did not – and does not – have to be. I trace these developments through a number of central concepts which remain central to debates concerning air power throughout. Concepts of victory, strategic effects, distance, levels of force pervade this conceptual genealogy, and change meaning repeatedly while remaining part of largely unified discourses. Contemporary armed drones are imbricated in these discourses. As mentioned above, for both Foucault and Koselleck, these earlier discourses, while they may fade, leave traces which continue to impact contemporary practices. This conceptual genealogy begins necessarily *in media res*. Other scholars have – aptly – pointed out earlier antecedents to norms and theories of air power, notably in naval warfare (Carvin 2015; Lindqvist 2012; Hippler 2013); the same could be said for the sketch of Clausewitzian interpretations in chapter 3. I do

not seek to locate the "origin" of an idea of drone warfare, which contemporary practices would fulfill (Foucault 2001a, 1004–6). Similarly, this genealogy is necessarily incomplete, and should be treated as a further intervention in the history of contemporary drone practices, not as an attempt to achieve a holistic or complete account.

Chapter 3 – Clausewitz and Contemporary War

This literature review chapter presents the wider context of discourses on changes in contemporary war in which the employment of armed drones is embedded. It is one of the central contentions of this thesis that aerial warfare, and by extension the use of armed drones, cannot be separated from wider developments and contestations of war and strategic thought; therefore, it is crucial to consider the changes brought about by remote-piloted aircraft as part of wider transformations in contemporary war. The review of the literature, as such, is divided into two chapters: this one addresses wider debates concerning the purpose and form of war and their transformations, while chapter 4 engages with debates concerning remoteness, risk-transfer, and asymmetry in contemporary war. In line with my genealogical and conceptual approach, I examine discourses concerning changes in warfare, and how these discourses interpret, transform, and reject previous conceptualisations of war and strategic thought.

While conceptions of new twenty-first century war abound, most share a common point of reference, namely Carl von Clausewitz's conception of war, presented principally in *On War*. In Mary Kaldor's (2012) book, "new" wars displace the "old" wars of Clausewitz; others observe the rise of 'low-intensity war' in opposition to the "major war" of before; Martin van Creveld (1991b) heralded the coming of new "non-trinitarian warfare" against the Trinity-bound Clausewitz, while Andreas Krieg and Jean-Marc Rickli (2018; 2019), after flirting with non-trinitarian war, settled on "neotrinitarian war"; the Revolution in Military Affairs, while perhaps more in line with a claimed Clausewitzian vision (Strachan 2008, 5), recalls a number of previous revolutions in war, not least that following the French Revolution, chronicled in *On War* (Strachan 2007, 36; see also Knox and Murray 2001; Echevarria 2007a, 2–3). Whether he is *passé*, in need of rebooting (Coker 2017) or still relevant despite the "changing character of war" (Strachan and Scheipers 2011), there is no question that Clausewitz is central to a genealogy of discourses of transformation in war. Even his opponents cannot do away with him. Furthermore, there is no genuine argument that war never *was* Clausewitzian – only whether war still *is* such: to attempt a genealogy of discourse on change in war, therefore, Clausewitzian interpretation is an unavoidable starting point.

Overall, I argue in this chapter that the development of regimes of drone warfare evolved out of recurring debates over core Clausewitzian categories, namely what constitutes war, what its purpose is, and how acts of warfare relate to broader strategic and political objectives. After this brief analysis of Clausewitzian interpretation in – largely post-World War II – strategic thought, I proceed to analyse three arguments about changes in the socio-political foundations of warfare which, their advocates claim, fundamentally change the nature of war. These are, first the 'new wars' argument presented principally by Mary Kaldor, second arguments for a technology-driven Revolution in Military Affairs, and third the re-emergence of irregular warfare. These three conceptions, to various extents, embed arguments about the novelty of contemporary war in wider social, political, economic, and technological changes and therefore entail a near-total rejection of pre-1991 strategic thought. They also situate the War on Terror in fundamentally different relations to the history of war. For the Clausewitzian school, the War on Terror demonstrates fundamental strategic problems of relating military strategy to political objectives; for the new wars thesis, the clash is that between an "updated version of old war, making use of new technology" and a new socioeconomic nature of war (Kaldor 2012, 152); for the Revolution in Military Affairs current, the problem is either one of leveraging technology to achieve a fully networked battlespace (Bousquet 2009, 2), or – for its critics – of dealing with the implications of "virtual" (Ignatieff 2000) or "spectator-sport" war (McInnes 2005); finally, for those who emphasise the tradition of small war, the War on Terror is best conceived as "a small war writ large" (Daase 2007, 194), both in its tactics and in its emphasis on the centrality of the people.

Clausewitzian Wars

Much of recent debates concerning changes in war share Clausewitz's *On War* as a focal point. As Hew Strachan and Andreas Herberg-Rothe suggest (2007, 2; also Strachan 2008, 27), "each generation reads *On War* in the light of its own understanding of war, and so each has its own reading of Clausewitz" which can then be used to approach wider understandings of war. Put simply, reading how changes in war are framed as anti- or neo-Clausewitzian may well tell us more about changes in strategic thought than about Clausewitz. How scholars have grappled with, resolved, or been misguided by (mis)translations becomes therefore not cause for

criticism, but evidence of how they understood their position vis-à-vis the tradition of Western strategic thought.[16]

In this tradition of Clausewitzian interpretation, one cannot help but be struck by the marginalization of air power studies, which continues in the contemporary study of armed drones as separate from wider strategic thinking. While volume upon volume has been written on twentieth and twenty-first century war in Clausewitzian contexts, air war remains to the wayside. Christopher Bassford (1994, 150–51), in his study of the anglophone reception of Clausewitz until 1945, devotes a grand total of two pages to air power theorists, mainly to bemoan their lack of overt engagement with Clausewitz. Michael Howard (2003, 72) explains this by the fact that air power theorists "used Clausewitzian arguments, but few mentioned his name"; Bernard Brodie (1984b, 53), meanwhile, takes glee in contrasting "the only truly great book on war" with Giulio Douhet's "museum piece", explaining that while Clausewitz has plenty to offer in the nuclear age, "the nuclear age hardly needs a Douhet to tell it what havoc and terror can be achieved by those weapons."[17] (Brodie 1984b, 51) Only Mark Clodfelter (1989, xi), on the late and perhaps influenced by the much wider post-Vietnam Clausewitz revival, attempts a resolutely Clausewitzian assessment of strategic bombing in Vietnam, arguing that "Clausewitz's definition of war as 'a continuation of political activity by other means' provides the only true measure for evaluating air power's effectiveness." Nevertheless, it would be a mistake to suggest air power theory bears no relation to Clausewitzian interpretation, even though this may be more subtext than text, perhaps too subtle to merit the attention of traditional Clausewitzian scholars.

There exists almost as many holistic interpretations of Clausewitz's thought as there are scholars. The predominance of politics (Brodie, Howard, Paret), the superiority of the defensive (Sumida), the experience of small war (Daase, Scheipers), the opposition of ends and means (Echevarria), the Trinity (Waldman, Bassford) have all been held as keys to unlocking the whole of *On War*, with yet others seeing plurality

[16] For a schematisation of schools of interpretation of Clausewitz, see Bassford 2007.

[17] In *Strategy in the Missile Age*, roughly 15 years before his introductory essay on Clausewitz, Brodie contrasts Clausewitz, who stands preeminent in the theory of war as a whole, with Douhet (and Alfred Thayer Mahan), who are preeminent in specific fields only. Brodie (2015, 27–28; 73) does engage with Douhet substantially, noting his "very crude" errors but acknowledging that his "impressive" insights were rescued from irrelevance by the advent of nuclear weapons.

On the development of nuclear war doctrine and its relation to strategic bombing theory, see chapter 6.

rather than unity (Strachan, Heuser). These interpretations all rely on the reception context, reflect the preferences of their authors, and most importantly educated guesses about the process of writing *On War* and determinations about which parts were written last and therefore should be held as more definitive. In what follows, rather than following one of these – not always mutually exclusive – holistic interpretations, I concentrate on tracing debates concerning three key concepts Clausewitz "himself invented or perfected" (Heuser 2002, xi) which tend to surface more frequently in contemporary discussions, namely the opposition of limited and unlimited war, the centrality of the human element in war, and the role of *die Politik* in shaping war.

In a note of revisions planned for *On War*, Clausewitz (1984, 69) wrote of the need to distinguish the "two types of war," an opposition needed, he said, to bring clarity to the work as a whole. Considerable debate has ensued on the significance and source of the opposition between absolute and real war, unlimited and limited war. Beatrice Heuser (2002, 41) sought to trace the opposition throughout the work and throughout the subsequent reception as one between "Clausewitz the realist" and "Clausewitz the idealist." Such an opposition, which suggests the presence of two completely distinct threads of argument within one work, has gained fairly large appeal (Honig 2007, 64; Paret 1984, 21). In this view, Clausewitz wrote mostly about an abstracted form of war – absolute war – in which escalatory dynamics reign supreme and where the aim is the achievement of decisive victory on the battlefield, leading to decisive strategic domination. This abstract ideal is that of the early part of Book I, Chapter 1, where the aim of war is rendering the enemy defenceless (Honig 2007, 61). According to this view, Clausewitz (1984, 69) then revised this work to take into account the "matter of actual fact" that war never reaches its absolute form. The opposition between an ideal pure idea of war and its forms in practice, therefore, explains the distinction between the parts of *On War* which highlights limits on war, and those which emphasise absolute war.

Hew Strachan (2008, 169–70) adopts a slightly different formulation, distinguishing "Clausewitz the theorist" from "Clausewitz the historian," and arguing that the distinction is rather between Clausewitz conceptualizing the wars he experienced and him taking into account the wider history of war. The difference, therefore, according to Strachan (2007, 36), is one of approach, not of object: as Clausewitz realized that war had changed significantly in his own experience (Daase

2007, 185), he widened the scope to encompass wider experiences, based on systematic historical study. In this approach, the end point of this distinction is not two separate and formal concepts of war – one theoretical, one pragmatic – asymptotically related, real war tending sometimes towards the absolute without ever achieving it, but rather a spectrum of experiences and conceptual understandings. Strachan (2008, 147–49) suggests that the nature of the "absolute" itself changes with time, as new occurrences of war lead to new extremes: absolute war would not be considered as an unchanging abstract idea, but as itself part of historical, political, and material conditions, determined in part by the same "*politische Verhältnisse*" which condition war in general (Honig 2007, 71). Strachan (2007, 21) further rejects the idea of the absolute as a unified concept, noting the presence of multiple forms of extremes in war, notably the politically unlimited war and that driven by unlimited passions, to which one can add socioeconomically unlimited war, dependent on the *levée en masse* or the defensive people's war (Daase 2007, 192).

The debate became particularly salient with the introduction of aerial warfare, nuclear weapons, and wider conceptualisations of total war. Heuser (2002, 117–18) argued that a distinction should be made between the ideal type of Clausewitzian absolute war and the real prospect of total war advocated among others by General Ernst Ludendorff prior to the Second World War. Others, such as Michael Howard (2003, 49), explicitly equated the two, especially in a world where nuclear weapons seemingly brushed away the constraints which made the realization of the absolute impossible (2003, 73).[18] The development of air power, in this sense, could be seen alternatively as moving towards forms of war more similar to absolute war, as a new form of total war on populations rather than governments (Heuser 2007, 152), or as one in which the forms taken by absolute and limited war have been altered but where the distinction can be maintained, as Strachan suggests. All three of these positions maintain the potential for Clausewitzian analyses of contemporary war, albeit in very different forms.[19]

[18] A similar point is made by advocates of the 'new wars' thesis, according to which the actualization of absolute war in the form of nuclear conflagration led to its logical overcoming and its replacement by a new nature of war (Kaldor 2012, 29–30; Van Creveld 1991b).

[19] The distinction between limited and absolute war would be tackled a little over a century later by Carl Schmitt (2005a), himself a reader of Clausewitz. Like Clausewitz, Schmitt (2007) sought – at least in 1963 to draw a distinction between conventional, real ("*wirkliche*") enmity and absolute enmity (and the forms of war devolving from them), and struggled in explaining the distinctions clearly. Schmitt (2005b), with the advantage of having witnessed the advent of total war, remained imprecise

Another facet in which this distinction between limited and unlimited war becomes relevant is on the need to limit the means of waging war, or on the contrary of exerting maximal effort irrespective of the aim. While Clausewitz (1984, 213) himself wavers on the question, at times ridiculing the notion of economy of force as the sparing of resources while at others acknowledging that the determination of available means entails a political decision in function of the political aim (1984, 585–94), later avowed Clausewitzians have been much more categorical on this question. By and large, the position adopted by either camp depends on whether one is more in line with the view of absolute war as an ideal to be achieved, or whether genuine war ought to be limited. Much has been made of the late 19th century interpretation by the German high command, for whom a limited war could be limited in aim, though not in means, the objective of the armed forces being to achieve an absolutely favourable position, which the political leadership could then exploit (Heuser 2002, 59). A century later, in a somewhat more nuanced form, this position would be adopted by Colin Powell, who would argue for military involvement only when the United States would be willing to act with "overwhelming and instantaneous" force (Strachan 2007, 34), in line with "clear political objectives" (Strachan 2008, 2). The 1991 Gulf War, as such, represented an example of a war waged with maximum force – though not unlimited – for a limited objective (Heuser 2002, 183). Brodie (1984a, 702), meanwhile, drawing on *On War*'s Book VIII, stated flatly that a loss of proportion between means and ends "would obviously be irrational and hence unacceptable," though he does not explain what precisely is irrational about this (although his reference to the "incoherence" (1984a, 701) of American policy in Vietnam suggests a possible answer).

With the Gulf War being taken as a model for subsequent Western military planning, ushering in the Revolution in Military Affairs (Strachan 2008, 5), the implications of this distinction between limits on means and limits on ends is again highly relevant. There has been a certain tendency to aim both for maximal lethality, irrespective of the ends to be pursued (Lonsdale 2007, 236), and for achieving the minimal exertion of force (see Van Creveld 1991a, 246). American forces have tried

in his distinction between the total – political – enemy and the absolute – unpolitical – enemy. However – and interestingly in the context of this discussion – Schmitt (2003, 49; 2015b; 2015a) discussed the changes in dynamics of enmity entailed by the introduction of air warfare, in the context of his metaphysical writings on "Land and Sea," arguing that air power would "envelop" the world and bring about ever intensifying and totalizing forms of enmity.

both to achieve maximal objectives with limited means – such as in the aftermath of the 2003 invasion of Iraq – and to provide a surge of troops to achieve the objectives quickly, such as in Afghanistan in 2009. Aerial bombing can be intended both as a means of bringing to bear tremendous firepower in "parallel warfare" (Deptula in Durieux 2007, 256), or as limited, precision strikes destroying and killing enough but not more. Aerial, network-centric warfare raises the possibility of attempting "total" targeting of "social infrastructure" while remaining "selective" in the striking of key nodes (Coward 2013, 103). In the context of contemporary wars, in which extensive political objectives are combined with fighting of varying or low intensity, the debate over the extent of means, both in the concentration of force and in the duration of their engagement, remains central to the determination of strategy. Benoît Durieux (2007, 254) has related this tension in "the current strategic debate" to a distinction between "these concepts of ideal and real war," arguing that both represent unsustainable attempts to restrict violence, either in time or in intensity (2007, 263).

Connected to the notion of the limitation of war lies the tension between the inherent escalatory nature of war – its specific "grammar" (Clausewitz 1984, 605) – and the limiting factor of policy. If Clausewitz is – as the saying goes – more quoted than read (Hans Rothfels in Beyerchen 1992, 59), it is largely in the guise of his phrase that "war is nothing but the continuation of politics with other means" (Clausewitz 1984, 69). The tension inherent in this statement – between continuation and the "other" means (Herberg-Rothe 2007, 290), between the specific nature of war and its complete subordination to policy (Durieux 2007, 258) – strikes at the very possibility of limited war, and as such carries tremendous implications for the possibility of waging war while avoiding maximal escalation. Paret (1984, 4) – like many Cold War interpreters – sought to subsume the whole of *On War* under this framework dominated by policy, arguing that the two revisions described Clausewitz in 1827 – the dual nature of war and the domination of policy – remained constant throughout all his writings, from 1804 onwards: the distinction is not, therefore, between political and unpolitical war, but between politically restrained and less restrained war. Moran (2007, 93) – a frequent collaborator of Paret – followed a similar line by describing the dual nature of war as an "epiphany," making explicit what was always implicitly present. Clodfelter (1989, xi; 208), meanwhile, highlights a similar point in his study of aerial bombing in Vietnam: war can only be appraised according to policy

objectives, and possesses no significance or logic outside of the pursuit of political objectives. War, according to this school, is therefore viewed rather as a rational instrument, "an act of force to compel the enemy to do our will" (Clausewitz 1984, 75), in which the will – as government policy – reigns sovereign.

This view, rather unsurprisingly, remained prevalent in the Cold War, used to justify and study escalatory dynamics in a nuclear confrontation. Clausewitz's (1984, 81) elaboration, in Book I, chapter 1, of the dynamic of violence which inexorably drives to the extreme, yet is moderated by its subordination to political aims, provided a useful foil in a Cold War context, as the United States transitioned from a policy of massive retaliation to one of flexible response and back again (Heuser 2007, 153–57). As Heuser (2002, 150) noted, the very concept of mutually assured deterrence requires a belief in the instrumentality of nuclear weapons, a vision shared, she notes, by Soviet leadership (2002, 145–46). Cold War commentators, therefore, were comforted in their reading of Clausewitz's subordination of war to policy, concentrating on "the centrality of this escalatory dynamic to all aspects of warfare" (Moran 2007, 92), while only in passing admitting that escalation involves interaction and therefore cannot be single-handedly limited by one side's policy (Paret 1984, 25; Howard 2003, 53; Cimbala 2015).[20]

It may be easy to see why such a vision of war as an act of rational state policy may have been rejected post-Cold War, as violence seemingly is less directed to a clear purpose. Herfried Münkler (2005; 2007) argues that war has now become a cover for predation, not an act of policy directed to an aim; Andreas Krieg and Jean-Marc Rickli (2019) argue that states resort to surrogates to intervene where they must, more to prevent bad outcomes than by choice to achieve any concrete aim, and sacrificing control in the process;[21] finally, proponents of the Revolution in Military Affairs have been criticized for concentrating more on lethality than on policy. Whether the policy-oriented aim of war is descriptive or normative is therefore equally debated (Brodie 1984a, 706) and significant: if it is normative, then one can envision non-

[20] Kaldor (2012, 218) exploits this point in arguing that new wars do not follow a Clausewitzian escalatory logic. Daniel Brunstetter and Megan Braun, meanwhile, in advocating the evaluation of individual acts of violence – such as targeted killings – based on their escalatory potential, seem to miss the point that escalation is by definition never unilateral (Braun and Brunstetter 2013; Brunstetter and Braun 2013).

[21] Herberg-Rothe (2007) has offered a version of Krieg and Rickli's conception of security as a collective good that is more directly framed as policy, namely that of contemporary war as guided by a new doctrine of containment.

Clausewitzian wars (as indeed much of the New Wars movement has done); if it is descriptive, then it is either wrong or incorrectly interpreted by those who would reject it.

Against this rationalist interpretation of instrumental policy – "a direct product of the influence of the Howard and Paret translation" (Strachan 2007, 35) – more recent commentators have sought to recapture the nuances and complexities of Clausewitz's concept of "*die Politik*." Multiple commentators have sought to recapture the idea of the Trinity (Strachan 2008, 179–80) presented at the end of Book I, chapter 1, as a way to highlight the complexity and nuances of relationships in war. This endeavour aims largely to move away from a simplistic schematization of Clausewitzian escalatory dynamics, according to which, it could be suggested, passions are irrational and lead to escalation while policy is rational and restrains violence. As Jan Willem Honig (2007, 71) notes, in Cold War doctrine, the precise opposite was true: escalation was presented as the rational policy, not as the irrational corruption of passions, a point taken up by Carol Cohn (1987) in her 1987 feminist critique of nuclear doctrine. Bassford (2007, 80), meanwhile, rejects the equation of politics/policy with reason, and particularly the translation by Howard and Paret of the Trinity passage as comprising reason "alone," as the Trinity makes clear in his view that reason is but one of multiple elements which guide war. For Bassford (2007, 81), the notion of war as a pure instrument of rational policy is unnecessarily rigid and misguided: as he highlights, the inherent value of Clausewitz's trinitarian conception of politics lies in its flexibility, the constellation of chance, reason, and passion shifting constantly according to the socio-political and military situation. Echevarria (2007b, 205) concurs, arguing that "none of the tendencies of the nature of war is a priori more influential in determining the shape and course of actual conflict than any other." Strachan (2008, 176) adopts a similar position, noting that "in practice policy adapts to war, to its development and circumstances, as much as war adapts itself to policy." War, therefore, may be a continuation of policy by other means, but it would be incorrect to construe this relationship as strictly monodirectional. As much as policy can be involved in every aspect of the waging of war, so the waging of war may have significant effects on political relations, both domestic and international.[22]

[22] Grégoire Chamayou (2013, 243), for instance, sees in the employment of armed drones a new mode of political power predicated on manhunting, one which fundamentally reshapes political relations between the people and the sovereign state.

These reflexive effects of war and politics constitute a significant innovation of contemporary interpretations of Clausewitz, which tend to approach war not only as instrumental, but also as an "elemental" activity of the nation (Strachan 2008, 180). This rediscovery of the nationalist element in Clausewitzian thought coincided in large part with a renewed attention to Clausewitz's activities in 1812-1813, as he left the service of the Prussian king to join the Russian army, before helping organise popular resistance in East Prussia following the retreat of Napoleon's *Grande armée*. This renewed attention has also brought to light Clausewitz's extensive writings on small war, both in *On War* (Book VI, Chapter 26 on "The Nation in Arms") and in other ancillary writings.[23] In Strachan's (2008, 47) interpretation, this shift is a manifestation of Clausewitz shifting his loyalty from the Hohenzollern dynasty to the nation as a whole. In this vision, therefore, *die Politik* would refer not merely to policy set by the government, but rather to politics as a field of power relations, standing outside of war itself, but nevertheless conditioning its conduct. This may include socio-political conditions (Paret 1984, 11) – indeed, much has been made by the changes entailed by the French Revolution – domestic politics, or the broader concept of civil-military relations (von Bredow 2007). In a Clausewitzian conception of national politics, war need not be something done by the army, for the government: rather, as Clausewitz's attempt at organising the *Landwehr* in 1813 suggests, it may be something done by the people and the government together, through the army, an expression of national unity (Strachan 2008, 51–59).

The implications of such an expanded concept of politics for contemporary war are multiple. First, it suggests that the economic, sociological, and political conditions which underpin war matter in determining the conduct of war. The suggested transitions to "post-heroic" warfare (Enemark 2013; Luttwak 1995), the recourse to surrogates (Krieg and Rickli 2019) or to drone technologies which fundamentally transform political relations (I. G. R. Shaw 2016a; Neocleous 2013; Davis 2019) may therefore be placed in continuity with Clausewitzian conceptions of war. Secondly, it suggests a rejection of the sharp division between tactics and politics, in which innovations in tactics can be reduced to purely technical challenges. Finally, it

[23] Christopher Daase makes the point that Clausewitz's can only be approached "as one of the first theorists of wars of national liberation" through his writings other than *On War* (Daase 2007, 183; see also Clausewitz 2015; Scheipers 2018; Hahlweg 1986). Strachan (2008, 185) has suggested that, as a companion to *On War* as a book on "major war," Clausewitz may have intended to write a volume on small war; Christopher Coker (2017, xvi–xvii) disagrees.

suggests that motivations for going to war may differ in content, but not necessarily in structure between major and small wars, regular and irregular war, interstate and intrastate wars, and that these motivations remain as integral to the employment of armed drones in war as to other acts of military violence.

A final element of Clausewitz's framework which needs to be addressed in order to ground a conceptual history and genealogy of military technology lies in the conception of war as a human activity. The centrality of human factors in the conduct of war is precisely what, in the words of Clausewitz (1984, 76), prevents the reduction of war to "a kind of war by algebra."[24] In recent years, in addition to the emphasis on the centrality of moral factors in Clausewitzian theory, the rediscovery of the trinity (Strachan 2008, 179) has served to reject the quasi-mechanistic conception of war dominated strictly by policy and highlight the crucial role played by human factors in shaping war. For Tom Waldman (2013, 2), the trinity represents the "central analytical framework" of *On War*, which puts the human element at the centre of Clausewitz's theoretical framework (Waldman 2013, 8). The attempt, therefore, to return to a more "elemental" (Strachan 2008, 180) conception of war (as opposed to instrumental) establishes war as a fundamentally human phenomenon, engaging the whole of human experience, which Coker (2017, 46) contrasts (somewhat facilely) with the "ultimate rationality" of "killer robots".

Two main facets to Clausewitz's conception of war as a human activity stand out. The first lies in the centrality of interaction to his theory of war. As Waldman (2013, 9) writes, "war is never simply the unilateral use of violence." A central problem identified by critics of the Revolution in Military Affairs, and by critics of the instrumental view of Clausewitz in general, is that it seeks to obscure the conception of the enemy as an agent of its own, endowed with similar faculties for decision, initiative, and a policy to pursue of its own. Against theorists of the time of his writing – and, as several have pointed out, against contemporary theorists (Coker 2017, 100; Lonsdale 2007) – Clausewitz emphasizes the interactive nature of war. As Beyerchen (2007, 53–54) mentions in proposing a theory of organised complexity in war, "in war, the will is directed at an animate object that *reacts*," (Clausewitz 1984, 149), while Daase (2007, 186) presents a five-part schema of Clausewitzian theory, drawing on

[24] For a critique of contemporary warfare's gradual transformation from one predicated on an ethics of judgment to one grounded in "ethics-as-code," see Schwarz 2018.

the initial definition of war as "an act [the attacker] of force [the means] to compel [the military aim] the enemy [the defender] to do our will [the political objective]." Strachan (2008, 179), meanwhile, taking the intra-trinitarian interaction discussed by Bassford and others further, emphasises the infinite variation introduced by interaction between two trinities (that of the attacker and the defender), and between each element of each trinity with each element of the other (also Waldman 2013, 162).

Given this interaction – and this constitutes a significant departure from Cold War interpretations – it is not necessarily a stretch to conceive of Clausewitzian war as involving an existential confrontation, as a test of wills through the proxy of physical means: "at the heart of every war is the relationship between our enemies and ourselves" (Coker 2017, 60). In this conception, which emphasizes violence as "communicative" (Coker 2017, 44; Heuser 2007, 148), war is more than an act of policy, but rather a self-presentation into the world, a test of character and of moral strength. Heuser (2007, 159–60) draws extensively on this notion and the associated assertion of victory as the breaking of the will of the enemy to argue that Clausewitz's concept of victory is one which requires acceptance by the enemy. Using post-1945 Germany as the example of a decisively defeated enemy, she argues that breaking the will amounts to convincing the enemy that they are defeated, and that this defeat is acceptable, thereby leading to lasting peace. Far from conceiving of war as a mere "act of bombardment" (Lonsdale 2007, 236) in which tactical prowess leads to victory, therefore, Clausewitz sees victory not as a rational but as a moral – or emotional – acceptance of defeat. A similar notion can be traced to the familiar notion of 'winning hearts and minds' in counterinsurgency operations or, as the U.S. Army's *Field Manual* puts it, to ensure that "the people tak[e] charge of their own affairs and consen[t] to the government's rule," recognising its legitimacy and recognising that "they have a stake in the success of the state and its government" (Petraeus and Amos 2006, 1–4; 1–139). Victory, to this end, requires a "unity of effort" – another eminently Clausewitzian concept, here modified – combining military and civilian resources towards ensuring the acceptance of its political aim (Petraeus and Amos 2006, 1–121).

It is perhaps unsurprising that recurring calls to bury Clausewitz should be followed by invitations to renew engagement, "rebooting" (Coker 2017) and adapting his theories, sometimes at the cost of "chang[ing]" (Daase 2007, 187) elements of his

framework to make it more relevant. The next three sections cover assertions of the novelty of contemporary war, often framed as rejections of the Clausewitzian framework of classical, or 'old,' war. To counter the argument of a new "revolution" in military affairs requiring the jettisoning of the old, rigid, passé military theories, Clausewitzian scholars like to point out the revolutionary era in which he himself lived, as armies of sizes greater than ever were employed in new ways and to ever greater ends, fueled by nationalist passions never seen before, leading him to revolutionise conceptions of war in ways not unlike Copernican heliocentrism had done in astronomy (Echevarria 2007a, 2).[25] As Heuser (2002, 181) writes, "Clausewitz himself lived on the threshold of a new age." In the face of a perceived revolution in military affairs – yet another one – Clausewitzian scholars have done much to recapture the revolutionary Clausewitz and, through these means, to establish continuity between the long tradition of interpreting, drawing on, and arguing against his writings. Whether contemporary war is framed as the definitive achievement of the Clausewitzian vision through instant and total lethality (Tommy Franks in Strachan 2008, 4), as a new mutation in the ever-changing character of war, or as new beginnings following the burial rites of strategic thought which engaged with Clausewitz (Metz 1994), the shadow of the Prussian theorist looms large, if only in the background.

New Wars

If the publication of Howard and Paret's translation of *On War* led to a certain reverence for "the only truly great book on war" (Brodie 1984b, 53), the 1990s can rather be considered as the era of critiques of Clausewitz (Gray 2013, vii). These critiques occurred from a number of perspectives; some, purporting to align with a broadly Clausewitzian tradition in U.S. military circles (such as Colin Powell or Tommy Franks, to which I refer above (see also Deptula 2001, 5)), viewed technology as a way of overcoming the various sources of friction which, for Clausewitz, restrict war short of its maximal potential. Others sought to analyse contemporary warfare through the frame of small war, suggesting that the Global War on Terror is essentially "a small war writ large" (Daase 2007, 194). Finally, a prevalent argument at the turn of the 21st century argued for a fundamental break in the practice and theory of war,

[25] David Deptula (2001, 17) uses the same analogy in describing the elaboration of "effects-based operations" as a change in the character of war analogous to the the Copernican revolution.

with Clausewitzian theory being relocated to its historical era and overcome by new forms of war or, indeed, forms of "new war."

These three broad schools of thought – which will be addressed in reverse order, starting with the 'new wars' thesis – all bear significant and distinct implications for the position of armed drones vis-à-vis changes in war. They draw on distinct conceptions of the traditions of strategic thought, and their attitudes towards the development of strategic thought influence – by their own accounts – their precepts for contemporary warfighting. In good Clausewitzian fashion, theorists of strategic thought like to repeat some form of claim to the unity of theory and practice: "no human activity can really take place, let alone be carried out successfully, without a thorough understanding of the principles involved" (Van Creveld 1991b, ix). While theorists of the Revolution in Military Affairs – who see technology as expanding the possibilities of contemporary warfighting, though in continuation with modern strategic practice – and of the turn to small war – who emphasise a distinct, yet deeply rooted tradition running along and often intersecting with that of large war – emphasise the unity of theory of war, theorists of the new wars do the opposite, arguing for the presence of a radical break between classical theory of war and contemporary thought. In the words of Steven Metz (1994, 126): "it is time to hold a wake so that strategists can pay their respects to Clausewitz and then move on, leaving him to rest among the historians."

New wars theorists adopt a contextual interpretation of Clausewitz, one that relegates him to an outdated form of war. Clausewitz, simply put, explained very well but explained very little: Clausewitzian war "is, in fact, a specific phenomenon which took shape in Europe somewhere between the fifteenth and eighteenth centuries, although it has passed through several different phases since then" (Kaldor 2012, 15). This paradigm never applied outside of Europe,[26] has not really applied since 1914 (Van Creveld 1991b, 50) and certainly not since the 1990s, and never conceived of a world in which war would be waged predominantly by non-state actors. The implications of this argument are clear: if, indeed, contemporary strategic thought "is

[26] Jan Ångström (2005, 2) has noted that contemporary war occurs predominantly "in the developing world"; if 'old war' is defined as eurocentric, then new war is not new in that it replaces old war, but rather that it is war occurring in parts of the world where 'old war' was never the ruling paradigm. Kaldor (2005, 214) similarly ties the increasing brutality of war toward civilians to a displacement "outside Europe", which is however undermined by her own use of examples of Nagorno-Karabakh and Bosnia-Herzegovina – both on the outskirts of Europe but nevertheless associated with it – to introduce her study of new wars (2012, 1–7).

rooted in a 'Clausewitzian' world-picture that is either obsolete or wrong" (Van Creveld 1991b, ix), then any attempt to relate the contemporary use of armed drones in warfare to a broader historical tradition of war theorising is of no value. If contemporary war is wholly new, "much of what has passed for strategy during the last two centuries will be proven useless" (Van Creveld 1991b, 205) and theorists of drone warfare should wholly embrace the novelty of the war which they study. This next section surveys the new wars argument, seeks to locate the specific distinction between 'old' and 'new' war, and ascertain its relevance to contemporary war theorizing. While I reject the notion of a complete break between past and present war and highlight a number of conceptual imprecisions and outright sloppy errors, the challenges brought to "the veneration heaped on Clausewitz" (Metz 1994, 126) and to straight narratives of the development of war merit consideration.

Mary Kaldor, as well as Martin van Creveld and Herfried Münkler, locate the origin of new wars in the changing socioeconomic foundations of warfare. Changes in the purpose of war and in the identity of combatants, in turn, trigger a change in how war is conducted. For Kaldor (2012, 1; 13), the changes are largely attributable to the onset of globalization: as economies become inextricably interlinked and as communications become ever faster and more global, in her view, the state's legitimacy and monopoly on violence is eroded. The resulting conception, as such, is one of wars that are no longer nationalist or ideological, but identitarian. These wars, inextricably linked to globalized processes, in turn entail global effects.[27] For Kaldor, therefore, the main novelty of new wars is that their local dynamics cannot be dissociated from global forces, and that these global forces lead to a cleavage between local and global actors within a community.

New wars, therefore, are not centred on state military power; indeed, on the contrary, van Creveld (1991b, 225) ties the rise of new wars to an accelerating process of state failure, the disappearance of interstate war leading to the disappearance of states themselves. Less categorical, Münkler (2007, 221) sees the process of privatization as one of sharing warfare between state and private actors, both violent non-state (or anti-state) groups and privately-hired groups to which the state outsources violence, notably private military contractors. Kaldor (2012, 6), finally,

[27] Andreas Krieg and Jean-Marc Rickli (2019) adopt a similar framing in conceptualising security as a "collective good," where insecurity in one part of the world leads to insecurity everywhere.

sees a process of erosion both from above and below, where intervening states have given up the ability to use force to transnational organisations, while warring states' loss of perceived legitimacy vis-à-vis their populations triggers a loss of monopoly on violence. In Kaldor's (2012, 71) account, this loss of legitimacy leads to an opposition between elites – which are involved in globalized circuits, economies, and cultures – and local populations, which are excluded from such processes. The resulting war, which involves sub-state ethnic groups, becomes effectively a "predatory social condition" (Kaldor 2012, 113) where warring parties apply violence to local populations on behalf of a constructed identitarian group, conducting ethnic cleansing to create homogenous loyal populations while drawing profits from local and global resource flows (Münkler 2005, 22). While these wars do not pit enemy groups against each other – Kaldor (2012, 218) agrees with Münkler in describing new war as a "mutual entreprise" – they are effectively wars against the state, conducted through biopolitical means of population control, forced displacement, and ethnic cleansing. These wars are imbricated in political processes both local and global, both exploiting political structures and destroying them: wars such as the Bosnian war of 1992-1995 "was a civil war in the sense that it was a war *against* the civilian population and *against* civil society" (Kaldor 2012, 45). If these new wars are indeed wars fought "at the expense of the future," ruining "the very possibility of a peaceful life […] for a long time to come," interventions to counter these wars must seek to re-establish the possibility of future peace by disrupting these dynamics (Münkler 2005, 75). In chapters 8 and 9, I analyse the potential of armed drones in intervening in these dynamics in support of a broad counterinsurgency project.

It may appear counter-intuitive to begin a comparison of new and old wars with the new. It makes sense, however, to the extent that, in my view, the old war is constructed as a mirrored image of the new, rather than the opposite. Both Kaldor – drawing on work in Nagorno-Karabakh and in Bosnia, and on comparisons with South Asia and Africa – and Van Creveld – noting the relative dearth of "major conventional war" (Van Creveld 2002, 5) – begin their work by elaborating the character of contemporary war, before projecting a reverse image into old – Clausewitzian – war. Thus, where new war is diffuse, low-intensity, conducted by non-state actors, transcending national boundaries, and embedded in globalised processes, the old war discussed is its polar opposite: it is "major conventional war" for van Creveld, and

"the classical model of war between states" for Münkler (2005, 1). Both Kaldor (2012, 17) and van Creveld (1991b, 124) adopt a contextual (and highly problematic) reading of Clausewitz as the paragon of interstate war: as war in Clausewitzian times was conceived as being conducted between states, therefore Clausewitz envisioned his conception of war as applying only to states and excluding other actors. This selective reading of Clausewitz – which among others ignores his writings on small wars[28] – allows the new wars scholars to present a stark contrast between the wars of old and the wars of new.

In these respects, the deliberate construction of old war as a reverse of new war is clear. Kaldor (2012, 17) admits that her description of old war is a stylized construct, summarizing in broad strokes a number of historical variants.[29] This highly stylized concept omits a number of key elements: Clausewitz's writings on small war are by and large ignored, and experiences of partisan warfare are omitted (van Creveld's conception of old war as "major conventional war" gives an indication of how narrowly it must be defined for this to hold). Kaldor (2012, vi) herself wavers on whether the distinction is accurate and even necessary: at times new wars are wholly new, while at others the problem is one of perception, where "this tendency to define war as 'old war' obscures the reality of new war. I do not know whether the number of new wars is increasing or not." Ultimately, after setting up a more or less rigid distinction between old and new war, Kaldor admits somewhat that the whole dismissal of Clausewitz – the main culprit for the misunderstanding of the nature of war (Van Creveld 2002, 12) – may be overblown, the need being to "change the prevailing perceptions of war" rather than drawing an accurate conceptual distinction (Kaldor 2012, 3). The whole point of the novelty of new war is not, in fact, an argument about the nature of war, necessitating a faithful comparison of theories of war, but a rhetorical move to strengthen her advocacy of cosmopolitan humanitarianism: "By describing the conflicts of the 1990s as 'new,' I wanted to

[28] Daase (2007, 188), among others, argues that nothing in Clausewitz requires the warring actors to be states, while Strachan (2008, 47) argues that Clausewitz's embrace of the people's war in 1812-1813 represents a shift in loyalty from a monarch-centric to a nation-centric conception of politics. In 2002, van Creveld (2002, 8) mentions Clausewitz's study of *Volkskrieg* in passing, but uses it to affirm his rejection of Clausewitzian categories rather than to acknowledge that war, for Clausewitz, was not necessarily dominated by instrumental governmental policy.

[29] Van Creveld (1991b, 36) goes even further, denying that the French Revolution brought any meaningful change in the conduct of war; this point is supported by just about no one.

change the way policy makers and policy shapers perceived these conflicts" (Kaldor 2012, 203). New wars, in other words, can be new without old wars being old.[30]

Rather than making a historical argument, therefore, Kaldor makes an argument pertaining to the reversal of the Clausewitzian logic of war. In her view, the central element of Clausewitz's concept of war lies in the logical tendency to escalation, driving war inexorably to extremes. In Kaldor's (2012, 159) reading, the pursuit of a strictly military victory[31] – forcing an end to the escalation – is the hallmark of old war, and is simply inapplicable to the unbounded social conditions characterising new wars, which aim not at increasing escalation in the pursuit of a decisive victory (2012, 217) but at controlled violence allowing for continued war (2012, 56; 94). The lack of direct confrontation between warring parties in new wars – most violence being directed at and mediated through civilians – renders Clausewitz's three extremes in war inapplicable (Kaldor 2012, 133), leading to "a new type of organized violence that is more pervasive and long-lasting, but also perhaps less extreme" (Kaldor 2012, 7). The main contribution here might lie in the last clause, contending that wars of ethnic cleansing, directing violence overwhelmingly at civilians, are somehow "perhaps less extreme." What Kaldor – implicitly – points at is a reconsideration of the perspective from which war can be deemed 'extreme,' 'absolute,' or – on the flip side – 'low-intensity.'

In a section that is most directly relevant to this thesis, Kaldor (2012, 151) extends her analysis to the War on Terror, arguing that this conflict represents a conflict between the social conditions and practices of new war and an American strategy rooted in an old war paradigm. This attempt to situate the War on Terror within wider changes in war is apt: as Strachan and Herberg-Rothe (2007, 4) note, the War on Terror has loomed very large in accounts of contemporary warfare, and an unflinching focus on these conflicts "does not distinguish what is really new from what seems to be new." In challenging this myopia, Kaldor (2012, 178) opposes the

[30] In a 2005 essay, Kaldor (2005, 211) accepts "that 'new wars' are only one type of conventional conflict,", although this fits quite uncomfortably with the rest of her elaboration of the new wars thesis. For instance, in 2005, she suggests Western "spectacle" war is a distinct form of war, separate from the 'new wars'; in the 2012 edition of her book, the American interventions in Iraq and Afghanistan are examples of misguided reactions to new wars, not distinct forms of war.

[31] The interpretation that Clausewitz focuses on a strictly military form of victory is strongly rejected by Heuser (2007), who argues that Clausewitzian victory necessarily entails the acceptance of defeat by the enemy; Strachan (2008, 24) similarly notes that Raymond Aron argued that Clausewitz's thought required a theory of conflict resolution.

American strategy of militarized counter-terrorism to the multifaceted counterinsurgency (COIN) approach which took hold after the 2007 Surge in Iraq and subsequently in Afghanistan. In Kaldor's (2012, 152) view, the initial American strategy of forcing large battles with insurgents, thereby aiming at a military defeat, functioned "more like an updated version of old war, making use of new technology" than as an approach recognising the fundamental social dynamics of new wars in which the control and protection of civilian populations is central. Kaldor (2012, 12) views the interventions of the War on Terror as further evidence of the change in the social dynamics of war and as supporting her conception of a cosmopolitan response which – as established above – constitutes the *raison d'être* of her conception of new wars: "Since the new wars are, in a sense, a mixture of war, crime and human rights violations, so the agents of cosmopolitan law-enforcement have to be a mixture of soldiers and police."[32]

The New Wars thesis, on the whole, fails in its attempt to introduce a caesura in the history of war, which would relegate previous strategic thought to history, in large part due to its tendency to project a concept of 'old war' backwards. It does, however, put in focus a number of significant concepts which deserve attention. First, Kaldor and others reject straight narratives in the development of war, which would suggest the existence of clear trajectories of irregular and regular warfare, developing in parallel without interacting. Kaldor (2012, 103), on the contrary, argues that "the new warfare borrows from both revolutionary warfare and classic counter-insurgency", suggesting among others that American practices of population displacement and of war through the environment in Vietnam (I. G. R. Shaw 2016b; Belcher 2019)[33] informed later American counterinsurgency as much as it influenced anti-state insurgent tactics. Second, Kaldor's rejection of the facile opposition of 'low-intensity conflict' and regular war is highly relevant to the examination of contemporary war, even though she does not follow through in her theorization of the "extreme" in war. Finally, her analysis of the transformation of social conditions in

[32] The *Field Manual* on counterinsurgency adopts similar language, conceiving of counterinsurgency as a mixture of offensive, defensive, and stability operations (Petraeus and Amos 2006, 1–106). Earlier, Charles Krulak (1999), Commandant of the Marine Corps, had proposed the concept of the "three-block war," tending to a similar end. However, while some have sought to conceive of drone or air power employment as a form of police operations gone global, it is unclear whether armed drones could take on a "police" role as meant by Kaldor (Neocleous 2013; Davis 2019; Emery 2016; Emery and Brunstetter 2015; Kennedy and Rogers 2015).

[33] See also chapter 7 of this thesis.

contemporary war provides a significant counterpoint to the technology-driven Revolution in Military Affairs, perhaps ironically even more so as her attempt to shoehorn a concept of "spectacle war" into her conception of new wars falls flat (Kaldor 2005, 218). In Ångström's (2005, 15) presentation, the new war's logic – which attributes the change in the nature of war to a change in warring actors – is the mirror image of that of the Revolution in Military Affairs – according to which a change in how war is waged entails a change in the organization of the armed forces.

The Revolution in Military Affairs

While Kaldor seeks to draw a distinction between the new wars fought on the ground and the old war with new technology fought by the intervening Western powers, it remains that the 1990s were the subject of intense strategic thinking in the West in general, and in the United States in particular. Owing in part to the rise of a new environment of war, the "information environment" (Freedman 2006, 73), intense thinking took place about preparing for the novel wars to come. Following the perceived success of the 1991 Gulf War, multiple new doctrines were developed to guide the development of American forces in a new strategic, technological, and budgetary environment (Kagan 2007), culminating in a number of plans for the transformation of the U.S. armed forces and even an "Office of Force Transformation" at the Pentagon. For the purposes of this study, most prominently, this Revolution in Military Affairs coincided – not entirely by accident – with the introduction of unarmed – and later armed – Predator drones in the American military. The employment of armed drones, therefore, was significantly conditioned by the changes in military thought that took place in this period. If, as Thomas Mahnken (2010, 2) states, the culture of military institutions and of military "services have molded technology to suit their purposes," it is imperative to consider the context of the RMA to understand how drones have been embedded in military institutions.

The first point to consider is whether the "revolution" in military affairs was indeed considered as revolutionary. As Strachan (2008, 5) points out, its protagonists were not necessarily claiming to completely reject prior understandings of war: the proponents of the RMA "saw themselves as refining Clausewitz, not rejecting him." Benoît Durieux, similarly, sees in the RMA not a complete departure from Clausewitzian conceptions of war, but rather a return to a particular form of Clausewitzian interpretation, one that takes ideal war to be a perfect form of war

toward which one should strive, not a heuristic idea. In seeking to achieve the concentration of firepower for maximal effect, RMA theorists therefore claimed to be more perfectly Clausewitzian than anyone before (Durieux 2007, 259). Furthermore, central theorists of the RMA, notably John Warden, recuperated Clausewitzian concepts such as that of the centre of gravity, though in modified forms: the centre of gravity, now conceived as a critical weakness that if destroyed would completely disable the enemy (Kagan 2007, 114), became also conceived in increasingly psychological or cultural terms (Freedman 2006, 11–13).

Despite its claims to the contrary, the RMA proposed a change that was largely "evolutionary, rather than revolutionary," asserting continuity with earlier strategic thought (Freedman 1998, 21). Some have sought to see it as an expression of a distinctly American way of war, one which has regularly preferred (in theory) maneuvre to attrition, overwhelming force to limited campaigns, and speed to long duration, drawing on technology to enable swift, overwhelming operations (Carvin and Williams 2015; Weigley 1991).[34] Other cautious critics have sought to downplay the notion of a revolution in the aftermath of the Cold War. Already in 1947, Basil Liddell Hart sought to synthesise the experience of the end of the Second World War in a notion of a "revolution in warfare," attributable to the preponderant importance of mechanical power over human power. Due to this mechanisation of warfare, the increasing automation of weaponry and strategy and the appearance of unstoppable weapons (notably nuclear weapons), Liddell Hart (1980, 35) argued that "war is no longer a matter of *fighting*." Distinguishing revolutions in the means and in the character of war, Liddell Hart (1980, 85) therefore argued that the genuine revolution took place in the conceptualisation of war as total, a development tied to the development of air power. Along a similar line, Kagan (2007, xiii) traces a fundamental change in warfare in the combination of thermonuclear power with intercontinental ballistic missiles, which critically impoverished strategy.[35] For Freedman (1998, 20–21), therefore, the RMA ought to be traced to the 1960s and 1970, as beginning with an effort to enable limited, sub-nuclear war and thereby recapture the essence of strategy, while Kagan echoes this conception and highlights the impact of the shift to an all-volunteer force in the United States after the Vietnam War.

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[34] Mahnken (2010, 3) notes that this American way of War describes rather "how the U.S. armed forces would *like* to fight wars," the actual experience of war diverging from this ideal type.

[35] Brodie makes a similar argument – see chapter 6.

To the extent that this "substantial" revolution (Kagan 2007, xvi) – albeit one with long roots – took place, its relationship to a technological driving force is equally contested. As mentioned above, Liddell Hart ascribed the revolution mainly to a change in the character of war, not merely in its technology. Brodie (1984b, 55), meanwhile, seems to suggest that revolutions in warfare are more often than not tied to technology, expressing his surprise at Clausewitz's diagnosis of a revolution in warfare which occurred "despite insignificant changes in arms, not to mention transportation or communication." When it comes to the RMA of the 1990s, its proponents tightly tied it to the exploitation of new technology. The revolution purportedly arose due to the appearance of the new information environment, creating opportunities for new capabilities which would entrench American supremacy and enable complete domination. Kagan's critical account of American transformation attributes the technological frenzy of the RMA to a change from threat-based to capabilities-based planning, which divorced strategic planning from concrete situations; Freedman (1998, 76), meanwhile, flatly rejects the notion of a revolution in 'military' affairs, writing rather of a "revolution in strategic affairs [which] is driven less by the pace of technological change than by uncertainties in political conditions."

Freedman and Kagan's accounts entail a rejection of technological determinism, the development of contemporary strategy not being a product of technology alone. Highlighting the RMA's borrowing of thinking from business practices, Kagan (2007, 317–18) dryly remarks that network-centric warfare (one of the approaches derived from the RMA) "focused on changing the way the military did business rather than on changing the business the military did." The implications of this criticism – and of the RMA current of thought in general – for the study of the development of armed drones are significant. First of all, it suggests that the key concern should not lie in the capabilities of the drones themselves, but rather how they impact the "business" of the armed forces. Second, while the development of operational drones in the 1990s and later is not entirely coincidental – like many other technologies which would mature in the RMA era, the development of what would become the Predator drone was spurred by the Yom Kippur War (Whittle 2015; Kagan 2007) – the fact that military drones came of age within this flurry of new thinking, emphasising the networking of "perfect intelligence" and precise firepower to disable enemy structures by targeting its weakest links is not inconsequential to their

development. Finally, the narrative of the RMA – as a response to the impossibility of nuclear warfighting and to the attempt to reinvigorate strategic thinking after the Vietnam War through an emphasis on air power – contains the central genealogical themes that are covered in the present study. Three further implications for contemporary drone warfare arise from the RMA: its revision of notions of uncertainty and control, its rejection of interaction as a central component of war, and its negotiation of political implications of strategy. As the previous sections make clear, these elements are inscribed in a manifest tradition of Clausewitzian interpretation, which the RMA saw itself as simultaneously rejecting, furthering, and overcoming.

As mentioned above, to the extent that Clausewitz admits of a nature of war, this nature is defined by its fluidity, and the resistance of war to predictability and determinacy. Chance, as Waldman (2013, 111–12) notes, is a wide-reaching concept in the Clausewitzian conception of war: it covers micro-causes which are too minute to be accounted for, unexpected events, as well as miscalculations resulting of imperfect or incomplete knowledge. Chance and the resulting friction are further intimately connected to the concept of strategic interaction, as the confrontation with enemy forces introduces all sorts of unexpected potentialities. Friction, for these reasons, remains an inevitable part of Clausewitzian war: it can be reduced, managed, controlled, yet never eliminated. Yet, this elimination of uncertainty is precisely what the RMA proposed to accomplish. Through the recourse to ever-increasing quantities of information and advanced technological systems, the transformation of American military forces proposed to eliminate the sources of friction which restricted its exercise of force short of its full potential. In a situation of perfect information, complete knowledge of the information environment would enable the seamless operation of armed forces, enabling the total integration of surveillance, the identification of enemy targets, and their destruction, "closing the kill chain" at ever faster tempos (Brose 2020). Technology, and particularly information technology, would prove the key to eliminating friction once and for all. It is easy to see how the development of the drone can easily be assimilated in this approach: through its long loitering time and its ability to surveil ever larger areas, it offers a glimpse of the possibility of such perfect knowledge. The ability to detect threats earlier – sometimes even before they materialise – through aerial surveillance would provide protection to

troops better than heavy armour and equipment would, allowing for the combination of speed and security through information dominance.

Yet, the dream of perfect information control proved to be as elusive as it was tempting. First of all, as Kleemeier (2007, 109) has noted, technological advances do not merely minimise existing sources of friction, but introduce new ones. The new information environment, which purports to dominate all others, contains its own sources of friction, imperfection, and misjudgment. As Alex Edney-Browne (2019, 89) has noted, the integration of human and technological networks introduces "cracks and fissures" which make the prospect of perfect integration and weaponization of information elusive. The stakes of these new sources of friction are, however, raised in a situation where the operation of armed forces relies on this friction being absent: as Freedman (1998, 61) has noted, if the basic assumption for strategic and operational planning consists in the availability of perfect information, anything short of perfect knowledge becomes in itself a source of friction. Operational concepts relying on the availability of perfect information, therefore, become unrealisable in situations in which this complete mastery of the environments cannot be achieved.[36]

The paradox of the RMA's reliance on perfect information, thus, becomes that the more operational planning relies on notions of absolute control, the more theoretical perfection becomes divorced from actual efficiency, with the "cracks and fissures" sometimes being so wide as to cause disastrous results. As mentioned above, Kaldor (2012, 152) ascribed the failure of American forces in Afghanistan and Iraq to the fundamental mismatch between the "updated version of old war, making use of new technology" and the 'new war' socio-economic conditions of these conflicts, denouncing "the imaginary nature of contemporary conceptions of war" (2012, 154). Kaldor's critique highlights the extent to which the American military assumed it would fight wars on its own terms, largely as it had done in the 1991 Gulf War (Freedman 1998, 29).[37] Christopher Coker and Andrew Cockburn, similarly, seized upon a widely publicised exercise staged in 2002 which purported to show the potential of integrated communications technologies, only to be undone as the

[36] For more on this point, see chapter 9.

[37] This assumption – a core tenet of the 'Powell Doctrine' elaborated by Colin Powell during his tenure as Chairman of the Joint Chiefs of Staff (Strachan 2008, 2) – is flatly rejected by Krieg and Rickli (2019), who emphasise that the necessity to intervene to maintain collective security is the defining characteristic of the contemporary security environment, leading for a preference for surrogate warfare, less controllable but more practical. I return to their concept of surrogate warfare in chapter 4.

commander of the opposing forces stopped "performing an assigned part in a scripted play" and resorted to asymmetric tactics, 'sinking' most of the American fleet (Cockburn 2016, 135). In Coker's (2017, 111) analysis, this exercise – and the decision by American commanders to re-play the game within tight, predictable parameters – demonstrates the extent to which RMA thinking led to self-referential planning divorced from concrete warfare.

The critiques of such thinking are many, and generally follow similar trajectories: the RMA, in seeking to achieve a perfect system of war, forgot that "in war, the will is directed at an animate object that *reacts*." (Clausewitz 1984, 149; Waldman 2013, 180) The transformation of war at the end of the twentieth century, therefore, led to warfare in which the purpose of war was to achieve maximal efficacy in the application of violence, without taking into account how this violence would affect the enemy. This critique of contemporary warfare as being "ignorant of strategic considerations" (Lonsdale 2007, 236) itself has a long history: already in 1947, Liddell Hart (1980, 97) had argued that nuclear doctrine – due to the tremendous power of nuclear weapons and the inability to completely insulate oneself from their danger – led to the demise of ideas of traditional warfare based on strategic interaction. As chapter 6 will show, the Cold War saw recurring attempts to establish fighting strategies despite the tremendous costs identified by Liddell Hart. In contemporary conventional warfare, where nuclear annihilation is not a possibility, attempts to schematize war into perfectly calculable parameters failed to account for the need to assess enemy reaction. The result was a concept of war which was fully misadapted to the strategic situation, relying as it did on fictions of regular, predictable, and knowable effects: "Despite Rumsfeld's plans for Iraq, based as they were on military transformation, the insurgency and terrorist campaigns have painfully revealed that the current battlespace is the realm of infinite possibilities and complex interactions" (Lonsdale 2007, 235).

Finally, in downplaying notions of interaction to the point of evacuating the enemy from strategic planning, the RMA has been charged with failing to account for the necessary connection between military operations and political ends. If the underlying principles of RMA thinking were that perfect military operations relying on speed and firepower would lead to ever easier and quicker victory, how increased lethality can "compel our enemy to do our will" (Clausewitz 1984, 75) remained a

sticking point. Mahnken has suggested that emphasis on maximal firepower leading to total victory is in line with the American traditional way of war, and that this is reflected in the defining experience of the 1991 Gulf War, in which speed and firepower combined to, it was claimed, disable any enemy attempt at resistance, forcing Saddam Hussein to accept peace (Mahnken 2010, 4; Freedman 2006, 13). In Kagan's (2007, 253) account, the development of doctrines aiming at totally disabling the enemy (rendering him "defenceless," in Clausewitzian parlance (Honig 2007, 62)) carried the added advantage of avoiding the sensitive questions of political control of military operations, a sensitive subject in the aftermath of the Vietnam War.[38] Yet, if anything, recent counterinsurgency doctrine (following the emergence of a major insurgency in Iraq) has re-emphasised the need for a political conception of war termination, one not reducible to military victory. In Iraq, the consensus that the military and political leadership had failed to plan for "Phase IV" (post-conflict stability) spurred the adoption of updated counterinsurgency approaches, devoted to consolidating victory (F. Kaplan 2014, 71; 77). Beatrice Heuser (2007, 157), as such, summarizes what can be taken as a Clausewitzian critique of the RMA: "The lesson to be drawn from this is that in a military context, a political compromise is only of lasting quality if the military underpinning is there to stay for a very long time, or else if the political solution is such that the militarily weaker party is prepared for political reasons to espouse it, and permanently to give up its previous political aims." As the next section – on small war – will note, the evolution of the War on Terror towards counterinsurgency has led to a reappraisal of Clausewitz's thoughts on defeat, resistance, and irregular warfare, at the centre of which lies the question of what is entailed by military – and political – defeat.

Despite these heavy critiques, the RMA's legacy remains highly relevant. In what can only be considered echoes of prophecies of victory through strategic airpower, even the critics of the RMA attribute its failure to its incompleteness: "Since neither [the Afghanistan War nor the Iraq War] was really fought by a military that actually had the full range of promised NCW [network-centric warfare] techniques, neither one really tested the concept at all" (Kagan 2007, 353–54). The RMA, therefore, remains a central context for the appraisal of contemporary drone warfare.

[38] In chapter 7, I discuss briefly Clodfelter's critique of the interpretation according to which excessive political meddling in operations in the Vietnam War caused the American defeat.

A number of the problems with which it grappled – the centrality of information and uncertainty, the relation between military force and strategic objectives, the ability of air power to play a preponderant or even dominant role in achieving victory – remain central to contemporary drone warfare. Most importantly, the RMA remained in dialogue with the wider tradition of Clausewitzian interpretation, even when it purported to reject it. Assessing the legacy of these debates on drone warfare, as filtered through late-twentieth century talk of revolutions and transformations, remains a key component of this thesis's evaluation of contemporary drone warfare.

Small Wars

While the New Wars approach and the RMA school sought to locate the transformation of contemporary war in novel developments, their claims to novelty soon confronted critiques both conceptual and historical. Whereas the New Wars thesis was criticised for both fixating on a very specific Cold War reading of Clausewitzian thought (Scheipers 2018, 8) and for ignoring the long history of low-intensity conflict (Smith 2005, 47), the RMA's emphasis on preparing for conflicts similar to the 1991 Gulf War soon confronted its manifest incompatibility to the post-2001 world.[39] Whereas the RMA relied – following the so-called Powell Doctrine (Strachan 2008, 2) – on choosing the conflicts the American military would want to fight and for which it would make sense to concentrate overwhelming military force, the attacks on September 11, 2001, and particularly the aftermaths of the invasions of Afghanistan in 2001 and Iraq in 2003 embroiled Western forces in conflicts that significantly departed from the ideal type of war around which much of the RMA thinking had revolved. Where the U.S. Army, in the 1990s, had sought to avoid getting embroiled in "MOOTW" – Military operations other than war – the 2000s saw a renewed attention to the place of these operations in the core activities of the U.S. military (F. Kaplan 2014, 45–46; 123). Accordingly, the drone went from a fringe pursuit employed in such MOOTW – in the ex-Yugoslavia operations, for instance, or in pursuing Osama Bin Laden prior to September 2001 – to a core asset involved in all facets of military operations.

[39] As Kagan (2007, 176; 199) notes, the notion that the RMA developed in a "strategic pause" in the 1990s while the American military was constantly engaged in operations either in Iraq (enforcing no-fly zones), in Rwanda and Somalia, and in the former Yugoslavia among others betrays a certain bias in the definition of what type of wars count as strategically important.

As a result both of the critiques of New Wars and of the exhaustion of the ideal of the RMA, strategic thought pivoted its attention to the traditions of irregular warfare, small war, and counterinsurgency. While some of the resulting concepts – such as fourth-generation warfare – were rather quickly dismissed (Echevarria 2005), others such as "complex irregular warfare" sought to capture both the tradition of strategic thought which informed warfare in the early twenty-first century and the increased indeterminacy of such war (Hoffman 2006, 398). To this end, multiple scholars sought to return to Clausewitzian themes and their relevance to irregular war, not least through a recovery of Clausewitz's writings on small war themselves. This interest in the study of small war is, in turn, highly relevant to the development of drone warfare, not least due to a dearth of studies on the employment of air power in small war prior to the War on Terror (see Corum and Johnson 2003). Thus, while the development of the Predator drone program largely took place in the 1990s, its operational use and development took place in a context where strategic thought pivoted rapidly towards concepts of small war.

The influence of this reinvigoration of the study of irregular warfare had a profound influence on interpretations of Clausewitzian war, with multiple scholars highlighting Clausewitz's mutually reinforcing interests in major war and in small war. While it is disputed whether Clausewitz planned on writing a second book after *On War* dealing with small war (Strachan 2008, 185; Coker 2017, xvii), his long-standing experience with small wars can hardly be overstated: Sibylle Scheipers has, among others, argued that "Clausewitz developed his general theory of war from his early conception of small wars." (Scheipers 2018, 3) According to this view, ignoring Clausewitz's conception of small wars leads not merely to an incomplete interpretation of his theory of war as a whole, but to a fundamental misunderstanding of Clausewitz's conception of war, of its political dimension, and of its purpose, in ways that reverberate to contemporary accounts drawing on Clausewitz to approach irregular warfare. Insurgency and "people's war was at the heart of Clausewitz's career," both military and intellectual (Daase 2007, 183) and in approaching the subject his "perspective was that of the would-be insurgent." (Heuser 2010, 158) According to the small wars-minded scholars of Clausewitz, the impact of this perspective pervades his whole theory of war, based as it is "on a unitary vision of war." (Scheipers 2018, 12)

To the same extent that Clausewitz is generally understood as having lived through a major revolution in major war – one where massed firepower overcame maneuver – his work on small war has similarly been understood as part of a "watershed" in the experience of small war (Heuser 2010). Heuser (2007, 138–39) seeks to emphasise the changing meanings of small war, in particular between "*Kleinkrieg*" – a form of tactics which, translated into the Spanish "*guerrilla*," would become ossified into theories of "guerrilla warfare" – and people's war, or insurgency. New forms of small war, however, do not work to the exclusion of previous ones: as Scheipers (2014) emphasises, contemporary irregular warfare can draw equally on the tactical irregularity of early small war, on the political mobilisation of the people's war, and on the legal criminalisation which has been a feature of counter-revolutionary warfare. This complex legacy has multiple significances for the analysis of contemporary warfare. The history of practices of insurgency, counterinsurgency, and irregular warfare is reflected in multiple facets of contemporary war, to which chapter 8 will return. Most importantly, however, is noting that the umbrella term of 'irregular war' encompasses a number of conceptions of war, which Daase (2007, 188) maps onto the Clausewitzian distinction between political aims, strategic objectives, and tactical means: forms of irregularity can be adopted at either of these levels, and contemporary war often makes these distinctions meaningful, if not crucial.

The tradition of small war, therefore, while it has remained quite uninterested in the operational employment of air power, highlight a number of crucial conceptual issues relevant for the assessment of drone warfare. While it may be unnecessary to categorically state whether the campaigns of the War on Terror or series of targeted killings constitute major war or small war, the historical tradition of thinking on irregular warfare carries a number of insights for the assessment of drone operations. In particular, it allows for an appraisal of what is entailed by asymmetry in war. The notion of asymmetry has been bandied around in a multiplicity of meanings, not least through the assertion that armed drones introduce a new radical form of asymmetric warfare (Renic 2019). Yet, the moral asymmetry described by Renic – one introduced by distance – is of a different nature than that entailed by small war. What makes 'small war' smaller than major war – or 'irregular war' distinct from regular war – highlights axes along which these distinctions can be conceptualised, offering a number of parameters for the evaluation of contemporary practices of drone warfare.

A first conception of asymmetry in small war is qualitative: irregular warfare opposes two adversaries of different organisation, with different political and strategic goals. In Clausewitz's conception, the people's war is of a fundamentally defensive nature: the objective is to reject an invader's claim to victory on the battlefield, continuing the fight despite the collapse of the regular army. Why major war does not necessarily entail a symmetry in aims and objectives and often opposes armies with different goals (Moran 2007, 104), in irregular war this asymmetry extends to the nature of the participants themselves. In this view, it is the asymmetry in war aims between the invader and the irregular defenders which lies at the core of people's war. Accordingly, the military objectives and means employed vary, following the difference in aims. As Sumida (2007, 169) notes, while the attacking party must seek a decisive outcome to "compel the enemy to do [their] will," (Clausewitz 1984, 75) it suffices for the defending party to deny this effort at a decisive victory. In a people's war, therefore, the defending party does not aim at the overthrow of the enemy, but rather at making it unfeasible for the attacker to achieve victory, at least not at an acceptable cost (Daase 2007, 190). In Daase's conception, therefore, the escalatory spiral of major war is reversed: while, in major war the more powerful party has an interest in escalation, bringing their superior power to bear, or two parties agreeing mutually to restrain themselves to avoid uncontrolled escalation (Moran 2007, 98), people's war relies on the "escalation dominance of the weak" (Daase 2007, 193). In other words, the party committing fewer resources can compensate for its weakness through increased political intensity, increasing the scope and magnitude of violence to achieve unacceptable costs to their enemy: "Insurgents succeed by sowing chaos and disorder anywhere; the government fails unless it maintains a degree of order everywhere" (Petraeus and Amos 2006, 1–9). In irregular warfare, therefore, asymmetry may be not only a starting point, but also a conscious choice, the irregular party "trading time for a decision," and finding means to make that time as costly as possible to the attacker (Heuser 2007, 159).

The second conception of asymmetric war relies on a disparity in power as its starting point. In what is generally taken as a fairly common position, Frank G. Hoffman therefore argues that irregular warfare arises due to the overwhelming superiority of the enemy in military means, which defeats any attempt to match it. In the War on Terror, therefore, the American military's failure at confronting

insurgencies and terrorism was the result of "a natural reaction" on the part of its enemies, matching their strengths to American weaknesses (Hoffman 2006, 397). Hoffman's characterisation of the asymmetry of "complex irregular warfare," however, muddles the specific nature of this asymmetrical interaction: "They will seek to minimize risks to their forces, while seeking maximum impact on the target population or government" (Hoffman 2006, 398–99). This formulation of tactical asymmetry – resulting from a disparity in available means – is indeed virtually indistinguishable from mainstream military practice, which of course seeks to achieve maximal effects at the minimal costs. Hoffman's formulation could be applied to the "post-heroic" warfare thinking which followed from the RMA (Luttwak 1995), and to a litany of plans to achieve maximal disruption of the enemy through quick, painless campaigns, many involving air power.[40]

What Hoffman's formulation offers, therefore, is an opportunity to reconcile concepts of asymmetry by the weaker with attempts at achieving asymmetry undertaken by the stronger party. In this conception, therefore, drone warfare can be conceived as a form of asymmetric war not on the basis of a geographical distinction but as a result of strategic decisions. Armed drone operations, therefore, may not be of a new nature, but harking back to a tradition of operations which deliberately eschew symmetry and reciprocity (Heuser 2010, 145). If that is the case, however, then armed drone operations can be reinscribed in a fundamentally Clausewitzian framework, where their impact on the balance of means, ends, and aims becomes the central question to be investigated. The employment of military drones, even outside of major war, can therefore be appraised through central strategic considerations. However, if a small war paradigm is employed, one central question will remain whether air power can indeed fulfill this role; as mentioned above, there has been little scholarship on the employment of air power in irregular war, and Hoffman (2006, 400; 403) – among others has suggested that while soldiers could become the "ultimate combination of sensor and shooter," he envisioned a rather limited role for aerial means.

[40] See chapter 5.

Conclusion

This chapter has sought to establish the broad parameters of debate concerning the changing character of war in the late twentieth and early twenty-first century. Several of these reconfigurations coincided with the development, adoption, and spread of armed drones. While debates in the 1990s raged concerning the viability of intervening in "new wars" both with limited force and on a long timescale, drone developers at General Atomics, in the CIA, and in the U.S. Air Force were proposing a tool which they claimed could do just that, observing without requiring a heavy presence. While the RMA advocates proclaimed the urgent need for perfect information and real-time battlefield awareness, the drone could claim to get nearer to that end, fulfilling the dreams of advocates of high-tech, rapid warfare (C. Lee 2019, 23). And yet, as subsequent chapters will show, the drone grew out not merely of transformations in war, but in continuity with significant prior trends in strategic thought. The situations in which armed drones would be employed – chiefly the multiple campaigns of the War on Terror – demanded a reconsideration of the place of small war in the wider frame of war, and of the appropriateness of more mainstream, broadly Clausewitzian positions. The Predator and Reaper drones developed in the context of these debates over why and how to wage war, how to achieve political objectives through force, and how to conclude a conflict once begun.

Chapter 4 – New Forms of Warfare

The previous chapter outlined broad arguments concerning the transformation of contemporary warfare. This chapter addresses more directly three purported new forms of war in which the use of armed drones is embedded, and which all stand in ambiguous relationships to the wider conception of war. As the previous chapter noted, it is a prevalent argument that large, inter-state conventional war – what Kaldor (2012) would term "old war" – has sharply declined in prevalence in the second half of the twenty-first century, and been replaced by a variety of small, low-intensity, irregular, hybrid, covert, civil, and "new" wars. The three forms of contemporary war discussed here – remote warfare, surrogate/risk-transfer/vicarious war, and targeted killing – are part of a further shift to "post-heroic warfare", where the avoidance of sacrifice takes precedence upon achieving decisive victory (Luttwak 1995). While none of the authors surveyed below would contend that any of these practices is wholly new, they would argue that new technologies – above all armed drones and their associated infrastructures – have normalised them and made possible their application on a large scale.

The chapter first addresses conceptions of remote warfare as a distinct regime of (contemporary) war, before moving on to forms of proxy, surrogate, risk-transfer, and vicarious warfare; the chapter concludes with a survey of arguments concerning the impact of increases in targeted killing. By analysing these forms of warfare, the objective will be to delineate the constitutive conceptual elements of contemporary drone warfare which should be traced in the subsequent genealogical chapters. Throughout, however, and against scholars who would seek to see these forms of war as distinct, exclusive of, or breaking with the tradition of wider strategic thought, I consider these forms of war as imbricated in wider thinking about war, and as an integral part of the development of military thought.

Remote Warfare

While there is widespread agreement on the fact that increasing distance has changed the experience of war both on grand historical scales (Ohlin 2017) and particularly in the 20th and 21st centuries as "the horizons for remote warfare are always receding," what can be understood as 'remote warfare' has tended to suffer from

proliferating terminology, reflecting the variety of impacts increasing and complex distances have had on the practice of warfare (Adelman and Kieran 2020a, 1). What remote warfare, virtual war, virtuous war, riskless war, spectator-sport war, and post-heroic war all share, however, is an argument that military violence from incommensurable distances is intrinsically tied to the fostering of ever-increasing asymmetries, leading to crises in the legitimation of war – or in some cases, to the demise of the concept of war as legitimate violence altogether. What they also tend to share, however, is a certain imprecision about what exactly this asymmetry consists in, how it differs from prior practices of asymmetrical war, and what role the armed drone has played in this crisis of warfare. The armed drone is considered alternatively as a metaphor and illustration of new forms of social power (I. G. R. Shaw 2016a; Van Veeren 2021; Chamayou 2013, 243), as the technology that crosses the threshold between war and non-war (Enemark 2013; Kahn 2002), or as a transformation of spatial and visual relations which introduces new forms of asymmetry (J. Williams 2015; also Grayson and Mawdsley 2019; Stahl 2013). Most of this literature, however, agrees that the distinction is one of degree (Ohlin 2017, 15): while processes of increased distancing have taken place throughout the twentieth-century, the practice of remote warfare in the last 20-30 years has crossed a threshold (alternatively between heroic and post-heroic war, or between regular war and riskless war), which introduces a fundamentally new mode of war, causes "the dynamic destruction of what had been a stable imaginative structure," (Kahn 2013, 226) and leads to "an unprecedented development because it has achieved the first complete surmounting of physical limits of time and space in military affairs" (Enemark 2013, 3).

As this thesis makes clear, I reject this notion of remote warfare crossing a threshold and transforming into an unprecedented form of war unmoored in historical practice and thought. Yet, it is not sufficient to point out precedent forms of distant violence (Carvin 2015) as a rebuttal. Rather, my concern in this section is to understand the arguments put forth by the proponents of new remote war, the mechanisms which they argue cause the novelty of contemporary war, and how drone warfare breaks with prior forms of war. While I reject the arguments for radical novelty, this exploration will also allow me to identify the fundamental features of contemporary drone warfare which the subsequent genealogical chapters will seek to excavate in prior instances of remote war. I here address two – interrelated –

interpretations of remote warfare: the first puts the emphasis on distance itself introducing disconnects between the experience of war and its participants and publics, while the second seeks to locate the novelty of contemporary warfare in the radical asymmetry of absolute remoteness.

To the extent that remote warfare introduces changes in the practice of war, one of its most significant impacts lies in the organization of military operations and its relationship to society. As Jan Ångström (2005, 15) notes, a central debate between the new wars and RMA approaches consisted in the direction of change: the new wars thesis holds that a change in warring actors led to a change in war, while the RMA approach located changes in society, which transformed how war would be fought, leading in turn to a change in the organization of armed forces. Most arguments concerning remote warfare emphasise this latter link between society and the experience of war, arguing that such a link has been either severed, weakened, or transformed. Colin McInnes (2005), for instance, speaks of "spectator-sport war", arguing that contemporary war is a reality that is now experienced by watching publics who are not themselves involved in the game, much like a crowd at a football game.[41] While some trace the change back to the change from a conscript to an all-volunteer force in the United States in the 1970s (Kagan 2007, 23–24; Freedman 1998, 77), Baudrillard's (1991) (in)famous *La Guerre du Golfe n'a pas eu lieu*, published in 1991, propelled this thesis to new heights. Michael Ignatieff, meanwhile, preferring the concept of "virtual war", argues that "new ground" was broken in the 1999 bombing of Kosovo and Serbia, juxtaposing the jarring proximity yet distance between "the most serious war in Europe since 1945" and its "ghostly presence, the bombers audible yet invisible in the fading sky" (Ignatieff 2000, 5; 39).

In this vision, the remoteness of contemporary war is tied to the avoidance of casualties, its preference for low-footprint aerial interventions, and its lack of impact on populations nominally at war in Western countries. Furthermore, the mediation of aerial violence through visual technologies – be it drone images or images filmed by cruise missile targeting systems (Ignatieff 2000, 1) – which makes the violence visible on Western television screens while giving the whole enterprise an air of virtuality and hiding the most severe consequences, contributes to the detachment of war from its

[41] Interestingly, Kaldor (2005; 2012) appears to accept McInnes' conception of spectacle war as a complement to her concept of new wars in a 2005 essay, although "spectacle war" does not appear in her 2012 edition of *New and Old Wars*.

publics which enable it, and in whose name it is purportedly waged. In establishing this remoteness, a peculiar interplay of intimate threats and remote violence sustains and mediates the experience of war. McInnes (2005, 113) emphasizes how the jarring irruption of war in American life through the September 11, 2001 attacks confirmed the norm of spectator-sport warfare: by introducing "a new sense of vulnerability", the 9/11 attacks led to a frantic effort to insulate the American homeland from such intimate violence, and launched a new campaign of American warfare waged through similarly mediated remote means. Paul W. Kahn (2013), meanwhile, argues that contemporary post-heroic warfare, by relying on the avoidance of casualties and discourses of ever more disjointed 'imminent' threats, leads to the disintegration of the foundational political experiences of enmity and sacrifice in war.

In contrast to these ever-increasing remote effects, remote violence is balanced through new forms of intimacy. Ignatieff notes the breakdown of national identification of enmity and the possibility of maintaining close personal connections across political boundaries throughout war. While visiting friends in Belgrade Ignatieff (2000, 137–38) could hear bombs dropped by his "own air forces landing on the city of [his] friends," thereby "reduc[ing] the morale estrangement between the two sides." Similarly, Joanna Bourke has noted that, in contrast to the distancing of violence from domestic societies, warfare throughout the twentieth century has been accompanied by reverberating *rapprochements* and exclusions: the increasing proximity of civilian and military spheres due to long range technologies of warfare "from the First World War onwards" led to increasing interaction between these spheres (Bourke 2000, 82). Furthermore, Bourke (2000, 324) notes, the increasing involvement of women in the war effort and in the military reduced the distance between domesticity and war, with women "taking domesticity with them to the firing line" (Robert Williamson in Bourke 2000, 321), a line that could easily be applied to drone pilots commuting between civilian and militarized settings (P. Lee 2018; Buchanan 2020). Recent work has highlighted the links between the experience of war abroad and resurgences of violence in home countries (see Belew 2018). Remoteness, simply put, is not a simple concept of distancing, but a complex interweb of reconfigurating relationships between home publics, military institutions, and localities of violence.

This complex interplay of intimacy and remoteness extends to the warriors themselves. In her excellent *An Intimate History of Killing*, Bourke (2000, 5) notes that the processes of killing by soldiers in the twentieth century relied on a complex tension between the constitution of intimate and distanced relationships, where soldiers sought to construct meaning through emotionally detached narratives highlighting the agency of the warrior. In other words, in Bourke's account, killing was made possible through soldiers accepting and justifying their individual role in killing: Bourke ascribes the crises in the justification of killing for soldiers to the anonymizing effects of increasingly industrialised killing, in which the agency of individual warriors is erased. In Bourke's (2000, 11) account, "from the moment of killing, the event entered into the imagination and began to be interpreted, elaborated, restructured." The implication of these narrative justifications for concepts of remote warfare is to suggest that the relationship between distance and ease of killing was not straightforward, and that physical remoteness may not be equated with emotional remoteness, *pace* Grossman (Adelman and Kieran 2020b, 6). Bourke (2000, 221), as such, notes that twentieth-century soldiers would often expect guilt and remorse to occur as part of the experience of killing, and that while distant killing could blunt the guilt, soldiers may come to resent this absence of guilt, "if only in the form of feeling guilty for not feeling guilty." Simply put, "if killing was rendered too 'easy', men 'just couldn't take it'" (Bourke 2000, 238).[42]

Significant attention in the study of armed drones and remote warfare has been devoted to the novel visual relations and intimacy introduced by the visual proximity of drone surveillance, and its effects on the psychology of drone operators (P. Lee 2018; Richardson 2020; Bryant 2017; Jeangène Vilmer 2021). Bourke's study of narrative construction by twentieth century soldiers belies this focus on the psychology of remote killing as a new feature of drone warfare, as the experience of killing has at least since the twentieth century involved a complex negotiation of intimacy, distancing, moral and emotional justification. While drones introduce novel elements into this constellation, the assumption of an unproblematic trajectory towards ever-

[42] The internal quotations are by John Joseph Conray, about U.S. Marines in the Pacific theatre in the Second World War.

Grégoire Chamayou (2013, 149) notes the presence of a discourse of legitimation of drone warfare which emphasizes the trauma suffered by drone operators. Akin to the justification of killing through guilt presented by Bourke, in this discourse the experience of trauma is meant to underscore the seriousness with which operators take their actions.

increasing remoteness and of a decisive shift between straightforward heroic war and a crisis of ethical killing in remote 'post-heroic' war is at best misguided, at worst built on the very mythologies of killing Bourke exposes.

Radical Asymmetry

For ethical critics of contemporary drone warfare, the principal objection to remote military violence lies in its establishing of a radically asymmetrical situation. While supporters of this thesis note that fostering tactical and strategic asymmetry is a generally accepted objective in war, they argue for a distinction between acceptable asymmetry and radical asymmetry, in which war ceases to be a "contest" and, as a result, ceases effectively to be war at all (Enemark 2013). This asymmetry may take multiple forms – technological, vertical, ethical, political, geopolitical, legal, spatial – with authors alternatively privileging one or conflating them into an undefined composite. The result of this radical asymmetry "is an imbalance so obvious and so profound, that one side is apparently unable to apply – in a just fashion, at least – any strength at all against the other. Such a relationship places stress on a longstanding assumption by warriors and ethicists alike that war is essentially a contest" (Enemark 2013, 59–60).

While criticisms of radically asymmetrical remote war are rooted in a conception of war as reciprocal, it is unclear where exactly that expectation comes from. In many cases, it seems mostly customary: Paul W. Kahn (2013, 199–200), for instance, denounces contemporary war as something "that no longer looks like war." Christian Enemark (2013, 60), meanwhile, assumes that conditions of reciprocal risk are a self-evident requirement in war: "The mutual experiencing of physical risk is surely elemental to any violent contest." While Neil Renic (2019; 2020) has done exemplary work in parsing justifications for legitimate killing in remote violence, criticisms of asymmetrical warfare amount to the failure to grant an effective right of self-defense to the enemy (Kahn 2002, 3; Enemark 2013, 77; Chamayou 2013, 223). Enemark (2013, 6) buttresses this definition by harking back to the Clausewitzian definition of war as a "contest" and a "duel", thereby arguing that war must involve the mutual exercise of violence on both parts. A further slippage occurs in the conflation of war and just war: if war is defined as killing in legitimate circumstances, then this definition precludes the very possibility of war that does not comply with the criteria of just war (Enemark 2013, 3–6). The ethical case against radically

asymmetrical warfare is therefore as such: war is a contest, and must entail the possibility of legitimate violence on both sides. As drone warfare fails to grant this possibility, it can therefore not be considered just, and therefore is not war at all.[43]

This argument for the equation of war, legitimate killing, and reciprocity, however, fails to establish the particularity of the "advent of drones [as] an unprecedented development" (Enemark 2013, 3).[44] Samuel Moyn (2013, 230), in his response to Kahn, provides a potent blow in noting that monodirectional violence is not new, but was a staple of colonial violence: if Kahn is correct, "much of global violence in modern times on the periphery of a rather small zone of interstate contest could not have looked much like war either." As Moyn notes, Enemark and Kahn's embracing of a tradition of "heroic", reciprocal warfare – what Luttwak (1995) termed "Napoleonic" warfare – is revealing in how much it excludes and how little it includes as proper war.[45] As M.L.R. Smith has noted (2005, 44), even throughout the twentieth century, most violence did not take place in legitimated, reciprocal, organised fashion; rather, "it is unconventional warfare that is the convention." The recent turn in Clausewitzian studies towards small war and people's war, described in chapter 3, is therefore relevant here as well: while Luttwak (1995, 112) presented "post-heroic warfare" as anti-Clausewitzian (a conception with which Enemark agrees), the recuperation of a wider conception of Clausewitzian war serves to highlight the omissions and blind spots of criticisms of remote warfare as standing outside of the tradition of warfare.

Most importantly, however, critics of post-heroic warfare feed off the myths of twentieth-century heroism which, as Bourke exposed, are part of the narratives of self-justification which make industrialised killing possible. As Bourke (2000, 67) notes repeatedly, the conception of war as a chivalrous willingness to die in an act of individual courage was not only part of the self-construction by combatants for "their sense of pride and pleasure" but also decisively buried by "the horror of twentieth-century warfare" (2000, 137). In a revealing example, Bourke (2000, 46) traces the elevation of bayonet killing as the highest form of warfare, with bayonet training and

[43] For Chamayou (2013, 226–28), unilateral violence is state-sanctioned "acceptable murder" or "executions."

[44] In this sense, it is revealing that Ignatieff and Kahn both make versions of the same argument, but trace its beginning to the NATO bombing of Serbia in 1998-1999, while Enemark explicitly considers that war to be legitimate. Enemark's (2013, 91) argument that the inherent risks entailed by flying are sufficient to ground a relationship of mutual risk is shaky, at best.

[45] I leveled a similar critique at Mary Kaldor's concept of new and old war in chapter 3.

equipment remaining a core part of infantry soldiers' identity up to the Vietnam War, even though such killing was no longer part of the actual experience of war. Bourke repeatedly notes how myths of chivalrous war led to disenchantment among combatants as these idealized conceptions confronted incompatible experiences of industrialised killing. Even the justification of reciprocal risk which for Enemark and Kahn grounds legitimate killing failed to do so both empirically and normatively: not only did it not correspond to warfare in which long-distance killing and risk-less atrocities "were the norm, not exceptions" (Bourke 2000, 235; see also Barkawi 2017), this abstract notion of reciprocal risk actively served to facilitate killing of any kind, enabling risk-transfer onto potentially dangerous civilians and unarmed enemies (Bourke 2000, 228).

The sporting metaphors which advocates of reciprocity affection – war as a "contest", a "duel," a game of chess (Enemark 2013, 59), a football match (McInnes 2005) – are belied by the role these metaphors played in enabling killing. Bourke notes that alongside these metaphors of war as a fair sport, war was equally conceived as hunting. Simply put, war can be conceived as sporting both on the basis of fair competition, and on the basis of levels of skill required. In the latter sense, hunting metaphors enabled a conception of sniping as a higher form of killing (Bourke 2000, 146; 232), which was also reflected in the experience of the air war, waged by French *avions de chasse*, Swedish *jaktflygplan* or German *Jagdflügzeuge* (Bourke 2000, 57; Hippler 2017, 38–40; see also Chamayou 2010). More recently, analogies associating armed drones with the long legacy of snipers have become commonplace (Woods 2015, xiii; Ohlin 2017, 46–48). Most importantly, unlike games of chess or football, which occur on level playing fields, the experience of twentieth-century war is one where playing fields themselves were manipulated through gas, destruction, and exploitation (Sloterdijk 2009; I. G. R. Shaw 2016b; Weizman 2017). In sum, the radical asymmetry critique of remote drone warfare is simultaneously too narrow and too broad. It is too narrow, as it ascribes to a narrow phenomenon – drone warfare – characteristics part of multiple experiences of war, both conceptually and historically; it is too broad in that, by claiming to lay an opposition between legitimate and

illegitimate killing, it undermines its own argument and becomes part of the discursive structure of legitimate violence it purports to undermine.[46]

One exception to the inadequate critique of risk-free war presented above lies in John Williams' (2015) spatial and visual grounding of radical asymmetry. In Williams' (2015, 93) account, the novel asymmetry introduced by armed drones lies in "the distinctive spatial relations between drone operators and their targets": through their persistent surveillance and unilateral determination of areas of armed conflict and of legitimate targets, drone-wielding powers unilaterally construct the space and temporality inhabited by their targets, while simultaneously escaping temporal and spatial constraints on their own ability to wage war (J. Williams 2015, 100–101). Drone powers choose who to code as enemy, and then may choose when and where to target them while erasing the autonomy of the target: in other words, "dronespace places all of the cards – every one of them in the hand of the drone operator" (J. Williams 2015, 102). This conception – which Williams contends requires a fundamental reevaluation of principles of just war – presents the advantage of grounding a conception of reciprocity which is not marred by "naïve" (J. Williams 2015, 106) notions of heroism and reciprocity. This conception of "distant intimacy" is further supported by scholarly interest in the novel visualities introduced by drones: Michael Zeitlin (2020, 35), among others, notes the extension of the visual field by drones, which allow humans to see from perspectives which were inaccessible beforehand (see also Grayson and Mawdsley 2019; D. Gregory 2011b; A. J. Williams 2011; Bousquet 2018; Archambault and Veilleux-Lepage 2020).[47] Williams' conception ties this conception of radical asymmetry directly to the drone, and presents the advantage of locating specifically the novel impact of remote-piloted systems in spatial relations.

Williams' concept of distant intimacy, however, also harks back to prior examples of intimate martial relationships. As Rebecca Adelman and David Kieran (2020a, 13) note, in remote warfare, connections between target and targeter are

[46] For more on how ethical discourses discursively construct ever-expanding legitimate forms of violence, see Zehfuss 2011; Dillon and Reid 2009; N. Shah 2017; Wasinski 2011.

[47] Ignatieff's *Virtual War* (2000, 1–2), however, opens on images taken from the targeting system of a cruise missile in Kosovo, showing that this extension of the "line of aim" (Zeitlin 2020, 35) was introduced to public consciousnesses shortly before the introduction of military drones.

established through weapons (see also C. Kaplan 2017).[48] Priya Satia (2013) has written about the "love" expressed as underlying the British bombings of colonial Iraq in the 1920s, suggesting the presence of an intimate relationship perversely mediated through air power. Bourke (2000, 371), finally, notes that the anonymized killing introduced by distance did not erase the intimate encounter. In many cases, "when military technology meant that combatants could no longer 'see' the effects of their weapons, they conjured up face-to-face encounters." Thus, when Williams (2015, 98) suggests that "the drone operator's detailed knowledge of the life and death of the target can serve to partially restore the visceral personal experience of combat that distance has done so much to negate", he demonstrates the novel potential of drones while also implicitly pointing towards a long history of distance not necessarily erasing intimacy, but reconfiguring intimate relationships and opening new potential intimacies.[49]

In sum, it seems that Enemark's radical asymmetry critique is blinded by the Clausewitzian analogy of war as a "duel," to the point of ending up with an overly mechanistic conception of war as a contest. As mentioned above, the radical asymmetry critique rests on a conception of war as a reciprocal competition, though no author (apart from Williams' more nuanced argument) substantiates their contention that "a war ceases to be just when it becomes a turkey shoot" (Ignatieff 2000, 161).[50] This conception sees the physical contest of violent means as the entirety of war, and purports to ground this argument in a Clausewitzian conception of war. As discussed in chapter 3, however, the Clausewitzian conception of war emphasises the role of the will in determining the contest of arms. While, "in war, the will is directed at an animate object that *reacts*" (Clausewitz 1984, 149), this interaction need not entail a relationship of individual reciprocity between combatants. As Heuser's (2007) analysis of victory demonstrates, the purpose of war, for Clausewitz, consists

[48] A peculiar analogy for the intimacy introduced by targeting is provided by Nada Bakos, who compares her work trying to establish the targeting profile of Abu Musa al-Zarqawi to online dating (Bakos and Coburn 2019, 78).

[49] It should also be noted – and I will return to this in chapter 8, that, as Enemark notes, drone strikes purport to be part of a strategy of population-based counterinsurgency (COIN), which highlights the fostering of relationships between intervening forces and local populations. For Enemark (2013, 30–42), this tension between the remoteness of post-heroic warfare and the need for building relationships is a cause of its ethical failure.

[50] Chamayou's (2013, 223–24) attempt to outline an effective right to the "opportunity to fight" fails to establish what exactly this right consists of, and how much of an opportunity would have to be granted, in addition to individualising collective combat.

in breaking the will of the enemy, leading them to accept the peace desired.[51] Clausewitz's own existential conception of people's war – as a defiant will fuelling resistance in a context of complete power asymmetry – supports this notion.

The radical asymmetry argument, therefore, in rejecting the possibility that post-heroic violence may count as war altogether, fails to appreciate that "all violence is rationally purposive to achieve certain goals" (Smith 2005, 34). Ignatieff's (2000, 199) point that "values are real to the degree that we are prepared to risk something in order to make them prevail" may hold as a normative argument, but fails as a conceptual argument over the notion of war. Enemark's (2013, 60) criticism that riskless violence, which does not provide a concrete right of self-defence to the enemy, forces the enemy to surrender, fails on similar grounds: if the purpose of war is to render the enemy "defenceless" (Clausewitz 1984, 75; Honig 2007, 62), it is unclear why forcing enemy surrender would be outside the realm of war.[52] The implications of this for the evaluation of drone warfare are threefold. First, the increasing distance of remote warfare must be evaluated in its impacts on determining strategic objectives and means. Second, the violence brought by drones must be assessed in continuation with other means of war, to the extent that it contributes – or is detrimental to – the pursuit of strategic objectives. Finally, the ethical critique of remote warfare should be distinguished from its conceptual implications. While ethical arguments influence the development of acceptable means of warfare, criticisms which render drone warfare as unprecedented must establish clearly the source of this novelty, rather than engaging in misguided sweeping statements.

Surrogate warfare

As mentioned above, a central element of theories of remote warfare lies in the increasing distance between the experience of war and the domestic (Western) publics whose armed forces conduct the war. In post-heroic warfare, states seek to avoid casualties as much as possible, in large part due to the domestic political costs of losses

[51] Consider also Daase's (2007, 186) five-part schema of Clausewitzian war: war is "an act [the attacker] of force [the means] to compel [the military aim] the enemy [the defender] to do our will [the political objective]".

[52] Williams raises the much more relevant legal problem of preserving the right of surrender of individual combatants in a context of aerial war, when aircraft cannot take prisoners (J. Williams 2015, 103). Furthermore, as theorists of small war would note, an irregular response to a significant power imbalance is rather common. Enemark and Ignatieff's equation of 'war' with a flawed concept of 'just war' blinds them to the possibility of irregular warfare.

in war (M. Shaw 2005, 1). This unwillingness or inability to carry the human costs of warfare, the argument goes, leads to the replacement of soldiers by foreign or machinic surrogates, resulting in a fundamental transformation in the nature of war. Andreas Krieg and Jean-Marc Rickli (2019, 7), for instance, argue that contemporary warfare is characterized by the "sociopolitical phenomenon" of "neotrinitarian war," in which the introduction of surrogate forces changes the relations between the state, the armed forces, and the people which compose the Clausewitzian trinity. Andrew Mumford (2013, 38), similarly, describes the rise of proxy warfare as the result of "shifts in the nature of warfare itself." In this current of scholarship, therefore, armed drones contribute to the increasing remoteness and virtuality of contemporary warfare by acting as machinic surrogates.

For Krieg and Rickli (2019, 32), surrogate warfare arises in response to an increased aversion to direct intervention, and in response to changes in the "sociopolitical foundation on the basis of which war is being waged in the twenty-first century." As a result of a fundamental tension between the duty of the state to ensure the security of its citizens and the globalisation of security as a collective good – meaning that insecurity in one area can lead to insecurity throughout the world – states find themselves combating diffuse and indirect threats, for which they are unable and unwilling to commit troops and resources directly. When they do engage directly, as in Afghanistan, the resulting involvement in long security-building counterinsurgency operations demonstrates the need for a fundamental questioning of the purpose and ends of military force, as the links between risk management and military intervention remain diffuse (Krieg and Rickli 2019, 46–47). As a response, they argue, states increasingly reject the increasingly obsolete "trinitarian war" (Krieg and Rickli 2019, 46) – of the kind described by Clausewitz – and intervene through a surrogate, which either substitutes, supplements, or augments the capabilities of the state's own troops (Krieg and Rickli 2019, 4–5). Thus, the concept of surrogate warfare entails not merely the use of mercenary or proxy means – which Krieg and Rickli (2019, 48–49) acknowledge has constituted a historically recurring component of warfare – but the employment of such troops as a means of indirect intervention spurred by an understanding of security as risk management.

The crux of Krieg and Rickli's (2019, 66) argument is that in a globalised world, insecurity somewhere leads to insecurity everywhere. Therefore,

"transnational conflicts require the state to be ready to take military action anywhere at short notice in a multidimensional battlespace along a nonlinear front for an indefinite period of time – all that in consideration of international, domestic, and local public opinion."[53] States, therefore, must be willing to intervene wherever and whenever insecurity arises and spreads, as "threats need to be engaged before they evolve, sometimes even before they really exist. Hence, threats have given way to risks as the drivers of security policies" (Krieg and Rickli 2019, 48). Such widespread intervention exceeding the capacity of any given state, surrogates multiply and extend the capabilities of states to intervene without drawing on the state's resources, and therefore allow for "the externalisation, partially or wholly, of the strategic, operational, or tactical burden of warfare" (Krieg and Rickli 2019, 58). Such surrogates include a variety of means, including proxy forces, private military contractors, less costly means of intervention such as standoff weapons or special forces, and especially technological means such as drones or cyber weapons.

For Krieg and Rickli, the novelty of surrogate warfare – despite the ubiquity of the recourse to surrogates – lies in large part in the novel socio-political foundations which justify the use of surrogates. The emergence of "post-heroic" warfare, in their view, is therefore not merely due to a social unwillingness to sacrifice the lives of citizens in war; rather, it is due to the diffusion of threats in time and space, as threats can demand that a state "be ready to take military action anywhere at short notice in a multidimensional battlespace along a nonlinear front for an indefinite period of time" (Krieg and Rickli 2019, 66). These wars, being undertaken ideally before threats emerge fully, cannot command the existential urgency which could compel a state to engage its own armed forces and incur losses (Krieg and Rickli 2019, 48; 67). In this, their conception returns to key themes of Martin Shaw's concept of risk-transfer war: as for Shaw, Krieg and Rickli locate the impetus to employ surrogate means in concepts of political risk-management, as state governments seek to balance internal risks associated with public opinion with external potential emerging threats, "squaring the circle of postmodern warfare" through the transfer of risks to surrogates (Krieg and Rickli 2019, 3; M. Shaw 2005, 71–74). Unlike Shaw, however, Krieg and

[53] Krieg and Rickli take for granted that states 'must' intervene militarily, and that non-intervention or non-military intervention is not an option. That point is evidently contestable, although it is not directly relevant to the following analysis. Enemark (2013, 42) correctly criticises this notion as a "logical fallacy that 'can' implies 'should'."

Rickli go further by conceiving of global security as a public good, one which can only with great difficulty justify the recourse to "manpower intensive" warfare (Petraeus and Amos 2006, 1–68) in the face of diffuse, ongoing threats. In this setting, the state, rather than a mobilising actor, becomes a "dispatcher," delegating and subcontracting security to private actors, to other states, and to its own drone and machinic forces (Krieg and Rickli 2018, 122).

An additional source of novelty, following from this, lies in the use of technological means to enable the externalisation of the costs of war. In their account, drones, cyber weapons, and other advanced technologies allow both for intervention at minimal costs, without loss of lives on the part of the intervening party, and for plausible deniability if desired. They go as far as to boldly proclaim that "surrogate warfare will increasingly rely on the machine as the surrogate of choice" (Krieg and Rickli 2019, 85). Drones, for Krieg and Rickli, are therefore the archetype of the contemporary surrogate: they substitute for other means of intervention, and allow for military intervention with some measure of deniability, without risking the lives of the drone crew.[54] Under such a definition, therefore, surrogates are not necessarily separate from the intervening patron: a weapons system which enables intervention at a lower risk or cost than a 'boots on the ground' operation can be considered a surrogate. In such cases, to paraphrase Mumford, surrogate warfare does not entail the complete displacement of the people from warmaking, but rather the leveraging of economic means as a replacement for soldiers (Mumford 2013, 76).

The concept of surrogate warfare provides a relevant account of the sociopolitical role of armed drones in so-called post-heroic warfare, deliberately increasing the distance between domestic populations and violence. In Krieg and Rickli's account, they do so in two respects: first, quite literally by reducing the risk to human troops and maximising the effect of limited resources; second, because Krieg and Rickli's conception of security as collective good underlines the externalisation of violence to border zones, risk management, and remote security. Contemporary theories of war as an exercise in risk management accordingly emphasize the extent to which risks must be managed wherever they arise, through violence if needed, a

[54] Andrew Mumford (2013, 24), in conceptualising proxy warfare, argues on the contrary that drones constitute a form of direct intervention, as they do not produce a patron-proxy relationship. Krieg and Rickli, in turn, dismiss the focus on proxy warfare as a relic of Cold War interventions; as this chapter will later make clear, I consider Krieg and Rickli's opposition between 'surrogate' and 'proxy' warfare to be a distinction without a difference.

conception of ontogenetic violence with a long history (Bartelson 2018). This necessity of risk management abroad is omnipresent not only in the literature on state failure, but also on conceptions of liberal war (Grayson 2016; Dillon and Reid 2009) and militarised imperialism (I. G. R. Shaw 2016a), and provides the impetus for Krieg and Rickli's argument on the prevalence of surrogate warfare. As communications become more interrelated, violent menaces (such as terrorist groups) need not be contiguous with their targets and therefore must be suppressed before they reach the homeland which must be secured. Security, in Krieg and Rickli's (2019, 43) words, becomes a "public good" which is externalised, requiring the suppression of threats away from the homeland to be secured. Similarly, terror must not be combated (only) domestically, but requires a "global war on terror" which would suppress it everywhere. Such a conception of remote security, in turn, would seem to legitimate – or even require – remote warfare, in order to eliminate threats at the source.

Risk Transfer

On the question of risk management, the concept of surrogate warfare neighbours multiple other conceptualisations of distancings entailed in contemporary warfare, whose nuances will become crucial in the following discussion. The first of these is what Martin Shaw (2002) has termed "risk-transfer militarism"; the second is Thomas Waldman's (2018) conception of "vicarious warfare." Both challenge implicitly Krieg and Rickli's focus on a form of geopolitical or grand-strategic externalisation of warmaking, which ignores other aspects of surrogacy, most importantly in the choice of weaponry and tactics (Waldman 2018, 194). Crucially, as a result of this more holistic approach to surrogacy, both Shaw and Waldman emphasise the longer historical roots of such risk-transfer, or externalisation of the costs of war: while they both acknowledge that risk-transfer dynamics have coalesced or become more salient in the War on Terror, such a shift "represents something more fundamental and enduring, driven by deeper social and political forces" (Waldman 2018, 185).

Shaw's account of risk-transfer militarism highlights the choices that go into transferring the costs of war to civilian populations, not necessarily as a form of surrogacy, but as the product of a series of conscious choices which displace risk-taking away from combatants. Such "deliberate and systematic" transfer of the costs of violence to civilians (M. Shaw 2002, 350) "is the product of political choices in the

refinement of Western military power, at three main levels: strategy, weaponry, and media management" (M. Shaw 2002, 348). Shaw (2005, 83) contends, therefore, that contemporary warfare entails the balancing of the political costs of casualties on the part of the intervening party with the political costs of "small massacres," that is, the non-deliberate but accepted harming of civilians. As the requirements for force protection becomes more pressing, both in the choice of standoff weapons and of tactics which reduce the likelihood of casualties for soldiers, the burden of war is not reduced or transferred to another warring party, but to the civilian population which inhabits what has become the space of war (M. Shaw 2002, 349).

Waldman, in a similar vein, terms 'vicarious warfare' the wider patterns of force protection, risk mitigation, and cost externalisation which are part of the conduct of war, both at strategic and tactical levels. Similarly to Shaw, he rejects the notion that the externalisation of the costs of war takes place solely at the geopolitical level, and emphasises that the mitigation of risk takes place in all aspects of warfighting. In addition to the use of proxies, Waldman (2018, 193) identifies two key means of force protection: the first is what he terms "bunkerization," that is, the holding of fortified positions and the avoidance of operations that carry inherent risks, such as patrolling on foot. The second lies in the employment of excess firepower to eliminate any potential resistance, even if it carries heightened risks to noncombatant populations or causes unnecessary destruction (Waldman 2018, 183). Waldman's concept of vicarious warfare, as such, highlights two crucial elements of surrogacy in (contemporary) warfare. First, as he notes, it shows that limited concepts such as surrogate warfare or proxy warfare "best serve as a means of conceptualizing, in general terms, certain forms of strategic behavior that can be employed by any powerful actor" (Waldman 2018, 183) and that these concepts, by focusing on the selection of geostrategic means of warfighting, ignore all other tactical and strategic decisions which are part of wider practices of distancing in war. Second, it highlights the inherent contradictions between practices of vicariousness and the achievement of the strategic or political aims.[55] The threefold practices of delegation, danger-proofing, and operations in darkness prioritise security over mission effectiveness (Waldman 2018, 193) and arise out of a "quest" for "security on the cheap," "sustained by a

[55] Oliver Belcher's (2018) analysis of a village razing and reconstruction in Afghanistan to allow for increased protection of American troops while undercutting the progress of reconstruction serves as a potent example of this contradiction. I return to this tension in chapter 9.

messianic faith in the opportunities provided by new technologies, reinforced by the flattering lessons of recent military operations that appear to fit the vicarious mold, and exacerbated by old-fashioned hubris, wishful thinking, and overconfidence." (Waldman 2018, 188)

As the two above sections demonstrate, remote warfare and surrogate warfare both grapple with contemporary warfare as a form of management and minimising risks, to the point – for some – that the complete elimination of risk renders proper war impossible. Jens David Ohlin's (2017, 15) introductory chapter to the *Research Handbook on Remote Warfare* provides an explicit uniting of these two concepts, considering remote warfare as technology-reliant practices of risk management which seek "to generate an inverse proportionality between risk to the operator and lethality to the target." For Ohlin (2017, 15), modern weaponry in general seeks to further this inverse relation, and contemporary remote warfare differs from earlier practices in degree, not in kind, new weapons technologies being "just the latest instantiation of an ancient imperative of strategic warfare" (2017, 48). Yet, his book concentrates specifically on armed drones, cyberwarfare, and autonomous weapons systems, suggesting in fact that there is something distinct in these types of weapons that makes them more – or differently – remote than other long-ranged weapons such as bows (Ohlin 2017, 18–19), guns, and cannons, (Ohlin 2017, 20), "the logical culmination of this remoteness" that is represented by intercontinental ballistic missiles, or even "the game-changer for remote warfare [which] came with the advent of air and naval power" (Ohlin 2017, 21).

Arguments about the use of drones as surrogates to avoid engaging troops in harm's way are rather common in the contemporary literature; similarly, arguments concerning the transformation of warfare brought about by the increasing distance at which warfare is conducted abound. To their credit, discussions of both remote and surrogate warfare generally seek to broaden the scope of their discussion to include other forms of standoff weapons and remote operations, such as the use of cruise missiles to coerce and punish noncompliant regimes (Lamothe, Ryan, and Gibbons-Neff 2017; Coll 2017) or aerial campaigns of interdiction, no-fly zones, and aerial bombing. Contemporary discussions of remote warfare, however, have centred on the use of armed drones which, while piloted from afar, combine detailed vision with the ability to fire on the targets they detect, in theory without support from any other armed

forces or weapons system. The great physical distance from which drones are piloted lends itself quite naturally to such theorising: there is hardly any better illustration of warfare at a distance than the idea of a pilot sitting in Creech Air Force Base, Nevada, observing tracking a target in Afghanistan (or Yemen, or Iraq, or Somalia…) and firing while still in the United States. Nevertheless, we must heed Rebecca Adelman and David Kieran's (2020a, 7–8) warning and not equate remote warfare and surrogate warfare strictly with contemporary drone warfare, and investigate the larger genealogies in which contemporary practices are embedded.

Targeted Killing

To the extent that there is an operational novelty in the employment of armed drones, it is often located in a transition from a form of war based on an "old war" confrontation of organised forces, in which soldiers represent opposing belligerents, to one in which specific individuals are identified, targeted, and killed. For some, the actual innovation lies in this new mode of violence, and not in the remote-piloted means of carrying it out: for Amélie Férey (2020, 89), for instance, "drone warfare" acts as a "metonymy" for targeted killing, critics of drones vicariously denouncing targeted killing. Nevertheless, while Férey (2020, 14) identifies in the increased legitimation and normalization of targeted killing "a change in the art of war", others argue that targeted killings entail a departure from the frame of warfare into a realm of unbound extrajudicial violence, a gratuitous expansion of state assassination. At the United Nations Human Rights Council, for instance, it was as Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions that Philip Alston (2010) submitted a report criticizing targeted killings. Against assertions by perpetrating states that the Law of Armed Conflict – International Humanitarian Law (IHL) – applies, multiple critics have rather sought to advocate for the consideration of International Human Rights Law (IHRL), held to apply in peacetime (Brunstetter and Jimenez-Bacardi 2017, 72–94).[56] Indeed, the quite-well established continuity between practices of extraordinary rendition and targeted killing would seem to suggest that this practice represents a departure from the frame of war into that of unbound sovereign executive power, waged outside of regulated institutions. In this

[56] There is some dispute whether IHRL ceases to apply in a situation of armed conflict, or whether it is merely modified by IHL. Without entering into details, see Gunneflo 2016, 217–31.

respect, the highly centralized control of drone strikes by the commander of the executive would seem to suggest such unbound discretion (see Férey 2020, 309).

Nevertheless, I argue here that campaigns of targeted killing must be considered within the general frame of warmaking by states. I argue this for three reasons. First, as Férey argues – and as I argue in this thesis – targeted killing develops in continuity with military doctrine and practices. It is a central argument that this thesis that the drone violence of the War on Terror follows directly from other forms of aerial warfare in the twentieth century; targeted killing shares this lineage. Secondly, it may well be that targeted killing represents a new form of state violence. However, to the extent that states themselves consider themselves involved in "war", justifying their practices through legal authorities applicable in armed conflicts and through discourses of "war" on terror, it may be worthwhile to take states at their word, and evaluate their practices in the terms they set (see Gunneflo 2016; Férey 2020). As Luca Trenta (2018) argues, states may seek to innovate conceptually, but their selection of conceptual architectures nevertheless conditions what they may and may not justify. The fact that states situate targeted killing with war, therefore, is significant. Finally, a distinction should be made between individual strikes and the sum of the campaigns as a whole. While any individual strike could be argued to be the product of arbitrary, discretionary – even purposeless, according to some critics – violence, the large-scale campaigns of targeted killing reflect strategic imperatives. States must justify such entreprises through discourses of legitimate, purposeful violence, which entails a form of strategic thinking. To exclude targeted killing from the realm of war, it would seem, therefore, would be to adopt something akin to Kaldor's caricature of 'old war' – war being only between large political bodies (if not states) fighting in organized formations.

As mentioned above, targeted killing can be considered as war through its relation to mainstream practices of warfare. In this respect, Amélie Férey (2020, 44) asserts that while the genealogy of targeted killing is one which traces its legitimation, from an outlawed, covert, and immoral practice into a legalized, accepted, form of "good killing", this genealogy draws on three practices, two of which originated in twentieth century warfare. While targeted killing, for her, constitutes a transformation of practices of political assassination, targeted killing additionally draws on strategic aerial bombing in two respects. First, it replaces a strict principle of discriminate

targeting with a notion of military proportionality, balancing the value of an objective with acceptable collateral casualties. Second, it draws on the objective of disrupting key infrastructure to lead to enemy collapse, with the caveat that in targeted killing "it is the body of the terrorist which becomes the infrastructure" (Férey 2020, 49). In addition to strategic bombing, Férey (2020, 34) locates in targeted killing a continuation of practices of preemptive or preventive legitimate self-defence. As I will discuss in chapter 5, preemptive military force lies at the core of Giulio Douhet's conception of successful aerial strategy, while also underpinning other major military operations, most notably Israel's 1967 Six-Day war.

In the history of American targeted killing, Gerald Ford's Executive Order 11905 banning "political assassination" (1976, sec. 5 (g)) occupies a pivotal role. In Chris Fuller's (2017) account, the next twenty-five years of American counterterrorism constitute a long and painful negotiation of the limits of this ban, with the CIA being reluctant to engage in activities which may fall afoul of indistinct limits. While it is dropped in Ronald Reagan's reiteration of the ban in 1981 (1981, para. 2.11), Férey directs her attention to the adjective "political" which qualifies assassination in Ford's order.[57] She locates in Ford's order the beginning of the constitution of a legalised category of targeted killing, in opposition to a newly-created category of illegal political assassination. According to Férey (2020, 43), political assassination as a legal category did not exist prior to Ford's order, and it is in response to this order that the distinction between legal killing and illegal assassination is elaborated.[58] The Israel Defense Forces followed a similar trajectory as they increasingly engaged in targeted operations, culminating in the 2000 overt recognition of military targeted counterterror operations. As with the American case, the Israeli legalisation of targeted killings takes place against a backdrop of extralegal

[57] Gerald Ford's Executive Order 11905 reads "Prohibition of Assassination. No employee of the United States Government shall engage in, or conspire to engage in, political assassination." Ronald Reagan's Executive Order 12333 reads "Prohibition on Assassination. No person employed by or acting on behalf of the United States Government shall engage in, or conspire to engage in, assassination."

[58] Gunneflo (2016, 149–51), along the same lines, relates how the Reagan administration's legal advisers define "assassination" narrowly as illegal, in order to legitimize lethal extraterritorial counterterror operations. In one such twist, advisers argue that if assassination is illegal (because it is forbidden), any use of force authorized by the President cannot constitute assassination, as it is authorized. Effectively, this logic is circular: force that is not authorized in forbidden, and force that is authorized is not forbidden. Nevertheless, such arguments are significant, in that they speak to a wider endeavour to present the use of preventive military force as compliant with international and domestic legal authority, and as constituting what Férey (2020, 44; also Chamayou 2013, 206) termed a form of "killing well".

assassination, in this case covert extraterritorial operations undertaken by the Mossad and other secret services.[59]

Both Fuller and Gunneflo have noted the defining importance of debates between police-driven and military-driven counterterrorism in the Reagan White House. Both highlight the importance of the 1984 National Security Decision Directive 138, which establishes a concept of "active defense" combining military force and preventive operations. While Fuller presents the tension as a dichotomy between law enforcement and military means, Gunneflo (2016, 134) asserts their continuity, arguing this doctrine amounts to law enforcement employing military means, in which the target is both a criminal and an enemy (Gunneflo 2016, 194). For Gunneflo (2016, 122), active defense represents an evolution in the central problem of military force, one which further legitimises the conception of remote security discussed above: "The problem that [Secretary of State] Shultz faces is how the protection of political community is to be achieved, given that state borders no longer deliver on their promise of being the protective boundary that deactivates communal exposure even for an offshore nation such as the United States." Such a doctrine, therefore, provides a way to justify the recourse to military force in self-defense even preventively, even far from the United States, recalling the practices of risk-management central to Krieg and Rickli's surrogate warfare. For Gunneflo (2016, 185), this doctrine inevitably entails the envelopment of the whole world within a concept of the American homeland, where any threat anywhere in the world is necessary proximate and imminently threatening.[60]

Finally, Luca Trenta (2018) has noted that this discourse of targeted killing as part of war has been maintained by the Obama administration, despite its expansion of concepts of imminence and pre-emption. The Obama administration, according to Trenta, both broke with and continued the discursive and legal policies of its predecessors; one of the areas of such continuity lies precisely in the configuration of targeted killings as part of core war authorities. Furthermore, while he notes the Obama administration's relatively unprecedented expansion of legal authorities, Trenta (2018, 90) argues that the Administration largely complied with its

[59] For a history of these operations, see Bergman 2018. Bergman, writing of "targeted assassinations," discusses both legalized targeted killings in Palestinian Occupied Territories and covert assassinations abroad.

[60] I discuss concepts of imminence and remoteness in chapters 6 and 9.

interpretation of legal obligations.[61] The implications of this sequence, therefore, justify considering contemporary targeted killing as part of the concept of war. As Gunneflo's (2016, 160) history implies, the policy of employing military force to combat terrorism pre-dated the elaboration of its legal framework and authority, and this authority was elaborated ahead of the policy being enacted on a large scale in the 21st century. In this respect, although successive administrations – most saliently the Obama administration – may have acted as "innovating ideologists" (Trenta 2018, 75), the history of American targeted killing since the 1980s is one of continuity, in which even the 9/11 attacks did not constitute a decisive break (Gunneflo 2016, 166).

To say that targeted killing campaigns ought to be considered as a form of warfare rather than as exceptional violence is not to reduce to exactly the same as other forms of war. To say, as Férey does, that targeted killing borrows from doctrines of strategic bombing does not amount to reducing the two phenomena to one another, and Martin Senn and Jodok Troy (2017, 178) suggest. It does, however, suggest that targeted killing is a form of purposive violence, in service of a certain strategic aim, and that it should therefore be possible to assess its effectiveness. Whether targeted killing can – on its own – be successful in achieving strategic success depends of course on a number of factors, not least the definition of the aim pursued. Nevertheless, the simple fact that numerous studies have sought to determine the strategic effectiveness of targeted killing supports its conception as a tactic of warfare, which can be evaluated as such. These studies on the strategic effectiveness vary wildly in their definitions, criteria, and conclusions; as Stephanie Carvin (2012, 548) has written in her review of the literature, "there is no consensus as to what would actually constitute success for a policy of targeted killing," with opponents in particular setting exceedingly high bars for what would be deemed a successful campaign.

While it is a widespread criticism to note the lack of strategy governing the use of targeted strikes (Férey 2020, 171; Carvin 2012, 552–53; Cronin 2010), those imposing an excessively high standard for its success might perversely fall into the same trap. To evaluate individual decapitation strikes – as Jenna Jordan (2009, 731–32) does – based on whether they lead to a group inactivity for two years following

[61] Arguably, this does represent a break from previous administrations, which rather sought to argue that international law did not impose any meaningful limits on the authority of the executive to determine and pursue menaces (Gunneflo 2016, 153–68).

the strike, for instance, risks "missing the forest for the trees" (Carvin 2012, 546), or rather evaluating a tactical operation as substituting for strategic success (McDonald 2019; Cronin 2014). Quite simply put, despite the desire for a simple silver bullet which would on its own lead to success, it would be a mistake to seek to translate targeted killing into a strategy simply by devolving the Clausewitzian search for the decisive engagement down to the level of individual strikes. The distinction of ends and means so revered by Clausewitzians remains applicable here.

Therefore, without going into too much detail about the tactical goals and strategic aims to be achieved through campaigns of targeted killing, it suffices to say that the record is mixed. Carvin's (2012) review of the literature fails to achieve any decisive conclusion, other than to note the lack of conceptual clarity and cautiously cast doubt on the notion that it is possible to assess targeted killing as a whole outside of any concrete strategic situation. Anouk Rigterink's (2021a) recent study has noted that successful drone strikes against terrorist leaders in the Pakistani FATA tend to weaken central control, leading to a potentially counterproductive temporary increase in violence, while not concluding either way on the strategic long-term impacts. Meanwhile, both Férey (2020, 73) and Carvin (2012, 533) report Israeli suggestions that the 2002 peace process with the Palestinian Authority was made possible by the intense pressure put on Palestinian armed groups by Israel's targeted killing campaign. A difference in perspective is notable here: where Rigterink (2021a, 48–49) seeks to assess the effects of individual strikes (while explicitly noting her research cannot capture the eventual cumulative effects of successions of strikes, in combination with other means), the Israeli argument aggregates multiple strikes to stake a claim concerning the campaign as a whole. Finally, adopting a perspective of targeted killing as communicative violence meant to signal deterrence, Grayson (2012, 121; 125) has argued that the continued recourse to targeted killings indicates a failure of a state to signal credible deterrence, tactical killings demonstrating a strategic-political failure.

In parallel to this scholarship inscribing targeted killing in a strategic framework, as a means to a strategic end, another current has inscribed targeted killing within an ideological-political project inherent to modern liberal statehood. In Michael Dillon and Julian Reid's *The Liberal Way of War*, the authors argue that "the liberal way of rule" constitutes human existence as species-life, and concerns itself with the growth of an ideologically-defined conception of the human species. Liberal

war – of which targeted killing can be considered a part – therefore relies on the identification of the life-forms which either are or may become dangerous to the species and their elimination (Dillon and Reid 2009, 108). Grégoire Chamayou (2010; 2013, 47–54) draws a more explicit link to targeted killing through the genealogy of manhunts, which he identifies as a mode of political power predicated on the identification of undesirable human preys which can legitimately be hunted to defend society. Markus Gunneflo (2016, 93), meanwhile, inscribes targeted killing within an extension of the principle of state protection, which – following Carl Schmitt – he argues constitutes the protection of a "particular way of life."

The implications of these conceptions of targeted killing as the ideological elimination of existential threats presents two implications for the strategic conceptualization of targeted killing. First, against the rather instrumental conception of targeted killing as a means to a strategic end, it suggests something closer to Schmitt's (2011, 27) absolute war against the "*hostis generi humanis*" – the pirate as enemy of humanity. If targeted killing is indeed symptomatic of a form of enmity predicated on the enemy additionally taking on the character of the criminal to be neutralized and of the risk to be eliminated (Gunneflo 2016, 194), that targeted killing could be employed to achieve the kind of victory suggested by Heuser (2007), based on mutual acceptance of the new peace, would appear contradictory. On the contrary, it would suggest that targeted killing lacks a strategic principle beyond killing targets *precisely* because the whole point of the violence underpinning the liberal way of rule is that targets must be eliminated, either through destruction or through complete assimilation (Dillon and Reid 2009, 44). It would suggest that targeted killing, in fact, points not as peace but at the inherent paradox of security, that "state protection entails violence against violence in order to control violence" (Gunneflo 2016, 7).[62]

Secondly, and most crucially for this discussion, if liberal targeted killing is predicated on a distinction between legitimate forms of life and existential threats to this way of life, it decisively puts to rest the notion that war requires a moral equality of combatants. Drone-led targeted killing, therefore, does not introduce a new asymmetry but reflects an existential asymmetry inscribed in the very notion of liberal warfare. This concept of liberal warfare locates asymmetry in the "difference of rights

[62] See chapters 8 and 9 for a further discussion of the paradox of employing violence to control violence in counterinsurgency.

and duties which bears on the fighting parties" (Férey 2020, 105), which follows directly from sovereign states' exclusive right to determine legitimate violence. The contemporary regime of targeted killing relies on a legal asymmetry between sovereign states, which get to determine and exploit the privileges offered to belligerents by international humanitarian law, while simultaneously denying them to others (W. Hays Parks in Gunneflo 2016, 146). Non-state parties, thus, are not afforded the legal protections of international humanitarian law, a system produced by a liberal sovereign-based order to preserve this sovereign based order; in the Israel-Palestine conflict, thus, the Israel Supreme Court created a category of "*civilians* who constitute unlawful combatants" for the purpose of allowing their targeting "for such time as they take a direct part in hostilities" without affording them the rights and protections afforded to regular combatants (Gunneflo 2016, 22).

This legal asymmetry may recall John Williams' conception of the spatial asymmetry embedded in drone warfare presented earlier in this chapter, In Williams' account drone operator and drone powers have complete control over the construction of zones of war, the definition of targets, and by extension of the space of application of international humanitarian law (J. Williams 2015; Woods 2015, 65; Férey 2020, 133). Sovereign states get to determine when, where, and how enemies become threats which must be eliminated. If targeted killing can be associated to a state of armed conflict, it remains an abstract and variable one. As Gunneflo (2016, 209) points out, the American categorization of its conflict with al-Qaeda and its associates (enshrined in the 2001 Authorization on the Use of Military Force) and the Israeli Supreme Court categorization of the presence of a de facto armed conflict in the Occupied Palestinian Territories relies on a form of "descriptive accuracy", where empirical facts call forth a legal framework (that of International Humanitarian Law). Once this empirical fact has translated into a legal state, however, its spatial and temporal expanses are solely determined by the state power. Al-Qaeda may de facto have begun an armed conflict with the 9/11 attacks, but only the United States decide when this conflict ends and how far it ranges.

The implementation of large programs of targeted killing, therefore, is clearly construed by states as a form of armed conflict, and it is therefore fair to interrogate its strategic logic, the relation between tactical means and strategic ends, and the political victory at which it aims. Yet, as the 'liberal war' arguments note, targeted

killing is clearly – not unlike other forms of military power – associated with core aspects of sovereign state power, and is used to reaffirm the power of the sovereign state against would-be challengers, who may seek to appropriate or mimic its rights and prerogatives (Grayson 2012, 121; Gunneflo 2016, 29; 207; 212; Férey 2020, 215; see also Archambault and Veilleux-Lepage 2020, 968–72). That the state parties to the conflict referee the conflicts they wage only serves to reaffirm the fundamental asymmetry which is foundational to this conflict. This asymmetry, however, is not exclusive to the targeted killing campaigns, but pervades the whole War on Terror against non-state actors – including its much more conventional campaigns in Afghanistan. Either the whole War on Terror is not a war because resting on a foundational asymmetry, or asymmetry is not determinative of a state of war. That is not to say asymmetrical forms of violence, or the recourse to armed drones, do not raise novel questions and problems or exacerbate existing ones (Grayson 2012, 120; T. Gregory 2017, 215).

Conclusion

This chapter has surveyed a number of arguments which can be subsumed under the broad rubric of "post-heroic warfare," as well as analyses of targeted killings. Against the assertion that the radical asymmetry of armed drones excludes them from a paradigm of war, I argue that remote and asymmetrical practices of warfare are not new or necessarily excluded from the experience of war. On the contrary, similar to Samuel Moyn's argument, it is in seeking to exclude these practices from the concept of war that critics of drone and remote warfare introduce a radical conceptual novelty. Just as, in chapter 3, I noted that the concept of 'old' and 'new' war were deliberately constructed in mirror images of each other, and just as 'regular' and 'irregular' war are deployed normatively to exclude certain forms of warfare, so the construction of concepts of reciprocal and non-reciprocal war are constructed normatively, drawing on mythologized conceptions of war. Much for apt for an appraisal of armed drones in warfare are concepts of surrogate, risk-transfer, and vicarious warfare, which can be used to highlight the multiplicity of practices of distancing, substitution, and reallocation of risk and violence which are part of contemporary war. It is to these processes of risk allocation that I return in large part in the next chapters. The employment of aerial and remote violence, be it in strategic bombing, nuclear warfare, in the war in Vietnam, or in contemporary counterinsurgency, entails processes of

distancing, of constructions of productive violence at a distance, and of risk management and allocation. Meanwhile, the increasing recourse to targeted killing should be viewed within a similarly strategic framework of war. In the next part, I return to the genealogical underpinnings of contemporary drone employment, in order to uncover how these tensions concerning the application of strategically productive violence at a distance which are made manifest in drone use – notably for targeted killing – arose.

Chapter 5 – The Strategy of Strategic Bombing

While the bomb tonnage deployed by armed drones is immensely lower than that of World War II strategic bombing or of the Gulf War' air campaigns, claims that drone strikes can achieve strategic effects on their own hark back to these predecessors. To the extent that drones are sometimes seen as "the only game in town" in the War on Terror (CNN Politics 2009),[63] one that can claim either preeminence or exclusivity, their centrality raises fundamental questions concerning the purpose of aerial strategic warfare, which are central to the development of unilateral air power. The existing literature supports this natural point of comparison; Thomas Hippler (2017, xx–xxii; 210), for instance, bookends his *Governing from the Skies* by discussing drone warfare in the Middle East, arguing – rather facilely – that it heralds a return to the beginnings of air power and to a form of neo-Douhetism, recalling the colonial bombing from the early 20th century. Amélie Férey (2020, 37), similarly, argues that targeted killings borrow from strategic bombing and doctrines of preemptive war, in addition to political assassination.[64] To the extent that drones are remote-piloted *aircraft*, military drone operations must be considered as an extension or bifurcation of genealogies of aerial bombardment.[65]

Yet, that lineage is complicated from the start by multiple factors. First of all, it would be a mistake to consider aerial bombardment as *sui generis*. For all his talk of air power heralding a change in the nature of war, resolutely breaking with the past, Giulio Douhet borrows extensively from naval power theory, notably the work of Alfred Thayer Mahan, going so far as to conceptualise air power as a "perfect analogy" to sea power (Hippler 2013, 154; see also Carvin 2015; Lindqvist 2012). Secondly, the status of unpiloted or remote piloted vehicles remained in flux as they entered active military development. Thomas Mahnken (2010, 35), for instance, discussed the introduction of missiles in the American military in the 1950s and the debates between the Army – conceiving of them as long-range artillery – and the Air Force – which

[63] The phrase is by Leon Panetta, then CIA director.

[64] This chapter will not discuss the notion of preemption in detail, but the association of strategic air power to preemptive strikes is central to the thought of, among others, Giulio Douhet (2019b, 52).

[65] Remote-piloted sea vehicles and ground vehicles, while they have been militarized, do not at this point raise similar arguments concerning fundamental changes in the nature of war.

saw them as unpiloted bombers.[66] The same repeated some thirty years later, as the Predator drone's forebearers prepared to enter service. While the Air Force – dominated by pilots – was initially cool to the idea of drones, the Army jumped at the opportunity to acquire its own aerial reconnaissance capabilities, before the Air Force managed to wrest control back for itself (Whittle 2015, 110–11; Cockburn 2016, 56–59; C. Lee 2019, 14–15).

Most crucially, the establishment of strategic aerial bombing as distinct from ground or sea war was the result of bitter fights around the world over the existence and purpose of independent air services, which are sometimes still ongoing (Farley 2014). Yet, almost from the moment these services were established, or even in some cases before they were established, the prospects of remote-piloted aviation became a logical goal for the advocates of independent air power. Giulio Douhet (2019b, 58) and Billy Mitchell (Walker 2018, 12) both envisioned remote-piloted aircraft, while General Henry Arnold – the commander of the United States Army Air Forces in the Second World War – engaged in political battles to secure the independent future of his service with a view to future fleets of "manless" bombers (Sherry 1987, 187).[67] The rise of independent air power and of armed drones, therefore, is a story of future promise and of expectations: if, as Walker (2018, 6) says, the contemporary drones are the direct product of the "ghost" of strategic bombing, that ghost, in some ways, was present all along, as the machinic fusion of human and machine questioned the place of the human pilot in this assemblage.[68] The association of strategic bombing and military drones, therefore, is both prospective – in that the drone like "the warplane was created in imagination before it was invented as a practical weapon" (Sherry 1987, x) – and retrospective, in that the centralization of the control of drones under aerial services situates them in a genealogical lineage of air power.

This chapter addresses two main moments in the development of air warfare, namely the interwar development of theories of strategic bombing and the post-Vietnam renewal of theories of independent air operations. The first part of this chapter will concentrate on the thought of arguably the greatest "prophet" of strategic

[66] As with the later case of drone control, the Air Force won the bureaucratic battle over long-range missiles in the 1950s, the Army being restricted to missiles with a range up to 200 miles (Mahnken 2010, 49–50).

[67] It is unclear whether Arnold thought of guided cruise missiles or armed drones, and his prognosis has been used to validate both conceptions.

[68] On the machinic assemblage of human and machine, see A. J. Williams 2011; Chandler 2020; Schultz 2018.

air power, Giulio Douhet (Kohn and Harahan 2019, xii). It does so for two main reasons; the first is that the United States Air Force, among others, has long touted Douhet as the preeminent theorist of air power, and explicitly presented him as a formative influence on the development of its strategic bombing theory.[69] The second is that while Douhet has acquired a preponderant stature in the early theory of air power, he has done so less for the originality of his thought than for the clarity with which he exposes the argument for an independent air force. Douhet's *Command of the Air* and associated writings, therefore, constitutes a useful representative of the prevalent thought of the 1920s and 1930s. Through this exposition, I will demonstrate that many of the features ascribed to contemporary drone warfare are already present in Douhet's theorization of air warfare, and that early debates concerning the purpose of strategic bombardment have shaped the development of concepts leading to contemporary theories of drone warfare. I concentrate here on two, namely the replacement of strategic thinking by quantification and the embracing of an asymmetrical confrontation. The second part of this chapter will jump forward to the renewed debates concerning the independent role of air power in the 1980s and 1990s, before and after the Gulf War. These debates, among others, introduced the idea of "effect-based operations" and systemic collapse, raising anew the question of the purpose of aerial violence, and whether air power can indeed achieve and direct effects to a desired end.

Prophet of Air Power

In presenting his conception of strategic air power, Giulio Douhet (2019c, 167) asserted a resolutely futuristic outlook, leaving behind the experience of World War I and drawing on human reason's "divining power which brings man closer to God." Yet, as much as he wanted to present his theory as inevitable and irrefutable – after all, "it cannot be denied that airplanes fly and explosives destroy" (Douhet 2019b, 88) – the supremacy of Douhetian theory was all but straightforward. As Hippler (2013, 182) has detailed in his intellectual biography of Douhet, his theories were not only profoundly malleable, but also contested in Italy itself, both by officers from other services and by advocates of independent air power. The evidentiary record,

[69] Historians, however, disagree concerning the actual influence of Douhet's ideas on interwar American bombing theory, and even whether Douhet's work were at all accessible in translation before the 1942 translation (Hippler 2013, 136–37; Sherry 1987, 24).

furthermore, both in the 1920s and 1930s and since, hardly provides the irrefutable proof which Douhet claimed would result; on the contrary, Douhetism and its successors have been likened to unfalsifiable professions of faith rather than sound, empirically valid theories (Hippler 2017; Walker 2018).

Part of the appeal is undoubtedly due to national bureaucratic politics. The fight by Douhet in favour of an independent air force to accomplish an independent mission mirrored the vindication of the British Royal Air Force through its embrace of colonial air control in the 1920s (Omissi 1990, 36) and the activism of Billy Mitchell and others to raise the status of the American Army Air Corps. The issue is best summed up by Michael Sherry, discussing American air pioneers: "Logic alone never dictated employment of air power against enemy cities and factories. […] But no doctrine except strategic air power satisfied the drive to achieve an independent air force that would bring personal status, power, and probably most important, professional respectability" (Sherry 1987, 50). Throughout the history of air power, a large part of its appeal has been organizational or budgetary, as it has claimed to be uniquely situated to take on specific missions, either better or at lower cost than other services.

While Douhet's theoretical output was therefore not necessarily embraced for its own sake, there remains considerable merit it assessing its logic. This appeal lies less in its intrinsic value, and more in its status of exemplar for the development of strategic air bombing theory in the interwar period. There is considerable agreement on the point that while the development of air power in the 1920s and 1930s took place on largely national lines, theorists "displayed remarkable unanimity" in their theoretical production (Sherry 1987, 24); Douhet, in turn, captured much of this intellectual *milieu*, "expressing views that were widely shared in air-power communities in different countries" (Hippler 2013, 120). His thought, therefore, more systematic than truly original (Kohn and Harahan 2019, x), captures key debates, principles, and assumptions of the early days of strategic air power, and at the time provided a useful theoretical underpinning used by international advocates of air power to backfill their established theories of strategic power (Hippler 2013, 136–38). Indeed, the fact that Douhet has endured as a persuasive authority in circles of air power suggests that his theoretical output is worthy of attention.

Despite this marginal direct influence on American doctrine of strategic bombing, Douhet somewhat belatedly has been embraced by the Air Force as a *primus inter pares*, as the preeminent theorist of air power. Against dissident voices such as that of Bernard Brodie (1984b, 51) dismissing Douhet as a "museum piece" superseded by the advent of nuclear weapons, Air Force intellectuals continually emphasized the clairvoyance of the one who "stands out among military theorists for his prescient insights into how the advent of airpower would change modern warfare" (Deaile 2019, v). In an ironic juxtaposition, against Douhet (2019b, 23) who wrote that "I did not prophesy then [in 1909, when he first presented elements of his theorising], and I do not prophesy now", the authors of the preface to this very same work boldly proclaim that "Giulio Douhet was a prophet." (Kohn and Harahan 2019, xii) If Douhet, as it is claimed, is a visionary prophet who, to borrow Sherry's formulation (1987, x), "created in imagination" the American strategic air arm "before it was invented as a practical weapon", his status as "prophet" would ascribe to his work a preponderant role in shaping the American Air Force culture in which innovations take place. Walker, somewhat sarcastically, points out this cultural influence on the development of Air Force innovation : where MacIsaac (1986, 647) wrote in the 1980s – on the cusp of a foreseen technological revolution of which drones would be a part – "that technology itself may be today's primary air power theorist", Walker (2018, 18) retorts that "it may be scientific in name but perhaps *theological* is more apt for an organization that refers to one of its founders as a prophet."

For the field of air power theorists, one which is not keen on citing Clausewitzian influences (Howard 2003, 72), Douhet serves very much as an alternate authority to Clausewitz. His rejection of previous historical experience establishes a strong contrast with the Prussian theorist, who preferred to ground his insights in history. In Douhet's (2019b, 3) approach, which Hippler (2013, 75) termed "ahistorical historicism", the experience of World War I serves only as an example of the bankruptcy of existing theory of war, against which his own conception of aerial war – indeed, in some aspects an entire alternate theory of war (Warner 1948, 485; MacIsaac 1986, 629) – could be deployed, supplying the theorization of experience which the end of the War had precluded. Throughout this, pointed references to the outdatedness of theorizing derived from Napoleonic War are too conspicuous to be ignored (Douhet 2019c, 183). Despite this apparent dismissal, though, features of

classical theorizing of war remain. Whereas Hippler (2013, 35) asserts that Douhet is more of a Jominian and may in fact never have read Clausewitz, the discourse deployed by Douhet in many cases embodies crucial elements of Clausewitzian conceptual language.[70]

Arguably, the most centrally Clausewitzian element of Douhet's theory is his conception of war as a contest between opposing wills, in this case national wills in a total war (Deaile 2019, v). As discussed in chapter 3, Clausewitz's opening illustration of war consists of that of dueling wrestlers:

> Countless duels go to make up war, but a picture of it as a whole can be formed by imagining a pair of wrestlers. Each tries through physical force to compel the other to do his will; his *immediate* aim is to *throw* his opponent in order to make him incapable of further resistance.
>
> *War is thus an act of force to compel our enemy to do our will.*
>
> […]
>
> Force – that is, physical force, for moral force has no existence save as expressed in the state and the law – is thus the *means* of war; to impose our will on the enemy is its *object*. To secure that object we must render the enemy powerless; and that, in theory, is the true aim of warfare. That aim takes the place of the object, discarding it as something not actually part of war itself. (Clausewitz 1984, 75)

As noted by Jan Willem Honig (2007, 62), the more accurate translation of the Clausewitzian "*wehrlos*" (here "powerless"), would be to render the enemy "defenceless"; this, in turn, would convince the enemy of their defeat and force them to accept the resulting peace (Heuser 2007, 159). Douhet, in turn, refers explicitly to dueling wrestlers in recounting the history of the World War I stalemate, as the wrestlers, "instead of getting holds and trying to pin each other down, stand shoulder to shoulder and strain at each other, each patiently waiting for the other to collapse from nervous prostration induced by the constant muscular and nervous strain"

[70] Walker (2018, 11) reinforces the association of strategic bombing with Jomini, asserting that the American doctrine of precision bombing represents an adaptation of Jominian doctrine, later translated into Clausewitzian language as the Prussian became the theorist *au goût du jour*.

(Douhet 2019c, 140). As this "struggle without precedents" has now replaced the possibility of a decisive blow rendering the enemy defenceless (Douhet 2019c, 140), Douhet (2019b, 20) presents his own conception of the end of war: "*To be defeated* in the air, on the other hand, is finally to be defeated and to be at the mercy of the enemy, with no chance at all of defending oneself, compelled to accept whatever terms he sees fit to dictate." The Clausewitzian echoes here are unmistakable, to the exception that Douhet locates the *Schwerpunkt* of the decision in the air, not on the ground. To achieve the command of the air is to put the enemy "with no chance at all of defending oneself," thereby forcing them to sue for peace. This is consistent with a will-centric approach to war: "the fact is that the *objective* of war has never at any time been the enemy's armed forces. It has always been, is now, and always will be, to win – that is, to compel the enemy to bow to one's will" (Douhet 2019a, 246). To the extent that Douhet's approach conforms to the prevalent Clausewitzian conception of war, it does so by diminishing, or even eliminating the relation of means and ends so dear to Clausewitzian theorists: command of the air is both the means to victory and the victory itself.

The Decisive Point

As mentioned above, already in 1943 an argument was made by Warner (1948, 485) that Douhet and other air power theorists proposed not a doctrine, but a whole alternate theory of war founded on air supremacy.[71] This new theory of war, Douhet argued, was made necessary by two factors. The first is the stalemate of World War I: the means of warfare available, favouring the defensive, made the prospect of reaching a decision on land unrealistic. Clausewitzian strategy, relying on the use of (decisive) engagements for the purpose of the war, was superseded by the dramatic expansion of the field of battle to continuous fronts, which made the distinction of strategy and tactics moot and "bankrupted the art of war" (Douhet 2019c, 145; see also 8). The second lay in the introduction of air power; contrary to the indecisive stalemate on land, air power resolutely upsets the offensive-defensive balance, offering a new point at which a decision could be reached. The impossibility of defence against air attack – combined with weapons of mass destruction, indicated the coming of a "revolution" in warfare which would no longer be predicated on combat (Liddell Hart

[71] The first edition was published in 1943.

1980).[72] Paradoxically, Douhet's alternative ends up replicating these two failures he identifies in land warfare, and fails to offer a clear strategic mechanism through which air power could win a war. In this, his conception of air war does not so much break with the practice of World War I and its shortcomings, as confirm them and transpose them in the air. This failure, in turn, would condition the further development of air power as an independent weapon.

In Douhet's new "theory" of war, the end goal of air warfare is, quite simply, destruction. If the First World War devolved into an attrition of mass armies, like wrestlers "stand[ing] shoulder to shoulder and strain[ing] at each other," the air arm offers an opportunity to accomplish this destruction much more efficiently. Air power multiplies the munition tonnage available (Douhet 2019b, 21) and offers "the maximum returns" by targeting weaker targets, as opposed to the hardened armed forces (Douhet 2019b, 114). The objective of war, therefore, in a de-territorialized airspace where no fronts exist, is simple: "to inflict the maximum possible damage on the adversary as quickly as possible" (Douhet in Hippler 2013, 191). In this logic of production of destruction, the conduct of warfare becomes intimately tied to quantification and calculation. Douhet, as such, speaks regularly in ratios: the importance of determining the optimal ratios of incendiary, gas, and explosive bombs, the quantity of explosives required to destroy a given area (2019b, 18–19), and the ratios of force needed to confront the enemy and achieve the desired destruction (2019b, 97). Air power, in Douhet's view, is intimately tied to this "business of distribution" (2019a, 210), and while practical experience will allow calculations to be refined (2019b, 33), its basic quantitative logic is irrefutable: "It cannot be denied that airplanes fly and explosives destroy" (2019b, 88). It is not incidental, therefore, that Douhet (2019b, 23; 33; 117) regularly speaks of "mathematical certainty" and of the inevitable linear relation of destruction and attrition leading to victory.

Aerial war, for Douhet, is therefore not unlike the war of mass waged on the ground. Recalling the Clausewitzian aphorism that "the best strategy is always to be *very strong*; first in general, and then at the decisive point" (Clausewitz 1984, 204), Douhet strenuously opposes any diversion of forces or partial operations. The point of air war is to conduct all-out aerial assaults, using all available forces to concentrate

[72] Liddell Hart is discussing nuclear weapons, having published his essay in 1947, shortly after the Hiroshima and Nagasaki bombings. Douhet, instead, envisioned the mass use of poison gas to kill cities and make them unliveable.

on individual points, following the "principle of mass" (Douhet 2019c, 176). If war is total – and for Douhet the total character of war is axiomatic – then it requires a total effort, from production to bombardment (Douhet 2019b, 65). In this "quantitative and materiel-centred approach," (Hippler 2013, 193), the war is not in fact won in the exercise of violence, but in its preparation. Douhet's final text, an imagined history of "The War of 19—" between a classically-organised French-Belgian bloc and a German air force modelled on Douhet's prescriptions, is revealing of this tendency. The first part of the article is a long list of figures, detailing the imagined organization, equipment, production rates, and force structure of each belligerent. While Sherry (1987, 25) scoffs at the tediousness of these lists to show the poverty of Douhet's strategic thought, they also reveal the importance Douhet attaches to numerical superiority. This obsession with numerical value also explains in part Douhet and other air power planners' counterintuitive pacifism (see Hippler 2011): by preparing for numerical domination, one is preparing for a war that will never need to be fought, as numerical superiority will be plain to all before a single bomb is dropped (Douhet 2019b, 46, 56; Sherry 1987, 26).[73] In this outlook, that Roosevelt's role as air commander in World War II was expressed mainly by "call[ing] on the Americans to produce" (Sherry 1987, 121) is less surprising. Much like Baudrillard's (1991) criticism of the constant displacement of the event in the Gulf War, in Douhet the fight is always anticipated, and won ahead of the decision point.

For Douhet (2019b, 23), then, it is a "mathematical certainty" that aerial bombing will lead to complete victory. While Douhet (2019c, 171) expresses the objectives of air power as sequential – first, conquer the command of the air, and then second exploit it to break the enemy will, Hippler (2013, 147) is correct in noting that, through the conceptual invention of the "battleplane" (a heavy, modulable bomber capable of defending itself from attack), Douhet effectively fuses these two objectives into one simultaneous decisive action: a massive bombing raid will force the enemy to

[73] Presumably the reduction of aerial strength to fundamental quantities is meant to also stave off problems of misperception. Douhet refers constantly to stronger and weaker parties and how they should plan, but seemingly assumes that parties will always accurately assess relative strengths.

Deterrence requiring demonstrable supremacy would be recurringly contested throughout the Cold War, with some advocating a 'sufficient' deterrent rather than a dominant one. Yet, the idea has remained prevalent: in 2020, Christian Brose (2020, xviii) still argues that "the only way to deter wars is to be so clearly capable of winning them that no rival power [here, China] ever seeks to get its way through violence.

accept aerial battle, leading to the decisive conquest of the command of the air.[74] While Douhet (2019b, 22) understandably therefore states that "to have command of the air is to have victory", he does not fully develop the strategic logic linking destruction to the achievement of victory. This, in turn, would have crucial implications for subsequent theorists seeking to develop this link between destruction and domination without automatically assuming extreme levels of annihilation, as the discussion of counterinsurgency in Chapter 8 will make clear.[75]

As mentioned above, the decisive aspect of war for Douhet is always anticipated: it is both assumed that any contest will be decided before it is played out, and that the effects of strategic bombardment are inevitably and "*a priori* decisive" (Walker 2018, 19). What exactly the destruction is meant to achieve, however, is left unsaid as it is so blatantly obvious: air power will crush the "material and moral resistance of the enemy" (Douhet 2019b, 89). "How could a country go on living and working under this constant threat, oppressed by the nightmare of imminent destruction and death," Douhet asks (2019b, 20)? Such a question is purely rhetorical, as the fact is that forcing intolerable conditions on the enemy will inevitably lead them to demand an end to these conditions. Bombing itself is intolerable, and it matters little what is bombed, as any bombing would have strong morale effects (Douhet 2019d, 315).[76] As to what morale is and how effects on it are measured, Douhet and other theorists do not say, except to express "a tacit consensus that morale was an important factor in war" (Hippler 2013, 65). "The War of 19—" is particularly revealing in this respect. After spending countless pages explaining how forces were organised, Douhet narrates two waves of German bombing raids on French cities, in which they eliminate the French air defense and destroy a few cities. At that point, Douhet (2019d, 358) interrupts his story: "From this moment on the history of the war of 19— presents no more interest." The moment of victory, what compels the French

[74] That is how Douhet narrates the development of the "War of 19—": the French air defence is forced to confront German battleplanes bombing civilian centres, and is destroyed in the process.

[75] Two contrasting statements hint at the perils of this unclarity: Brodie's (1984b, 51) statement that while the nuclear age provided the extreme levels of destruction required by Douhet's vision also notes that Douhet's conception is so banal as to be meaningless when annihilation is at play. Conversely, MacIsaac (1986, 630) suggests that Douhet's axiomatic assumption that war would inevitably and instantly escalate to maximal destruction was defeated by the stronger-than-expected prohibition on chemical weapons, which alone sufficed to sever the link between destruction and victory.

[76] In nuclear planning, strategists would talk of the "bonus" effects on the civilian population of targeting industrial, military, or political sites (Brodie 2015, 156).

and Belgian governments to capitulate is not shown. Whether the campaign extends for a day, a month, a year, whether it ends in swift surrender or in total devastation, in thousands or millions of dead is irrelevant: the decisive point has been reached, and it corresponds not to the immediate cause of victory, but to a sufficient condition which down the line will lead – somehow – to the expected result. In a way, Douhet could equally have interrupted his narration at the end of Part I, as he finished describing the organization of forces, so strong is the link between preparation, organization, and domination. The war, simply, does not need to be fought to be won.

This imprecision in the definition of strategic logics supports the extension of air power to all kinds of situations, in very much a one-size-fits-all manner. Little does the identity or the organization of the enemy actually matter – the link of destruction and victory holds no matter who and what is targeted. In this approach, the figure of the strategist, the war leader, is almost entirely absent, for good reason.[77] David Omissi identifies a similar dynamic at play in the employment of air policing in the British colonies, where proponents of air policing elaborated a three-stage model, which was meant to hold universally: according to this model, victims of bombing would first be shocked, then would adapt to bombing, before a wariness would set in and they would be compelled to surrender. In Omissi's (1990, 111) account, this model presented two advantages: first, it allowed the Royal Air Force to justify continuing extended bombing campaigns even when results did not seem to be forthcoming, on the promise of success at a later stage, in an indeterminate horizon of futurity (see Pomarède 2020). Second, it allowed leaders to justify bombing in nearly any situation, irrespective of the character and identity of the groups being bombed; indeed, the logical mechanisms justifying bombing were inherently malleable, and the character of the "native" to be bombed could be discursively constructed depending on the effect sought (Omissi 1990, 111). Where opponents of air policing would point out failures of actual bombing or assert the particularity of colonial bombing due to the "native" character of the enemies, its proponents could point to the universal three-stage model, and re-construct the "native" as being similar to European enemies (where they may in other

[77] In "The War of 19—", the German commander is mentioned only in passing, and his role is limited to organizing the forces, preparing a plan, and indicating the commencement of operations.

circumstances highlight the distinction of European and colonial opponents to legitimize bombing).[78]

Hippler notes a similar inattention to the identity of the enemy in Douhet's thought. Reconstructing Douhet's logical process, Hippler (2013, 130) argues that Douhet's democratic theory of war – according to which nationalized total war concerns the whole of society – relies on the assumption of an "insurrectional popular sovereignty." The idea, therefore, is that bombing would break the will of democratic publics, and compel them – as *pouvoir constituant* – to withdraw their consent to the ruling government, thus forcing the *pouvoir constitué* to sue for peace or be reconstituted. Yet, as Hippler (2013, 99) notes, little does Douhet care about the empirical validity of this construction; if the populace does not, in fact, possess the ability to democratically compel the government, that does not invalidate the assumptions that bombing and destruction will lead to victory. Simply put, the assumption that bombing will break the will of the enemy is more axiomatic than strategic, and relies on a tautology: air power is decisive, and it must be employed to reach a decision because "only decisive means have the capacity to bring about a decision" (Hippler 2013, 132). The lack of clear strategic logic, far from detracting from it, represents its strength as it precludes any empirical falsification of that axiom. Sherry (1987, 340), thus, traces a similar dynamic in the elaboration of American interwar strategic air power, as he notes that the very abstractness of debates concerning aerial bombing allowed it to proceed in World War II without clear expectations concerning how it would contribute to decisive victory.

Asymmetry in the Air

The imprecision of the strategic logic in Douhet's thought allows him to justify nearly any bombing action as having either a material or moral effect on the conduct of war. In prioritizing aerial bombing action – either directed at enemy air force infrastructure (to conquer the command of the air) or at civilian or industrial infrastructure (to compel defeat), Douhet quite explicitly rejects the notion of combat as an objective of aerial warfare. Yet, while asymmetries can be tied directly to air

[78] Douhet, meanwhile, asserts that morale bombing "is bound to be much more effective when [the] population is dense and civilized," locating strategic bombing as a predominantly European type of war (Douhet 2019a, 229). Priya Satia (2013, 233), on the contrary, argues that aerial bombardment in Iraq was justified in relation specifically to the imagined geography of the "mystical and romantic land" of Iraq.

warfare since the first grenade-dropping by an Italian pilot in Libya in 1911 (Hippler 2013, 59), and while Douhet in some ways resolutely embraces the asymmetries of strategic bombing, he also persistently seeks to recapture a sense of reciprocity in air warfare.[79]

As mentioned above, for Douhet a strategic air force should not seek aerial battle, though it should also not shy away from it if offered. Against the common discourses of heroism of individual knights of the air engaging in highly personalized combat (Bourke 2000, 55–65), Douhet resolutely exalts industrialized massed strength, in which formations are strictly disciplined and aircrews are singularly focused on their bombing mission. The goal of air forces, therefore, is not aerial warfare so much as warfare from the air; while command of the air may be gained in the air if the enemy decides to seek battle (and, according to Douhet, the enemy ought not to do so), it is likely more efficient to gain it by attacking enemy air forces on the ground to "destroy the eggs and the nests" (Douhet 2019b, 31). The assumption underpinning this resolutely offensive spirit is that air warfare admits of no defense; the only means of defense is through an indirect attack on enemy bases, ideally preemptively or faster than the enemy can bomb one's own forces.

Such a strategic outlook problematizes conceptions of asymmetry and reciprocity in war.[80] Where Hippler (2013, 94) speaks of an asymmetry that begins morally (in the criminalization of the enemy) before translating into strategy and tactics, this straightforward linearity does not capture the complexity of asymmetrical air war. Douhet fully expects that bombardment will likely occur on both sides, and that both belligerents will target both military targets and civilian infrastructure, seeking to achieve moral effects. While he rejects the notion of air defence as wasteful, he does suggest a need to build up civilian resilience and to encourage resistance on the part of civilian populations in order to ward off early moral collapse (Douhet 2019a, 215). In the first stage of aerial warfare – to the extent these stages are sequential – therefore, warfare may be said to be indirect though, if each belligerent's

[79] Giulio Gavotti's bombing of Libyan rebels in 1911 opens two of Hippler's books. Interestingly, he interprets the same incident in two different ways, highlighting two different forms of asymmetries and pointing to distinct legacies. In *Bombing the People*, Hippler (2013, 1–2) emphasizes how this mission points to a "conceptual revolution" in the fusion of reconnaissance for ground support, tactical air power, and strategic bombing targeting social structures. In *Governing from the Skies* (2017, xii), the same incident highlights the problem of employing air power against "hybrid targets" in the irregular, "hybrid and 'asymmetrical' wars that have been an obsession ever since."

[80] I thank Dr Neil Renic for helping me navigate the conceptual terminology here.

strategy is a mirror image of the enemy's, more symmetrical than asymmetrical. Or, to borrow the Clausewitzian construction of tactical offense in strategic defence, it could be a case of asymmetrical tactics (bombing ground targets from the air) in symmetrical strategies.

For this reason, Douhet is at pains to establish the indirect reciprocity of air war as a form of disaggregated battle, where forces confront each other indirectly rather than meeting in a specific battlespace and time. The mutual attack on bases of air power constitutes "action and counteraction; hence, battle" (Douhet 2019b, 88). "We [observers] are used to seeing the offensive and the defensive aspect in every battle, and we cannot grasp the idea of a battle which is all offensive, with no defensive aspect" (Douhet 2019b, 99); therefore, we must rid ourselves of historically-bound conceptions of the engagement, and embrace new forms of reciprocal action. The contest of attrition in the air is not "the virtual end of battle once promised but only battle in new form," a numerical struggle to achieve a decisive effect (Sherry 1987, 165). The disaggregation of battle in the air mirrors the aggregation of the First World War, in which the whole Western front became "a single endless battle extending along hundreds and hundreds of kilometers" (Douhet 2019c, 140). Similarly, it is possible, for Douhet, to see the whole of the air war – indeed the whole of war, subsumed in the decisive field of the air – as one gigantic reciprocal engagement, in which a series of indirect actions take place.

Aerial warfare, for Douhet (2019b, 7), escapes the formalistic constraints of reciprocity to become a reciprocal confrontation "between two wills basically opposed to each other." Aerial warfare assumes a status as the highest form of war, as it is the product of one nation-at-war (combining industry and armed forces) targeting directly the centres of will of the enemy, rather than aiming at indirect effects through the enemy's army (Douhet 2019b, 8). In a conception of two nations at war which in early discourses of aerial warfare tended to be anthropomorphized, strategic bombings become direct body blows to the enemy nation-as-organism, rather than the shoulder-to-shoulder straining of the wrestlers in Douhet's retelling.[81] This need for an indirect

[81] Douhet (2019b, 14) speaks of striking "at the heart" of the enemy; Hippler (2013, 112) has noted how other versions of Douhet's writings draw on conceptions of "nervousness", with strikes at nervous centres leading to neurotic collapses. Sherry (1987, 57), writing about American precision node bombing, notes how communication lines were compared to nerves and arteries. In contemporary parlance, decapitation strikes remain prevalent, while metaphors of terrorism-as-cancer abound. Targeted killing itself, of course, is used both in oncology and in counterterrorism (Schwarz 2018; 2016; Dillon and Reid 2009). Finally, in an ironic reversal, Stanley McChrystal and other former military

approach is magnified when it concerns the weaker air force, which should absolutely seek to avoid a direct aerial engagement and seek to achieve a morale effect "the more violently and intensely the weaker we are" (Douhet 2019a, 221). These attacks striking directly at the will through increased violence may recall elements of similar indirect – or irregular – approaches at achieving moral effects through non-reciprocal violence. In a context of colonial repression, Omissi (1990, 153) likens the employment of aerial bombing to the 1921 Amritsar Massacre in India which, according to the officer in charge, also aimed at provoking an unspecified morale effect through brutality. More generally, Christopher Daase (2007) identified escalation in the ferocity of violence as one of the mechanisms in Clausewitzian people's war, through which insurrection and counter-insurrection escalate to the extreme. As in small wars, in a Douhetian air war breaking the enemy's will relies on violence, and the weaker party has an incentive to employ ever increasing violence to negate the numerically stronger side's advantage, as "all saving is vain for him who is about to die" (Douhet 2019c, 134).

The assumption of a rigid strategic doctrine relying solely on maximal destruction, applicable in any situation, and assuming indirect symmetrical action by the enemy has a paradoxical effect, namely that it erases the enemy from its strategic outlook altogether. Simply put, in a Douhetian perspective, the enemy exists as a set of targets to destroy, and the destruction ought to continue until victory occurs (see also Wasinski 2019). That the enemy will engage in their own air offensive is merely to be accepted (Douhet 2019b, 118); meanwhile, one's own air force should "be completely free of any preoccupation with the actions of the enemy force" (Douhet 2019b, 54). As a result, there is no measure of success outside of the rate of destruction achieved, which should always be maximized, doubly so since, as mentioned above, morale is nearly impossible to measure in itself. Therefore, this doctrine reliant entirely on strategic bombing becomes entirely self-contained, reflecting merely a preoccupation with accomplishing the desired efforts, rather than effects (Hippler 2013, 161; Sherry 1987, 162). What matters is to destroy and kill well, to do it efficiently, and victory will follow, with "mathematical certainty."

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consultants have spoken recently of the need for a COIN strategy against the COVID-19 pandemic, drawing on a medicalized counterinsurgency-as-immunology strategy as analogy for a problem of public health. (McChrystal and Talbert-Slagle 2013; 'How To Take A Leadership Role During A Crisis' 2020; Hendrix and Long 2020).

As mentioned earlier, Douhet's theory is not one which corresponds integrally to any bombing campaign. Nevertheless, precisely for this reason, it can be taken as a reasonable representative of the prevalent thought of the interwar era. As Sherry's discussion of the development of American strategic bombing doctrine shows, the issues, contradictions, and tensions that were the features of Douhet's writings manifested themselves in American doctrine and practice as well. In Sherry's account, the American development of bombing doctrine relied on abstractness and remoteness to avoid thorny ethical and practical questions. The lack of concrete situation in which the Americans might engage in strategic bombing – and even less suffer it – throughout the 1930s allowed for the development of conceptual apparatuses in which the purpose of bombing needed not be defined (Sherry 1987, 115). Therefore, when in World War II daylight precision bombing targeting communication nodes and key industries failed to deliver the promised victory and as the British Bomber Command persisted in engaging in area bombing against cities, the conceptual logic could be imperceptibly yet constantly rewritten (Sherry 1987, 149–52). Ultimately, in Sherry's account (1987, 29), air power became a preferred means for American deciders due to its peculiar familiarity and abstractness in the service of an isolationist foreign policy, and due to its claim to shielding the American homeland by ensuring threats and destruction remain remote. In this outlook, which travelled parallel to Douhet's elaboration of the theory of strategic bombing, the indeterminacy of aerial bombing constituted not a weakness, but a strength (Sherry 1987, 175), one that would ensure the possibility of employing air power as a principal weapon for strategic success would remain. In the 1980s, similar basic ideas would be recuperated, this time with an attempt at spelling out more explicitly the causal mechanisms tying aerial bombardment to victory, without restraining this fundamental flexibility.

The Renewal of Strategic Bombing

If the interwar separating the First and Second world wars provided the sociopolitical milieu in which theories of strategic bombing coalesced, the interwar period separating the American war in Vietnam and the Gulf War (as well as the fall of the Soviet Union) provided an equally fruitful period of theoretical reassessment. As multiple historians have noted, in this period the American armed forces radically changed their force structure, turned to a more explicitly Clausewitzian approach in theorizing about war, elaborated new doctrines for the use of force, and developed a

large number of technological systems that are still in use today (Kagan 2007; Mahnken 2010; Cockburn 2016; Strachan 2008). The mixed result of air power in the Vietnam War, coupled with a wider reappraisal of the need for sub-nuclear warfighting doctrines, led to a fundamental rethinking of the role of air power in warfare, particularly of the possibility for sub-nuclear strategic air attack (Laslie 2016). This reappraisal and renewed theorizing of the role of air power would only accelerate into the 1990s, as the wider movement of the Revolution in Military Affairs crept out of the perceived triumph of the Gulf War. Throughout these theoretical debates, however, ambivalent attitudes towards the "prophets" of early strategic air power remained, as new theorists sought to position themselves within the history of the air force while asserting their conceptual novelty.

These developments are particularly crucial for the current study, as this period also saw the gradual development of the technologies which would produce the armed Predator and Reaper drones of the War on Terror (Whittle 2015; Fuller 2017; Cockburn 2016). As the Air Force underwent intense questioning of its roles and missions, one crucial element at issue was the relation of air power to other means of warfare, whether it could achieve a dominant role, or whether it should rather seek to emphasise "jointness" with the army. These theoretical debates, in turn, would influence the position of armed drones within the arsenal of the United States Air Force, their development, and eventually their use in combat operations.

A core problem of prophecies lies in recognizing them and interpreting them accurately. Consequently, to assert something as 'prophetic' says as much about the prophet than it does about the ones recognizing the prophecy. It is not anodyne, therefore, that the Air Force Museum republished in 1983 its translation of Douhet's *The Command of the Air*, with an introduction by the USAF's Chief Historian and the public historian of Strategic Air Command stating bluntly that "Giulio Douhet was a prophet" (Kohn and Harahan 2019, xii). The perception of an Air Force doctrine desperately tethered to its evidence-free "articles of faith" (Pape 1997, 214), even as it claimed to reinvent itself, is rather prevalent, and somewhat facile to argue (see Walker 2018). A number of studies in this period therefore present themselves as explicitly going against air force culture, notably Robert Pape (1997, 191) or Mark Clodfelter (1989), who revealingly titled his analysis of strategic air power in the Vietnam War "The Limits of Air Power". The common agreement in wider military

circles, at the same time, was that the American Way of War tended to focus on massed firepower for maximal destruction, pursuing strategies of annihilation through (technology-enabled) overwhelming force (Weigley 1991; Carvin and Williams 2015). According to this view, the status of Douhet, Mitchell and other pioneers as 'prophetic' was hardly in doubt, if only due to the self-fulfilling interpretation of their prophecies.

Despite these long cultural legacies, the new theorists of theater air warfare, of effects-based operations, and of parallel warfare displayed a much more ambiguous attitude towards their historical predecessors. In emphasizing the novel possibilities presented by technological advances in avionics, detection technologies, precision armament, and stealth, John Warden and David Deptula demonstrated both an attraction and a repulsion towards this historical tradition, not unlike Douhet's "ahistorical historicism" (Hippler 2013, 75). Whereas Douhet argued for a rejection of the experiences of air warfare in World War I in favour of logical deduction while leaning heavily on the example of that war when it came to ground warfare, Warden similarly affirmed and rejected historical learning. His 1988 *The Air Campaign* (1988, 6) is riddled with historical vignettes, justified by the consideration that "history is the only laboratory we have in peacetime to develop and try the theories of war."[82] In the same work, however, he claims to offer a "radical" alternative to the prevalent American way of war (Warden III 1988, 136), and later compares the evolution in air technology to that from sail to steam-powered fleets, concluding that theorists ought to "stop trying to resurrect a worldview that perhaps never was" (Warden III 1997, 172). The problem of dealing with the historical "prophets" of air power is therefore double: while the "extravagant claims" by Douhet, Mitchell, and others that air power would triumph alone – to the point of potentially obliterating the very possibility of war – created standards no air force could ever meet and therefore harmed the cause

[82] That is a rather dubious statement: in *The Air Force Way of War*, Brian Laslie (2016) argues that Tactical Air Command, following the failures of the Vietnam War, instituted a series of large-scale realistic exercises – most notably Red Flag and Blue Flag – which served as doctrine laboratories for the development of new procedures, doctrines, and plans at every level of the non-nuclear air war. In Laslie's account, the peacetime laboratory of Tactical Air Command was an ongoing series of controlled training exercises, not (only) historical analysis. Furthermore, the notion that the 1980s represented a period of "peacetime" for the United States Air Force is rather overstated; in addition to ongoing planning for a non-nuclear confrontation with the USSR, the failed hostage rescue in Iran in 1980, the invasion of Grenada in 1983, and the raid on Libyan targets in 1986 all served the Air Force's ongoing theory-testing needs; the last of these, Laslie (2016, 102–3; 108) notes explicitly, directly influenced Warden's *The Air Campaign* despite not being mentioned.

of air power (J. A. Olsen 2015, 1), air advocates "must start believing in" its strategic efficacy and push for air-dominant strategies to preserve their organizational clout, at the risk of being branded as "zealots" once again (Warden III 2015, 126).

David Deptula, arguably the greatest proponent of "effects-based operations" (EBO), similarly displayed an ambiguous relationship to the history of air force doctrine. Asserting continuity between the doctrine of daylight-precision bombing preconized by the Air Corps Tactical School in the interwar period and EBOs, Deptula (2001, 8) argues for continuity in the ideal through a revolution in practice: the problem of air power had never been the theory, but the lack of capability to practice what the prophets preached, which stealth technology and precision-guided munitions finally remedied. Where Brodie (2015, 105–6) had asserted Douhet's simultaneous vindication and irrelevance in the nuclear sphere, Deptula (2001, 8) similarly claimed that the advent of new technology realized the prophecy which earlier theorists had foreseen without being able to realise. Thomas Hippler (2017, 193), meanwhile, draws links both prospectively and retrospectively: the attempt to use pinpoint limited force to target infrastructure constitute "neo-Douhetian" theories which overcome some defects of the original while creating new tensions, while certain features of early 1920s theory, such as Douhet's innovation of the "battleplane" capable of conquering the command of the air and accomplishing bombing raids simultaneously rather than sequentially anticipated John Boyd, Warden, and Deptula's innovations (Hippler 2013, 145).[83]

The 1980s Interwar

The debate concerning the significance of the Douhet-Mitchell legacy for the renewal of American air power doctrine, to a large extent, boils down to an intra-service competition between the Strategic Air Command (SAC) which had – since the commands of Curtis LeMay – occupied the preeminent position within both the Air Force and arguably, the American military establishment as a whole (Mahnken 2010, 24; 28), and the Tactical Air Command (TAC), which had been relegated to the role of "junior SAC" (Laslie 2016, 35). After the failure of air power in Vietnam – where tactical fighters conducted most of the interdiction and punishment strikes in North

[83] In another chapter, Hippler (2013, 246) analyses the thought of Amedeo Mecozzi, a theoretical adversary of Douhet, and argues that "Mecozzi should thus clearly be considered a forerunner of what is nowadays called 'effects-based operations'" and of employments of air power in hybrid warfare situations, though the prophetic status of an unrecognised prophet may be doubted.

Vietnam – a fundamental change in doctrine occurred which, in Laslie's (2016, x) words, "overturned traditional theories of air power." Given the empirical conclusions that "the bomber was not always going to get through" (Laslie 2016, 27), the smaller, less vulnerable fighter-bombers of Tactical Air Command elaborated new missions for themselves, namely gaining air superiority and conducting long-range penetration missions in enemy airspace. The result, Laslie argues, was a breakdown of the strict division of means and ends, of tactical and strategic spheres. Throughout the late 1970s and 1980s, theatre air power, taking place at the newly-theorised operational level of war, became the fundamental category in sub-nuclear air war (Laslie 2016, 108; Warden III 1988, 3).[84] A reversal therefore took place within Air Force doctrine: whereas sub-nuclear warfare had been deemed marginal and irrelevant, it was now the "bomber mafia" concentrating on nuclear delivery that found itself obsolescent, to the point that SAC commanders themselves proposed the merging of their command into the Air Combat Command in 1992 (Laslie 2016, 159).[85] What emerged, as a result, was not a marginalization of strategic bombing theory, but attempts to translate it into a new form of warfare to achieve similar objectives. If Warden, and later Deptula, would strenuously object to the specificity of strategic strikes, as "calling air attacks on the enemy heartland 'strategic', as though they were on some special plane of their own, unrelated to the rest of the war, can easily confuse us" (Warden III 1988, 7), in the 1980s the Air Force sought to establish for itself a new mission, through which it could influence – and ultimately win – the war at the strategic level. This new role for the air forces, rather than paralysing the enemy through intolerable bombardment compelling peace, focused rather on series of disabling strikes aimed at "preventing the adversary from being able to fight the war" without obliterating them (Fedorchak 2020, 12).

[84] Warden (1988, 4–5) defines the strategic level as the determination of the overall orientations of war and the allocation of forces between theaters, while the operational level concerns the waging of a campaign in a given theater. According to these definitions, his description of Clausewitz's *On War* as a work concerning "the strategic level of war" is plainly incorrect, as most of it concerns the conduct of campaigns in theater.

[85] In 1982, the Chief of Staff of the Air Force, who had until then always been taken from SAC, passed to a TAC commander, and has never reverted to a bomber pilot since (Mahnken 2010, 9; Laslie 2016, 100). In 1992, U.S. Strategic Command was established as a unified combatant command controlling nuclear assets from all branches, taking over SAC's operational role. In 2009, the Air Force established Global Strike Command, which took over control of bomber and ICBM assets, though operational command remains with U.S. Strategic Command.

The 1991 Gulf War, as such, constituted the first large-scale test of the new "tactical air war that caused strategic-level effects" (Laslie 2016, 114). As much as air power advocates claimed to have revolutionized air warfare through new planning, the war exhibited numerous similarities with earlier Douhetian doctrine. If Douhet's aim was to bypass the battlefield, Deptula – who was in charge of planning the air war – claimed air power in the Gulf was "destroying the battlefield," negating the reality of battle (Deptula in Fedorchak 2020, 75). As discussed in the previous section on Douhet, it is unclear where or when the air victory was achieved. Baudrillard (1991) thus discusses how the narrative experience of the Gulf War negated the reality of the event, the 'war' itself never being experienced as "taking place": after a long buildup which prepared the war, combat itself did not constitute the event, the war having been decided by its preparation and not by the event of its taking place. In the air, the war was won in planning and training, and "Iraqi doctrine and tactics were defeated before the first Iraqi aircraft was airborne." (Laslie 2016, 135) The operational plan devised by Warden and later Deptula relied on a certain inevitability which made its conclusion foregone. In their explanation, by directing "all actions […] against the mind of the enemy command or against the enemy system as a whole" (Warden III 1995, 51), air forces paralysed the enemy, making the ground offensive a mere appendage of air power. The question, therefore, was never whether air power would be successful, rather how fast the enemy would recognize the fact of this success.

Achieving Effects on the Enemy

On the back of the perceived triumph of the Gulf War, which resulted in unexpectedly low levels of Western casualties (especially among air forces), Warden, and particularly Deptula, elaborated the new concept of effects-based operations, which – they claimed – would change "the very nature of war […] in a revolutionary way" through precision, stealth, and "the ability to conduct parallel war" (Warden III 2015, 116; Deptula 2001, 7; Warden III 1997, 178). These new characteristics, they argued, changed not only the scope of what air power can achieve, but indeed the mechanisms through which it can produce strategic effects without resorting to the large-scale attrition core to the American way of war (Weigley 1991). In concentrating on the systemic effects of each operation and planning according to "end-game strategic objectives" rather than "the act of fighting" (J. A. Olsen 2015, 94), they claimed to achieve a purer form of Clausewitzian ideal war, one which held that

"fighting is not the essence of war" (Warden III 1995, 55), this essence consisting in "compel[ling] a positive political outcome" (Deptula 2001, 5).

In this, they argued for a unique capability for air power, one which the Air Force had begun practicing already in the aftermath of the Vietnam War (Laslie 2016, 118). The objective would be to prepare ground attacks which would "achieve specific effects" at the operational or strategic levels, directly attacking the "centers of gravity" of enemy power without destroying them completely (Deptula 2001, 2). If the enemy is conceived as a well-regulated "multidimensional system" of multiple coordinated parts (J. A. Olsen 2015, 3), like a living organism or a well-regulated machine, it would be possible, by targeting specific crucial parts, to disable certain functions of the machine and paralyse the whole.[86] The mechanistic systems of the enemy functioning akin to the laws of thermodynamics (Osinga 2015, 61), air power aims at destabilizing the enemy's centers of gravity by injecting "energy" at carefully calculated points, producing effects on the enemy system by changing or impeding the operation of its mechanisms (Warden III 1995, 46; also 2015, 123). In this, Warden and Deptula claim to depart from Douhet and older theories of air power: where Douhet calculated the effects of air power in acreage destroyed, elaborating pragmatic equations associating airplane numbers, bomb quantities, and areas razed, EBO theorists claimed to focus on the practical consequences, even when no destruction takes place. For instance, they claimed, the fact that Iraq's electric grid was shut down in 1991 and that Iraqi force commanders were too scared to communicate with Saddam Hussein shows the success of air power in disabling key functions, despite these systems not actually being destroyed (Warden III 1997, 179). Furthermore, where Douhet related magnitudes of destruction to diffuse psychological effects which were later largely empirically disproven, Warden (1995, 43; 2015, 103) focused on strictly material, and therefore measurable, effects.

These effects should ideally lead to a state of strategic paralysis, whereby the enemy cannot fight or function properly and is incapable of pursuing their objectives (Warden III 2015, 110). This paralysis occurs through the incapacitation of leadership and key processes, either through a sudden shock which overwhelms the enemy's

[86] The mixed metaphors are a feature of these writings. The enemy system is alternatively a living organism where the "brain" can be paralysed, "arteries" cut off, and the functions of key organs blocked, or a machine subject to laws of thermodynamics whose operations can be disrupted, redirected, and rewired.

capacity to adapt (Warden) or through a cumulative process of disorientation (John Boyd) (Osinga 2015, 76). For both Warden and Boyd, speed and tempo are of the essence. For Warden (1988, 9), coordinated "decisive blows" hitting "as many centers of gravity as needed in the shortest possible time" (2015, 108) will lead to the enemy's inability to act.[87] For Boyd, on the contrary, the objective is to exacerbate the existing change, uncertainty, and indeterminacy of war; in Clausewitzian terms, the goal is to "magnify the opponent's friction" (Osinga 2015, 71). Boyd's approach, as such, consists in an accumulation of disorienting and unpredictable strikes, severing the enemy's understanding of a stable environment which they can "observe" to "orient" themselves (the first two steps of Boyd's OODA loop), maximizing uncertainty and thus leading to the dislocation of its forces.[88] While Boyd's approach is not specifically about air power, both approaches' consideration of "tempo as a strategic quality in its own right" highlight their claim to a uniquely airborne capability: that of achieving a "precision of effect," (Warden III 2015, 123) impacting specific points of the enemy system to negate its ability to resist. For Boyd, that is a precondition to strategic victory; for Warden and Deptula, that is the victory itself.

As mentioned in the first part of this chapter, a significant criticism of Douhet's theory of strategic bombing was its lack of consideration for the identity and nature of the enemy confronted. A similar charge can been levelled at Warden who, despite his exhortations to know the enemy (at least enough to identify the relevant centres of gravity), nevertheless claims that "all organizations are put together in about the same way" which can be appraised through a five-ring model (Warden III 1997, 175; 1988, 59; Stephens 2015, 141). If strategic paralysis – defined as the enemy's inability to pursue the objectives they set for themselves – is the constant operational objective of an air campaign against "any system, from a large nation to a small terrorism group" (Warden III 2015, 108), the crucial logical link consists in tying the disabling of the enemy system to achieving the desired end states. This betrays a fundamental tension in Warden's thinking: whereas *The Air Campaign* concerned itself specifically with the operational level of war and left the definition of strategic objectives to others, Warden's later EBO approach presupposes a certain strategic objective, which is not

[87] The plan Warden submitted for the air campaign against Iraq in 1990-91 was aptly named "Instant Thunder," both to highlight this simultaneous push and to draw a clear contrast to the "Rolling Thunder" applied in North Vietnam from 1965 to 1968, widely derided as too slow.

[88] The OODA loop was a conceptualisation of decision-making processes devised by Boyd, standing for "Observe-Orient-Decide-Act" (Osinga 2015).

merely to deny the enemy's objective but to achieve positive systemic change to force the enemy to become what one seeks, and to compel the enemy so that "our objectives become his objectives" (Warden III 1995, 42). Warden would need, therefore, to explain conclusively how air strikes – or adjacent effects – can positively secure a specific strategic or political outcome; while Deptula and he can persuasively demonstrate that air power can achieve *effects* on the enemy system, its ability to direct these effects is much more in doubt. Rather, it suggests that the relation of strategic ends and operational means so dear to both Clausewitz and Warden is less straightforward than they make it out to be; on the contrary, the strategic ends will tend to conform to the type of war Warden and his followers want to wage.[89]

Warden (2015, 102) argues planning must begin from the elaboration of heuristic end states for all parties to the conflict, with the air campaign seeking to force the enemy to conform to one's desired end state for them. These end states are defined politically, before being passed on to air planners; while operational-level commanders must understand these aims and consider how military and political objectives coincide, they do not themselves define these end goals (Warden III 1988, 129). This presents two significant problems. First, in Warden's conception, totalizing effects must be sought to achieve strategic paralysis, irrespective of the aims sought.[90] Unlike, for instance, Colin Gray's (2015, 164) statement that the employment of air power in all its facets – offensive, reconnaissance, airlift – must be adapted to the type of conflict waged, for Warden the type of conflict is strictly defined by the identification of the type of enemy and of their centers of gravity. That Warden never actually mentions counterinsurgency warfare – except to assert without explanation that his conception of the enemy as system applies to any enemy large or small, state or non-state – is thus revealing. Similarly, while Alan Stephens (2015, 132; 130), in a Warden-inspired criticism savages the doctrine of COIN as "a theory lacking intellectual credibility and, worse still, common sense," betraying a "first-generation strategy" focus on holding

[89] It must be remembered that Warden (2015, 104) dismisses theories of coercion – such as those of Robert Pape, Thomas Schelling, etc. – as being overly concerned with ungraspable psychological factors. Rather, Warden concentrates on the physical changes to the enemy system being sufficient to achieve strategic success.

[90] One alternative to this conception of total effects is proposed by Jack McDonald (2019, 58), under the name of "cauterization." This amounts to concentrating efforts to eliminate or disable the portion of the enemy strength that is causing problem, thus forcing a change in the enemy system (for instance, attacking primarily the transnational terrorism component of ISIS). Warden, however, concentrates on system-wide effects, rather than partial or localized effects.

territory and on attrition, he does not, in fact, demonstrate that an airstrike-dominant could do the job where COIN is doomed to fail. It might be that some wars cannot be waged successfully at all and therefore should be avoided; however, that would cut against the professed "zealotry" of the EBO school of thought.

The second problem lies in the definition of strategic effect. While Warden's *The Air Campaign* (1988, 7) rejects the sharp distinction of tactical strikes and "strategic" strikes seemingly "unrelated to the rest of the war," he nevertheless maintains that some airstrikes can achieve strategic effects, directly related to the strategic end-state, "where an investment in attack will yield the greatest return" (Warden III 1988, 44; Deptula 2001, 2). This singular assertion that strikes can be planned for a 'strategic' effect has drawn sharp criticism. Barry Watts (1997, 161), claiming a Clausewitzian perspective, asserts that "both individual targets and entire target systems emerge from interactions between the opposing sides, which are themselves unlikely to be calculable, much less predictable."[91] Colin Gray (2015, 167–68) coined the phrase that "airpower has strategic effect, but it is not inherently strategic," and argues more widely that "the strategic effect is decided by the target, not by the attacking airpower." While it is of course the difficult task of planners to appraise expected results, Warden's assertion that one party can determine strategic effects denies the agency of the enemy. More than that, however, it assumes a degree of predictability in the consequences of attacks and the direction of resulting change which air power may not be able to offer. Consequently, as much as Warden wants to offer a flexible doctrine that is subordinate to strategic direction, the opposite results: the choice of means – air power – dictates the type of strategic means that can be pursued.

An illustration through Warden's discussion of the Gulf War air campaign – for which he designed the initial plan, and which Deptula put into practice as chief planning officer – is revealing. As mentioned above, for Warden (1995, 43) the objective of systemic paralysis is to force the enemy system to change in a way that conforms to the attacking party's objectives. Quite simply, it is a question of "what must happen to the enemy before our objectives become his objectives" (Warden III

[91] Watts is here criticising Robert Pape's dismissal of punishment and decapitation strategies; however, he generalizes the criticism to rigid "operational-strategic targeting strategies" more widely. As Warden is the other participant in this forum, the critique might apply to his assertion of monodirectional "effects" as well.

1995, 42). That is not, however, what happened in the Gulf War. The stated political objectives, as presented by President George H. W. Bush, were as follows: force immediate and complete Iraqi withdrawal from Kuwait, a restoration of government in Kuwait, "security and stability" in the Gulf, and protection of American citizens abroad (Laslie 2016, 115). Warden (1997, 173), meanwhile, in aiming to "win the peace" following the war, rather presented a plan aiming at the "progressive and systematic collapse of Saddam Hussein's entire war machine and despotic regime" (Laslie 2016, 118).[92] The objective of his attack plan was "to attack Iraq in order to change Iraq, the system, so that it would be compatible with the envisioned postwar peace"[93] (Warden III 1997, 175). While the objective of "security and stability" in the Gulf region could be interpreted in a number of manners, the collapse of Hussein's regime was not part of the stated objectives. Either Warden deliberately revised the strategic objectives on which planning took place, or his approach to air war admits of a single orientation, one aimed at the complete collapse of the enemy, no matter the strategic objectives stated.

The enemy, in Warden's approach, must be transformed to conform to the desired strategic end-state, the peace to follow. Warden sees air power as a profoundly transformative agent, a force which can remake political relationships. His rejection of the 'Clausewitzian' emphasis on "fighting," on the confrontation of forces, extends therefore to the political relationships which undergird warfare. Through air warfare, the enemy's existence as an Other, as a distinct entity with its own objectives must be negated through transformative violence and injections of "energy." In this, his approach is closer to that of Dillon and Reid, who conceive of liberal war as war on life-forms whose differences make them potentially dangerous to the acceptable forms of life in a liberal world (Dillon and Reid 2009). Air power does not merely confront the enemy: it ought to transform its system, how it functions, what it aims to do – in short, its very organism, whether living or machinic. Alan Stephens' criticism of George H. W. Bush's political aim in 1991 as being unsatisfactory, inevitably setting up the 2003 Iraq War, demonstrates this: by failing to demand the complete destruction of the Hussein regime, Bush's aims were insufficiently transformative (Stephens 2015,

[92] The quotation is from the proposed Instant Thunder plan drawn up by "Checkmate," the planning unit headed by Warden.

[93] In 2015, he phrases the objective rather as to "weaken" Iraq to ensure it presented no regional threat (Warden III 2015, 102).

144). Its simultaneous weakness, however – one that Warden and Deptula ignore – is that though air power may be well suited to injecting "energy" to derail a system and force it to change, directing that energy may be much more difficult, or even impossible. In some cases, as in Iraq in 2003, strategic paralysis through speed and the bypassing of fighting forces can be "too successful", releasing energy without controlling its direction, leading to a void of order rather than to a transformed order (Stephens 2015, 145).

Conclusion

Through analyses focusing mainly on two demonstrative exemplars of wider theoretical movements, namely Giulio Douhet and John Warden, this chapter has sought to demonstrate the complex trajectory of air power theorizing in which armed drones would later embed themselves. The line between Douhet's battleplanes and the Predator drones in Afghanistan is anything but straightforward. While it is clear that doctrines of strategic bombing bear a significant influence on how air-to-ground war is conceptualised (Hippler 2017; Walker 2018; Férey 2020, 45–51; Satia 2013), this influence lies as much in the tensions that persist than in the positive precepts laid down. While the United States Air Force may think of itself as descending from the prophecies of Douhet, Mitchell, and others, that prophecy is as tortuous as it is determinative.

Two related tensions in the employment of air power stand out from this genealogical sketch. The first lies in the role of technology and human factors in the evolution of warfare. For Douhet, the new technological capabilities of aircraft fundamentally changed the conduct of war, in a setting where ground war had progressed to its own obsolescence in the First World War. Air power carried with it the overcoming of the fragile human element. For Warden and Deptula, the technological advances carried with them the fulfillment of an old vision prophesied at the beginning of the twentieth century, now made possible through precision, stealth, and computation. This technological revolution, however, was supported by decades of training and strategic innovation. Statements that precision and stealth transformed warfare neighbour statements claiming a radical innovation in thinking. Whether the EBO thinking arose out of innovation in the realm of "ideas" and of a paradigm change (Warden III 2015, 127; Faber 2015), whether EBOs "capitalized on capabilities" to achieve an old vision (Deptula 2001, 3; 8), or whether they are a

product of pragmatic changes in training, tactics, and organization which were subsequently theorized (Laslie 2016) has a fundamental impact on the appraisal of the role of armed drones in warfare as either innovative or adaptative.

The second tension lies in the question of the strategic effects of air power. Both Douhet and Warden claim that air power can on its own achieve a decision by striking directly the centres of enemy power, rather than by applying indirect pressure through the armed forces. When Robert Pape's ground-forces focused denial strategy came under attack from Watts and Warden, he titled his rebuttal "The Air Force strikes back" (1997), claiming that the desire to bypass the battlefield was so core to the Air Force's identity that it would reflexively reject any unorthodox proposal. At the same time, Strategic Air Command's obsolescence and disappearance was accompanied by a merging of strategic, operational, and tactical levels of war into "theater air war" (Laslie 2016, 113) which both multiplied and muddled air power's potential contributions to warfighting. Whereas Thomas Hippler (2013, 1–2) may detect elements of this multiplicity of reconnaissance, battlefield action, and strategic bombing in the very first employment of air power, the juxtaposition of tasks and roles really arises through air power's theoretical renewal in the 1980s and 1990s. Part of a wider trajectory towards "jointness" and combined operations, in irregular warfare the "Afghan model" combining air assets and special forces on the ground became popular (Fedorchak 2020, 79; Larsdotter 2005). Warden's 1988 *The Air Campaign* thus discusses the impact of air power both in close air support and in deep interdiction, asserting both the versatility of air power and the need to combine it with wider operations planning. Lawrence Freedman (1998, 62–63; 2006, 90), meanwhile, has made a case for tighter control of tactical operations, recognizing that discrete operations may have strategic effects, foreseen or unforeseen, and needed therefore to be evaluated in their strategic implications, even when no such effects may be intended.

From the moment that drones were determined to be air assets under air force control, this would be the milieu in which their development would take place. Neither strictly strategic nor tactical assets, military drones grow out of air force doctrine and thinking concerning the relation of ground and air forces, the ability of air power to achieve results on its own, and how air power's reconnaissance and strike capabilities can achieve effects and direct them (see Grieco and Hutto 2021). The next two

chapters examine further aspects of the genealogy of contemporary drone employment, namely the development of intercontinental nuclear thinking and of techniques of remoteness in the Vietnam War.

Chapter 6 – Remote Nuclear War

While the development of air power throughout the twentieth century represented one axis of development in practices of war at a distance, another, equally significant one, occurred in the development of strategies of remote nuclear warfare in the Cold War. In several ways, the development of thermonuclear weapons rescued Douhet's theories by realizing his vision of debilitating strikes bringing the enemy to their knees through incommensurable firepower while bypassing the battlefield (Brodie 2015, 105).[94] While Douhet's version relied heavily on the use of poison gas to achieve its effects, early nuclear theorists accepted Douhetian strategy nearly wholesale, replacing one weapon of mass destruction with another. Alongside the "prophets" of strategic air power appeared a new priesthood of "thermonuclear Jesuits" delivering proclamations sometimes explicitly compared to the Gospel's Sermon on the Mount (F. Kaplan 1991, 11; 123). This eruption of nuclear war thinking forced several fundamental reappraisals of theories of war, particularly aerial war. Most importantly, it introduced most directly a need to think about war at immense distances, now both enveloping the whole earth and transforming conceptions of distance. While nuclear war was envisioned as potentially controlled directly from the continental United States – ideally from the President's desk– the immense range of intercontinental ballistic missiles (ICBMs) and bombers as well as the involvement of several continental theatres of operation required reconceptualisations of the relation between distance, force, and the effects of military power. Most importantly, it demanded the specification of imprecise theoretical concepts which in conventional bombing could be left indeterminate, as well as the elaboration of theoretical frameworks for limited uses of nuclear force.

While strategic air power could rely on imprecise causal mechanisms and timelines with limited consequences, the introduction of nuclear war doctrine in the 1950s and 1960s profoundly transformed conceptions of distance and asymmetry in

[94] The division of air power into nuclear and non-nuclear is rather common, both organizationally and conceptually. Robert Pape (1996), for instance, distinguishes ideal strategies of conventional coercion – denial – and nuclear coercion – punishment or risk. The United States Air Force was divided between Strategic Air Command and Tactical Air Command until 1992, a division mainly between nuclear and non-nuclear assets (though some TAC units were expected to drop nuclear bombs in the 1950s, and SAC units were diverted from their nuclear mission into conventional conflicts on some occasions, notably in the Vietnam War); since 2009, Global Strike Command controls all American nuclear air assets.

war in three respects crucial for the development of drone warfare doctrine. First, it required thinking about distance and time, and how force could be applied for specific ends across geographical and temporal distance. This manifested itself, notably, through attention to notions of vulnerability in the United States, and through the construction of technical and strategic precision as a means of control of violence. It required a conceptualization of war as a mutual exchange of violence at a distance, renewing thinking concerning the purpose of violence, its effects, and its calibration.[95] Quite simply, in desiring to avoid total nuclear conflagration, American war planners were forced to consider how to achieve their objectives with a minimum level of force, to consider its communicative aspects, and to achieve a form of security compatible with certain levels of vulnerability. Second, the development of attempts to achieve enemy defeat through discrete targeting, without the maximal application of force, can be traced in significant part to thinking about less-than-total nuclear war. If nuclear war aimed at "killing a nation," it did not follow it would do so through total annihilation (F. Kaplan 1991, 41). Nuclear planning, therefore, required thinking about optimal levels of force and destruction, ideal targeting scenarios, and the temporal application of that force, notably through preemption. These debates would echo later in another scenario of intercontinental warfare against remote threats, namely the War on Terror in the 21st century. Finally, at a technical level, technological capabilities that would later be repurposed as part of the architecture of drone warfare originated in nuclear missions. The development of less vulnerable means of aerial reconnaissance originated from nuclear surveillance missions, while the development of sensors to monitor battlefields and warzones occurred in the context of planning for a Soviet-NATO confrontation (Mahnken 2010, 17–24; Cockburn 2016, 33).

Precision across Intercontinental Distances

The introduction of nuclear weapons – independent of any missile development – in itself radically changed conceptions of distance, precision and vulnerability. In the view of Bernard Brodie, possibly the paradigmatic early nuclear theorist, the immense firepower of a fission bomb transformed distance from a barrier imposing unacceptable costs, across which operations could not be conducted, into a technical

[95] I borrow the term "calibration" from Nisha Shah's (2017) work on lethality.

challenge to be mastered. It was now strategically worthwhile to conduct bombing operations "over any distance that might separate the powers involved", irrespective of costs (Brodie 2015, 153). The first change in conceptions of distance occurred in both time and space: by altering the costs and benefits of long-range bombing, early fission bombs already made possible the conduct of a war which would take place over incommensurable distances, in rapid bursts. The implications for American thinking about remote warfare were immense: whereas, as Sherry (1987, 29–30) explained, Billy Mitchell and his acolytes had sold strategic bombing in the interwar as a means of defence, a means of entrenching American invulnerability by promising to destroy enemies far away from the American homeland,[96] the reverse was now true: nuclear bombers "served, among other things, to end completely American invulnerability" (Brodie 2015, 153). Although the United States did enjoy a very brief interlude of nuclear unilateralism, there was nevertheless a sense of intense vulnerability, that "living with the bomb" and the vulnerability it entailed were becoming inevitable (F. Kaplan 1991, 33).

The problem of distance, in the early Cold War, therefore, was one of appraising the threat of remote powers and crises for American interests. The oft-repeated concern among European NATO powers, that an American president might refuse to "risk New York for Paris" (F. Kaplan 2020, 78) spoke directly to this worry. American leaders might seek to reestablish the sense of invulnerability that containment could bring, restricting conflicts to further territories, whereas European powers felt a much more immediate threat which could not be mitigated through escalation control or containment. This sense of vulnerability to foreign attack, and the problems of escalation accompanying it, became compounded with the introduction of intercontinental ballistic missiles (ICBMs) in the late 1950s; while the panic over the perceived "missile gap" overstated Soviet capabilities by many orders of magnitude, its perceived effect was nevertheless profound: nuclear war now "can affect us much closer to home and much more immediately and entirely" (Brodie 2015, 10), and no genuine defense could mitigate the threat. More than geographical,

[96] Daniel Immerwahr (2019, 1–13) has argued that, at the same time, the American empire also developed a dual order of territory, with the continental United States being constituted as inviolable home territory while other colonial and territorial possessions abroad – such as the Philippines – were rendered as less 'American', and by extension more vulnerable. Thus, while small groups of American B-17s were based in the Philippines prior to Pearl Harbor (Sherry 1987, 105–12), arguably it was never conceived that the shield of long-range bombing would extend to all overseas American territories – both technically and normatively.

distance became temporal, measured in minutes of warning rather than in miles (F. Kaplan 1991, 117).

In this nexus of vulnerability and its control, Albert Wohlstetter – a senior researcher at RAND corporation – occupies a central position. If the challenge was to find a way to replace the mitigation of the effects of war entailed previously by intercontinental distance, Wohlstetter both sought to achieve such security by sheltering the American deterrent force and argued that global interconnection made the security of distance illusory. As many within Strategic Air Command and RAND recognized throughout the 1950s and later, choice and flexibility required the protection of at least a portion of the deterrent force. Unlike Douhet, who assumed complete vulnerability from the air, and thus the need to release all available force as fast as possible (preemptively if possible), Wohlstetter and RAND argued it would be possible to shelter a portion of the nuclear arsenal, retaining the possibility to strike even if the enemy hit first (F. Kaplan 1991, 93–99).[97] Remoteness and its associated protection from war had allowed the United States to choose whether and how to engage in war prior to the nuclear age. Now, the guarantee of the preservation of its nuclear force – first through hardened shelters, later through submarine-based missiles and siloed ICBMs – would allow it to retain that flexibility of wars of choice. As Brodie (2015, 218) had noted, "an insecure SAC would either *oblige* them to be trigger-happy or prevent them from facing up to a crisis"; conversely, the possibility of restraint and control of the calibration and pulsation of nuclear war required a measure of protection from the effects of war.

At the same time as he was arguing for the necessity of sheltering the nuclear force from the effects of war, though, Wohlstetter (1968, 244) simultaneously argued for the impossibility of insulating the United States from crises in the rest of the world, as "distance bears no simple relation either to interests or military strength." Explicitly criticizing the notion of "remote wars," Wohlstetter (1968, 242) rejected "the familiar but unanalyzed feeling that very distant troubles are remote not simply in miles but in their likelihood of having any effect on us." On the contrary, global interconnection entailed "an extension of the neighborhood to more remote areas," one in which the United States would find itself embroiled regardless of its choices (Wohlstetter 1968,

[97] For Douhet, the ability of naval forces to withdraw to protected naval bases (prior to the introduction of aircraft), whereas airbases could not offer similar shelter, represented a major point of departure from Alfred Thayer Mahan's concept of command of the sea.

252). Wohlstetter, therefore, adopts a rather fatalistic view of remoteness: in the Cold War, the total remoteness of the early 20th century was no longer possible, and states such as the United States would have to find other means of distancing themselves from the risks and effects of war.

Conceptions of remoteness in the Cold War, as such, were suspended between both an immense expansion of the ranges at which war would be conducted, and a renewed immediacy of the sense of vulnerability that came from living with – and under – the bomb. This spatial and temporal distance could be manipulated somewhat, notably through increased intelligence and surveillance capabilities to stretch warning times, as advocated by the late 1950s Gaither report (F. Kaplan 1991, 131). Conversely, following from the assumption of the erasure of meaningful distance, others – most notably Curtis LeMay, advocated preparation for preemptive strikes as the only means to ensure protection from attacks, not as a matter of policy choice but of inevitability (F. Kaplan 1991, 134). Finally, as Fred Kaplan has noted (referring to contemporary North Korean intercontinental nuclear capabilities), the shortening of temporal distance introduced by permanent nuclear readiness leads to a fundamental questioning of notions of preemption, as an "imminent" attack is in theory always possible, with little to no warning. In this situation, the very existence of ready nuclear-armed ICBMs could be easily construed as a constant state of imminent attack, always actual and always proximate (F. Kaplan 2020, 287–88).

Precision

While, in Fred Kaplan's (2020, 2) argument, the conception of "the bomb as a weapon of war, writ large" to be used preemptively has remained constant throughout the existence of fission and fusion bombs, this vision has been supported by highly various attitudes towards precision and accuracy, at increasing distances.[98] In parallel to the development of gradually strengthening norms of discrimination in conventional operations (Conway-Lanz 2014; Crawford 2014; Kahl 2007), nuclear warfare also developed an increasing interest in accuracy over great distances. This interest developed through two principal discourses: the first concerns a desire – by political leaders, largely – in enabling the waging of war without targeting civilian populations directly (though with varying attitudes towards "bonus" casualties (Brodie 2015,

[98] As MacKenzie (1990) notes, accuracy in guidance instruments is defined as error over time, so the ability to achieve a given precision depends on the distance at which the strike takes place.

156)). The second, building on the first, sought to render as operationally advantageous greater precision and discrimination in the targeting of nuclear weapons. Overall, "how accurate one strives to make one's missiles is related intimately to the targets one envisages," and the development of norms of accuracy is thus directly tributary of a "history of conflict over the strategic purpose of these [ballistic] missiles" (Mackenzie 1990, 16).

In fact, in the tension between precision and destruction, two poles of what Colin Kahl (2007, 8) termed the "annihilation-restraint paradox" and that Stephanie Carvin and Michael John Williams (2015) located in the American way of liberal war, the relationship is much less straightforward and mutually limiting than mutually reinforcing. There is, without doubt, a strong technical component to the development of precision: the very possibility of remote, rapid nuclear warfare relies on the availability of advanced navigation technology, be it to guide missiles, submarines, or bombers (Mackenzie 1990, 98). Yet, the necessity of advanced guidance technology over long distances is also politically-driven: as mentioned above, Albert Wohlstetter among others noted the potential destabilizing vulnerability of nuclear weapons based in Western Europe, leading to the decision to repatriate the main deterrent force to the United States (F. Kaplan 1991, 99–107), thereby requiring intercontinental guidance. Over the course of the Cold War, a combination of political, strategic, and technical factors led both to heightened requirements for accuracy and to the construction of norms for precision that were acceptable to all parties. From "the fantastic explosive power of the hydrogen bomb ma[king] the question of CEP far less relevant than many believed" to the development of submarine-launched Trident II missiles with comparatively small warheads and high precision, the period ranging from 1950 to 1990 saw rapid changes in the normative and strategic value of precision (F. Kaplan 1991, 116).

In his two books on nuclear warfare, Kaplan notes indirectly how precision carried different implications to different groups of people. To politicians, the development of lower-yield, precision weapons, meant the potential for flexible options, for targeting discrete target sets without harming the wider society, enabling both a more credible deterrent, and providing means of controlling escalation. However, as Kaplan notes, leadership in SAC never conceived of precision as leading to a reduction in destruction; on the contrary, they both defined targets in the broadest

possible sense, established high probabilities of destruction to be met, and compensated for the lower yield of precise warheads by multiplying weapons for each target. Competition over war strategies, doctrine, and weapons systems led to competing justifications for precision targeting which, far from reducing the levels of anticipated violence, served to increase sources of risk, potential escalation, and expected destruction (F. Kaplan 2020, 178). While it may be harsh to state that "the United States built its missile arsenal without any agreed understanding […] of why it was doing so" (Mackenzie 1990, 162), it is clear that different actors had different understandings of the role of missiles and their increasingly precise warheads.

Most importantly, the development of precision norms for nuclear weapons throughout the Cold War entailed a networked conception of precision. Precision cannot be determined as a quality of a weapons system alone, but depends on a large number of factors, both internal and external to a weapon. A first, major such development lies in the constitution of a "reconnaissance-strike complex" not unlike that developed in the Vietnam War, uniting detailed intelligence gathering and weaponry (Mahnken 2010, 112; see also 73). Remoteness being as much temporal as geographical, the possibility of a precise, preemptive first strike relied on access to rapid warning, locating targets both in space and time, in the short window during which Soviet weapons would be prepared for a strike and before they would be launched. Strategic decisions concerning the basing of weapons – in the United States, on submarines – carried implications for expectations concerning requirements for precision, and multiplied the need for timely warning if a precise counterforce strike were to be possible. As Mackenzie (1990, 143; 193) notes, the development of reasonable accuracy for submarine launches, as well as for bombers and cruise missiles, relied on extensive precise mapping, while intercontinental missiles required detailed study of the Earth's gravitational field. In many cases, the very determination of how precision could be measured and ascertained was contested. In summary, the facts of precision "are facts only within a wider web of assumptions and procedures" (Mackenzie 1990, 341). For example, if political discourses determined the inevitability of nuclear escalation to total war – as Stephen Cimbala argues – then the notion of precise nuclear strike becomes futile. Similarly, strategic decisions to envision war as a protracted communicative exchange through limited, precise strikes requires assumptions concerning the possibility of mutual understanding of intentions,

and of desires to avoid escalation. The possibility of precise nuclear warfare relies on an array of discourses which made such precision possible, desirable, and necessary. It requires, furthermore, collective understandings of what can be achieved, of objectives, and of acceptable risks.

Nuclear precision was not unique in being constructed through epistemological debates. Thomas Hippler (2013, 50–53), for instance, notes that Giulio Douhet's thought devolves in large part from a privileging of experimental data over the empirical examples of aircraft use in World War I; in the early 1920s, Billy Mitchell sought to demonstrate the validity of his conception of long-range bombing through a demonstration of a ship bombing, the parameters of which were hotly contested among supporters and opponents of long-range bombing (Sherry 1987, 34–36). As mentioned in Chapter 5, Douhet sought to bolster his theory through calculated ratios, down to the recurring phrase of "mathematical certainty." In the 1950s, the debate over the existence of the 'missile gap' – and which sources of data and estimates to favour – carried significant strategic implications, as did assumptions concerning uncertain and untested data on the performance of weapons (Mackenzie 1990, 341–43; F. Kaplan 1991, 161–70). Finally, borrowing from Maja Zehfuss (2011) and John Emery (2020), the calculation of nuclear effects, strategic options, and courses of action required the resolution of uncertainty, determinations and calculations of risk, and assumptions regarding the role these weapons would be expected to play. In these respects, nuclear precision was the product of networked discourses, which sought to enable the potential waging of war under specific conditions of remoteness, imminent vulnerability, and risk.

Remote Nuclear Warfare

The bipolar confrontation of the Cold War relied, in its most fundamental form, upon a remote confrontation between two nuclear powers. In its most extreme forms, such as in Brodie's early work, the assumption was that there would be no contact between ground troops or navies whatsoever, and that the war would be waged exclusively by long-range bombers and, from the late 1950s, by ballistic missiles. In its more hopeful versions, nuclear strategy imagined a possibility for ground warfare, either within the wider frame of a limited nuclear war, or as an alternative. Nevertheless, irrespective of whether the warfighting strategy assumed the possibility of ground warfare or not, the nuclear confrontation constituted the first priority, and

determined every other aspect of war. Nuclear war thinking, therefore, relied principally on the exchange of force at a distance, the very possibility of this remote violence conditioning other aspects of war. Conceptualizing nuclear war as a mutual exchange of remote violence, therefore, carries significant implications for thinking about remote warfare, and by extension for the use of armed drones. The strategies devised to justify remote nuclear war entailed fundamental thinking about the role of military force, its purpose, its communicative potential, its effects, and its calibration to achieve given ends. Furthermore, as argued in the last section, the definition of norms of precision and accuracy depends on assumptions concerning the type of war fought and the effects of violence on the systems which make precision possible.

Already in 1945-1946, the fact that the tremendous destructive power of the "absolute weapon" would lead to a fundamental rethinking of attitudes towards purposive violence was obvious.[99] While Brodie saw in the availability of extreme destructive power the fulfillment of Douhet's vision, he also saw in it the fundamental defeat of conceptions of strategic violence, of military force deployed to achieve victory. The problem of nuclear weapons – or rather, of nuclear symmetry, where each side possesses nuclear weapons – is that it would be impossible to defend against nuclear destruction, one nuclear explosion being sufficient to cause unbearable damage. The result, for Basil Liddell Hart (1980, 35), was a fundamental transformation of the nature of war: "War is no longer a matter of *fighting*." As a result of the impossibility of defense, war changed from a reciprocal interaction of offense and defense, to pure mutual offensives; and while these trends were manifest in earlier forms of mechanized warfare, not least aerial bombing, the introduction of nuclear bombs represented both the logical conclusion and the end of this mechanized warfare, increasing its speed and geographical expansion, leading to the impossibility of war itself (Liddell Hart 1980, 97).

For Brodie, the oft-cited conclusion that "thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose" similarly led to a fundamental reconsideration of the purpose of violence (Brodie, *The Absolute*

[99] While Bernard Brodie was designated as editor of the volume titled *The Absolute Weapon*, the term was in fact coined by William T.R. Fox (F. Kaplan 1991, 29–30).

Weapon, in F. Kaplan 1991, 32).[100] At its core, this rejection of nuclear warfighting relied on a strategic calculation of means and ends: "national suicide" could not constitute a sensible political end, and means which would inevitably bring about this suicide could therefore not be employed in pursuit of policy (F. Kaplan 1991, 80). This assumption of a need to avoid war through deterrence therefore led to a whole series of conceptions of nuclear force as largely communicative, used to demonstrate resolve and the impossibility for the enemy of achieving any objectives without inviting nuclear retaliation. Rather than finding ways to achieve an operational advantage, the focus moved to bargaining and brinkmanship, that is "the exploitation of the shared risk of war for the purpose of coercion" (Cimbala 2015, 7). After a relatively short period of undifferentiated strategy – whereas any confrontation anywhere would be met with massive retaliation (F. Kaplan 1991, 174), tensions concerning the possibility of employing nuclear weapons flexibly emerged, seeking to recuperate the possibility of combat which Liddell Hart and Brodie had – through different reasonings – dismissed. As Stephen Cimbala (2015, 137) has noted, this possibility relied on a refinement of thinking concerning the offensive-defensive balance: offensive technologies (such as ICBMs) need not be automatically tied to offensive strategies, whereas defensive technologies (such as anti-ballistic missile systems) could be tied to offensive plans. The objective, therefore, became to use less-than-total force to achieve a given objective, while simultaneously convincing the enemy to do the same; as Cimbala's definition of brinkmanship above makes clear, risks of escalation are shared between parties, and cannot be unilaterally restrained. In limited nuclear warfare, therefore, the use of limited force was meant to convey signals to the opponent, capabilities and means serving as proxies for intentions.

The problem for American war planning became, as such, one of establishing whether, and how, remote violence could be employed to achieve measured local objectives within a global confrontation. In a logic of escalation control, the objective remained largely one of communicating resolve, and maintaining the risk to the enemy to ensure their compliance (Brodie 2015, 278). Coercion required the communication of clear thresholds for escalation to the USSR, which would ensure that the USSR

[100] Brodie would waver repeatedly throughout his career on whether nuclear weapons could in any way be useful in warfighting, exploring multiple scenarios to enable the use of nuclear weapons. Ultimately, however, he would return to this first principle, rejecting the problem of nuclear warfighting as fundamentally insoluble (F. Kaplan 1991, 340–42).

would have to adapt to clearly determined American plans. After initially assuming that massive retaliation would be sufficient in this regard to secure American escalation dominance and setting the parameters for crisis escalation (Brodie 2015, 250), American planners sought to develop extensive flexible options to account for a plurality of scenarios (F. Kaplan 2020, 111–19). In addition to developing flexible in the use of nuclear weapons from SIOP-63 onwards,[101] however, American planners quickly realized the insufficiency of strictly remote force. Simply put, massive retaliation could not convey the commitment and resolve necessary to affect the enemy's decisions. The presence of troops on the ground, along the European frontline, was therefore considered as a way to strengthen the deterrent effect of remote force, constituting a clear indicator of behaviour to be deterred. Brodie (2015, 253; 337), for instance, likens the – far inferior – NATO troops in West Germany to a "trip-wire", meant to trigger the resort to long-range nuclear force, and reassuring European allies (and the USSR) that the United States would be willing, in fact, to "risk New York for Paris" (F. Kaplan 2020, 78). Similarly, in the crisis over West Berlin in 1961, the Kennedy administration's plan called for a deployment of conventional forces which, if unsuccessful, would lead to controlled escalation, culminating in a nuclear strike (F. Kaplan 2020, 61–62; 1991, 298–303). Shortly afterwards, Kennedy decided to strengthen American conventional forces in order to increase flexibility, and also to provide a more credible tripwire supported by remote nuclear force.

The move away from a single-focused force of long-range bombers, ICBMs and submarine-launched ballistic missiles (SLBMs) to a more balanced force with an increased conventional component rested on the assumption of an ability to discriminate in the use of force, in order to control escalation. Quite explicitly, war planners realized early on that indiscriminate nuclear bombing, even if unintended, would defeat the notion of limited strikes. Collateral, civilian damage, therefore, changed from being seen as "bonus" to strikes on military infrastructure, to being seen, in Brodie's view, as self-defeating. Brodie (2015, 156), thus, argued that the very possibility of a counterforce strategy – one which would aim at destroying only the enemy's nuclear forces, leaving open the possibility of later violence against cities –

[101] Fred Kaplan (2020) argues that these limited scenarios for the use of nuclear force were never properly implemented by SAC, which continued to plan on the basis of large-scale strikes.

SIOP stands for Single Integrated Operational Plan, the general plan of operations for nuclear war.

relied on achieving sufficient precision in targeting as to actively avoid civilian casualties. Around the same time, in 1956, the Army – in no doubt motivated by interservice struggles – advocated a carefully calibrated use of violence which can be said to prefigure the notion of effects-based operations: in order to deter and counter localized enemy action, the Army argued, it was necessary to develop "the means to apply the exact amount of force required, and at the exact spot, to accomplish a specific task" (cited in F. Kaplan 1991, 196). This need for precise, limited, effects would be reinforced by developments in accuracy technology which would make possible a miniaturization of warheads, further allowing for the development of ICBM/SLBMs with multiple independently-targeted re-entry vehicles (MIRVs) (Mackenzie 1990, 216). Nevertheless, military effectiveness remained the primary concern, with Mackenzie (1990, 273–75) noting that larger warheads were selected for the Trident C4 missile than for the Poseidon C3 missile out of concern with achieving the requisite probability of destruction, despite wider area effects.

The notion of discriminate nuclear violence went against every tenet of SAC thinking, which strenuously rejected its translation into effective planning. Nevertheless, the development of nuclear strategy throughout the Cold War saw a progressive move towards greater avoidance of expected civilian casualties, partly out of concerns for spiraling escalation, and partly in order to make nuclear first use more feasible in a crisis. Creating the possibility of civilian casualty avoidance, however, rested on matters of conceptual definition, which allowed SAC to justify extreme destruction while in principle complying with the orders from civilian leadership. As Mackenzie (1990, 347–57) noted concerning accuracy measurements, the lack of testing of long-range nuclear weapons firing in actual operational conditions – for obvious reasons – introduced potential uncertainty in the value of measurements of the performance of these weapons. Among others, the effects of radiation and heat resulting from nuclear explosions were significantly more difficult to predict and measure; consequently, when preparing war plans for the first SIOP (SIOP-62), SAC calculated only blast damage, thus minimizing the expected damage of bombs (F. Kaplan 1991, 268).[102] Furthermore, the definition of cities and urban areas was in itself rather arbitrary, with SAC generally erring on the side of defining excluded areas very

[102] Kaplan (2020, 177) reports this practice of measuring only blast damage for targeting purposes continued into the 1980s when Frank Miller undertook a systematic review of nuclear targeting.

narrowly, therefore leading to significant civilian casualties without violating the spirit of counterforce targeting (F. Kaplan 2020, 177).

Most significantly, however, for the planning staff at SAC, the certainty of destruction primed upon any notion of restraint on the use of force, erring on the side of uncertainty in calculating the necessary munitions to destroy any given target. As Kaplan (1991, 268) notes, in SIOP-62, "the average target would receive 2.2 weapons, almost all of them several megatons in explosive power"[103] in order to achieve the levels of destruction required by the plan; by the late 1980s, a single target – the anti-ballistic missile system near Moscow's Sheremetyevo Airport – would itself monopolise 69 warheads to achieve near-certain destruction (F. Kaplan 2020, 186).[104] The reduction in the size of warheads, along with SAC's prioritizing of certainty of destruction above the minimization of collateral effects, led to a failure, by and large, of attempts to plan for nuclear war short of total annihilation. Nevertheless, arguments concerning the need for rational nuclear escalation introduced a notion of calibrated violence, of achieving 'enough' destruction without overkill, at least in theory. It further introduced an operational need to avoid excessive civilian casualties in order to avoid escalation. While this ideal of rational, minimal destruction remained firmly theoretical and never translated into operational planning, it formed the basis of a fundamental review of nuclear targeting led by Frank Miller in the late 1980s, which sought to remove redundancy and appraise the actual effectiveness of nuclear targeting. This review, among others, would seek to espouse principles of "nodal analysis," in a manner similar to John Warden's contemporaneous review of conventional targeting planning or to later network-centric warfare (F. Kaplan 2020, 184–88). Breaking with SAC's long-standing tendency to multiply targets and duplicate weapons trained on those targets, this review transposed ideas analogous to Warden's system's attack to the nuclear realm, aiming at key nodes to disable systems without destroying them wholly, and using just 'enough' violence without excess.

While it is taken largely as a given that all violence – even nuclear war – is communicative, the challenge for American war planners was to translate this

[103] It should be noted that SIOP-62 did not include any limited strike options, which were introduced – timidly – in SIOP-63.

[104] The fact that the plan required probabilities of destruction over 90% for a large number of targets, while the main measure of accuracy – circular error probable – is defined as the radius from the target in which 50% of weapons would fall by itself introduces a strong pressure towards redundancy. As argued above, precision targeting is not merely a technical problem, but a political-technical construction. On this last point, see Zehfuss 2011 and chapter 9.

interaction into war plans. Cimbala (2015, 16), following Clausewitz (see 1984, 75–77), notes the inherent tendency of war to escalate to extremes, mainly due to the interaction between adversaries seeking to outmatch each other. Furthermore, Cimbala (2015, 33) notes, whereas in classical, Clausewitzian war, friction would tend to restrain escalation by preventing the maximal concentration and intensity of force, in nuclear war friction can be both escalatory and restraining, as uncertainty may lead to preemptive launches. Communication between adversaries and signalling, therefore, must act somewhat against the nature of war, reestablishing political control as the main – if not the sole – restraint on escalation (Brodie 2015, 7–8; Cimbala 2015, 37). In the case of American war planning, therefore, the problem consisted in accounting for enemy decision-making, as the USSR could unilaterally escalate the conflict by manipulating the "shared risk of war" on their own (Cimbala 2015, 7).

One option, preferred by American planners, was to assume that the USSR would follow a similar rational logic to that of American forces (F. Kaplan 1991, 244). Assuming a perfect rationality which the USSR would naturally revert to, American planners could therefore – notably through wargames – define the rational course of escalation, and establish a process of escalation which would ensure both American victory and avert unrestrained war. Such scenarios, however, would tend to establish narrow rules for escalation which, if followed by the USSR, would inevitably lead to its defeat or the denial of its objectives. Why, in those circumstances, would the USSR continue playing a losing game, whose outcome was preordained to their disadvantage (F. Kaplan 1991, 360)? Nuclear signaling needed to accept the possibility of the enemy not following the preordained plan, and the enemy sending back signals which were not the ones expected. Nor was that problem confined to the nuclear realm. Brodie (2015, 43; 57), for instance, highlighted the World War I cult of the offensive, which is "much more easily developed and pushed to a properly offensive conclusion if we can imagine the enemy as inert or at least passive," a prime example lying in France's "disregard [of] German intentions" in 1914.[105] The bombing of North Vietnam in 1965-1968, meanwhile, was meant to follow an approach derived from Thomas Schelling's bargaining model, and failed in coercing North Vietnam into

[105] Brodie, however, ascribes the Japanese surrender in 1945 to a form of signaling, the threat of continued atomic bombing being more decisive than the actual two bombs dropped. In Brodie's account, the bombings of Hiroshima and Nagasaki served principally as signals of possible future destruction (F. Kaplan 1991, 47).

abandoning its offensive (F. Kaplan 1991, 335–36; see also Clodfelter 1989; Pape 1996, 174–210). Ultimately, for Brodie (2015, 347), much of nuclear planning rested on "American-preferred Soviet strategies" rather than on a genuine appraisal of the possibilities of communication and signaling.[106]

The Legacies of Nuclear Remote Warfare

While Cold War nuclear strategy can certainly be subsumed under the broad umbrella of 'remote warfare', its impact on the development of other forms of warfare at a distance – and particularly on the employment of armed drones – is by nature limited by the exceptional nature of explosive power measured in kilo- and megatons. As established in the first part of this chapter, distance is not a fixed concept, but part of a broader array of assumptions and concepts related to the type of war of which it is a part. Yet, the development of remote nuclear warfare strategy in the Cold War represented a crucial moment in strategic thinking, commanding much of the attention for several decades. Several of its conceptual innovations reflected "the same sort of processes and range of factors as any other kind of politics" and war (Mackenzie 1990, 404), and despite suggestions by Brodie and others "that the A-Bomb changed not merely the destructiveness but the very nature of war" (F. Kaplan 1991, 25) there was considerable interplay between conventional and nuclear warfare, and between nuclear planning and its sub-nuclear legacies. I trace two particular such points of connection between nuclear and drone warfare, namely the use of limited force to achieve objectives, and the significant thinking about preemptive and preventive strikes.

Limited Strategic Bombing

If Douhet's writings were uncompromising in dismissing any bombing campaign short of maximal effort, this equation of strategic bombing with total annihilation campaigns was far from a foregone conclusion throughout the Cold War. Even in the early stages of the Cold War, prior to the introduction of the H-Bomb, Brodie (2015, 91) noted that while atomic bombs could solve to a significant degree the problem of achieving the mass of firepower envisioned by Douhet, that destructive power was not sufficient to forego entirely questions of targeting, reserving some harsh

[106] Mackenzie (1990, 334) identified a similar tendency in the American appraisal of Soviet missile guidance technology, where a divergence from the American type of guidance system was taken as a sign of inferiority, rather than as a manifestation of a different socio-strategic environment and choices.

criticism for Douhet's utter disinterest in target selection. In seeking to investigate the optimal targeting of nuclear weapons, Brodie (2015, 119) swayed away from his initial commitment to a Douhet-inspired approach, concluding that World War II demonstrated the superior efficacy of systems targeting through daylight precision bombing over indiscriminate city targeting. The early Air Force doctrine, in the late 1940s, developed a doctrine aiming at "killing a nation" (F. Kaplan 1991, 41; Futrell 2004, 237; E. Kaplan 2015, 1), not necessarily through indiscriminate bombing but through the targeting of specific key industries, aiming at the "disruption" of crucial Soviet warmaking industries, the "blunting" of its atomic war capabilities, and the "retardation" of its offensive in Europe (F. Kaplan 1991, 41–42). While this doctrine emerged to maximise nuclear war capabilities, it provides a clear translation of American theories of strategic node bombing to the nuclear realm. SIOP-62, shed of the arsenal limitations of the late 1940s, nevertheless stated the aims of its massive attack as disabling the Sino-Soviet bloc's nuclear arsenal, eliminating its command structures, and crippling its economy (F. Kaplan 2020, 27). SIOP-62 emphasised certainty of destruction rather than limited firepower, but nevertheless sought to identify crucial systems whose destruction would have an outsize impact.

Successive iterations of war plans, aiming at greater flexibility and capabilities for limited nuclear war, progressively whittled down the total targeting mindset into more specific target sets – in theory, if not in practice. As warheads progressively shrank from the multi-megaton to the hundreds-of-kilotons range, achieving significant effects with lesser levels of force became an increasingly pressing concern, in hopes of warding off escalation and the "national suicide" Brodie discussed. Throughout the Carter presidency, from 1977 onwards, among others, significant discussions were held concerning the possibilities of targeting leaders themselves, as well as a series of limited nodal strikes aiming at the Soviet Union's control of Soviet republics, its forces facing China, or choke points in energy distribution in order to destabilize the regime (F. Kaplan 2020, 141–42). The fundamental review of nuclear targeting at the end of the 1980s similarly applied systems analysis to SAC as a whole, seeking to identify key nodes in crucial systems which could be destroyed to paralyse the system as a whole (F. Kaplan 2020, 184), thus moving away from massive strikes to more pinpoint options.

Of course, the notion of pinpoint strikes using multi-kiloton weapons is in itself rather ludicrous and does not begin to approach the claimed precision of drone-led surgical strikes. Nevertheless, nuclear targeting, combined with the evolution in conventional theatre air war discussed in the second part of chapter 5, provides a central bridge between early-20th century strategic bombing and the development of air-led attacks in the late 20th century and the early 21st century. Without drawing causal links, it suffices to state, as Thomas Mahnken (2010) does, that military organisations shape their adoption of technology in accord with institutionalized culture. As concerns the US Air Force, that culture – which allows them to proclaim the prophetic status of a Giulio Douhet – was shaped decisively by its nuclear delivery mission. In the attempt to devise limited strike options by targeting nodal points, nuclear war planners progressively sought to adopt more discriminate attack plans, though they did so for operational reasons, to conform to the chief political goal of avoiding total nuclear war at all costs. In a somewhat paradoxical way, American nuclear war planning demonstrated features akin to Colin Kahl's (2007) "annihilation-restraint paradox", seeking to kill 'enough' while avoiding excess bombing. The fact that actual planning diverged significantly from these theoretical principles does not negate the fact that, throughout the Cold War, there were significant attempts to find ways to limit nuclear war without limiting its deterrent effect.[107] Furthermore, this search for flexibility in the nuclear realm was meant not to restrain the usefulness of nuclear force, but to expand it, in a way similar to precision strikes using Hellfire missiles expand the set of feasible targets rather than restraining it. In American nuclear war as in drone warfare, law, strategy, and technology combine "to sharpen their swords – not blunt them" (Carvin and Williams 2015, 15).

Preemptive force

The necessity of preemptive launch did not originate with the development of nuclear weapons, though it certainly acquired more urgency given the enormous stakes. Already in *The Command of the Air*, Douhet (2019b, 51–52) advocated the preemptive – or perhaps even preventive – use of strategic bombing, the decisive

[107] Of course, casualty reduction in the nuclear realm is largely relative, given the immense (and expanding) yield of munitions: as an example, in discussing scenarios to respond to North Korean aggressiveness, the Trump administration discussed employing a "low-yield" Trident missile of a yield of approximately 8 kiloton, slightly less than the bomb dropped on Hiroshima. That might have been a "low-yield" weapon in comparison to other nuclear bombs, but nevertheless carried an immense destructive power (F. Kaplan 2020, 283).

advantage belonging to the party that disables the enemy's air force first.[108] In nuclear strategy, however, the necessity of striking first was elevated nearly to the point of dogma. Despite official assurances, both Fred Kaplan (2020, 2) and Daniel Ellsberg (2019, 13) have argued that the United States' capabilities and plans have always been organised around first-strike preemption and, to a lesser extent, around first use against a wider range of non-nuclear threats. In particular in the periods where the United States possessed a relative advantage in the distribution of nuclear forces – such as the early 1960s – discussions concerning the possibility of disarming first strikes to short-circuit nuclear escalation and preemptively destroy most of the USSR's nuclear force were seriously held (F. Kaplan 2020, 83). Before that, Curtis LeMay, as commander of SAC, asserted an unhesitating policy to 'launch on warning' of an impending attack, with or without presidential authorization (F. Kaplan 1991, 134).

The primacy of preemption in nuclear doctrine ties together a number of themes discussed in the chapter above. The first lies in the acceptance of Douhet's (and Liddell Hart's) assertion of the impossibility of defensive action. Unlike previously, nuclear war entails "the loss of the defensive function as an inherent capability of our major offensive forces." (Brodie 2015, 225) For this reason, Cimbala (2015, 127–39) returned to the Clausewitzian distinction of strategic and tactical offense and defense: a defensive strategy necessarily entails tactical offense, and therefore defensive action might require "striking second first"[109] (Ellsberg 2019, 13; Clausewitz 1984, 357–70). The second lies in the necessity of warning and its implications for temporal remoteness. In the 1950s, LeMay could be wholly unconcerned about the necessity of rapid launch protocols, due to the complexity for the Soviets of preparing a nuclear offensive, which would necessarily be detected (F. Kaplan 1991, 132–34). The protection entailed by geographical – and thus temporal – distance held. From the 1960s onwards, however, that temporal distance was whittled away, as forces of intercontinental missiles were held in states of permanent readiness, threatening constant imminent attack. Preemption, therefore, became a way

[108] Paradoxically, however, in Douhet's final sketch of the imagined "War of 19__", the German air force – which embodies his preferred strategy – does not launch a preemptive strike, but deliberately waits to strike second to retain international public sympathy, despite the war having clearly become inevitable before the beginning of hostilities (Brodie 2015, 100; Douhet 2019d).

[109] Cimbala argues, however, that the presence of secure second-strike capabilities reduce the necessity of pre-emption and the pressure for preemptive offensive defence, as it both reduces the advantages of an eventual disarming strike and the costs of firing second (Cimbala 2015, 151; Brodie 2015, 218).

of dealing with the problem of proximate – as opposed to remote – warfare, as the United States found itself in a permanent state of vulnerability. In parallel, the urgency of warning led to a rapid expansion of surveillance capabilities, from a network of airborne, ground-based, and space platforms; the only means of re-establishing the space necessary to act before being attacked relied on the availability of surveillance means, and on a loose connection of sensors and shooters, in the form of a capability and willingness to "launch on warning."

The third theme lies in the communicative aspect of first-strike force, and how it could be used to achieve political objectives. As mentioned above, the chief objectives of American nuclear war were, first, to avoid total nuclear war if possible, and second to constrain the USSR to an escalatory ladder where it would find itself outmatched at every level, with no advantage to gain by resorting to escalatory force. In this frame, a disarming first strike – supported by second-strike capabilities – would in theory achieve both objectives: it would diminish the USSR's ability to harm the United States, while also establishing American dominance at the top of the escalation ladder, which would dissuade the USSR from the value of escalating. Nevertheless, against the hopes for a limited, strictly counterforce strike, Brodie rejected the notion that it could succeed on its own. A counterforce strike "is essentially a disarming move which seems to await some kind of sequential action" (Brodie 2015, 155); while in theory it might be possible to strike only military targets and wait for a reaction, in practice, Brodie argued, the risk-minimising approach which legitimizes a first strike cannot afford to wait to assess the enemy's reaction, but requires an immediate transition or admixture of counter-economic warfare to achieve maximal damage before the enemy can react. The final theme implicated in preemptive war consists in the necessity of damage limitation. As mentioned above, for Brodie, the validity of a counterforce first strike relies on its ability to actively minimize civilian damage, lest it become indistinguishable from an all-out nuclear assault. For this reason, if – as hoped – a first strike were to limit escalation, persuading the enemy to refrain from a course that could lead to mutually assured destruction, the preemptive strike must offer an alternative to total destruction. Brodie, ultimately, would reject that possibility entirely, concluding that any nuclear war would inevitably escalate to total conflagration (F. Kaplan 1991, 341).

As discussed elsewhere in this thesis (notably in chapter 4), the direct route leading to the establishment of preventive and preemptive violence in the use of drones for targeting killings proceeds through the militarized counterterrorism paradigms established from the 1980s onwards (Gunneflo 2016; Fuller 2017). Nevertheless, the ongoing discussions concerning the feasibility and value of preemptive nuclear strikes provides a crucial context to the prevalence of preemption in American doctrine. In Amélie Férey's (2020, 51–53) analysis of targeted killings, she traces three genealogies of modern targeted killing: in addition to political assassination, she identifies lineages of strategic bombing and of preventive war. The latter two are directly implicated in the elaboration of nuclear strategy, which provided the milieu in which their complexities were fleshed out and parsed. The discussions of preemption in a nuclear context highlighted a number of themes – chiefly the four discussed above – which would recur in discussions of preventive and preemptive uses of drone-led violence in the War on Terror.

Conclusion

The paradox of nuclear strategy is that despite the immediate vulnerability of "living with the bomb" and the constant imminence of potential conflagration, it was always entirely developed in an abstract vacuum. As exemplified by a civilian staffer telling an Air Force general in the early 1960s "General, I have fought exactly as many nuclear wars as you have," (F. Kaplan 1991, 254), the planning of strategies, escalation steps, and targeting relied on educated guesses and theoretical assumptions about extreme violence and its effects. As MacKenzie (1990, 341) further notes, the possibility of deriving facts about the empirical effects of weapons itself was the subject of intense controversy, having never been tested in actual conditions.[110] Finally, as Kaplan (1991, 305) notes, despite a number of situations which might have called for nuclear escalation, leaders always refrained from engaging in nuclear

[110] As Brodie (2015, 152) noted, however, the lack of real-conditions testing concerned not only nuclear weapons, tactics, and strategies, but all weaponry and structures in the nuclear era. As Hippler (2013, 50) argued concerning Douhet, the development of new practices for future war relied on a fundamental epistemological contestation of what can be known and what empirical knowledge can be used to guide thinking; in the case of Douhet, he deliberately rejected the battle-tested knowledge of air power in the First World War in favour of future-oriented reasoning. Brodie (2015, 107), similarly, argued that "the conditions of any future war in which nuclear weapons are used will be critically different from those of World War II in almost every significant respect," though he recognised the significance of the World War II experience of strategic bombing.

warfare, stopping short of escalation.[111] Like for ICBM missiles themselves, nuclear war planning remains a theory of war which "still require[s] the world as [its] laboratory" (Mackenzie 1990, 420). In an indirect parallel, the employment of armed drones turns the world into its own laboratory, where technology and its employment are tested, measured, and refined constantly.[112] The culture, technologies, politics, and theories which inform this drone laboratory, however, originate outside the laboratory, and in some cases originated in other laboratory, namely the nuclear laboratories of Los Alamos and Livermore, and the think tanks of RAND, SAC, and the Pentagon.

In dealing with the technological innovations of nuclear warfare planning, analysts were forced to confront two central conceptual innovations which would be crucial to later developments in remote warfare. The first, as expressed by Wohlstetter, consisted in the reconfiguration of distance: as ICBMs could hit any point on earth, and as it became possible – and necessary – to tie the protection of New York and Paris, it became simultaneously necessary to reflect on the purposiveness of violence at a distance. The question of how to project strategically productive force across the globe became central to nuclear planning. Similarly, the constant potential imminence of attack required a reappraisal of threats and their spatialisation. The second consists in the necessity to restrict violence. To limit levels of force became not only a matter of energy conservation (Clausewitz 1984, 78) but of necessity. Therefore, nuclear planning required thinking about appropriate levels of violence, and whether and how to control escalation even though "the enemy always has a vote" (Cronin 2014, 195). Despite the extreme levels of violence entailed, nuclear planning contained strategic innovations which would influence later thinking on remote warfare.

[111] As Ellsberg (2019, 13) notes, however, nuclear threats and warnings have been routinely employed in crisis bargaining.

[112] Eyal Weizman, among others, uses the metaphor of the "laboratory" to describe the Israel occupation of Gaza, which takes Gaza as a "laboratory" for the elaboration of legal, technical, and political means of global surveillance and violence (Weizman 2017, 241).

Chapter 7 – The Vietnam War

This thesis has, so far, provided an overview of conceptual developments which feed into the genealogy of drone warfare. This chapter provides an in-depth analysis of one extended episode in which these conceptual developments intersected, combined, and coalesced, in order to prepare a systematic analysis of the conceptual underpinnings of drone-led warfare. More specifically, this chapter analyses in detail the use of air power in multiple episodes of the American war in Vietnam and Indochina. The multiple major campaigns of the war in Vietnam relied heavily on aerial bombing to achieve both tactical and strategic goals, sometimes in conjunction with ground troops, sometimes substituting for ground troops, sometimes separately from ground troops.[113] The threads which are addressed here – always in reference to air power – include the use of surrogates and proxies, as well as conceptions of remote warfare. This chapter, therefore, builds on the discussion of remoteness, asymmetry, and risk-transfer contained in chapter 4; in addition, it builds on the episodes discussed in chapter 5 and 6. In line with the discussion in chapter 5, the use of air power in the Vietnam War raised significant questions concerning the effects of aerial bombardment and its capacity to coerce, deter, and defeat an enemy. Chapter 6 briefly discussed the communicative aspect of remote violence, and the capacity of air power to be employed to control escalation, communicate resolve, and alter enemy behaviour through less-than-total force. The Rolling Thunder bombing campaign over North Vietnam (from 1965-1968) was explicitly modelled on Thomas Schelling's concept of bargaining through strategic exchange, and its failure to achieve desired results impacted both conventional and nuclear warfare theories.

In line with my genealogical approach, I seek to identify turning points in which practices and conceptual understandings are reconfigured or manifest themselves in novel ways. I argue that the American war in Vietnam illustrates most clearly the inherent complexity of relations of surrogacy and remoteness in warfare, particularly its aerial aspects. The multiple forms of American aerial warfare in Vietnam demonstrate how remoteness and asymmetry are actively manipulated at each

[113] Raphael Littauer and Norman Uphoff identify five separate theatres of aerial operations: South Vietnam, North Vietnam, the Ho Chi Minh trail in South Laos, North Laos, and Cambodia (Littauer and Uphoff 1972a, 8).

level of warfighting, from geopolitical conceptions of remote security to on-the-ground tactical decisions. I argue such practices of risk-transfer take place through an abundancy of externalisations of warfare, both spatial and agential, combining political, strategic, tactical, and technical decisions.

This chapter addresses five aspects of American intervention in Vietnam and Indochina, tracing for each a number of surrogate, proxy, and remote practices which serve to minimise costs and risks to American forces. The first of these concerns the decision to intervene itself, displacing the preservation of American security away from the American terirtory and seeking to transfer the costs onto a South Vietnamese surrogate, externalising the preservation of the American homeland into "global borderlands" or into an expanded neighbourhood that is ever more distant (D. Gregory 2011a; Wohlstetter 1968). The second addresses the attempt to wage a largely aerial campaign through the Rolling Thunder and Linebacker strategic bombing operations, thereby shifting the cost away from American ground forces. The attempt to bypass the battlefield – at first intended to avoid having to introduce large numbers of ground troops, and later to allow the United States to continue the withdrawal of its ground presence – can be construed as an attempt to substitute one "labor-intensive" mode of warfare with a remote, "capital-intensive" form of warfighting (Littauer and Uphoff 1972a, 7). The third discusses the attempt to transfer the weight of the effort to Laos and Cambodia through campaigns of aerial interdiction along the Ho Chi Minh line, combining remote sensors and (partially) automated detection, tracking, and lethal technologies to enable the destruction of the enemy without any contact by creating a highly asymmetrical balance of risk. The fourth briefly addresses the tactics employed in counter-guerrilla warfare in South Vietnam itself, arguing that the American forces engaged in active efforts to externalise the cost of war and achieve a maximally advantageous asymmetric situation enabling them to employ massed firepower. I also engage briefly with William Gibson's argument concerning the reversal of surrogate relationships, where human troops serve the interests of firepower concentration, thus prioritising the needs of technological means of war over the protection of human forces, suggesting that Gibson raises crucial questions concerning the relevance – and direction – of surrogate relationships in tactical and strategic thought. Finally, I briefly sketch similarities and differences between remote decision styles in the Vietnam War

and the War on Terror, and the role of remoteness in conditioning how commanders relate to the war they lead.

The reconfigurations of risk-transfer, surrogate, and remote relationships in aerial warfare in Vietnam carry significant implications for the later development of armed drones. First, as Brian Laslie (2016) and Fred Kaplan (2014) argue, the perceived failure in Vietnam had lasting impacts on the development of new doctrine: the Air Force, noting the preponderant strike role of tactical aircraft, transitioned to a ground attack doctrine which de-emphasised heavy bombing in favour of localised, precise strikes, while the Army sought to return to large, tank-heavy warfare rather than counterinsurgency. Second, as this chapter discusses at length, the Vietnam War saw the development of new concepts of networked battlefields, of remote sensor technologies, and of reconnaissance drones, which would progressively inform American conceptions of remote warfare (D. Gregory 2013; Cockburn 2016; Bousquet 2009). Finally, and most importantly, the Vietnam War demonstrated the complexity of relationships of distant force, air power, and ground presence, which remain central to the contemporary employment of armed drones in the War on Terror.

Intervention and remote security

As Andrew Mumford has noted, the American war in Vietnam largely grew out of a proxy war, with the failure of South Vietnamese forces leading to a direct intervention by American forces (Mumford 2013, 20) in 1964-65. William Gibson (2000, 8) argues for an even longer view of the proxy war, beginning in 1945 through a British force, then in the 1950s with French troops fighting with American financial support reaching up to 80% of the costs of war, transforming the conflict into "an American war against communism utilizing French troops" (Gibson 2000, 59). Indeed, the interplay between proxy intervention and direct intervention is manifest in Vietnam, as the United States constantly fought alongside with South Vietnamese troops, constantly seeking to support a weak political leadership in South Vietnam.[114] Later, as Nixon would begin the withdrawal forces after 1969, there was an attempt to return to a form of proxy war, through the program of Vietnamization. Under this program, the attempt was made to rapidly upgrade South Vietnamese forces in order

[114] This conception of a surrogate conflict through South Vietnam should not erase the significant local dynamics which shaped the conflict. As Martin Shaw (2005, 50–52) has argued, conflicts are most often primarily local, with remote dynamics superimposed onto local/regional dynamics.

to allow them to contain the North Vietnamese army on their own, allowing for American withdrawal. The paroxysm of this return to proxy war – despite the manifest failures of Vietnamization in Laos (Randolph 2007, 15–16) and then in the air war in 1972 (Randolph 2007, 145) not having slowed down the progression towards surrogacy – occurred shortly after the Paris Peace Treaty of 1973, as the United States transferred large numbers of weapons and advisors to South Vietnam, in effect building up a proxy which would continue the fight (Gibson 2000, 421).

Between these two episodes of proxy intervention, discussing the American intervention in Vietnam between 1965 and 1972 as involving surrogacy may seem quite counterintuitive: the United States instituted a wide-ranging draft system which imposed an extenuating burden on American civil society, strained military forces to their maximum, caused significant strategic weaknesses elsewhere in the world, and at one point engaged over half a million ground troops in Vietnam itself (excluding deployments in Thailand, Laos, Cambodia, and in other bases around the Pacific). The more than 58 000 American deaths would seem to belie any conception of the Vietnam war being an example of remote or surrogate warfare. If anything, it would seem that the story of the war in Vietnam is that of a failure of surrogate warfare: the United States tried to get the South Vietnamese to fight for them, more or less creating and equipping a surrogate *ex nihilo*, got involved themselves when their surrogate failed militarily and politically, and then returned to a form of surrogate war after 1969 in the guise of "Vietnamization." Alternatively, the surrogate or proxy relationship might rather have been that of China and the Soviet Union with the North Vietnamese, through which they externalised their conflict with the United States, and even their geopolitical competition with each other.

Yet, it would be a mistake to view the Vietnam War as strictly bookended by two proxy interventions, with a long phase of direct intervention by the United States devoid of any form of surrogacy in the middle. On the contrary, the entire conduct of the Vietnam War reverberates with constructions of remoteness, which affect every aspect of the conflict. The next section argues that the whole endeavour to ensure American security in Vietnam reflects a conception of remote security, in which the boundaries of the area to be secured – the West, and more particularly the American territory – must be defended far away, in a remote territory. This conception of remote security, in turn, reverberated throughout the intervention in Vietnam: if the security

of the United States is defended in South Vietnam, the home territory of South Vietnam is defended by stopping Communist infiltration in Laos and Cambodia, and by establishing safe zones from which the enemy was excluded throughout South Vietnam itself.

Remote security

The significance of the proxy relationships which led to the American intervention in Vietnam depends on an underlying conception of remote security. Unlike Mumford's suggestion that proxy wars serve as a means to wage wars of choice rather than wars of necessity, the Vietnam intervention was construed as crucial to stop the expansion of Communism which would, in the long run, threaten the United States itself. John Lewis Gaddis (2005, 235), for instance, considers the intervention in Vietnam part of the Kennedy-Johnson approach of "flexible response," itself a version of a long-standing grand strategy of containment of the USSR, ushered in by George F. Kennan's "Long Telegram" (1946) and his subsequent publication under pseudonym of "The Sources of Soviet Conduct" (X. [George Kennan] 1947). Already in 1950, as Mumford notes, the National Security Council directive NSC-68 stated that all the world was key for American security, thereby establishing containment even in non-contiguous and remote areas as the central objective of American foreign policy (Mumford 2013, 47; National Security Council 1950). Subsequently, as Carvin and Williams (2015, 95) argue, such containment transitioned from operating through mainly non-military means to being conceived as a guide to military strategy as well. American grand strategy in the Cold War, particularly at the turn of the 1960s, espoused a notion of remote security not unlike that which purports to undergird contemporary remote warfare: American security must be achieved abroad.

Such a conception of domestic security being enforced and secured abroad was underpinned by the use of mechanistic analogies which presented the inevitable nefarious impact on American security of any failure of containment abroad. Gibson (2000, 75) analyses a number of them, most prominently the domino theory and the chain reaction. Presented as such, each falling 'domino' or element of the chain reaction acquired a vital importance, as a step towards the ultimate failure of containment and thus the loss of American security. Therefore, every (designated) domino had to be stopped through the careful and timely application of force, in order to disrupt what would otherwise entail an inevitable loss to the United States (Slater

1993, 188; Gibson 2000, 75). The corollary of the domino theory, therefore, was that homeland security is necessarily remote: American security began not at home, or at the border, but in Korea, or in Vietnam. Such thinking would pervade the conduct of the war. Very quickly, the decision was made to abandon any pretence of victory, to concentrate on containment: the objective would be not to defeat North Vietnam, but to ensure the protection and survival of South Vietnam – in other words, to stabilize the first domino (Randolph 2007, 6; McNamara and VanDeMark 1995, 183). The expansion of the American "neighborhood" into the "global borderlands," therefore, meant a need to contain the spread of conflict to these distant borderlands and to preserve American security through this containment (Wohlstetter 1968, 252; D. Gregory 2011a, 239). Consequently, when bombing North Vietnam, American air forces were not engaged merely in theatre operations, but were directly implicated in the safeguarding of American geopolitical security: "As Nixon viewed it, his political future, and America's world position, depended on the ability of US air forces in theater to reverse [the] history [of the failure of Rolling Thunder]" (Randolph 2007, 198).

Conceptions of remote security pervaded every level of the Vietnam war: if the overall objective was to establish a stable, non-communist, safe territory in South Vietnam (McNamara and VanDeMark 1995, 160; 181–82; 184), the prime effort to this end was to exclude the enemy from the 'home' territory, notably by displacing population, creating safe zones, and expanding these zones progressively: "Even when war-managers made their greatest efforts to secure rural support, the military continued to conceive of security as an ever-expanding network of forts and conventional units designed to keep the foreign Other out. The enemy is always a machinelike entity coming from the outside […] Defending boundaries within boundaries within boundaries, Technowar always needed more troops, more forts, more planes, to keep the foreign Other out." (Gibson 2000, 298) On a greater level, strategic success in South Vietnam always relied on externalising the war effort, in a perverse reversing of the chain reaction. American security began in South Vietnam; the success of counterinsurgency in South Vietnam, in turn, relied on interrupting the flow of supplies along the Ho Chi Minh trail in Laos. Eliminating enemy sanctuaries used to conducted the war in South Vietnam required bombing in Cambodia. The overall success of the war in South Vietnam – particularly when defeating the 1972

Spring Offensive – required bombing North Vietnam. Derek Gregory (2013, 58), on this point, draws a direct connection between the spillover of the Vietnam war into Laos and Cambodia and the spillover of the war in Afghanistan into Pakistan. Remote security – the first underpinning of remote warfare – is therefore not an invention of contemporary wars against diffuse enemies in a globalized world, but rather a continuation of practices which seeks to displace and contain danger ever more remotely. The notion of eliminating threats and risks at the source, abroad, in other territories, is not new and not dependent on the availability of armed drones: rather, as the example of the repeated externalisations of war which composed the war in Vietnam (and surrounding countries), remoteness in warfare is replicated at multiple levels, in a succession of displacements of war, into a global archipelago of safe zones and borderlands.

Coercive Bombing

The grand strategic decision to intervene in Indochina relied, as was demonstrated above, on the establishment of surrogate relationships in the service of a conception of remote security. The means through which the United States intervened directly, along and in partial replacement of their South Vietnamese proxy, enacted further remote and surrogate relationships. A major aspect of this displacement of strategic effort to reduce the burden placed on ground troops lies in the employment of strategic bombing in North Vietnam to achieve a global victory by targeting the source of the North Vietnamese war effort. This form of strategic bombing came in two phases, first Operation Rolling Thunder from 1965 to 1968, and later Linebacker I and II in 1972. In both cases, the campaigns were derived from long-standing American doctrines developed in the aftermath of World War II and the Korean war, considering "strategic bombing as a cure-all for any contingency" (Clodfelter 1989, 33) and as a means to "bypass the battlefield" (Pape 1996, 174) to achieve a direct political impact without "depending on land and sea"[115] (Pape 1996, 63). In both Rolling Thunder and Linebacker, the objective was to bring the war directly to the North Vietnamese and combine a deep psychological impact with the systematic destruction of North Vietnamese industry and transportation links, thus rendering them both unable and unwilling to continue the war. A second objective,

[115] See chapter 5 for more detail on the development of strategic bombing theory.

through the recourse to long-range bombing in Rolling Thunder, was to establish American escalation control, the United States being able to turn up or tone down the pressure on North Vietnam at will, thereby communicating resolve to the North Vietnamese leadership (McNamara and VanDeMark 1995, 223; Clodfelter 1989, 44; 96; F. Kaplan 1991, 333–36).

The first point to note is that these strategic bombing operations formed part of a war in which air power occupied a preeminent role compared to other forces; according to Kocher, Pepinsky, and Kalyvas (2011, 205), in 1969 aerial forces received approximately 47% of the budget of the South Vietnamese and American forces. Aerial warfare occupied a central role in all elements of the American war in Vietnam, and strategic bombing represents only one facet of this effort, with 62% of bomb tonnage being dropped in South Vietnam and less than 10% on the North by 1971 (Kocher, Pepinsky, and Kalyvas 2011, 205; Littauer and Uphoff 1972a, 11).[116] Nevertheless, strategic bombing constituted a central component of the American war effort, both preceding and following the deployment of American ground combat troops. While Rolling Thunder began under the assumption that air forces could achieve victory on their own, the realisation set in quickly among the American leadership that the weight of the effort was insufficient, leading to the rapid increase of American ground troop numbers in South Vietnam and the beginning of offensive ground operations. Aerial bombing, accordingly, became after April 1965 "a means to support the expanding combat role of American ground forces or as a means to inflict pain on the North while the ground troops demonstrated the Communists' inability to win in South Vietnam" (Clodfelter 1989, 66; McNamara and VanDeMark 1995, 180).

While the initial failure of air forces in Rolling Thunder to act as a full surrogate for ground forces led to the heavy introduction of ground forces, the Linebacker operations took place in a completely different context, President Richard Nixon having nearly completed the withdrawal of American ground troops, and having promised to withdraw completely before the next election in November 1972. As such, the 1972 Linebacker campaign took place in a framework much closer to what

[116] These numbers exclude, among others, the heavy bombing in support of South Vietnamese troops to counter the North Vietnamese offensive of 1972, as well as the strategic bombing campaigns of Linebacker I and II (also in 1972). Clodfelter (1989, 166; 194) estimates the Linebacker campaigns amounted to approximately 170 000 tons of bombs (155 000 for Linebacker I, 15 000 for Linebacker II).

Krieg and Rickli understand as surrogacy – namely, the substitution of ground troops by other weapons systems – air power – and local troops – South Vietnamese forces. The choice of air power – both theatre air power in South Vietnam and strategic bombing in North Vietnam – as the preferred means to respond to the 1972 Easter Offensive was based on a surrogate relationship, allowing Nixon to continue the withdrawal and avoid engaging more troops (Randolph 2007, 2).[117]

The employment of strategic coercive bombing to "bypass the battlefield," therefore, drew both on the establishment of surrogate relationships where air power replaces and reduces the reliance on ground troops, and on externalising the weight of the war effort to reduce the cost in human troops. That being said, the establishment of such an asymmetric form of war is not the product of a single decision to privilege remote air warfare. Concentrating on the surrogate relationship of substitution ignores how tactics and weapons were adapted to allow for the fostering of such a highly asymmetrical situation through advanced technology. In palliating the absence of American ground troops, the United States relied on heavy firepower – notably the use of B-52s to create a profound psychological impact – and advanced technology to heighten the asymmetry. Such asymmetry is not an extra-strategic given fact, but depends profoundly on strategic and tactical choices made by American forces, as well as the incorporation of technological innovations into these tactics and strategies. Two such choices stand out: first, the use of precision-guided munitions allowed the United States to achieve significant damage while limiting the risk to air crews. Certain targets were only attacked with precision-guided munitions in order to avoid heavy casualties (and avoid putting civilians excessively at risk) (Randolph 2007, 206). Second, the employment of electronic countermeasures served to disrupt North Vietnamese anti-aircraft missiles, thus further diminishing the risks for American aircrews (Randolph 2007, 96–97; 283). These technical innovations and the accompanying tactical adaptations combined to create a situation in which American air crews could maximise their effectiveness while minimising the risks undertaken. The air campaigns over North Vietnam were of course far from bloodless, and the American air forces sustained heavy casualties. Nevertheless, tactics, technology, and weaponry all combined to create an increasingly asymmetrical situation, in which the

[117] In congressional hearings, Senator Barry Goldwater proposed a similar rationale for the electronic battlefield – replacing ground troops with other, lighter and less vulnerable means (Dickson 1977, 120; 127–28).

burden of war was shifted overwhelmingly to one party. The surrogate relationship which allowed for the replacement of a costly ground deployment by a far less risky air campaign, therefore, was sustained by a number of technical and tactical innovations, and not a mere strategic decision.

Indirect Interdiction

In many ways, the term 'Vietnam War' is a misnomer. The fighting spread throughout the region, with major aerial campaigns taking place in Cambodia and Laos. Littauer and Uphoff's report refers to the air war in "Indochina" precisely for this reason (Littauer and Uphoff 1972a). Yet, by and large, the struggle in South Vietnam constitutes the central core of this conflict: the spread of the conflict to North Laos, Cambodia, and along the Ho Chi Minh trail were peripheral to the combat in South Vietnam. This designation as peripheral is not meant to belittle the intensity of the fighting or of the bombing, but rather to highlight the dynamics of risk transfer and externalisation underpinning the geographical expansion of the conflict.[118] In attempts to turn the situation to their advantage in South Vietnam, the Americans repeatedly sought to push the decisive element of the conflict out to regions away from the core, and away from their ground troops. The expansion of the war into further theatres, as such, followed dynamics of remote and risk-transfer warfare already discussed above. In the pursuit of a strategy of attrition, victory in South Vietnam would only partially be obtained in South Vietnam itself – the key part of the effort would consist in interdiction along the Ho Chi Minh trail, and later attempts at decapitation in North Laos.

Therefore, it would be a mistake to assess the interdiction campaign along the Ho Chi Minh trail and other peripheral bombing campaigns in isolation: they constituted an integral part of the warfare in and around Vietnam, employing for a time the bulk of the American war effort and bombing capabilities. Accordingly, they formed a central part of the American strategy of war by attrition, according to which the American ground forces would seek to destroy and deplete the Viet Cong and North Vietnamese forces to a point where they would be unable to continue fighting. The interdiction campaigns served as the counterpart to Westmoreland's efforts to reach the "crossover point" at which the rate of killing of North Vietnamese forces

[118] As Neta Crawford (2014, 71) has noted, the death toll of the bombing campaigns in Laos, Cambodia, and Thailand was immense, on par with that in North and South Vietnam.

would be higher than their rate of reinforcement: as American ground forces sought to increase the rhythm of killing in South Vietnam, cutting off supplies would make the objective of reaching this crossover point more readily attainable. In doing so, American forces relied on multiple relationships of cost externalisation and force protection, shifting significant parts of their war efforts away from ground troops, away from territory they sought to control in South Vietnam, and away from more visible and mediatized aspects of the war. These relationships can be considered as elements of surrogacy, changing the socioeconomic foundations of the war to a form of "capital-intensive warfare" (Littauer and Uphoff 1972b, 103), but can also be seen as strategic calculations. The attempt to achieve a maximally asymmetric situation by employing aerial warfare against a weaker element of the enemy's war effort – their logistical supply lines – rests on a strategic calculation supported by technical and tactical innovations, and not merely on the meta-strategic considerations privileged by Krieg and Rickli.

Following initial disagreements between Westmoreland – seeking a victory on the ground – and the office of the Secretary of Defense Robert Macnamara – who preferred pursuing victory primarily through strategic bombing – the failure of Operation Rolling Thunder led to increased efforts to inflict maximum casualties to the Viet Cong in South Vietnam, accompanied by aerial interdiction of supplies moving from North Vietnam to South Vietnam, often through Laos (Clodfelter 1989, 66–70).[119] Throughout these multiple facets of the war, the American military sought to instrumentalise its significant technological advantage and its nearly complete aerial supremacy outside of North Vietnam in order to achieve maximal strategic and tactical asymmetry. Nowhere was this more visible than along the Ho Chi Minh trail. Starting in 1967, under the direction of Robert McNamara, an attempt was made to cut off supply chains from North Vietnam to South Vietnamese insurgents through what would be termed either the "McNamara Line" or the "Electronic Battlefield" (Dickson 1977). The Ho Chi Minh system of trails, passing through Southern Laos, was of crucial importance for Viet Cong logistical systems, constituting "the backbone of their war effort." (Randolph 2007, 40) As such, it was assumed, success in interdicting

[119] In the spring of 1965, McNamara advocated for ramping up both air and ground operations, though he envisioned air power would be crucial in punishing North Vietnam into compliance, while ground troops would make clear North Vietnam could not win in the South. By July, after a trip to South Vietnam, he had soured on the prospects of Rolling Thunder achieving its objectives quickly, though he continued to advocate for increased air activity (Clodfelter 1989, 69–72).

the transportation of supplies along these lines would greatly aid the objective of reaching the "crossover point" in South Vietnam, where the damage inflicted to the Viet Cong would exceed its capacity to resupply (Gibson 2000, 156; McNamara and VanDeMark 1995, 238). To this effect, American forces seeded the jungle where the trails passed with sensors – acoustic, seismic, even olfactive – in order to detect truck or human movement, before calculating the expected movement of the supply convoys to determine bombing areas. The objective, plainly, was to create an "air-supported barrier" (Dickson 1977, 26) that would operate without ever making direct contact with the enemy. The claim was that by enabling remote sensing and employing aerial forces to attack detected targets, the electronic barrier would operate at minimal cost for American forces. Tactics, accordingly, were adapted to enable this form of warfare, with bombing techniques and armament selection being made to conform to the type of warfare sought. The result was a self-enclosed system of electronic signatures being tracked, defined as targets, and destroyed, without any contact or even direct perception of enemy presence.

The implications of this type of operations on conceptions of remote war and of surrogacy are clear. As explained in chapter 4, Krieg and Rickli define as surrogates means of externalizing the burden of war, and argue that machinic surrogates constitute a new and prevalent form of surrogacy. In the case of Operation Igloo White (the campaign of electronic interdiction along the Ho Chi Minh trail), it seems clear that several aspects of surrogacy are already present. The whole system, in order to minimize the cost in lives lost, was meant to operate without any ground troops in contact with the enemy; in effect, electronic sensors and aerial warfare using fighter planes, bombers, and airborne gunships (AC-130s mainly) replaced ground troops by allowing for the detection and destruction of enemy assets from the air. While the cost in dollars of such warfare was exceedingly high, the cost in American lives was reduced to a minimum through the artificial creation of a highly asymmetric tactical situation.[120] This surrogacy did not change the fundamental socioeconomic foundations of warfare in Vietnam – being part of a much wider war situation – but it nevertheless pointed towards a form of warfare in which requirements in troops would be minimized, using advanced technological means to foster an asymmetrical strategic

[120] Dickson notes that a significant number of airplanes – probably upwards of 400 – were lost in Operation Igloo White, but this loss ratio is likely much lower than a ground operation would have yielded (Dickson 1977, 76).

situation in which the costs of warfare are borne overwhelmingly by one party. Raphael Littauer and Norman Uphoff (1972b, 100), in their comprehensive study of air warfare in Indochina, note among others that while total bombing tonnages in 1967 and 1971 are similar – after a spike in 1968 and 1969 – "the geographic distribution of bombing has changed dramatically." By 1971, most bombs were dropped outside of North and South Vietnam, with approximately half of bomb tonnage dropped in Laos, where Operation Igloo White took place (Littauer and Uphoff 1972b, 99).[121] This is in line with what they describe as the Nixon Doctrine, which "rests upon the substitution of American technology, in conjunction with Asian forces, for American manpower." (Littauer and Uphoff 1972b, 102)

To describe Igloo White as a form of surrogacy, however, ignores several of its most crucial characteristics, which have more in common with Waldman's vicarious warfare and Shaw's risk-transfer militarism. Most importantly, it ignores the tactical adaptations that were made to enable this form of warfare. As Air Force general William Evans explained, the amount of firepower employed was dramatically increased to compensate for the lack of direct contact with the enemy: "since we never actually 'see' the trucks as point targets, we use area-type ordnance to cover the zone we know the trucks to be in." (Dickson 1977, 71) Technological innovations were employed to enable this form of operations; for instance, American forces dropped several millions small mines and bomblets to improve sensor efficiency despite the distance (Dickson 1977, 44). This absence of contact also had significant impacts on the quality of the operations conducted. Reliable battle damage assessments were impossible to obtain, and crude measures were used instead. As Randolph (2007, 44) notes, the prevalent assumption was "that with so many bombs falling, some of them had to be hitting something useful." Recalling Waldman's formulation, the U.S. Air Force quite literally resorted to "excess firepower" to purportedly achieve results (Waldman 2018, 183). Dickson notes that while the U.S. Air Force claimed spectacular tallies of destroyed trucks and equipment (Dickson 1977, 74), even internally the posted results of the campaign were ridiculed, with assumptions that these numbers had no clear connection to actual damages inflicted being taken for granted (Dickson 1977, 77). Gibson, in turn, raises the obvious point that while trucks

[121] Littauer and Uphoff do not provide a breakdown of tonnage dropped by operation, and multiple fighting operations took place in Laos. Nevertheless, the displacement is notable.

were claimed as destroyed in the tens of thousands, the Air Force was routinely unable to locate even small numbers of remnants of destroyed equipment in following reconnaissance flights (Gibson 2000, 397). Thus, despite the increase in firepower compensating for the absence of ground troops, there was a widespread realization even during the war that the objectives were not being met. The operation nevertheless continued until 1971-2, when the renewed North Vietnamese offensive required efforts to be reoriented to South Vietnam.

As mentioned above, in order to be able to wage war remotely along the Ho Chi Minh trail, U.S. forces introduced the use of electronic sensors to instrumentalise the environment to create usable signatures. This was first employed along the Ho Chi Minh trail, as part of Operation Igloo White, but later expanded to other operations in South Vietnam. The creation of an air-supported barrier to interdict the movement of supplies along the Ho Chi Minh trail, with a high concentration of remote sensors, allowed for the partial replacement of ground troops with airborne weapons systems. This replacement, however, carried implications for the ability to detect enemy presence remotely and reliably. First, as mentioned above, this attempt at remote sensing entailed the targeting of signatures, not of definite targets. Therefore, the objective became the elimination of these signatures, without necessarily ascertaining whether the destruction of the signature indicated the destruction of actual enemy equipment (Gibson 2000, 397). Secondly, the reliance on remote sensing erased the human element of the war. Dickson (1977, 74) thus notes that the metrics employed to assess the success of Igloo White referred only to material: "Time and again the Pentagon gave a score for Igloo White in terms of trucks and cargos destroyed, but never in terms of human death." This is due in part to the fact that sensors did not indicate the number of enemy soldiers present and no battle damage assessments were carried out to obtain reliable numbers of enemy casualties.[122] However, it is also due to the stated objective: as Igloo White meant to interdict the transport of supplies, the number of humans killed was deemed irrelevant to the success of the mission. As there was no contact between American troops and North Vietnamese casualties, they were simply erased from consideration. Thus, from sensors tracking trucks to damage assessments expressed in quantities of trucks and supplies, the human element

[122] Gibson alleges the presence of a much wider system of numerical falsification throughout the war in Vietnam, to which all levels of commandment were party; therefore, no one would have had any incentive to seek to obtain reliable data.

vanished.[123] The system of electronic warfare sustained by remote sensing along the Ho Chi Minh trail, however, cannot be appraised without reference to the fighting in South Vietnam, which it was meant to support. The construction of this enclosed system of electronic sensing and destruction was the product of technical, strategic, and political decisions and commitments.

Operation Igloo White also conforms to multiple insights provided by Martin Shaw on the transfer of risks to civilians. As Dickson (1977, 76) notes, referring back to Littauer and Uphoff (1972a, 75), the impacts on civilian populations were extensive, with several thousands of refugees resulting from the extensive bombing (figures on civilian casualties, meanwhile, were kept secret). Neta Crawford (2014, 71), meanwhile, mentions that while measures for the avoidance of civilian casualties were actively taken in bombing North Vietnam, little such considerations existed in Laos and along the Ho Chi Minh trail. Andrew Cockburn (2016, 17–18), referring back to his father's journalistic fieldwork, describes how local isolated tribes in Laos and Cambodia were heavily bombed without any consideration by American forces (see Littauer and Uphoff 1972a, 81–86; 89–90). I mention this not to make a point directly about norms surrounding civilian casualties, but rather to highlight Shaw's argument about risk being redistributed and transferred not only among combatants and surrogates, but transferred to civilians. In bombing peripheral to the war in Vietnam, American forces adopted tactics which minimized the risk to their own forces, employing area saturation weapons in heavy quantities, maximising the risk to civilian populations and creating significant amounts of indirect harms.[124] Furthermore, due to the absence of troops on the ground, the information filtering back to the domestic public regarding casualties and incidental noncombatant deaths was heavily restricted, achieving something akin to the media control discussed by Shaw. In fact, it would take until 1972 before the American Congress would even be aware of American bombing in Cambodia, a further geographical expansion of the war (Crawford 2014, 71).

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[123] Dickson (1977, 6) begins his book with a fictionalized account of future electronic war which could evolve from the electronic battlefield in Vietnam, in which the character of a drone pilot states that "he strongly suspected that in situations like pilot's briefings [abstract] terms were used to keep those being briefed from getting rattled by too direct a realization that there were real people about to be involved on the other end of a remote strike."

[124] That being said, Gibson argues that the ground war in South Vietnam was no less destructive for civilian populations, which were victims of countless murders, forced relocations, and bombings, largely due to the same rationale of risk-transfer warfare.

Tactics and modes of fighting

As mentioned above, the largest share of aerial bombing occurred in South Vietnam, in support to ground troops engaged in direct contact with the enemy. From 1965 to 1968, Littauer and Uphoff estimate that 2,2 million tons of bombs were dropped on South Vietnam, while 643 000 tons were dropped on North Vietnam as part of Rolling Thunder (Clodfelter 1989, 129; Littauer and Uphoff 1972a, 168).[125] In 1968 and 1969, over half a million ground troops were engaged in South Vietnam, with exceedingly heavy casualty rates. Yet, I argue here that despite the significant presence of ground troops, fighting in South Vietnam, and in particular the employment of air power, can be conceived as enacting forms of surrogacy, vicariousness, risk-transfer, and remoteness in warfare. Overwhelming levels of air power were employed to externalize the burden of war, placing it at a distance, reducing it and transferring it onto enemy forces and onto civilian populations.

In Gibson's account, counterinsurgency warfare in South Vietnam relied on practices which aimed at killing a maximum number of enemies, prioritising the application of excess firepower from a distance over other tactical considerations. The overall strategy of attrition, aimed at reaching the crossover point at which enemy forces would be depleted faster than they could be reinforced and replenished, lent itself naturally to tactics relying on heavy firepower. Most importantly, under such a strategy, killing the enemy and destroying enemy supplies became an end in itself, to which end air power was extensively employed. While the war in South Vietnam involved a very high number of ground troops and extensive casualties to American forces, the tactics employed nevertheless often relied on keeping the war away from direct engagement, drawing on practices of risk-transfer, and especially of substituting aerial firepower for ground firepower. For this reason, it is necessary to consider the overwhelming use of air power in a highly asymmetrical situation within the genealogy of remote warfare. The distance between the North Vietnamese troops which were targeted and the fighters and bombers conducting strikes was necessarily not as great as the distance between a contemporary drone pilot and their target; however, although the distance is vertical rather than horizontal, the Americans purposefully selected a method of warfighting which denied direct, reciprocal contact

[125] By the end of 1971, Littauer and Uphoff (1972a, 11) estimate 3,9 million tons of bombs had been dropped in South Vietnam, 62% of the total tonnage dropped.

between their airborne troops and the targets. The preservation of such asymmetry was a constant concern and tactics were selected to maintain and exacerbate this asymmetry, with American aerial forces withdrawing, operating from higher altitudes, or taking evasive measures when faced with North Vietnamese anti-aircraft weaponry (see for instance Randolph 2007, 150).

Gregory (2013, 48) further highlights the physical and psychological distance between the aircrews and their targets: "Bombing from 25-30 000 feet, they [the B-52s] could neither be seen nor heard on the ground […] It was no less abstract for those who carried out the attacks. One journalist reported that a B-52 strike was a 'chillingly spectacular event' for those on the ground, but for the aircrew, 'sitting in their air-conditioned compartments more than five miles above the jungle,' it was little more than a 'familiar technical exercise.'" The similarities with conceptions of contemporary remote warfare are thus prevalent enough to justify the consideration of American theatre air strikes in South Vietnam away from ground troops as a form of remote war. This became even more manifest in 1972, as American ground troops had withdrawn, with air power compensating for the inefficiency of ground-based artillery (Randolph 2007, 144). Randolph (2007, 265–66) thus highlights that, in 1972, B-52s were responsible for the bulk of enemy casualties. Defending against the North Vietnamese offensive thus became a matter of putting aerial weapons in the best dispositions. As the North Vietnamese were now relying heavily on high-quality artillery (Randolph 2007, 144), aerial bombing was used as an asymmetric means to respond in the absence of available ground troops.

As the North Vietnamese army attacked in 1972, Nixon refused to reengage American ground troops in the face of North Vietnamese offensives under pressure from public opinion, preferring to rely on aerial means alone to support weakening South Vietnamese forces (Clodfelter 1989, 149). To this end, B-52 bombers were introduced as an asymmetric means (Randolph 2007, 57) of defeating the North Vietnamese ground invasion. In repeated instances, the principal means of defeating North Vietnamese troops were aerial, with ground troops "expected […] to stall the NVA offensive, holding the North Vietnamese in place to permit American B-52s and fighter strikes to punish the attacking troops" (Randolph 2007, 135; see also 78, 144-145). Randolph (2007, 2) makes exceedingly clear that this method of fighting was far from how the American forces had expected to fight, and rather required rapid

innovations in techniques, tactics, and doctrines, as well as the integration of new technological weapons systems. In Randolph's (2007, 107) account, the ability of American air forces to "[project] overwhelming military power around the world, with the supply and logistical support necessary to sustain a high-tempo, high-technology air war" constituted "a turning point in contemporary military history." This deployment of B-52s combined, indeed, multiple forms of remoteness – force projection at a great distance, centralised decision-making by the President's office, and a near-exclusive reliance on massed firepower delivered through asymmetric means – which would become staples of what is now understood as remote warfare.

The creation of an asymmetrical situation through the application of force at a distance in order to cause maximal levels of enemy casualties did not only entail a substitution of ground firepower with aerial weapons systems; rather, as Waldman's concept of vicarious warfare, it drew on a variety of tactical changes, most notably the reliance on excess firepower. Most crucially, Gibson argues, it required a reversal of the relationship between infantry troops and their supporting units. Multiple accounts of the fighting in Vietnam highlight a mode of fighting in which artillery and air support did not play a supporting role to infantry forces, but rather the opposite. The objective of tactical and technical decisions was to place the aerial and artillery firepower in the best dispositions, achieving a concentration of force through massed fire. In his highly critical account of the American "production model of war" (Gibson 2000, 26) which placed the systematic production of enemy casualties at the centre of its strategy, Gibson argues that the American command disregarded casualties and losses of their own troops in the pursuit of enemy deaths. Therefore, achieving maximal firepower at all costs became the objective, with ground troops acting as reconnaissance forces supplying information to artillery and air forces (Gibson 2000, 112). The ability to fix and locate the enemy in an area where they could be destroyed by massed firepower became a central tactic of American counter-guerrilla warfare. Paradoxically, therefore, Gibson (2000, 196) argues, the prioritisation of remote firepower as the key element of strategic and tactical thinking induced a disregard for the safety of ground troops, putting infantry in harm's way if necessary to achieve a concentration of firepower.

In Gibson's account, the American military sought to create an asymmetrical situation, where its key assets – high-technology weapons systems – were placed in

the best possible conditions and largely shielded from harm, using its lower-value assets – infantry troops – to maximise the effectiveness of its remote firepower.[126] The surrogate relationship in South Vietnam, in Gibson's account, was therefore reversed: rather than seeking to employ technological means to preserve the lives of infantry troops, Gibson argues that commanders used ground troops as surrogates to complement and preserve its most valuable technological assets, and maximise their efficiency in the pursuit of enemy casualties. Gibson (2000, 196–98) even alleges that commanders would accept the perpetration of friendly fire in order to maximise the efficacy of their technological means of concentrating maximal destructive power. The strategic logic of seeking the crossover point therefore both conditioned the choice of tactics by creating structural incentives for the pursuit of enemy casualties at all costs (Gibson 2000, 102–3) and was produced by the belief that a technological superiority in firepower, demonstrated through the repetition of successful tactical engagements in which maximal firepower could be brought to bear (Gibson 2000, 103), would amount to a strategic victory.

The heavy human cost for Americans of this strategy of attrition at all costs, it can be argued, paved the way to a conception of a high-technological form of remote and surrogate warfare which sought to combine the destructive effect of massed firepower with the protection of human troops. In Dickson's (1977, 85) account of the electronic battlefield project, it is indeed the heavy human cost of pursuing attrition warfare in South Vietnam at the expense of infantry soldiers which spurred interest in weapons systems which would reduce the need for ground troops. Gibson's argument here is understandably controversial, and need not be adopted at face value: among others, he relies overwhelmingly on the memoirs of soldiers engaged in the field – as opposed to official documents and commanders' accounts – and seeks to account for actual practices of warfare rather than doctrinal principles. His concern lies in exposing the structural dynamics of 'Technowar' which conditioned the practice of warfare in South Vietnam, its systematic production of excess death as part of a perversion of attrition as a strategic objective into a frenetic pursuit of killing for its own sake, and not so much in the analysis of deliberate strategic and tactical

[126] I am here following Gibson (2000, 213), who is highly critical of the U.S. Army's disdain for the protection of its ground troops, and argues that the "labor revolt" of infantry troops in 1969 – manifested by deliberate self-injuries, deliberate avoidance of dangerous missions, and "fragging" of reckless officers – was due to this disregard by officers for the health and life of their soldiers.

calculations. Nevertheless, entertaining his argument about the displacement of the weight of the effort away from infantry troops to the production of excess firepower highlights a fundamental limitation of the concept of surrogate warfare. The relationship between technological means of remote firepower and human means of war is not a simple, monodirectional relationship of substitution of human means by remote machinic surrogates, but a complex interplay depending on tactical, strategic, and normative contexts. To focus, as Krieg and Rickli do, on armed drones as new types of surrogates ignores this complex web, and is blind to how the creation of asymmetric situations through tactical and strategic decisions is far more complex than a simple substitution of means of one type of means of war by another.

Relying on their overwhelming superiority in technological weapons systems, American forces in South Vietnam rarely lacked firepower; rather, in General William Westmoreland's (1977, 217) words, "we found ourselves with an abundance of firepower and mobility. But we were limited in our ability to locate the enemy. We were not quite a giant without eyes, but that allusion had some validity."[127] To enable the better use of this firepower, as mentioned above, Gibson (2000, 110–12) argues that American infantry troops would sometimes be used to locate and fix the enemy, even sometimes as bait to detect enemy ambushes. The resulting high casualties provided a "good reason that the appeal of a new technological form of war that was far less dependent on men should be great at this moment in history" (Dickson 1977, 85). Americans therefore turned to technology to solve the problem of sensing enemy presence remotely, replacing what could be considered human troops acting as mechanistic surrogates for the application of technological firepower by technological sensors. This attempt at remote sensing demonstrates the presence of another key element of remote warfare, one in which once again the antecedents of contemporary remote warfare can be located in Vietnam War practices, namely the combination of advanced technology with tactical innovations to enable the application of concentrated firepower at a distance.

As sensing the presence and location of enemy targets is crucial to the ability to destroy them (Bousquet 2018), the development of remote sensing is necessarily intertwined with the employment of tactics which prioritise the concentration of

[127] Westmoreland commanded the Military Assistance Command for Vietnam (MACV) – in effect, all American forces in South Vietnam until 1968; at the time of the address quoted here, in October 1969, he was Chief of Staff for the U.S. Army.

firepower discussed above. As Gibson (2000, 121) notes, "the concept of producing mass enemy deaths through high-technology, capital-intensive weapons assumed an empty, transparent kind of battlefield." To turn the war into a mechanistic contest of massed firepower – which they would necessarily win at every turn – Americans needed to forestall the enemy's attempts to remain undetectable. The solutions to this problem came in two types. The first was to quite literally make the environment in which the enemy hid irrelevant, or to wage war 'through' the environment rather than 'in' an environment (I. G. R. Shaw 2016b, 694). This was done among others through the extensive use of chemical defoliants and flammable weapons to destroy the jungle, as "a way of reorganizing nature to meet [Technowar's] needs," as well as through the reconfiguration of human environments through the CORDS and Strategic Hamlet Programs (Gibson 2000, 123; see also Carvin and Williams 2015, 107) Eliminating the jungle enabled the form of airborne reconnaissance American forces privileged, either through helicopters (Gibson 2000, 124) or forward aerial controllers (D. Gregory 2013, 51), thereby reducing the need to expose ground troops.

The second consisted in the introduction of new remote sensing technologies and the adaptation of tactics to exploit these new means. The imprecision of such remote sensing went hand in hand with the tactical assumption that recourse to excess firepower would serve as standard operating procedure in all situations. The availability and willingness to use saturation bombing did not require particularly precise intelligence about enemy presence. American troops routinely used sensors to stage ambushes for enemy troops, in which remote sensing would be combined with heavy artillery and air support to produce high body counts (Dickson 1977, 57–67). In these cases, despite the presence of troops on the ground, engaged in combat, forms of remote sensing were nevertheless employed to enable the detection of enemy presence at a distance, and to create a heavily asymmetrical situation, in which the enemy could be killed without ever coming in close contact with the defending American troops.

Cockburn (2016) argues that it is possible to draw a direct line between the development of remote sensing and of a concept of the "networked sensor-shooter system" (D. Gregory 2013, 44) which forms the backbone of contemporary drone warfare. Indeed, the point has been made repeatedly, drawing especially upon General Westmoreland's 1969 address quoted above. In this speech, reflecting on the conduct

of the war in South Vietnam which he until recently commanded, Westmoreland sought to predict the future of increasingly technological forms of warfare: "In the future, however, fixing the enemy will become a problem in time rather than space. More specifically, if one knows continually the location of his enemy and has the capability to mass fires instantly, he need not necessarily fix the enemy in one location with forces on the ground" (Westmoreland 1977, 220). In Westmoreland's account, remote warfare is not foreign in kind to experiences of warfare which precede the fall of the Soviet Union, the War on Terror, and the employment of armed drones; rather, it grows out of "a quiet revolution in ground warfare – tactics, techniques, and technology" (Westmoreland 1977, 217).

Remote Decision-Making

The use of military force to accomplish an essentially political objective in Vietnam – the containment of Communism – entailed a significant degree of centralisation of decision-making in the hands of political leaders, which would subsequently form the basis of numerous critiques of the American war in Vietnam in military circles. In seeking to calibrate the strategic bombing of North Vietnam carefully to achieve a political objective, two successive American administrations – those of Lyndon B. Johnson and Richard Nixon – placed political communication at the forefront of their strategic decision-making, seeking to coordinate the use of bombing with diplomatic negotiations with North Vietnam, the USSR, and China. This required, in turn, tight political control over the conduct of the war.

Mark Clodfelter has sought to defend the level of political control over the conduct of bombing in Rolling Thunder, referring back to Clausewitz's notion of war as the continuation of policy by other means. Accordingly, he argues, the efficacy of strategic bombing can only be comprehended in its political dimension, and the centralisation of command under the Secretary of Defense and the President reflects the fact that the campaign of Rolling Thunder was as much of a political endeavour as a military one (Clodfelter 1989, xi–xii). Most crucially, Clodfelter argues that strategic bombing (like strategy in general) entails the balancing of positive goals (what one seeks to achieve) and negative goals (consequences which one seeks to avoid). In the case of the war in Vietnam before 1968, the negative goals stemming from the geopolitical situation – the need to avoid provoking Chinese or Soviet intervention – were rather strict, thereby entailing a high degree of political centralisation. For these

reasons, he argues, placing significant restraints on military action in Rolling Thunder was justified.

That being said, the level of micromanagement in the Rolling Thunder and Linebacker bombing campaigns was quite remarkable. In Rolling Thunder, the selection of targets was approved directly by President Johnson, under advice of Secretary of Defense Robert McNamara. Once a week, over lunch, McNamara would meet with military commanders, determine a list of targets to strike, then present it to the President for approval. The political leadership would go as far as to allocate numbers of bombing runs to targets, severely constraining the independence of theatre commanders (Clodfelter 1989, 85–87). This, in turn, led to unnecessary bombing missions being conducted in the pursuit of the numerical objectives set by the political commanders, on targets already damaged, in poor conditions, or with lightened bomb loads (Gibson 2000, 359–66). War leaders back in the United States would routinely involve themselves in minute operational decisions, despite being several thousand miles away from the fighting.

We can compare and contrast this situation with the use of armed drones during the War on Terror. On the first day of the invasion of Afghanistan, October 7, 2001, Generals Charles Wald and David Deptula, commanding the air forces over Afghanistan, were based in Qatar, monitoring the video feed from a Predator drone tracking a convoy in Kandahar. While they were debating whether to strike using bombs dropped from fighter planes, General Tommy Franks, commander of Central Command (and therefore of the whole invasion of Afghanistan) and based in Florida, personally ordered the Predator drone to fire, bypassing the air commanders (Cockburn 2016, 118–19). While, in this case, the order was given in real time to a drone crew based in the United States, rather than pre-approved on a weekly basis by the President's office, this seems to be a difference of degree rather than in kind: the tactical decision was nevertheless taken by an officer not directly involved in the direct operational command. In the same incident, following the Predator drone strike, a further strike was escalated to the Secretary of Defense and the President, in large part to ensure compliance with what Clodfelter would term the negative goal of avoiding unnecessary casualties (Cockburn 2016, 119–20). For targeted killings outside of the theatres of Iraq and Afghanistan, Barack Obama preferred to reserve the decision to himself, meeting with CIA and military leaders to give authorisations on strikes on so-

called "Terror Tuesdays," echoing McNamara's weekly luncheons (Shane 2015, 18–19).

This account of the strike by Cockburn, relying on Franks' memoirs, contains another crucial detail which further calls into question the suggestion that drone-led remote warfare induces a novel delocalisation of decision-making away from the battlefield. Franks – a battalion commander in the Vietnam war – tells of the "familiar rush of adrenaline" (Franks in Cockburn 2016, 118–19) felt while watching the Predator feed, "for the spectacle took him back to long-ago days watching battles from a helicopter in Vietnam" (Cockburn 2016, 119). As Gibson makes clear, the chasm between the perception of the fighting from the ground and by a commander watching from the air was a recurring feature of the war in South Vietnam. Relying on soldier accounts, he describes the succession of heliborne commanders trying to direct operations while remaining out of danger. The result was a cacophony of commands, as "battalion, brigade, division, and corps commanders hovering overhead demand[ed] that they be informed by radio on what was happening in a firefight below" (Gibson 2000, 106). The helicopter could bring commanders closer to the fighting, and allowed them to observe operations imperfectly in real time, although it also provided them with an illusion of understanding the action on the ground.[128]

The remoteness of decision-making may have taken a different form in the Vietnam War than in does now in drone-led warfare. However, to concentrate on drones removing commanders from the theatre of operations erases the long history of remote command in warfare, even when it comes to minute tactical decisions. Experiences of remote command shaped the conduct of warfare in Vietnam – Gibson suggests among others that extensive defoliation in South Vietnam was meant to allow for easier observation by heliborne commanders (Gibson 2000, 124) – and bear direct relevance to contemporary experiences of remote decision in drone warfare.

Conclusion

The case of the American war in Vietnam illuminates multiple forms of surrogacy and remoteness at all levels of the war. The proxy relationship between American political leadership and South Vietnamese ground troops represents merely

[128] Gibson (2000, 107–8), for instance, cites William Calley's memoirs, in which he describes being ordered by an airborne colonel to a point he could not see, the colonel having forgotten the presence of a hill in the ground soldiers' line of vision.

one aspect of the delegation of violence and the costs incurred. Even when allocating responsibilities between branches of the American forces, strategic and tactical decisions combined to find ways – sometimes highly idealistic – of achieving military and political objectives while minimising the costs in lives to American forces or increase effectiveness.[129] These decisions and calculations involved the development and adoption of specific weapons systems (sensors, area effect weapons, chemical defoliants, precision-guided munitions), particular tactics (the use of electronic jamming against North Vietnamese anti-air defences, area bombardment in South Vietnam, computerized calculation of expected drop zones along the Ho Chi Minh Trail), and strategic calculations.

The aerial War in Vietnam, therefore, demonstrates that surrogacy, risk-transfer, and remoteness in warfare should not be conceptualised as single relationships entailing the wholesale displacement of the war effort. Rather, they entail the constant and deliberate creation of situations and relationships which allow for the delegation and displacement of costs and efforts of warfare through innovation and adaptation in technology, techniques, tactical organisation and practices, and strategic decisions. Practices of risk-transfer take place in every aspect and every level of warfare, and are a normal part of strategic thought, guiding nearly every military decision. To conceptualise surrogate warfare as a new form of war, distinct from earlier warfare, in which drones play a new role as the surrogate *du jour* is therefore not only ahistorical, but also a-strategic, presenting surrogate warfare as separate from the strategic and tactical considerations that guide warfare. The use of drones to reduce the need for ground forces possesses a long legacy, and should not be conceptualised as a recent development and as a break with earlier practices of warfare – as Krieg and Rickli (2019, 85) suggest – but is in continuity with the use of technological means to reduce, transform, and transfer the burden of war. Finally, Gibson's argument about ground troops becoming part of a machinistic conception of war – in effect, becoming surrogates for a great mechanism aiming at maximal firepower – might not apply entirely outside of the Vietnam war, but nevertheless suggests that the relationships between human and technological capital, and between remote and immediate military

[129] Monetary costs were, on the contrary, exceedingly high. Mark Clodfelter (1989, 134) reports that Rolling Thunder required spending between 6,60$ and 9,60$ to inflict 1,00$ worth of damage to North Vietnam. Dickson states that the U.S. Senate's Electronic Battlefield Subcommittee's March 1, 1971 report calculated investments in "'new sensor surveillance equipment' and their associated munitions" at $3,25 billion (Dickson 1977, 131–32).

forces are much more complex, multidirectional, and multifaceted than commonly thought.

This chapter sought to trace historical antecedents to contemporary practices of warfare, and to suggest that arguments about the novelty of contemporary warfare are overstated and ignore previous practices of warfare, such as the crucial strategic, tactical, and technological developments which took care during the Vietnam war. As such, it also challenges notions of technological determinism, such as the suggestion that the presence of new weapons systems – notably the armed drone – suffice to transform concepts of warfare. Rather, harking back to the quotation by Westmoreland above, changes in practices and concepts of warfare ought to be traced in "tactics, techniques, and technology" (Westmoreland 1977, 217), among others. Tracing practices of surrogacy and remote warfare in the Vietnam War emphasises the extent to which contemporary practices of warfare can be traced back to innovations which took place in the "laboratory" of the Vietnam War (Gibson 2000, 80).

In closing this chapter, it is interesting to consider the perspectives of scholars which studied the character of war in Vietnam and their perspectives on future developments of warfare. As mentioned above, General Westmoreland (1977, 221), in 1969, already suggested the development of near automated "battlefields or combat areas that are under 24 hour real or near real time surveillance of all types," "on which we can destroy anything we locate through instant communications and the almost instantaneous application of highly lethal firepower." Paul Dickson (1977, 15–17), in 1977, argued similarly for a continuous trajectory of precision warfare beginning in the 1960s and extending into the future, raising the spectre of a potential devaluation of human life "because of [the] promise of easy, push-button killing" which would "have nothing to do with saving American lives but with cutting down the maximum number on the other side" (Dickson 1977, 197). Mark Clodfelter (1989, 203), meanwhile, in 1989, argued that "what [the rapid development of technologies enabling ever heavier bombing] has done, however, is to create a modern vision of air power that focuses on the lethality of its weaponry rather than on that weaponry's effectiveness as a political instrument." His answer is to call for a consideration of air power not merely as a means for more efficient killing, but as a means for the achievement of a strategic aim, in line with "Clausewitz's definition of war as 'a

continuation of political activity by other means' [which] provides the only true measure for evaluating air power's effectiveness" (Clodfelter 1989, xi).

The next two chapters move on to consider the contemporary use of drones and its conceptual underpinnings. For this endeavour, it was necessary to consider the relationship of contemporary warfare to earlier forms of aerial war, which the last three chapters have accomplished. It is evident that contemporary drone-led warfare draws on several forms of surrogacy and remoteness discussed here. Yet, based on the discussions in this chapter, to deem armed drones 'remote' or 'surrogate' unproblematically would lead to a flattening of the conceptual landscape, and to intellectual impoverished analysis. Remoteness and surrogacy in warfare cannot be conceived as single categories, but must rather be considered as describing multiple intertwined relationships, combining strategic objectives, tactical adaptations, and technological innovations. The next two chapters, therefore, build on this genealogical excavation of antecedents to contemporary warfare and on the prognoses mentioned in the previous paragraph, and address the employment of armed drones in the War on Terror, building on the legacies exposed in the last three chapters.

Chapter 8 – Drones in Counterterrorism and Counterinsurgency

Following the attacks of September 11, 2001, a sea-change took place in American counterterrorism, with the United States unambiguously embracing a doctrine of militarized defense against violent non-state actors and terrorist groups. While, as Markus Gunneflo (2016, 109), argues, the crucial elements of the legal and political doctrine of anticipatory military counterterrorism were already well developed since their inception in the 1980s the decision to engage in systematic, large-scale militarised counterterror abroad became actual in the aftermath of the 2001 terrorist attacks, as the CIA dropped its reticence to targeted killing (Fuller 2017, 146). Within a decade, the CIA would come to see targeted killings outside of declared war zones as "the only game in town" in confronting al-Qaeda and other terrorist groups (CNN Politics 2009). Joint Special Operations Command (JSOC), meanwhile, had developed expertise in targeted operations and target-hunting since the 1980s, notably contributing to the War on Drugs, the capture of Manuel Noriega in 1989, and the pursuit of Scud missile launchers in the Gulf War (Naylor 2016). Following the 2001 attacks, JSOC would increase dramatically in size, capabilities, and responsibilities as it became a – if not *the* – main actor of the War on Terror as well as a model for the U.S. military more broadly (Niva 2013; Naylor 2016). Finally, at the turn of the century, U.S. Air Force units were experimenting with arming Predator drones which had been employed sporadically for reconnaissance in NATO operations in ex-Yugoslavia (Whittle 2015, 82; 107–8; 128–42; C. Lee 2019, 16). By October 7, 2001, when the first drone-launched missile was fired in Afghanistan (Cockburn 2016, 118–19), significant technical, political, and legal developments made possible the soon-expanding role of armed drones in combat.

Armed drones – mainly MQ-1 Predators and MQ-9 Reapers – have been employed by the U.S. Air Force, the CIA, and JSOC in a number of different settings throughout the Global War on Terror, namely multiple operations in Afghanistan, cross-border strikes into Pakistan, mainly in the Federally Administered Tribal Areas (D. Gregory 2017), the initial invasion of Iraq and its subsequent counterinsurgency phases, and a number of other theatres around the world, notably Yemen.[130] In many of these, drones supported or combined with ground troops engaged in combat

[130] The UK Royal Air Force has also employed armed drones in Iraq and Afghanistan.

operations, providing intelligence, surveillance, and close air support. As Chris Woods (2015, 4) notes, the large majority of strikes have taken place in Afghanistan and Iraq, though scholarly attention has been focused on the legal and political tensions raised by out-of-theatre strikes.

Very quickly, the Global War on Terror found itself predominantly localised in the two theatres of Afghanistan and Iraq, with a number of peripheral campaigns in Pakistan, Syria, Yemen, and Somalia, among others. In both Iraq and Afghanistan, from early 2007 until the later part of the second Obama Administration's term, drone strikes took place in what can be described as broader counterinsurgency (COIN) strategies.[131] Chris Fuller (2017, 9–10) has distinguished three separate drone campaigns: the first was led by the Air Force in the theatres of Afghanistan and Iraq, in combination with regular operations;[132] the second was waged by JSOC and consisted in attacks against designated terrorists and insurgents in Afghanistan and Iraq, but also in Yemen and Somalia; the final one, under control of the CIA, was concentrated in Pakistan.[133] Chris Woods (2015, 19–20) echoes this distinction, though he also emphasizes the fluidity between the campaigns, Air Force Special Operations Command (AFSOC, detached to JSOC) absorbing regular units, AFSOC drones tracking targets in Pakistan on behalf of the CIA, and the CIA taking over certain JSOC/AFSOC missions in Yemen (Shane 2015, 285–90).[134] Where many scholars seek to separate drone operations that occur in Iraq and Afghanistan from the targeted killings occurring outside these countries (Chamayou 2013; Gunneflo 2016; Gusterson 2017), I adopt the opposite approach here, considering armed drones within the broad context of the Global War on Terror, with particular reference to the two main theatres of operations, Afghanistan and Iraq.

I do that for two main reasons: the first is that to equate drone use only with targeted killings outside of areas of declared hostilities introduces a confusion between

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[131] The moniker COIN was adopted to designate a purported new generation of counterinsurgency thinking in the American military, centered around the Army and Marine Corps' 2006 *Field Manual on Counterinsurgency*.

[132] Air Force armed drones have also been employed in Syria and Libya, as part of regular and covert aerial operations.

[133] It is unclear what will become of these three campaigns as the United States withdraw from Afghanistan, and as Congress debates whether to repel or modify the two Authorizations on the Use of Military Force. The likely outcome is that the Air Force and JSOC campaigns will end, while the CIA campaign may continue (Cooper, Schmitt, and Gibbons-Neff 2021; Cohen, Bertrand, and Bo Williams 2021).

[134] Woods (2015, 16–17) further quotes former sensor operator Brandon Bryant stating that all armed drones – including the CIA ones – are operated by U.S. Air Force personnel.

novelty in weapons systems (drones), legal-political geographies (the 'Global' war on terror), and a type of operations (targeted killings). While these elements are often closely linked, they are by no means always so: targeted killings in Pakistan have been conducted by ground commandos (such as the killings of Osama bin Laden and Abu Bakr al-Baghdadi) as well as by conventional aircraft (such as the killing of Abu Musab al-Zarqawi), and the United States has conducted targeted killings with armed drones in countries where they have engaged ground troops (such as the killing of Qassem Soleimani in Iraq in 2020). To equate these three elements leads to a confusion of explanatory mechanisms, and construes as identical elements which possess distinct existences. Equating drone strikes and targeted killings, furthermore, erases the principal type of operations conducted by armed drones, namely strikes in combination with other ground or aerial forces. The second reason is, as I argue in this chapter, that the counterterrorism operations outside Iraq and Afghanistan between 2007 and 2011 – the era during which the United States adopted explicit counterinsurgency strategies – should largely be viewed in relation to the counterinsurgency operations taking place inside these countries. Therefore, it is necessary to both consider how extraterritorial drone strikes and surveillance interact with the strategic project of COIN, and how the commitment to territory-based COIN fuels the expanding violent geographies which take drone violence to further lands and territories. I approach the study of military drones in the Global War on Terror with a view to its globality, as a whole. The importance of armed drones within these multiple types and areas of operation varies, with drones sometimes taking a leading role, sometimes a supporting one. Throughout, however, drone employment is part of broader strategic and political situations and must be appraised in light of these strategic roles (see also Hazelton 2017a).

I accomplish this with a focus on a specific period of the Global War on Terror – roughly from 2007 to 2011, bookended by the Iraqi "Surge" and the appointment of David Petraeus in Iraq, and the end of his Afghan tour of duty and of the "Surge" in Afghanistan. This period is one in which the United States adopted an explicitly COIN strategy, and also one during which drone activity increased dramatically. During these years, drone strikes went from being fairly episodical to becoming a central plank of American warfare. 2008-2011 saw a sharp increase of numbers of strikes in Pakistan, while 2010 saw the return of drone strikes to Yemen (Zenko 2017). Shortly

before, in 2006, JSOC troops in Afghanistan furthermore turned their attention from an exclusive focus on Al-Qaeda to combating the Taliban insurgency, an effort which intensified in 2009 as the threshold for targeting was lowered (Naylor 2016, chap. 25).

This is not to say that during this period, all drone activity was related to a COIN framework. Several strikes occurred within a framework of global counterterrorism, without being justified in relation to Afghanistan or Iraq state-building. The killing of Osama Bin Laden in 2011 (by SEAL Team 6 commandos under CIA command), for instance, owed more to a logic of counterterrorism – eliminating direct menaces to the American homeland. The same can be said of the killing of Anwar al-Awlaki in Yemen the same year, which was justified with reference to his involvement in multiple terrorist plots against the United States and his advocacy of such attacks (Shane 2015). Arguably, COIN itself was the product of a logic of global counterterrorism, a relation which I detail below. Barack Obama's 2013 speech at the National Defense University provides a salient illustration of this bifurcated logic.[135] In the space of a few paragraphs, Obama argues that "these [drone] strikes have saved lives" by disrupting attacks on the United States, the West, and "our troops in Afghanistan." Immediately after, he notes that "by the end of 2014, we will no longer have the same need for force protection, and the progress we've made against core al Qaeda will reduce the need for unmanned strikes" (Obama 2013b). While Obama seeks to tie drone strikes to the direct protection of the United States against terrorist attacks, he nevertheless acknowledges that a large number – in fact, most – of these strikes are driven by the presence of troops in Afghanistan and the need to reinforce security there. Counterterror strikes in Pakistan and elsewhere, meant to reduce risks of violence in Afghanistan, therefore, are in large part a spillover of the territory-based COIN taking place in Afghanistan (D. Gregory 2013, 58), and the project of COIN fuels cycles of external counterterror violence.

The previous five chapters have established crucial elements of the genealogy and conceptual underpinnings of armed drones in aerial warfare. These five chapters all addressed the role of aerial warfare in the contexts the conduct of war as a whole and contribute crucial elements to this chapter's discussion of the strategic role of armed drones. Chapter 3, on debates surrounding the changing character of war, noted

[135] By then, the United States was transitioning away from a COIN logic, as the drawback of troops took place. Obama envisioned a complete withdrawal from Afghanistan by 2014, though the United States and NATO ended up maintaining a troop presence until 2021.

the resurgence of thinking on small war, irregular warfare, and people's war, as well as continued debates about relations of means and ends, combat, tactics, strategy, and politics. Chapter 4, on surrogate, remote, and asymmetric warfare discussed the potential tensions between force protection and strategic aims, as well as the place of remote tactics in warfare. Chapter 5, on doctrines of strategic aerial bombardment, questioned the ability of air power to achieve desired effects and highlighted the need to reconcile aerial warfare to strategic views of war. This need to consider strategies, anticipated effects, and actual consequences of aerial bombing is particularly salient when considering targeting killings: against a number of studies of targeted killings against terrorist groups which assume decapitation and collapse to be the aim of such campaigns (see Carvin 2012; Jordan 2009; Rigterink 2021a), Jack McDonald (2019, 53) has noted that similar tactics can serve a large number of strategic aims, and that any evaluation of the effectiveness of such targeted killings requires assuming or understanding the strategy pursued. Chapter 6, on remote nuclear warfare, raised the question of calibration of remote violence, how objectives can be achieved while limiting the levels of force employed, and escalation control.[136] Finally, chapter 7 addressed directly the relation of aerial force to ground warfare and the construction and manipulation of remoteness in warfare. If, as Thomas Hippler (2017, xv) suggests, "bombing is precisely designed as a substitute for occupation," how does aerial violence relate to the control of ground territory and activities on the ground (see also Weizman 2017)? And, in a context of counterinsurgency, what role can air power – and by extension armed drones – play in shaping the direction of war?

In the background to these discussions lies a certain notion of an American way of war founded on a strategy of annihilation through overwhelming physical and technological dominance, as suggested by Russell Weigley (1991, xxii; Carvin and Williams 2015, 69–72). How armed drones, and by extension contemporary counterinsurgency operations fit within this way of war is open for debate. Fred Kaplan (2014, 123) has suggested COIN represented "a *real* transformation in the

[136] As a direct parallel, one can note Colin Kahl's study of American efforts at casualty reduction. While the United States could attempt to reduce risks to Iraqi civilians, until the end of 2006 only approximately 10% of civilian casualties were caused by American forces or exchanges of fire in which they are involved (Kahl 2007, 12). The challenge, for the United States, was therefore to restrain escalation in levels of violence while controlling only one part of the dynamic of escalation. Christopher Daase (2007, 193) has suggested that "people's war" encourages the "escalation dominance of the weak," where the insurgent party can increase levels of violence as it sees fit to achieve a favourable strategic and tactical situation.

American way of war," while Carvin and Williams (2015), as well as Colin Kahl (2007), have suggested the presence of a well-established "annihilation-restraint paradox" requiring the justification of necessary violence. Even David Petraeus' *Field Manual on Counterinsurgency* (2006, 1–144) acknowledges that "in many ways, the conduct of COIN is counterintuitive to the traditional U.S. view of war."[137] The use of armed drones, thus, embeds itself in the tensions and contestations of this broad way of war, the component-specific sub-cultures of remote, aerial, and irregular warfare (Walker 2018; Laslie 2016), and broader transformations in the purpose of violence and warfare. If the 2003 Invasion of Iraq was seen as a validation of the transformations of the Revolution in Military Affairs and the Army doctrine of the AirLand Battle (F. Kaplan 2014, 58), its failure to end violence in Iraq can be taken either as an indication of the failure of a military culture founded on high-tempo, large-scale technological warfare, or of a validation of the Weinberger-Powell doctrine that the United States should not engage in actions not suited to this culture (Strachan 2008, 2–5; Luttwak 1995, 112; Freedman 2006, 43), at least not without intense efforts to sustain a long-term commitment (Petraeus and Amos 2006, 1–136; Kilcullen 2006, 121–24). Armed drones, therefore, represent both a "metonymy" (Férey 2020, 89; also "synecdoche" in Niva 2013, 199) for the broader contestations of the Global War on Terror and its place in American military culture, and a constituent part of this form of warfare.

This chapter addresses the role of armed drones in three fundamental aspects of the Global War on Terror. First, I examine the relation between tactics and strategy in the employment of drones, and whether the increasing recourse to armed drones is a cause (or a symptom) of a replacement of strategic direction with tactical operations in the conduct of the War on Terror. Second, I address the relation between COIN and counterterrorism campaigns, and how armed drones contribute to each of them. Furthermore, I argue that COIN requires a significant counterterror component, and therefore that the counterterrorist use of drone strikes should be appraised in its contribution to the security-building project of counterinsurgency. Finally, I examine

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[137] Petraeus does, however, acknowledge that the U.S. military has long been engaged in irregular operations, though he argues these have not been a focus of Army doctrine.

While the *Field Manual* was issued jointly as FM 3-24 of the U.S. Army and as Marine Corps Warfighting Publication (MCWP) 3-33.5, its redaction took place under the direction of David Petraeus, then commander of the U.S. Army Combined Arms Center. In the text, I therefore refer to Petraeus as the author, though the *Manual* formally bears joint authorship. The citations refer to paragraph numbers provided in the publication. On the redaction process of the *Manual*, see F. Kaplan 2014.

the thorny problem of defining the end-state of the campaigns of the War on Terror and the place of armed drones in the end or non-end of the "Forever War" (Filkins 2009). At the time of this writing, the Biden administration has completed the withdrawal of American troops from Afghanistan but left open the possibility of further discretionary strikes, suggesting that when the troops come home, the drones may not follow (Cooper, Schmitt, and Gibbons-Neff 2021; Savage 2021), which would suggest the need for an alternate strategic vision for the employment of armed drones.[138]

Tactical Drone Strikes, Strategic Drones?

There is little doubt that drones armed with precision-guided munitions can be very effective at eliminating specific targets. Drones' loitering capabilities, as well as their multiple surveillance capabilities provide them with distinct advantages which, in given situations, enable them to achieve tactical successes such as the elimination of specific individuals or the tracking of enemy targets (see Grieco and Hutto 2021). Nevertheless, the ability of drones to influence a given strategic situation in a positive manner is more in doubt. As mentioned in chapter 5, the popular doctrine of effects-based operations stipulates that actions should be appraised by their ability to produce effects which lead to the desired end state. As also mentioned in the same chapter, a significant weakness of air power lies not in its ability to produce effects, but of controlling and directing these effects without presence on the ground. Thus, while armed drones may be highly effective at producing *tactical* effects, there is considerable debate regarding their ability to achieve strategic gains (Grieco and Hutto 2021; Page and Williams 2021; Cronin 2013; McDonald 2019; Hazelton 2017a). In other words, there is a danger that the technical and tactical advantages of armed drones may blind their users to a lack of strategic direction, or that a succession of unrelated tactical actions takes the place of a directed strategic vision. As Amélie Férey has further argued, a significant legitimating discourse of targeted killings (in particular) consists in highlighting their efficacy in reducing terrorist (or insurgent) violence. For Férey (2020, 178; 190), such evaluation of targeted killing efficacy must necessarily be contextual rather than abstract; however, she further argues that targeted

[138] As of late July 2021, the United States has engaged in intensive close air support and interdiction strikes against Taliban positions in support of Afghan troops, possibly involving drones (Nossiter and Schmitt 2021; Paton Walsh, Lister, and Starr 2021; Beech 2021).

killings in themselves tend to constitute a tactically convenient fix which allows politicians to avoid formulating a complex and holistic counterterrorist strategy. The tactical and strategic evaluation of targeted killings – and of drone employment more broadly – requires therefore an analysis both of the objectives for which they are employed, and of their role within a broader combined strategic plan.

In a classical account of Clausewitzian strategy, tactics represent the organization of forces for the purpose of winning an engagement, while strategy represents the exploitation of these engagements for the purpose of winning the war (Clausewitz 1984, 128). In Daase's (2007, 186) schematic equation (see chapter 3), military forces (the means) achieve specific tactical objectives (the goals) to further a strategic purpose (the end). Tactical victories, therefore, should not undermine the strategic direction of the campaign; to borrow the language of effects-based operations, the effects achieved by any given military action should be directed towards the overall strategic end-states sought for the enemy and oneself (Warden III 1995, 42–43; 2015, 94). In Petraeus' *Field Manual* (2006, 1–156), he further emphasizes that tactics must be tied not only to the intervening party's strategic goals, but to the political objectives of the host nation's government. Given that "any use of force generates a series of reactions," tactical actions must take stock of these future reactions and must be calibrated to shape these expected effects (Petraeus and Amos 2006, 1–141). When it comes to drone strikes in the War on Terror, therefore, the questions raised are twofold: first, does the employment of armed drones (particularly outside of Iraq and Afghanistan) consist in a series of tactical actions in the service of a broader strategy, or is the repeated employment of drone strikes a substitute for strategy? Second, does the use of armed drones produce the desired effects, and does it avoid effects which should be avoided?

Audrey Kurth Cronin (2014, 186) answers the first question in the negative: "Drones and related technology are necessarily tactical, not strategic." In her view, it is a failure of American military policy that drone strikes have been defined tactically – whether they are proportionate, legitimate, and effective with regard to limited objectives – without attention to how these strikes affect the broader context of war. As a result of an excessive focus on the tactical use of drone strikes, leaders may "lose perspective as to the strategic purpose of the war" and of drone strikes alike (Cronin 2014, 185). By focusing on the tactical advantages of drones, Cronin (2013, 48)

argues, any strike can be rendered possible, legitimate, and even beneficial in itself, leading to a lack of guidance over the purpose of violence. A major problem of this approach, which Cronin argues has been that of the U.S. military, is that it tends to treat each act of force as a discrete event, rather than paying attention to the broader context of cumulative effects. This tendency to treat drone strikes as individual acts of force is manifest in two key areas of research on the effects of drone strikes, namely certain segments of Just War Theory thinking and quantitative studies of the effectiveness of targeted killing.

On the first, Daniel Brunstetter and Megan Braun have proposed the concept of *jus ad vim* – the just use of limited force – and suggested that it applies to drone strikes outside of combat areas (Brunstetter and Braun 2013; Braun and Brunstetter 2013). Among the criteria for these strikes – which they argue must conform to stringent versions of traditional *jus ad bellum* and *jus in bello* criteria – they identify assessing the likelihood of escalation of force resulting from this strike (Brunstetter and Braun 2013, 97–100).[139] Such thinking, however, ascribes a discrete strategic impact to each individual strike, without considering the broader context of sustained drone strikes. As Derek Gregory (2011a, 241) notes, "representing each drone strike as a separate act of self-defence obscures the systematic and cumulative nature of the campaign." In effect, treating each act of limited force as self-enclosed, and evaluating it narrowly on its perspectives of success at achieving a specific objective amounts to a de-strategisation of drone targeted killing. While Braun and Brunstetter's framework does suggest a need to consider potential escalatory effects, their emphasis on the military advantage and proportionality requirements of individual strikes fails to capture the fact that CIA drone strikes are part of a broad *campaign*, where both benefits and damages entailed by drone strikes are cumulative (Braun and Brunstetter 2013, 318).[140]

[139] Brunstetter has since expanded his theory of just limited force into *jus ad vim*, *in vi*, *post vim*, to mirror the *ad bellum*, *in bello*, *post bellum* periodization of conventional just war theory (Brunstetter 2021).

[140] As a side note, given the clear integration of CIA-led targeted killings in Pakistan in the broader War on Terror, Braun and Brunstetter's assertion that "the threat that justifies the use of limited force is less grave than the threat in war, meaning that the military advantage of neutralizing that threat is smaller" is plainly incorrect in this context (Braun and Brunstetter 2013, 318). *Jus ad vim* may be appropriate in certain situations; it is clearly misguided in its application to the use of armed drones outside of 'hot' battlefields, which Braun and Brunstetter use as their main case study.

Quantitative studies of targeted killing and decapitation similarly tend to decontextualize drone strikes. Jenna Jordan's (2009) study of decapitation and group collapse, for instance, examines whether a group collapses within the two years following a strike on leadership, and concludes that decapitation fails to achieve these results. As McDonald (2019, 53) has argued, however, the fact that "the arrest or killing of a leader" (Jordan 2009, 733) is achieved does not mean that the counterterrorist strategy was one of decapitation.[141] Furthermore, to focus on the basic fact of a "decapitation" strike decontextualizes that event from broader dynamics and strategies and suggests that each strike constitutes a self-enclosed event. While Bryan C. Price's (2019, 184) recent book adopts a longer perspective and concentrates on top leaders (unlike Jordan), he nevertheless adopts a rather astrategic perspective of decapitation, only acknowledging tentatively in the conclusion that "decapitation does not occur in a vacuum" and that other factors are at play. Anouk Rigterink's (2021a) study, meanwhile, though it is commendable in its emphasis on unintended and indirect consequences, arguing that decapitation strikes lead to flare-ups of more indiscriminate violence, nevertheless treats each strike as an isolated event without attention to cumulative effects.

Contrary to these examples above, therefore, it is necessary to recentre drone use in its strategic context. Tactical, individual strikes matter to the extent they serve a broader strategy; such strategy ought, generally, to aim at more than the immediate effects of one strike. In November 2009, for instance, the National Security Council defined the military aspects of the "new implementation guidance for Afghanistan" as: 1) "Reversing the Taliban's momentum"; 2) "Denying the Taliban access to and control of key population and production centers and lines of communication"; 3) "Disrupting the Taliban in areas outside the secure area and preventing al Qaeda from gaining sanctuary in Afghanistan"; 4) "Degrading the Taliban to levels manageable by the Afghan National Security Force (ANSF)"; 5) building up the ANSF to prepare for a transfer of responsibility; 6) "selectively building" the security capacities of the Afghan government (Woodward 2010, 386). The second question raised above – whether drone strikes can produce the right effects and avoid detrimental ones – becomes therefore crucial to the strategic consideration of armed drone use.

[141] Jordan does not limit herself to drone-led targeted killings, and includes historical cases of decapitation such as the Baader-Meinhof Gang, ETA, FARC, etc.

Significant attention, therefore, has been devoted to the problem of perceived "blowback," namely that drone strikes may cause broader negative effects which increase support for terrorists or insurgents. In a classic statement of the problem, David Kilcullen and Andrew Exum (2009) – both influential advisors to American commanders in Afghanistan – argue that drones perpetuate a "siege" mentality, and that casualties cause larger numbers of aggrieved family members to turn into militants, in addition to focalizing anger on the drones rather than on local insurgent violence. Similarly, Rigterink (2021a) argues that decapitation strikes (in Pakistan) lead to temporary increases in levels of violence of a more indiscriminate character, a consequence she attributes to a loss of central control; for this reason, she argues that targeted killings are counterproductive and do not further the United States' strategic goals, though she quite overstates her case (Rigterink 2021b).[142] More broadly, Scott Shane's (2015, 269) in-depth study of Anwar al-Awlaki's radicalization journey suggests that his repeated brushes with American domestic counterterrorism and the awareness of drone strikes causing civilian casualties contributed significantly to his radicalization; in Yemen, a series of botched strikes raised support for al-Awlaki and hampered American efforts to find and target him. In a comprehensive study, however, Aqil Shah (2018) has rejected the 'blowback' theses: in his view, these arguments provide an overly simplistic and essentializing account of complex processes of radicalization, in which drone strikes play a minor role, not a central one. Thus, while drone strikes may cause significant negative effects on social structures, statements that drone strikes and civilian casualties directly fuel militant recruitment are overblown and misguided, beyond a few anecdotal examples.

The question of blowback is one case of potential negative strategic effects arising from tactical successes. A strategy to degrade, dismantle, and destroy al-Qaeda could not amount to a series of tactical successes if these tactical successes caused more unintended externalities than they caused positive effects. In Petraeus' (2006, 1–141) famous statement of the problem, "an operation that kills five insurgents is counterproductive if collateral damage leads to the recruitment of fifty more

[142] For one, her study demonstrates a temporary increase in attacks, attributable to a loss of centralized control, not a long term increase in violence levels. It is very possible that a cogent counterinsurgency (or counterterrorist) strategy would accept a temporary increase in violence in exchange for long-term degradation of terrorist capabilities. Indeed, that calculation was accepted by David Petraeus's "Surge" in Iraq (F. Kaplan 2014, 266). Similarly, she argues splintering groups may become more violent – they may also become less capable or less stable, a goal which may be sought by a counterterrorist strategy.

insurgents."[143] Drone strikes may have multiple unforeseen effects that can either harm or benefit the overall strategic mission.[144] Kilcullen and Exum (2009) thus argue that drone strikes undermine state support: as they state, if police responded to burglaries with bombings, the population would turn against the police, not against the burglars. Dan Byman and Amélie Férey, however, identify a contrary dynamic: Byman (2013, 38) argues that targeted killings, by hitting enemies of local states, strengthen the authority of the central power. Against the suggestion that blowback undermines states support, Byman thus suggests that targeted killings eliminate competing centres of power. Local actors recuperating American counterinsurgency power for their own ends is thus a feature, not a bug:[145] the key is for American actors to select leaders to support. Similarly, Férey argues that targeted killing constitute a tool strengthening the sovereign-based order rather than undermining it: while it is true that the United States' engagement in strikes in other states' territory may be construed as a violation of sovereign borders, Férey notes that the governments of both Yemen and Pakistan often invited these strikes (covertly, in the case of Pakistan), employing them for their own ends (Férey 2020, 217–18; Woods 2015, 156–57).[146]

The assertion by Cronin that drones are purely tactical in nature, therefore, might be somewhat misleading. Like any other weapons system, armed drones contribute to strategic dynamics beyond their immediate tactical impact. It is worth recalling Colin Gray's (2015, 167) admonition that "airpower has strategic effect, but it is not inherently strategic." Such "strategic effect is decided by the target, not by

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[143] Petraeus goes even further, in suggesting that an approach that focuses too much on "killing every insurgent" can in itself lead to resentment, emphasising that blowback can result from tactical successes, not only from collateral civilian casualties and destruction (Petraeus and Amos 2006, 1–128; Hastings 2013, 258–64). Michael Hastings reported Stanley McChrystal – Petraeus' predecessor – to have argued at a conference in Berlin that "Insurgents are Afghans. What is essential for success is not to kill the insurgents, because they are the Afghan people. If you kill the insurgency, you kill the Afghan people you came to protect, and there's nobody left to win over," before presenting the "insurgent math" according to which killing insurgents often led to further insurgent recruitment (Hastings 2013, 141).

[144] An example of such counterproductive effects can be seen in the American demolition and reconstruction of the village of Taroke Kalacha with the aim of making the village easier to secure. The new village, however, constructed in line with urban warfare principles, was uninhabitable, and was soon deserted. The construction of a tactically advantageous battlespace led to an undermining of the population-centric security this reconstruction purported to achieve (Belcher 2018).

[145] For instance, it is quite well established that the first CIA targeted killing in Pakistan in 2004 killed Nek Muhammad at the request of the Pakistani government, though Nek Muhammad was also implicated in support to al-Qaeda and Afghan Taliban fighters (Woods 2015, 103; Boyle 2020, 56–58).

[146] Yemen banned drone strikes for a long period between 2002 and 2009 due to discontent with the United States acknowledging its first strike in Yemeni territory (Shane 2015, 79; 203). In Pakistan, while strikes were coordinated for several years starting in 2004, the relationship between the United States and Pakistan broke down, though Pakistan also played a double game of inviting in private strikes it denounced in public (Woods 2015, 108–11; 225–33; Fuller 2017, 78–84; Boyle 2020, 56–60).

the attacking airpower," and it is equally incorrect to state that drone power is inherently tactical as to suggest that it is intrinsically strategic (Gray 2015, 168).[147] In contemporary counterinsurgency warfare, particularly warfare dominated by information dissemination, the very distinction between strategic and tactical actions may be breaking down. Lawrence Freedman (2006, 90), for instance, has argued that the potential for any civilian death or major destruction to be mediatised may lead to greater centralized control over individual actions, as potential strategic information effects must be managed.[148] Petraeus (2006, 1–157; F. Kaplan 2014, 143) goes even further in stating that "Soldiers and Marines at all levels […] often make decisions at the tactical level that have strategic consequences," arguing that all soldiers and officers should bear in mind the broader effects of their actions.[149] Against the tendency of Warden and others to carve out an operational level of war between strategy and tactics, Kilcullen (2006, 117) – a key adviser to Petraeus – argues that "modern communications compress the operational level of war, so that almost any tactical action can have immediate strategic impact."

Armed drones are embedded in this difficult, shifting, uncertain tactical and strategic environment. While it is excessive to perceive drones as immediately strategic weapons (as scholars focused on decapitation may), it is equally incorrect to divorce their impact from broader strategic considerations. Armed drones are part of wider efforts at achieving something approaching a Clausewitzian "unity of force," although COIN theory broadens the notion of unity of force to include economic, political, and social forces along military action (F. Kaplan 2014, 139; Petraeus 2010, 116). In this complex environment, armed drones should be appraised in their impact along these dynamics, as well as on how they may impact and mediate relational ties in occupied and overflown territories (see Edney-Browne 2020). To this extent, Kahl

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[147] Where Gray criticises the notion of "strategic airpower" as leading to a lack of attention to how strategic effect is achieved (as it is assumed to exist *a priori*), the same can be said about the suggestion of drones as astrategic: to suggest drones serve no strategic purpose may blind scholars to the strategic effects drones *do* produce which are not captured by their definition as tactical weapons.

[148] In chapter 7, I discuss Clodfelter's concept of negative goals, which tends to a similar argument: political control was necessary to ensure the management of potential effects of bombing on strategic-political goals. Also in chapter 7, I mention the requirement for political approval in the invasion of Afghanistan for sensitive targets, as well as a general ban on targeting mosques due to the potential negative perceptions.

[149] Charles Krulak (1999), Commandant of the Marine Corps, proposed the concept of the "strategic corporal" to capture this notion of low-ranking troops making decisions with strategic effects. Petraeus explicitly borrows the phrase, possibly in a nod to the joint responsibility for the *Field Manual* (Petraeus and Amos 2006, 1–157; Petraeus 2006, 9).

(2007, 37) is correct in noting that the "annihilation-restraint paradox" is not a self-interested, ethical restriction: the abandonment of tactical advantages and of force protection measures is justified by the strategic gains resulting from greater proximity with the population to protect.

Counterinsurgency and Counterterrorism

American military strategy in the War on Terror has been largely divided between a counterinsurgency approach and one devoted to counterterrorism (CT). In particular, the early stages of the Obama administration were the theatre of bitter divisions between the COIN approach defended among others by Obama's two first commanders in Afghanistan – Stanley McChrystal and David Petraeus – and the "CT-Plus" approach championed mainly by Vice-President Joe Biden (Hastings 2013, 53; 134; Woodward 2010, 102; 159–60). Prior to Obama, interviews with high-ranking military officials reveal that the pure CT mission in Afghanistan progressively morphed into a more substantial incipient COIN campaign, which Obama would somewhat reluctantly expand (Whitlock 2019; Hastings 2013, 131–36; 149–52). In Iraq, local instances of COIN-inspired approaches were common already early after the invasion, before being institutionalized by the time Petraeus took command in 2007 (F. Kaplan 2014). The counterterrorism approach – the one advocated by the Reagan Administration's National Security Decision Directive 138 – relies on the killing, capture, or neutralization of persons or entities planning or engaged in attacks against the United States (Fuller 2017; Gunneflo 2016). It adopts a largely preventive or preemptive logic (see Trenta 2018) seeking, in Obama's words, "to kill the people who are trying to kill us" (Shane 2015, 130). The text of the 2001 Authorization for the Use of Military Force (AUMF) arguably reflects a counterterrorist logic, authorizing the President to use force against the perpetrators of the September 11, 2001 attacks and those aiding or harboring them "in order to prevent any future acts of international terrorism against the United States by such nations, organizations or persons" (Joint Resolution, United States Congress 2001, sec. 2 (a)).

As mentioned above, COIN adopts a more holistic logic, one aiming at long-term stabilization and securing of areas which may enable terrorism and security threats (Petraeus and Amos 2006, 1–113; 1–115).[150] Following in a long tradition of

[150] This link between state failure and global terrorism is refuted by Aidan Hehir (2007), who argues that state failure does not increase the prevalence of terrorist threats. Nevertheless, whether

American foreign policy discourse emphasizing the global security risks inherent to "failing" states which can invite violence and danger (Rotberg 2007), COIN purports to combat terrorism against the United States (and the West) by addressing root causes of insecurity, rebuilding institutions, and creating durable security in collaboration with the local population (Page and Williams 2021). The objective, therefore, is to gain the assent and collaboration of the local population, leading them to recognize themselves as having a "stake" in the new project proposed (F. Kaplan 2014, 74; Petraeus and Amos 2006, 1–139). The COIN project revolves around the "people" as the centre of gravity, purportedly drawing on the experiences of David Galula in Algeria and Vietnam and the CORDS program in South Vietnam (F. Kaplan 2014). Mary Kaldor (2012, 103), meanwhile, would draw similarities between COIN and her concept of "new wars," which she argues draws equally on revolutionary warfare and "classic counter-insurgency" warfare in its focus on political control and cutting on the population off from the enemy; indeed, in her view, COIN strategy directly follows a 'new wars' approach (Kaldor 2012, vii; 175–78; Petraeus and Amos 2006, 1–55; 1–56).[151]

In such a population-centric strategy, where "the ultimate goal of the war was less to kill insurgents than to protect the civilian population"[152] (F. Kaplan 2014, 20), the role of armed drones may understandably seem rather limited (F. Kaplan 2014, 195). For good reason, McDonald (2019, 53–54) discusses the role of targeted killings as part of counterterrorism campaigns much more than COIN campaigns, and notes that studies of decapitation and targeted killing grew out of the field of terrorism studies, not of strategic or war studies. Yet, as he also notes, the fact remains that the same spaces and campaigns may be host to multiple types of operations, which coexist and build on each other: targeted killings justified under a logic of counterterrorism may neighbour operations meant to clear spaces for counterinsurgency, and even large conventional operations seeking the military defeat of the enemy (McDonald 2019,

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accurate or not, these links between state failure and terrorist threats, and between stabilisation, democratisation, and security serve to justify the recourse to COIN as a strategy of global counterterrorism.

[151] See chapter 3 on New Wars, particularly in relation to state failure. Both Kaldor and Petraeus would draw heavily on the experience of the conflict in Bosnia (where Petraeus was deployed) in elaborating their theoretical concepts (F. Kaplan 2014, 65).

[152] Kaplan is here paraphrasing Galula's argument, one echoed by Petraeus and COIN doctrine.

57).[153] It is therefore worth considering how COIN and CT coexist, and whether they can be reconciled within a common strategic frame. It is to this question I now turn, arguing that the "clear-hold-build" model of COIN (F. Kaplan 2014, 20) requires a strong CT component, to which armed drone strikes contribute significantly.

As McDonald makes clear, there is strong continuity between large conventional military operations, counterinsurgency operations, and targeted killings. This relation has been conceived, among others, as a "clear-hold-build" model (F. Kaplan 2014, 20), in which military force first removes insurgent presence from a space, before ensuring the security of that space against insurgent incursion, while building lasting security and political institutions. In that nominal first stage, there is no doubt that heavy firepower is involved, including air power. One may think of the battles for Falluja in Iraq in 2004 and 2006, or the 2009 offensive in Helmand under the command of Stanley McChrystal. In these operations, armed drones are tightly integrated with other forces, and may act in combination with ground troops, notably by providing visual oversight and surveillance (Read 2010, 143–44), firepower on specific 'nodal' targets (such as firing at Sheikh Mullah Omar in the opening salvo of the War in Afghanistan (Whittle 2015, 247–61) or close air support (such as in Operation Anaconda in 2002 (Whittle 2015, 294–98)).[154] The suggestion by Corum and Wray, however, that aerial firepower becomes all the more important as the war tends towards conventional warfare (Read 2010, 136), remains limiting in a counterinsurgency context. To be sure, the view of air power as ill-suited to COIN is a prevalent one. Air power is relegated to a five-page appendix in the Army's *Field Manual*, with airstrikes discussed for the whole of two paragraphs mostly emphasising potential negative effects (Petraeus and Amos 2006, E-5, E-6). Commanders, according the *Field Manual*, "should consider the use of air strikes carefully during

[153] In the 1990s, the Commandant of the U.S. Marine Corps, Charles Krulak, promoted the concept of the "three block war": the U.S. military needed to be prepared to wage large military operations on one block, peacekeeping operations on the next, and engage in humanitarian relief on the third (Krulak 1999). Krulak's concept, while contested, highlights the plurality of operations in condensed spaces; implied in his account is the need for these operations to combine in a broader strategic frame. James Mattis would later suggesting adding a fourth block, information operations, that would pervade the three others (Mattis and Hoffman 2005).

[154] While Whittle presents the role of the Predator drone as highly beneficial in Operation Anaconda, Cockburn (2016, 124–32) is on the contrary highly critical, arguing that the Predator and other remote sensing technologies provided remote commanders with an illusory sense of battle awareness. Naylor (2016, chap. 14) echoes this argument and notes that sensing technologies – including the Predator drone – failed to discern ambushing al-Qaeda forces, though he notes the Predator's role in launching a crucial close air support strike.

COIN operations, neither disregarding them outright nor employing them excessively," while a later paragraph specifically notes the potential for drone use "in the strike role against senior terrorist leaders" (Petraeus and Amos 2006, E-6; E-16).[155]

Nevertheless, the use of armed drones was not strictly relegated to the most conventional of operations, but involved in all aspects of the COIN campaigns. To view the clear-hold-build model as strictly sequential is to miss the iterative relationship between these three phases. The "clearing" of insurgents does not end when the "holding" begins; on the contrary, these three phases constantly interplay, as current holding of territory requires the continued "clearing" of insurgents in more or less contiguous spaces and, equally importantly, the definition of un-cleared zones from which insurgents must be eliminated. The holding of 'safe' areas requires the pursuit and elimination of threats outside of the secured areas, before these become immediately dangerous to secured zones. In other words, the holding of territory and building of security demanded by a COIN strategy requires constant tactical strikes by drones and special forces outside to remove immediate threats to security-building before they are allowed to menace the population-centric security being built. The result, therefore, is that existence of 'safe' zones in which aerial firepower might be unsuitable rests against a backdrop of unsafe zones ripe for aerial pursuit and warfare, including for surveillance and attack by armed drones. COIN relies on this "mosaic" of safe and unsafe territories (Petraeus and Amos 2006, 1–37) which "see[p] into and swir[l] around one another [into] not so much a patchwork of green and red zones as a thoroughly militarized landscape saturated in varying intensities of brown (khaki)" (D. Gregory 2011a, 239), with armed drones contributing to all aspects of this relationship: drones can surveil the safe territory against incursion (to "hold" it), police its borders, and engage in counterterrorism outside its borders, with a view to distinguishing areas of violence from areas of security. The resulting "archipelago," paradoxically, limits (aerial) firepower in certain zones by embracing constant excess firepower in others, determining concentrated zones not-yet-cleared or in-process of clearing through maximal firepower (Pomarède 2020, 214). In the extreme, these killing zones can concentrate into individuals deemed threatening, leading to targeted

[155] It should be noted that the *Field Manual* is a statement of doctrine for the U.S. Army and Marine Corps; the Air Force responded to the omission of air power with its own doctrine publication (United States Air Force 2007; 2019; Dunlap Jr. 2008b).

killing (McDonald 2017, 22–23), often – but not always – conducted by armed drones.[156]

As mentioned above, the main theatres of counterinsurgency – Iraq and Afghanistan – had monopolized approximately ¾ of all drone strikes by the end of 2013, with the large majority of these taking place in Afghanistan (Woods 2015, 4). As Woods explains, the employment of drones in Afghanistan was largely divided between conventional Air Force units part of the regular command structure and Air Force Special Operations Command (AFSOC), detached under JSOC command. While JSOC drones operated first in Iraq as surveillance and intelligence assets (Woods 2015, 76), drones in Afghanistan were primarily operating in conjunction with ground troops, either as pre-planned strikes or in close air support roles (Woods 2015, 148). In close air support roles, collateral damage could be heavy given the urgency of the situation and the lack of precise intelligence and planning; indeed, "troops in contact" allowed an exception to the strict targeting rules normally applied (Woods 2015, 243).[157] Woods further notes that JSOC possessed nearly free rein to act throughout Afghanistan, particularly outside of cities, carrying out targeted strikes without the assent of local Army commanders (Woods 2015, 221; Naylor 2016, chap. 25). JSOC, furthermore, would conduct its raids sharply on the 'annihilation' side of the "annihilation-restraint paradox," with approximately half of American-caused civilian casualties in Afghanistan up to 2010 attributable to JSOC (Woods 2015, 222). While AFSOC drones themselves fired infrequently on these missions, these killings can be attributed to drone activities, being the product of the network of which drones are an integral part (Woods 2015, 171). After 2010, Woods (2015, 221; 235; 252) argues JSOC evolved towards more frequent targeted killing missions, similar to the

[156] It is worth remembering that three of the arguably four highest leaders of Al-Qaeda and its associated groups were not killed by drones (though drones may have been involved in aspects of the operations). Osama Bin Laden and Abu Bakr al-Baghdadi were killed by ground commandos, while Abu Musab al-Zarqawi was killed by an F-16 strike, with multiple drones and surveillance aircraft providing overwatch. Only Anwar al-Awlaki was killed in a targeted strike by a drone.

[157] It is not an accident that two of the most discussed mass casualty events in Afghanistan in which drones were implicated involved troops in contact on the ground. One of the most infamous strikes in February 2010 resulted in a large number of civilian casualties as a Predator drone guided attack helicopters onto a convoy of civilians misidentified as a threat to nearby Special Forces (Chamayou 2015, 1–5; D. Gregory 2018; Cloud 2014; D. Gregory 2013, 62–63). In 2015, an AC-130 gunship fired repeatedly at a hospital in Kunduz, which was misidentified as an enemy stronghold while an overwatching drone failed to communicate adequately with ground troops (D. Gregory 2016; Craig, Ryan, and Gibbons-Neff 2015). In both cases, the perceived presence of a zone to secure – that occupied by Special Forces troops – justified the recourse to very heavy firepower against targets constructed as dangerous.

CIA's drone operations in Pakistan. Nevertheless, Woods notes, the employment of armed drones in both counterterrorism and intelligence roles in Afghanistan and Iraq remained highly integrated with ground assets, though sometimes in tension with the security-building efforts of the wider COIN strategy.

The reduction in casualties caused by JSOC counterterror strikes, however, may mask a more fundamental tension between counterterrorism and counterinsurgency, one which the recourse to drones could not smooth over. In a somewhat surprising twist, Stanley McChrystal, who as commander of JSOC (2003-2008) built up this "almost industrial-scale counterterrorism killing machine," (John Nagl in Niva 2013, 186) sought to rein it in when he became Afghanistan theatre commander and ISAF commander in 2009, becoming a driving force in demanding JSOC and conventional units alike reduce the rate of civilian casualties (Naylor 2016, chap. 25; Hastings 2013, 70). In a study of attitudes towards drone strikes in eastern Afghanistan (conducted in 2015, as the United States had transitioned largely to counterterrorist operations while Afghan forces, supported by ISAF sought to continue COIN-like strategies), James Page and John Williams (2021) note that drone strikes have particular effects causing an incompatibility between CT and COIN: if COIN aims to build security and legitimacy by enabling the local population to live regular lives, the ongoing potential disruption by drone strikes, compounded by the incapacity of air power to separate the population from insurgents is directly counterproductive. Ongoing drone strikes, therefore, may actively decrease the legitimacy of the central government if they are not tightly integrated into COIN operations which address other elements of security-building. Michael Boyle (2010, 353), meanwhile, maintains the hope that COIN and counterterrorism operations can work together rather than "offset" each other if force is limited and local initiatives take the place of national ones. At the opposite end, Charles Dunlap (2008a) and Jacqueline Hazelton (2012; 2017b) argue that the effects of drone strikes on central legitimacy are largely irrelevant: on the contrary, counterinsurgency requires heavy force and elite incentives to eliminate or break insurgent forces, and compel insurgent reintegration. Both camps agree on the presence of a major tension between population-centric COIN and enemy-centric counterterrorism, though they would argue for differing solutions. The United States forces under both McChrystal and Petraeus sought to resolve this tension, notably by insisting on more discriminate strikes while, for Petraeus, increasing the rate of air

attacks.[158] While the increase in armed drone employment was instrumental in this attempt to reconcile counterterror strikes and COIN by enabling more discrete strikes from 2009 onwards, this might mask a more fundamental tension between counterterror killing by JSOC and the security-building efforts of conventional forces (Woods 2015, 219). Under McChrystal and later Petraeus, such attention to reducing the second-order effects of strikes on security and legitimacy-building became a priority, as they embraced an overarching COIN strategy.

Two crucial conclusions can be drawn from the above. First, most of the aerial counterterrorism conducted by armed drones was, from 2007 to 2011, justified strategically in relation to the broader project of counterinsurgency. Within Iraq and Afghanistan, armed drones helped cover the space between the safe zones of the archipelago, constantly clearing spaces to prevent the insurgency from threatening the islands of security and providing surveillance in these aerial zones. Outside of Afghanistan into Pakistan, the extension of aerial violence into the "global borderlands" represents a similar extension of the security of 'held' zones into the "sanctuaries" outside, which must be sites of heavy violence in order to protect safe zones (see D. Gregory 2011a; 2017), recognizing the "distinct vulnerability for counterinsurgents" created by "border areas" (Petraeus and Amos 2006, 1–84; 1–99). In August to November 2010, for instance, a joint operation across the "AfPak" border combined to clear insurgents from Afghanistan, with CIA drones hunting them once they crossed into Pakistan (Woods 2015, 218). Aerial counterinsurgency, therefore, exists in relation to a ground presence, and not in the radical remoteness suggested by supporters of the radical asymmetry argument outlined in chapter 4 (Enemark 2013; Chamayou 2013). The suicide bombing of a CIA forward operating base in Khost in 2009 – explicitly framed as a retaliation to drone strikes in Pakistan – as well as the heavy reliance on local informants (and the resulting Taliban counter-terror campaign) are further testaments to the tight connection between ground-based and aerial forces (Woods 2015, 165–66; 270; 276).[159] Secondly, the argument by partisans of drone warfare that it allows for a reduction in levels of violence is largely misleading. Armed drones are part of a broader strategic machine which relies on the displacement of

[158] The tension between JSOC and conventional operations devolved all the way down to rules of engagement: JSOC operated under rules of engagement for Operation Enduring Freedom – war operations against al-Qaeda – while conventional troops operated under more restrictive ISAF rules (Naylor 2016, chap. 25).

[159] See chapter 9.

violence, a risk transfer from safe zones to unsafe zones. To speak of "restraint" as Kahl does, for instance, fails to note that the poles of the "annihilation-restraint paradox" operate in distinct spaces, and that restraint is constrained to certain islands of security. While the violence of each individual strike might be diminished, the cumulative violence of series of ongoing "industrial" counter-terrorism of which drone strikes are a part leads to a redistribution of violence, not its diminution. The security of safe zones remains underpinned by the "generalised terror" which constitutes its "unspoken tactical foundation" (Satia 2013, 243).

Drone Counterinsurgency

In 2010, Stanley McChrystal was fired as commander of coalition forces in Afghanistan after a damaging profile in *Rolling Stone* Magazine demonstrated a lack of respect for the civilian leadership. The author of the article, however, suggested a deeper underlying malaise which led to McChrystal's firing, namely the imposition of restraint orders which did not account for the various situations in which troops could find themselves and which were seen as harmful by the troops (Hastings 2013, 315; 258–64). His replacement, David Petraeus, while constantly emphasizing the need for restraint in secured zones, nevertheless stepped up the intensity of air strikes, the pace of special forces raids, and the use of heavy firepower (Hastings 2013, 357; F. Kaplan 2014, 343–44; Woods 2015, 219), though the overall number of civilian casualties declined, notably due to the increased use of drones (Woods 2015, 219). Drone strikes both in and outside Afghanistan followed a similar trajectory as American forces sought to increase the tempo of operations to achieve faster success, notably by widening the range of acceptable targets beyond high-value commanders (Niva 2013, 195; Naylor 2016, chap. 25). The paradox of COIN and vicarious warfare alluded to elsewhere, therefore, was shown to be little more than an illusion, as the "excess firepower" identified by both Martin Shaw and Thomas Waldman as a mechanism of risk-transfer remained a staple of COIN strategy, including that waged by drones. It is revealing, for instance, that in 2013 Barack Obama acknowledged drone strikes in Pakistan as a form of "force protection" for American troops in Afghanistan (Woods 2015, 223; Obama 2013b). Although COIN required troops to sometimes forego protection to increase contact with the local population, the sustained recourse to heavy firepower to support troops in combat or clear insurgents continued to pervade military operations.

In addition to its contribution to the archipelago architecture of COIN, the use of drone strikes is also embedded in the "industrial" counter-terrorism practiced chiefly by (JSOC) in Iraq, Afghanistan, and elsewhere, notably Yemen (Shane 2015, 280–82; Woods 2015, 171). As mentioned above, the official statement of the Obama strategy in Afghanistan was to "degrade, dismantle, and destroy" al-Qaeda, in addition to denying it sanctuaries in and outside Afghanistan (F. Kaplan 2014, 295; Fuller 2017, 9–10; 210; Woodward 2010, 386). This logic – one sharply at the counterterrorist end of the COIN-CT continuum – therefore confirmed the duality discussed above: "COIN in the large cities, counterterrorism elsewhere" (F. Kaplan 2014, 317). For Steve Niva (2013; also McDonald 2017, 138), the embedding of armed drones in the new organizational structure and thinking of JSOC represented the genuine innovation in contemporary wartime counterterrorism. The pacification of the countryside through repeated raids or strikes which would lead to more intelligence collection, inviting more raids, drew on network thinking to wage a large-scale campaign of attrition against al-Qaeda and the Taliban (Niva 2013, 187; see also Bakos and Coburn 2019, 208–9; 231). Contrary to what critics of drone strikes might suggest, the ever-greater expansion of target lists, where one target produces multiple associated targets, is therefore more a feature of JSOC's industrial counterterrorism than of the drone itself. The operational logic of counterterrorism fit this type of war, and exploited among others the capacities of armed drones: "driven by McChrystal's central idea that the al-Qaeda networks had to be dismantled faster than they could regenerate themselves, it was reported that JSOC often sacrificed target development and accuracy in the interests of high-tempo raids producing intelligence" (Niva 2013, 193). While drone strikes, lacking the presence on the ground, are unable to collect material intelligence in the process of executing raids, the fusion of vision and attack capabilities make drones potentially effective at mapping and tracking networks, particularly if less-than-perfect accuracy is required. JSOC's approach of swarming networks to cause their collapse, therefore, embeds drone strikes in a wider operational logic, one which exploits the capacities of the drone but exists beyond it (Niva 2013, 195). Targeted killings executed by drones gained strategic value through this operational logic, which dictated the choice and the number of targets (McDonald 2019, 53). The attempt to unify counterterrorism and counterinsurgency strategies through armed drones thus combined a space-differentiated logic distinguishing safe and violent

zones, and a network-effects logic of industrial counterterrorism (see Coward 2013, 102). It further associated the internal security of cities and protected areas with violence elsewhere, and extended this differentiated logic into bordering areas, most notably Pakistan, with CIA drone strikes in Pakistan combining with JSOC operations in Afghanistan (Niva 2013, 196; F. Kaplan 2014, 348). Drones were involved in all these operations, most notably in the counterterrorism aspects of the overall strategy.

Winning counterinsurgency

The main strategic tension that remains is resolving the end of these campaigns. COIN points to a long-term, yet somewhat definite end-point: "victory is achieved when the populace consents to the government's legitimacy and stops actively or passively supporting the insurgency" (Petraeus and Amos 2006, 1–14). To this end, the local government – supported by American troops – must "maintai[n] a degree of order everywhere" as well as eliminating the causes of the insurgency by "address[ing] the legitimate grievances insurgents use to generate popular support" and establishing basic social services to serve the population (Petraeus and Amos 2006, 1–9; 1–45; 1–4). In Petraeus's (2006, 1–14) account, therefore, a COIN campaign proceeds in three phases: after the initial clear-hold-build archipelago model,[160] stability operations are progressively extended to the whole "area of operations" before victory is achieved and control transferred back to the local, legitimate government.[161] To achieve such an end, the counterinsurgent force must both foster popular support for its political project and employ enough military force – though not more – to impose this situation. And "in the end, the host nation has to win on its own" (Petraeus and Amos 2006, 1–147).

A counterterrorism campaign, however, does not contain such a clear strategic end: Grieco and Hutto (2021, 6–7; see also McDonald 2019), for instance, conceive of counterterror strategies as attempts at coercing hostile groups into abandoning terrorist campaigns, or eliminating their means to engage in terrorist violence. Such ongoing

[160] The *Field Manual* prefers the term "mosaic war" to describe the multiple and varied spaces and types of operations conducted by insurgents and counterinsurgents (Petraeus and Amos 2006, paras 1–37).

[161] In 2013, Karl W. Eikenberry (2013, 65–66), the U.S. ambassador to Afghanistan from 2009 to 2011 (during McChrystal and Petraeus's tenures as ISAF Commander), rejected the idea of a COIN campaign having a definite end point: on the contrary, he argued, in Afghanistan conflict resolution could only be achieved by a process of national reconciliation extending beyond defeating the insurgency, and by putting an end to predatory governance, goals which he argues are indeterminate both in substance and in temporal horizon.

coercion, however, absent an effort to resolve the underlying motivations to terrorist action (which is a feature of COIN but not of counterterrorism) or a concurrent political resolution, would require ongoing commitment, presence, and potential use of force. In addition to a spatial tension between the archipelago of safe zones and the network logic of counterterrorism, these two approaches thus amount to a temporal tension between aiming at a strategic end point in COIN and the ongoing recurrence of counterterrorism attrition, punishment, or coercion signaling strikes. In this respect, armed drones embody this tension between persistent surveillance building towards long-term security and continuously recurring strikes.[162]

Military force – and by extension armed drones – therefore would by necessity be unable to achieve significant strategic effects – at least positive ones – in a COIN campaign. This leaves the employment of air power in counterinsurgency in quite a difficult position. For Derek Read (2010, 136; 132), while "military force might therefore be described as a 'strategic enabler'" rather than as in itself being strategically decisive, he nevertheless argues that it is not sufficient for air power to not undermine the strategic aim, but that it "must positively contribute to achieving that aim."[163] Drone strikes and by extension military force, therefore, can be seen as creating "breathing space" for a political solution to be achieved, one where the population would be made to buy in to the new legitimate government (F. Kaplan 2014, 269; 74). By degrading, disrupting, and dismantling insurgent networks away from the secure areas to be protected, drones could act as restrainers, suppressing insurgent violence and thus buying time.

Julien Pomarède (2020), in a perceptive article on the spatial and temporal logics of counterinsurgency, attempts to unite the two through the Koselleckian concept of the "horizon of futurity": tactical operations in COIN take place in an indefinite temporal horizon, pointing to an indistinct future presented as its justification, yet never actualized. The paradox of counterinsurgency, according to

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[162] Grieco and Hutto (2021) point to this tension, arguing that the tactical advantages of drones – which makes them suited to counterterrorist strikes – also undermine their value as long-term coercive agents, as they cannot signal escalation threats nor provide assurances of non-punishment, their presence constantly threatening a potential imminent strike. In other words, the persistent surveillance which makes armed drones useful tools of counterterrorism is at odds with their value as long-term agents of security.

[163] Charles Dunlap (2008a, 60–61), emphasising the centrality of killing insurgents to success in counterinsurgency, rejects outright this notion of air power as "strategic enabler" to argue it can take on a directly strategic role.

Pomarède, thus lies in the fact that the process of clearing insurgents, holding spaces, and building security is never completed but always ongoing, though justified through an elusive secured future. The inability of counterterror raids to achieve decisive strategic impacts on their own is nevertheless legitimated by the presence of this indistinct and unspecified link between tactical operations and the strategic end situation. Such a perspective of the indeterminate horizon of futurity also eludes the question of the eventual 'blowback' of drone strikes: if the objective of COIN violence is to buy the time necessary for the "building" of the necessary security, it may be justifiable to trade immediate tactical successes for deferred consequences. In this indeterminate horizon of futurity, the link between tactical actions and strategic objectives – between means and ends – is diffuse and indirect, at best. The problem of a counterinsurgency campaign supported by drones remains to define the objective sought – in Warden's (2015, 102) terms, to define the desired end states for oneself and for the enemy. Cronin argues that the whole project of COIN falls on this point: as noted above, the AUMF failed to specify any concrete objective, beyond preventing future attacks against the United States. Therefore, according to Cronin, "without envisioning an end, policy makers do not calibrate day-to-day plans so that ends and means are aligned." (Cronin 2014, 175) If, as argued by McDonald (cited above), the use of armed drones can only be evaluated in its strategic impact, the lack of clear end to a COIN campaign precludes any evaluation of its strategic efficiency. A strategic vision of the war, if it is to avoid the trap outlined by Pomarède, would need to provide a clear rationale for the employment of violence to achieve security, to resolve the paradox that COIN justifies employing violence to suppress violence (Pomarède 2020, 209).[164]

Ultimately, strategic success in COIN would entail the replacement of the drone occupation of ungoverned territory (see Emery and Brunstetter 2015; Weizman 2017; Satia 2013) with ground presence by local government forces and services. As mentioned above, Page and Williams (2021) argue that the presence of armed drones itself undermines progress towards this objective by disrupting the stable daily existence whose securing is a prerequisite to strategic victory. Similarly, Grieco and

[164] Petraeus's *Field Manual* further notes that it is more productive for the United States forces to support a local government's operations than acting alone; the use of force by the United States may thus simultaneously help secure the local government (as Byman argues) and undermine its legitimacy by substituting itself for the local government and undermining security (Petraeus and Amos 2006, 1–154; see Page and Williams 2021).

Hutto (2021) argue that drones fail to communicate credible long-term commitments and assurances, which may provide further support to Pomarède's concept of the horizon of futurity: the employment of armed drones in counterinsurgency, in this view, justifies tactical successes through an indeterminate horizon, where each drone action simultaneously progresses towards and undercuts the end of a counterinsurgency mission.

Conclusion

The concern for the role of drone power in COIN builds on the reappraisal of the role of air power begun in the late 1980s and championed by the likes of John Warden and David Deptula. The latter, after being head of air planning in the Gulf War, was appointed Air Force Deputy Chief of Staff for Intelligence in 2006 with a responsibility to integrating intelligence and operations, and thereby became a champion for armed drones. While Deptula in this role advocated the ever-tighter connection of intelligence collection and operations (Woods 2015, 86), his 2017 paper on "Optimizing the Potential of Remotely-Piloted Aircraft" is devoid of any concrete discussion of how drones could contribute to operations, beyond the need for more drone capabilities.[165] More worryingly, while Deptula (2017, 16) acknowledges that the War on Terror "ignited the RPA revolution in a way few could have imagined," COIN and counterterrorism are entirely absent from the paper.[166] Similarly to his 2001 paper on "Effects-Based Operations," Deptula equates an improvement in technologies of warfare with a "revolution" in how warfare is waged, without establishing the link between the two. In 2001, it was stealth and precision; in 2017 it is remoteness and automation. The question discussed in chapter 5 - how air power can achieve the requisite effects, and how those effects can be directed to a strategic end remains crucial to the employment of armed drones in COIN. For all of Deptula's bluster, armed drones do not provide the conceptual proof for effects-based operations, or for any strategic concept affirming the primacy of air power (see for instance Dunlap Jr. 2008a). Armed drones may represent an advance in the ability to acquire, surveil, identify, and attack targets, and may play a central role in supporting other forces. In

[165] By then Deptula had retired and was heading the Mitchell Institute for Airpower Studies, an Air-Force aligned think tank.

[166] To be fair to Deptula, in 2017 the United States had largely abandoned the COIN framework as a guide to their activities in Afghanistan. That does not, however, explain their complete omission in the retelling of the "RPA revolution."

COIN, however, drones are employed in service of broader war plans and strategies, not as the main transformative force which many have sought to identify.

The temporal paradox of COIN and counterterrorism remains an ever-present tension in the justification of drone use; indeed, this tension manifested itself extensively in the debates on Afghanistan strategy within the Obama administration (Hastings 2013, 149–52; Woodward 2010, 101–2). The 2001 AUMF did not contain a temporal end-point to the war, or even a clear end objective: the work of preventing enemy attacks on the American homeland does not reach to a point where it can be deemed complete but remains an ever ongoing campaign. The Reagan-era NSDD 138 which arguably provides the beginning of the legal and political justification for the militarized counterterrorism in the "American homeland which is the planet" (Gunneflo 2016, 185) similarly does not contain a statement of an end to violence. This counterterrorism logic, which diverges from the COIN paradigm exposed above, would suggest an ever-expanding justification for drone violence, as the United States seeks to stave off more-or-less imminent menaces (see Trenta 2018) in the "global borderlands" (D. Gregory 2011a, 239), to the security of the United States homeland. In the Global War on Terror, that militarized counterterrorism found itself territorialized in Afghanistan and later in Iraq, simultaneously as it provided a framework for a large number of surrogate campaigns by countries around the world (notably in Southeast Asia). From 2007 to 2011, the durable countering of terrorist threats in these countries became the justification for statebuilding COIN strategies, simultaneously as counterterror strikes against individuals seen as security threats to American troops or to the West ramped up, with armed drones playing a central role in the nexus of COIN and counterterrorism strikes. Drones simultaneously provided a means of unifying the two strategies in tension by allowing for the policing of safe areas and the monitoring and identification of threats to security-building, and exacerbated the tensions by enabling JSOC's dispersed mode of pinpoint strikes and the geographical expansion of violence into the global borderlands. The decrease of drone strikes coinciding with the withdrawal of American forces from Afghanistan is a testimony to the centrality of armed drones to a COIN strategy, and justifies assessing drone violence with regard to its strategic contribution to the project of counterinsurgency. As the counterinsurgency strategy progressively faded after 2011, American counterterrorism returned to a more direct containment of violence, focusing

on the systematic elimination of perceived threats to the West, its interests, or its deployed forces, seemingly more in line with the initial vision of NSDD 138. In this project, the role of drones changed as the mission changed, from supporting the building of security to concentrating on the repeated identification and elimination of threats.

Alongside the COIN-focused drone campaigns in Afghanistan, Iraq, and Pakistan, a number of strikes took place which can be related to a separate counterterrorism campaign, directly meant to ward off attacks against the United States. The killing of Osama Bin Laden by SEAL commandos in 2011, for instance, arguably was not related to the Afghan counterinsurgency. Similarly, the hunt and killing for Anwar al-Awlaki in Yemen, also in 2011, was due to his perceived participation in commanding and encouraging terrorist attacks in Western countries, mainly the United States (Shane 2015). The possibility of ongoing aerial counterterrorism following the nearly completed withdrawal of Coalition troops from Afghanistan may signal a return to a more unambiguously counterterrorist paradigm (or to a clear situation of surrogate warfare). Such an ongoing project would require a rethinking of the relation of means and ends, tactical actions and strategic aims to achieve a lasting, stable end-state which are central to Clausewitzian conceptions of war, and might be closer to what Cronin referred to in considering drones as inherently tactical weapons, unmoored from a coherent strategic outlook (Cronin 2014; Heuser 2007; Warden III 2015, 94; Daase 2007, 186). As noted above, the complex relation of means and ends is also present in COIN, where tactical strikes can at best create breathing space for a political project without directly leading to its achievement.

While COIN frames this political project in rather narrow, and space-specific terms – the reestablishing of a legitimate government – Michael Dillon and Julian Reid (2009) have argued for a much broader conception of the "liberal way of war," in a way that seeks to make sense of the unfinished temporality of counterterrorism and COIN. In their view, the process of liberal securitization is part of the violent determination of forms of life that are safe, and of forms of life which are potentially dangerous and which must be reformed or eliminated. To "make life live," liberal war requires the killing of forms of dangerous life, an ongoing project of defining and eliminating difference. To this end, counterterrorism would embrace the radical impossibility of determining potentiality, therefore requiring the ongoing policing of

forms of life at home and abroad, and the violent elimination of those which become dangerous.[167] The role of drones, in this vision, would be that of global surveillance, an open-ended project which is ideologically underpinned and always ongoing, pointing at an indeterminate future which remains always potential, never actualized.[168] In this view, the association of drone warfare with the aerial policing of the early 1920s might be more apt (Satia 2013; Omissi 1990; Hippler 2017), drawing on a paradigm of colonial domination extended to the globe. Indeed, as Ben Anderson (2013, 255) has suggested, the legacy of air power as a form of war on life might be relevant: the morale bombing in Douhet's theory and other classical instances of air power employment equated the 'will' of the enemy with life. In seeking to break the will of the enemy, air power has always sought to break the "life" of the enemy.

Nevertheless, the place of drones in the assemblage of violence of the War on Terror from 2007 to 2011 cannot be separated from broader dynamics of American COIN in Afghanistan and Iraq. To equate drones with this new project of liberal militarism would be to miss their role within broader networks of American strategic thinking and warfare. The critique of a particular drone militarism obscures the "synecdoche for a bigger issue" to which it points (Niva 2013, 199). It remains significant that the principal employment of armed drones occurred within a COIN paradigm, in the service of a broader strategy of "population-centric" warfare. COIN, however, itself was somewhat at odds with the statement of American grand strategy expressed in the 2001 AUMF and other statements. As Michael Hastings noted, statements of COIN strategy by both Stanley McChrystal and David Petraeus tended to focus more on combating insurgencies than on directly attacking Al-Qaeda (Hastings 2013, 377; Woods 2015, 223). The evaluation of the role of armed drones in this setting, therefore, should focus on their employment in a COIN strategy, rather than as part of a global counterterrorism logic.

This chapter has drawn on multiple tensions within the strategic logic guiding the employment of armed drones, building on key developments exposed in the genealogy of remote aerial warfare. Armed drones in the War on Terror have been employed primarily within a counterinsurgency logic, with counterterrorism operations subordinated to the spatial and temporal logic of COIN. The employment

[167] COIN, in this reading, would seek to forcibly remake the host society in a manner that is compatible with liberal forms of life.

[168] On a conception of drone imperialism, see also I. G. R. Shaw 2016a.

of armed drones in the War on Terror raises long-standing questions which have been central to the development of aerial warfare, namely the ability of air power to achieve desired effects, the calibration of levels of force and the impact of excess violence, and the reconfiguration of tactical, strategic, and political spatial relationships. In these senses, the employment of armed drones draws on the long development of prior forms of aerial and remote warfare, and takes place in continuity with earlier instances of air power theorizing. The next chapter, building on this discussion of drone power in counterinsurgency, concentrates on three spatial relationships which are impacted directly by the employment of drones: the reconfiguration of spaces of counterinsurgency, the compounding problematization of vertical relationships, and the resulting asymmetrical relations.

Chapter 9 – Drone Spaces and Strategy

The previous chapter discussed the role of armed drones in the counterinsurgency strategy pursued by the United States in Iraq and Afghanistan. Spatial differentiations introduced by the counterinsurgency logic featured heavily, notably the distinction of safe and unsafe spaces in the "archipelago" of counterinsurgency, as well as the externalization of counterterrorism pursuits into borderlands through the employment of armed drones. In this chapter, I delve more deeply into the spatial relations produced by the employment of armed drones and by the counterinsurgency logic, and analyse the impacts of these spatial relations on the conditions of employment of armed drones. As mentioned in the previous chapter, as the employment of armed drones must be evaluated in its strategic-political situation, I do not here seek to delineate the spatiality of drones in the abstract; on the contrary, the spatial dynamics produced by the employment of armed drones intersect with the geographies of counterinsurgency, in ways that devolve from strategic decisions and carry significant operational impacts.

This attention to the spatial relations of drone employment is a direct consequence of the genealogy of remote aerial warfare presented in chapters 5 to 7. For Giulio Douhet (2019c, 160), the radical novelty of air power consisted in its ability to bypass the battlefield and to introduce a new geography of war in which "the battlefield can no longer be limited; it now extends to all the lands and seas of all the nations in the war." According to Sherry (1987, 30), American leaders in the 1920s and early 1930s were attracted to the prospect of long-range bombing due to its ability to enforce an isolationist foreign policy, setting a "considerable psychological and geographical distance" between them and potential enemies. Warden (1995), meanwhile, continued this rejection of territory-based warfare by advocating a networked conception of the enemy as a series of deterritorialised pressure points and nodes conceptualized as five "rings". Chapter 6 detailed the tensions between distance, intimacy, vulnerability, and security entailed in the development of nuclear war doctrine. Chapter 7, finally, discussed at length the processes of production of remoteness, of externalization of violence, and of spatial transformation which made the production of distance and risk-transfer in Vietnam possible. In these three settings, the spatial transformations produced by new forms of war significantly

shaped the strategic decisions taken and the political implications of these decisions. It is only fair that the same scrutiny be applied to armed drones, not merely in the new visual and spatial relations they produce, but how these new spatial relations shape their strategic employment.

Critiques and vindications of drone warfare rely similarly on spatial arguments. The recourse to armed drones, for Grégoire Chamayou (2013, 203), amounts to withdrawing the combatant from the battlefield, turning combat into monodirectional murder, or violence from nowhere. The "distant intimacy" introduced by the visual asymmetry of drone operator and target may transform the ethical and legal obligations of the parties due to the drone power's monopoly of spatial determination (J. Williams 2015). Meanwhile, the recourse to "post-heroic" aerial warfare may lead to a form of virtual or spectator-sport war, where Western powers exercise violence through drones without feeling the repercussions of being engaged in war due to their absolute remoteness (Ignatieff 2000; McInnes 2002). As these objections – largely covered in chapter 4 – suggest, the spatial relations reconfigured by armed drones are foundational to many of the core critiques of drone warfare, with critics arguing that they jeopardise the very foundations of combat and war. What these critiques also demonstrate, however, is a level of abstraction that often does not correspond to reality. Concepts such as Hugh Gusterson's (2017, 15) "pure drone warfare" are of very limited use in appraising the conceptual spaces in which drone violence takes place.[169]

This chapter addresses three aspects of the spatial relations of drone warfare. First, it returns to the spatialisation of the archipelago structure of counterinsurgency, along with the constitution of global borderlands surrounding these spaces. Steve Niva (2013, 186) refers to the "disappearing" warfare waged by JSOC (and its associated drone campaign) as the "theatre of contemporary American warfare," a particularly apt phrase capturing both the artificial construction of spaces entailed by the staging of violence and the tensions of manifestation and disappearance of violence as "killbox[es]" are repeatedly opened and "closed" in JSOC's repetitive punctual operations (Boyle 2020, 80). Much as theatre involves the construction of artificial spaces which are simultaneously part of normal life and suspended out of it, JSOC's drones navigate the archipelago, opening zones of extreme violence which each are

[169] For a critique of such spatial arguments, see Jeangène Vilmer 2021.

strictly limited and disappear as soon as the violence is concluded, but which then recur throughout the territory of counterinsurgency. Second, I address the verticality and intimacy entailed by drone use. The key question here concerns the effects of aerial violence on the ground below, and thus how drone violence differs from other means of warfare in COIN. I engage briefly with studies of the visuality of armed drones and reject the conception of drones as completely divorced from the ground they overfly, highlighting the ties between their presences and the security logic on the ground. Finally, I return to the asymmetry critiques presented in chapter 4 and address the tension between risk-transfer and population-centric warfare, and whether drones can contribute meaningfully to the protection of population in what remains a "manpower intensive" form of war founded on "cultural knowledge" (Petraeus and Amos 2006, 1–68; 1–80).

Spaces of Counterinsurgency

As mentioned in the previous chapter, Julien Pomarède (2020) has proposed the very apt concept of the archipelago logic of counterinsurgency. Going beyond the definition of safe and unsafe areas which are meant to "separate insurgents from the center of gravity – the people" (F. Kaplan 2014, 325), Pomarède's archipelago seeks to account for how violence is staged, and to reconcile the employment of heavy firepower which remains a hallmark of American warfighting with the concern for the calibration of force central to COIN strategy. The "archipelago," for Pomarède (2020, 205; 213), describes a situation in which areas of excess violence are constantly opened, become sites of excess violence, and then closed without nominally leaving any traces behind. The serial recurrence of these shifting islands of violence suggests a displacement of violence into heavily concentrated pinpoint zones of firepower, rather than an overall reduction of levels of firepower. At its logical end point, the archipelago logic concentrates violence down to a single individual, who becomes a site of war divorced from a secure environment around them (Woods 2015, 65; Chamayou 2013, 79–85).[170] In a COIN strategy, the archipelago unites both facets of insurgent elimination and population protection, promising maximal force in the islands of violence, separating them from the surrounding safe territory.

[170] A similar exceptionalising logic applies to out-of-theatre targeted killings in which, Amélie Férey (2020, 133) writes, the American administration argues that "the body of the terrorist becomes the area of applicability of International Humanitarian Law, which allows the American government to eliminate its targets 'at will' and obtain a juridical 'license to kill'."

Such a logic allows for a revision of the concepts of precision-strike central to contemporary American air power. For Deptula (2001, 9–11), in his presentation of effects-based operations, precision-strike meant a multiplication of capabilities to strike simultaneously, accelerating warfare and enabling "parallel warfare." Precision meant the ability to achieve more effects at once. In the archipelago of COIN, precision, on the contrary, is often antithetical to speed: precision entails the ability to constitute narrow archipelagos which are separated from the surrounding territory, and thus not only being more efficient at achieving desired effects, but also avoiding unwanted spillover effects. Precision is not merely about putting "warheads on foreheads" (cited in T. Gregory 2017, 212), but about putting the warhead only on that forehead, without explosion if possible (see Trevithick 2019). These islands of death are constituted not only in space, but also in time: the loitering capabilities of drones mean that, in principle, operators can choose the optimal moment at which to strike to minimize excess spillover of violence.[171] As Michael Boyle (2020, 114) has emphasized, drone operators and commanders have at times strenuously rejected attempts to speed up drone operations, a senior commander arguing that "a slow war […] is a precise war and one that is likely to be more humane." Armed drones' persistent loitering ability, which Charles Dunlap saw as central to his advocacy of air power in COIN, entails increased discretion in the manufacture of sites of violence, enabling – in theory – the counterinsurgent power to control the calibration and location of violence (Dunlap Jr. 2008a, 56; Boyle 2020, 124; see also J. Williams 2015).[172]

As mentioned in the previous chapter, COIN combined a territorial logic based on the establishing of safe zones with the networked logic of the archipelago of violence. The network of islands of violence is made manifest most notably in the task force structure of JSOC, which did not restrict itself to specific areas of operations, but "follow[ed] the fighter" where they went (Woods 2015, 65; Niva 2013, 190–92). As Woods (2015, 221; Naylor 2016, chap. 25) noted, these two logics sometimes

[171] Luca Trenta (2018, 86–88) has noted that the Obama administration incorporated such a notion of the "window of opportunity" into its definition of imminence for targeted killings, thereby adapting its legal criteria to (among others) exploit the loitering capabilities of the drone.

[172] The mirror image of this logic might be that of the terrorist attack, in which the insurgent or terrorist attacker controls the location, time, and manner of violence. Dunlap, for instance, establishes a mirroring between drone strikes and improvised explosive devices (IEDs) (Dunlap Jr. 2008a, 59; Chamayou 2013, 95), while Petraeus (2006, 1–23) described suicide attacks as "the precision munition of extremists."

found themselves in tension, as JSOC commandos (or drones) would swoop in, declare a specific area their area of operation for a temporary time, conduct their operation and then leave, letting conventional troops deal with consequences. Such a vision is eminently amenable to the prevalent doctrine of 'network warfare' which has taken root since the Revolution in Military Affairs. Similarly to Warden's (1995; see also Guha 2021) five-ring system, where enemy targets were selected due to their nodal position within various function-based target sets rather than in space, network warfare in COIN considers the "enemy as a dynamic set of circulations" which it follows wherever they lead (Coward 2013, 102).[173] In seeking to "swarm" networks to force their collapse, JSOC and its drone wing produce de-territorialised violence along perceived "lines of force," between which "there is nothing" (Coward 2013, 110). As Petraeus (2006, 1–124; Woods 2015, 13) has argued, this networked violence serves to eliminate the irreconcilable elements of the insurgency "like surgeons cutting out cancerous tissue while keeping other vital organs intact,", a task which Charles Dunlap (2008a, 60) argues is particularly fitting for air power in general, and armed drones more specifically.[174]

The networked archipelago of COIN violence, in line with Petraeus' cancer analogy, is often taken as a demonstration of the limitation of violence in COIN. This insularity of violence, combined with the determination of zones of security, is argued to be a manifestation of efforts at population protection. Colin Kahl (2007, 17), for instance, asserts that the determination of no-strike areas and exempt targets demonstrates the American endeavour to apply restraint in its pursuit of annihilation, while the short appendix to the *Field Manual* on airstrikes acknowledges the ability of precision munitions and accurate intelligence to "achieve desired effects while mitigating adverse effects" (Petraeus and Amos 2006, E-6). Yet, as Pomarède (2020, 218) argues, the very repetitiveness of the archipelago structure leads to its paradoxical failure: the multiplication of pinpoint violence renders it largely indistinguishable from generalized violence. As Coward (2013, 103) argues, the "target set" of network warfare remains "total" yet "selective," undercutting efforts to shield the broader

[173] Petraeus' *Field Manual* (2006, 1–59) proposes its own version of Warden's typology, conceiving of "most" insurgencies as being organised in leaders, combatants, political militants, auxiliaries, and a mass base.

[174] In a more problematic statement, Dunlap (2008a, 56) abandoned this targeted defense of violence in arguing that "capturing and imprisoning tens of thousands of Iraqi males" in 2007 was key to stemming violence.

population from its violence. Neither can the violence neatly be restricted to inside the archipelago: as the 2012 *Living under Drones* report, among others, has noted, the psychological effects of ongoing drone campaigns are both widespread and extensive (Boyle 2020, 91; see also Edney-Browne 2020; Page and Williams 2021). These excess psychological effects are sometimes seen as assets of archipelagic violence: for Dunlap (2008a, 59), discrete targeting allows air power, in a break with strategic bombing theory, to achieve "psychological impact on the insurgents themselves, not the civilian population." Yet, the recurrence of civilian casualties, either unforeseen or accepted collateral deaths, belies this notion of a narrowly targeted psychological effect. As Woods (2015, 222; 171) has noted, until 2010 approximately half of civilian casualties were attributable to JSOC violence, either directly from drone strikes or produced by networks in which drones are embedded in surveillance, tracking, and intelligence collection. The archipelago, simply put, is composed of peninsulas rather than islands, still connected to the wider territory, which makes the idea of winning hearts and minds through selective aerial violence rather self-defeating (Dunlap Jr. 2008a, 59; Boyle 2020, 120).

Borderlands

As further mentioned in the previous chapter, COIN entailed not only the definition of secure and unsecured areas inside of Afghanistan, but additionally the externalization of counterterrorism into border areas. Building on chapter 7's discussion of externalization of violence in the American war in Vietnam, a similar analysis of devolving processes of distancing can illuminate spatial relations in COIN. As Derek Gregory (2011a, 239; 2017) has argued, the War on Terror entails the displacement of violence into the "global borderlands," construed as spaces of danger and lawlessness. Multiple scholars have drawn parallels between the aerial control of British colonies in the 1920s in many of the same territories,[175] suggesting the existence of fairly stable border zones produced by a "racist representation of the world [which]

[175] The British were not the only ones to employ aerial means to bomb and repress colonial subjects; the French employed it for a time in Lebanon and Syria, and the Italian and Spanish did the same for a time. However, as David Omissi argues, the British were the only ones to develop it into a comprehensive, rationalized system of aerial control. Omissi (1990), however, rejects the suggestion that doctrines of strategic bombing were forged in the Colonies before travelling back to Europe, arguing air control and strategic bombing developed in parallel, independently from each other.

brought peace to white people and bombs to the colonized"[176] (Hippler 2017, 62; Satia 2013). In Iraq and Afghanistan, meanwhile, the internal division of space into 'green' and 'red' zones further entailed the constitution of border areas. In the 2007 Surge in Iraq, thus, the protection of Baghdad required the deployment of additional troops in the "belts" surrounding the city, in order "interdict the supply routes" of the insurgents (F. Kaplan 2014, 258). At the more local level, Petraeus (2006, 1–142) recognized the high potential for violence at checkpoints, emphasizing the need for soldiers to follow procedures to reduce escalations of force (see also T. Gregory 2019). As discussed in the previous chapter, armed drones served both to police the borders of safe zones, and to intervene into the internal "sanctuaries" (Petraeus and Amos 2006, 1–88).[177]

COIN doctrine, however, emphasizes equally the danger of external borderlands, into which conflict could spill over. These borderlands could be contiguous – such as Pakistan – or more distant, such as Yemen and Somalia, inviting intervention by armed drones to eliminate threats both to the COIN project and to the home nation.[178] In Pakistan, the pursuit of Afghan Taliban as well as al-Qaeda fighters across the border was acknowledged as a counterinsurgency campaign, thinly veiled under a veneer of global counterterrorism to mitigate threats against the United States (Woods 2015, 223). The expansion of the War on Terror into Yemen was at first foreseen as an expected (and beneficial) consequence of the COIN-CT campaign in Afghanistan and Pakistan, which would force al-Qaeda to splinter into local movements, though these splinters unexpectedly turned into local insurgencies and terrorist movements (Woods 2015, 194). The constitution of these borderlands as violent, lawless spaces further invited the expansion of drone targeted killings into these areas. In Daniel Byman's (2013, 34) defense of out-of-theatre drone strikes, the lack of government control in "war zones or unstable countries" makes capture

[176] A similar argument is made about COIN theory, which is explicitly modelled on the writings of David Galula (a French officer who served in Algeria and Vietnam) and other historical counterinsurgency writings about, among others, British repression in Malaysia. That trajectory has been disputed among others by Sybille Scheipers, who highlights the European tradition of political partisan warfare (Porch 2013; Scheipers 2014; Wasinski 2010).

[177] For an example of armed drones in the former role, see for instance (P. Lee 2018, 175–94).

[178] A large proportion of the strikes in Pakistan can be directly related to the COIN effort. In Yemen, the initial assumption guiding the CIA's dismantling of al-Qaeda networks in Pakistan and al-Qaeda's expulsion from Afghanistan was that they would splinter into disjointed, local movements. On the contrary, these splinter groups established new insurgent and terrorist movements, notably in Yemen. Armed drones in Yemen can therefore better be said to be engaged in counterterrorist strikes (or in a proxy intervention in support of the Yemeni government's counterinsurgency), though al-Qaeda's implementation in Yemen as at least partly a consequence of the counterinsurgency in Afghanistan (Woods 2015, 194; 201–9).

impractical, legitimizing targeted killing, while Grieco and Hutto (2021, 2) speak of drones and other means of remote warfare as being "an alternative to sending large ground contingents into war zones or chronically unstable countries like Pakistan, Yemen, and Iraq."[179]

In Pakistan, what began as a collaborative campaign of counterinsurgency alongside the Pakistani army gradually turned into a targeted killing campaign independent from the Pakistani military as relations with the host government frayed (Woods 2015, 118; Boyle 2020, 60). By the time Obama published clear guidelines on drone targeted killings which required the impossibility of capture (and the unwillingness or incapacity of local governments to act) in 2013, state failure in the borderlands had been erected into an a priori assumption legitimizing targeted killing (Boyle 2020, 88). In Pakistan, drone strikes were "the only game in town" largely because of political commitments that made other options impractical (CNN Politics 2009), in addition to making political solutions unnecessary given the ungoverned status of the territory. The recourse to targeted killing in "ungoverned" borderlands such as the Federally Administered Tribal Areas (FATA) construed these spaces as fundamentally lawless – and by extension apolitical – spaces in which order "can only be brought to it from the outside" through drone strikes which "become a prosthetic, preemptive process not only of law enforcement but also of law imposition" (D. Gregory 2017, 31; 39). COIN, therefore, opposed a political (or 'becoming political') internal space to surrounding apolitical spaces of exception, an apolitical "margin" where inhabitants are objects of violence whose agency and political existence are diminished (D. Gregory 2017, 29; 52). Chris Woods (2015, 160) noted the utter disinterest by the CIA and other American forces operating armed drones in Pakistan in winning the "hearts and minds" of the people who lived in targeted territories, unlike in Afghanistan; indeed, as Derek Gregory (2017, 29) argues, the very constitution of the FATA as "borderlands and battlefields" denied their inhabitants political existence, and therefore negated the need to genuinely coopt their assent to governance, both from the American-Afghan and Pakistani perspectives.[180]

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[179] Grieco and Hutto refer here specifically to the Obama administration who decided to disengage from Iraq, and later to not re-establish a large-scale ground presence.

[180] In 2018, Pakistan repealed the Frontier Crime Regulations and martial laws which governed the FATA and merged the territories into the neighbouring province of Khyber Pakhtunkhwa (Begum 2018; D. Gregory 2017, 33–35).

The expansion of drone-led targeted killings into the borderlands furthermore required a redefinition of imminence, one similar to the collapse of distance entailed by the development of ICBMs discussed in chapter 6. Whereas, as chapter 6 mentioned, the maintaining of armed ICBMs on constant alert could be taken as a continued imminent threat potentially justifying preemptive action, the borderlands of the War on Terror are similarly sites of proximate, constant imminent menace. As Luca Trenta (2018, 86) has shown, the Obama administration discursively legitimized a major expansion of drone campaigns by stretching the meaning of imminent attack, transforming it from a proximate, specific criterion into an ongoing state of menace, inviting the possibility of self-defense at any moment depending on the presence of "windows of opportunity". In the hunt for Anwar al-Awlaki, his involvement in three attacks (two failed) targeting American soil strengthened this argument: in Scott Shane's account, American leaders felt ongoing pressure from a perceived imminent terror threat, one which could at any moment travel from the borderlands of Yemen into the United States. Al-Awlaki was deemed to be continuously engaged in the preparation of terror attacks against the United States, and the lack of intelligence – far from diminishing the perception of threat – strengthened the menace that developed in secret and uncertainty (Shane 2015, 224). The extension of drone violence into out-of-theatre zones relies therefore on the combination of two characteristics. First, these spaces are conceived a priori as lawless, dangerous, ungoverned peripheries in which menaces can develop (see Dillon and Reid 2009). Secondly, in a manner recalling Wohlstetter's (1968, 252) argument concerning the "extension of the 'neighborhood'," these threats are rendered as constantly proximate and potentially imminent. Drone strikes, as such, serve to contain these menaces, restraining them and preventing them from translating from potentiality to actuality, enabling the continued building of security in governed spaces. In the *Field Manual*, Petraeus (2006, 1–84) noted that "border areas contiguous to states that may wittingly or unwittingly provide external support and sanctuary to insurgents create a distinct vulnerability for counterinsurgents." Accordingly, the "AfPak" border region remained a constant area

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This construction of the FATA as ungoverned spaces subject to lawmaking violence echoes Gunneflo's (2016, 15–81) analysis of Israel's conception of the Palestinian Territories as *sui generis* occupied territories under the Law of Belligerent Occupation.

I thank Professor John Williams for suggesting this argument concerning the depoliticisation of the borderlands.

of focus for JSOC and for the CIA's drones, in order to mitigate border threats to the area of counterinsurgency.

Verticality and Visuality

The fact that armed drones fly is central to understanding their strategic and tactical impact. Indeed, much work has been devoted to the specific visual, political, and geographical relations introduced by the verticality of air power in general, and of drones in particular. This aerial capability allows for both specific modes of vision and control of territory, and for an elusive interplay of presence and absence. A fundamental question, in examining the impact of drone use on the conduct of war, lies in assessing the relation between aerial means and the ground below. In effects-based-operations, the effects sought concern the situation on the ground; the employment of armed drones, in this lens, is rather war *from* the air than *in* the air. I here address two central aspects of the relation of aerial drones and ground warfare. The first concerns how drone vision represents the situation on the ground, and "how being seen from above changes the mentalities and practices of those below" (Adey, Whitehead, and Williams 2013b, 11). I address, among others, the tension between the perceived rationality of aerial vision and the COIN emphasis on cultural knowledge, as well as the tenuous position of drones (and their operators) as both in and outside the warzone. The second concerns the security logic which ties the presence of armed drones to ground presence. This intimate tie manifests itself through the identification of drone operators with the troops below, as well as in spillover violence from drone strikes onto the counterinsurgent forces on the ground. While drones do complexify notions of distance, intimacy, proximity, and remoteness in war, their identification with the situation on the ground remains crucial to understanding the parameters of their employment.

Drone vision relies on the assumption of a superior rationality of aerial vision. Through the multiplication of data, drone vision is held to be nearly all-powerful, seeing where the ground-based vision is limited, or imperfect. In their discussion of "scopic regimes," Kyle Grayson and Jocelyn Mawdsley (2019, 442) associate drone vision with "Cartesian perspectivalism and Baconian empiricism," which both emphasise the ability of drone vision to render accurately what is being seen as well as their position in space. Through the accumulation of ever more data, the drone is meant to provide constant overwatch and thus surveil territory both spatially and

temporally, employing full-motion video to track both what is happening now and what happened in the past, for instance rewinding after an IED attack to retrospectively track where an attack came from (Boyle 2020, 117). Through the tracing of clues of presence, much like a hunter, surveillance drones are expected to reveal through ever more vision what is hidden, and to find menaces before they become actual (Van Veeren 2021). While the problem of "swimming in sensors and drowning in data" jeopardises attempts to achieve perfect vision, the ideal of being able to achieve constant surveillance to identify sources of change remains actual (Deptula in Boyle 2020, 115). As Woods (2015, 71–78) has noted, this slow, methodical surveillance to develop "pattern of life" analysis methods was a staple of early AFSOC drone activities in Iraq, the focus being on tracking networks and identifying targets, leaving the killing and capturing to others.

Yet, this endeavour to achieve perfect vision is constantly frustrated both by technological and epistemological limitations, due to the difficult relation of air and ground vision. Alex Edney-Browne (2019, 95–96), among others, has noted the fundamental problem of technological friction which can corrupt images, lead to loss of perception, and to confusion. Andrew Cockburn (2016, 4–5) has noted the inescapable problem of latency introduced by satellite transmission, which means that operators experience constant delay in controlling their aircraft, while Alison Williams (2011) has noted the limitations of the human element of the human-machinic assemblage. Most crucially, however, the ideal of dispassionate, rationalistic vision confronts a number of unavoidable epistemological and ontological limitations which restrict the potential of drones in a counterinsurgency setting. A central disagreement, in this regard, concerns the potential for drones of achieving the "cultural knowledge" which is at the heart of the COIN endeavour.

For Petraeus, the ability to intimately understand the sociopolitical situation in which COIN takes place is central to the requirements of counterinsurgency. "Cultural knowledge" allows troops to understand the effects of force and to identify threats accurately; without developed cultural awareness, troops are less capable of acting, and tend to misdirect or misapply force, with nefarious consequences (Petraeus and Amos 2006, 1–80). Charles Dunlap, on the contrary, in his vindication of drone power in COIN, considers this cultural understanding as a source of error. Where, for Petraeus (2010, 116), one "cannot commute to the fight in a place like Iraq," Dunlap

(2008a, 58) asserts that the fact that drone operators precisely *do* commute to the fight gives them a more dispassionate perspective, untainted by the "cultural lens" and the potential "multitude of subjective machinations" which affect human intelligence. These two visions are fundamentally at odds, and can only be mitigated to a certain extent by the subordination of drone strikes to on-the-ground controllers or by the multiplication of sources of data. As Chamayou argues, however, the tension between these two perspectives on drone vision boils down fundamentally to an epistemological impossibility, namely that of correcting empirically an ontological indeterminacy. Identifying combatants in a COIN setting, where the boundaries between civilian, political militant, and armed combatant are fluid, indeterminate, and changing constitutes an ontological problem, not an empirical one. In many cases it cannot, therefore, be resolved through an abundance of empirical signs and signatures (Chamayou 2013, 203; D. Gregory 2011b, 200; also McDonald 2017).[181]

These limitations of the rationality of drone vision introduce a critical flaw in the project of total vision: as Ryan Bishop (2013, 193) writes, "mastery is inescapably haunted by that which eludes it." The categories of legitimate target, enemy combatant, and legitimate collateral damage are produced discursively, and not reducible to empirical vision. Maja Zehfuss (2011) has written about the political-legal construction of targets which constitutes them as legitimate, while John Emery (2020) has argued that the algorithms employed to determine expected collateral damages introduce significant bias which lead to systematically undercounting expected deaths and injuries. In both these cases, the problem lies in determining uncertain consequences to predict effects of strikes; by resolving uncertainty conservatively, undercounting potential harms, such calculations and determinations frustrate the endeavour to achieve perfect control to which drone vision tends (M. Shaw 2005, 88).[182] As Chris Woods (2015, 91; 250) has noted, the potential for drones to discriminate and avoid excessive civilian casualties depends not merely on the precision of impact of the weapon, but on the presence of "a political will to reduce noncombatant deaths" and constrain the "permissive environment" which may enable the killing of civilians despite intentions to the contrary, which he argues differed

[181] As mentioned in the last chapter, McChrystal emphasised the common identities of insurgents: "Insurgents are Afghans" (Hastings 2013, 141). Determining who to target, therefore, is not an epistemological problem but an ontological work of status determination.

[182] This project of perfect situational awareness, arguably, is embedded in the RMA more broadly (Lonsdale 2004, 50).

significantly between theatres until the Obama administration's tightening of rules of engagement around 2010.[183] The recurring accidents of drone strikes killing civilians are therefore not – only – artefacts of imperfect technology, though the fallibility of technology is certainly part of the causes. Nor are they mainly due to a failure of aircrews who end up "missing the gorilla" due to a lack of attention or faulty reasoning (P. Lee 2018, 134). Rather, it is inscribed in the very epistemological limitations which restrict the potential of aerial vision in COIN, as well as in the structures of determinations and calculations of risk.[184]

As mentioned above, drones seem to be fundamentally at odds with Petraeus' (2010, 116) contention that "you cannot commute to the fight" in COIN. Yet, drones are not inexorably remote to the war either. Their presence has real effects, both for the soldiers on the ground engaged in counterinsurgency and for the insurgents, whose behaviour is profoundly impacted by the potential presence of drones overflying. Even when drones would not actually be overflying, their potential unseen presence sufficed to shape the actions of potential targets (Boyle 2020, 86). As Priya Satia (2013, 235) has argued, this potential omnipresence is integral to the psychological impact of drones, as it was for British aircraft engaged in aerial policing in the 1920s: "aircraft were really meant to be everywhere at once, conveying a silent warning." In seeking to account for the psychological effect of drone presence, "how being seen from above changes the mentalities and practices of those below" (Adey, Whitehead, and Williams 2013b, 11), the endeavour of the drone can be likened to a "god trick" of constant potential omnipresence, omniscience, and omnipotence, ever present yet unseen (Stahl 2013, 664).[185] A peculiar disassociation between the drone and its operators lies at the foundation of its value in COIN: whereas operators "commute" to the fight, sometimes jumping between multiple theatres of war in a single shift (Woods 2015, 10), the drone aircraft do not, remaining on station potentially unendingly. Unlike other ISR assets,

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[183] As noted above, the CIA made little attempts to discriminate in strikes on the Pakistan side of the "AfPak" border, at times even engaging in "double tap" strikes against rescuers (Woods 2015, 160–62).

The United Kingdom, meanwhile, consistently adopted much more stringent requirements, mandating complete avoidance of civilian casualties for its drone operations, and nearly always succeeded in achieving this standard (Woods 2015, 247).

[184] Alan Stephens (2015, 134) rejects that the lack of cultural sensitivity is specific to aerial weapons: in his view, the whole COIN project falls on the inability of foreign soldiers to comprehend local realities, even when they live on the ground among the population. Jeangène Vilmer (Jeangène Vilmer 2021), on the other hand, argues that forward-deploying French drone pilots allow them to acquire that cultural sensitivity they need to better understand their environment.

[185] The term is originally from Donna Haraway.

drones can remain on station, "like having your own little satellite over a terrorist cell" (Loren Thompson in Dunlap Jr. 2008a, 57). The drone technological and social apparatus is therefore both in and out of the war simultaneously, suspended in a "techno-cultural" scopic regime which, though fallacious, serves to legitimate the violence it produces (D. Gregory 2011b, 193; Grayson and Mawdsley 2019, 443–47).

At its logical endpoint, this omnipresence, omniscience, and omnipotence of the drone system calls forth the ideal of both Douhet's vision of air war and Warden's notion of strategic paralysis. While Dunlap (2008a, 59) argues that a fundamental difference lays in the targeting of the psychological effects on the insurgents themselves rather than on the population at large, the operational logic leading to this end does not differ fundamentally. In chapter 5, I argued Douhet's strategic logic relied on both indeterminacy and inevitability: the command of the air entails the ability to harm the enemy at any time, in any manner. The psychological toll this takes on the enemy populace will invariably lead to a loss of legitimacy of the existing government, powerless to prevent aerial destruction, compelling the government to capitulate. In the same chapter, I discussed the updating of this concept in Warden and Deptula's notion of "effects-based operations" and strategic paralysis in which, through pinpoint targeting of nodes to disable specific enemy functions, the enemy system could be rendered incapable of acting. Deptula (2001, 11–12) further discusses the potential for achieving paralysis without destruction, taking example on Iraq's shutting down of its electrical grid in 1991 before its targeting, achieving the requisite effect by simple threat of violence. Martin Coward (2013, 96–97) similarly describes the air assault on Baghdad in 2003 as "spectacular warfare," designed to achieve "a certain fear and awe before the representation of overwhelming force." The subsequent network warfare remains "total in its target set" even though it seeks to achieve these total effects with lesser force (Coward 2013, 103). The psychological effects of drone strikes therefore rely on a similar logic of potential total targeting, combining potential omnipresence, omniscience, and omnipotence with selective application of force. The paralysis through air power desired by Douhet, or by Warden, remains as an ideal, if rendered in considerably less grandiloquent terms in practice.

Air and Ground Security

While drones, being airborne, entail a specific form of aerial violence, their presence is conditioned to the security logic on the ground. Simply put, the presence of aerial drones – even in areas where no American ground troops are immediately present – is logically and discursively tied to the situation on the ground, and to a need to protect or secure a ground presence. As mentioned above, Obama made this link explicit in 2013 at the National Defense University, when he sought to justify the presence of armed drones in Pakistan as necessary for the "force protection" of American troops in Afghanistan (Woods 2015, 223; Obama 2013b). Remote-piloted aircraft are used in the service of a more or less proximate ground presence, sometimes in conjunction with ground troops, sometimes operating independently. The ground presence which both justifies the presence of drones and which supports drone operations, meanwhile, can also suffer the consequences of drone activity, such as in the attack on Khost in 2009, where CIA operators who collected intelligence for drone strikes were killed in a suicide attack. This ground presence belies the notion of unbridgeable remoteness of drones which critics like to assert; in other words, there is no such thing as "pure drone warfare" (Gusterson 2017, 15).

Pomarède (2020, 204), in his work on the "archipelago of death," discusses the "tactical trap" according to which COIN is a form of risk-management war, one "that aims at indefinitely manage [*sic*] the instabilities that it contributes to perpetuate," thereby undercutting the security-building endeavour of COIN. In Petraeus' account, COIN requires American troops to live in contact with the local population, and to make its presence in the local population visible through patrols and other such operations (Petraeus and Amos 2006, 1–149; Petraeus 2010, 116). As the American presence invites insurgent violence, ground troops, by living with the population, expose that same population to violence, with the result that security operations may paradoxically undermine that same security despite being necessary for the control of territory (Pomarède 2020, 211; Kilcullen 2006, 117). The presence of troops to protect the population, therefore, invites heavy firepower to protect these troops, which endangers the population in punctual outbursts of concentrated violence. Drones, either in conjunction with ground troops or in operations further afield, contribute to this logic by engaging in violence meant to protect ground troops. In Iraq, for instance, drone surveillance and drone strikes were employed extensively to combat networks

planting IEDs, whose prevalence was due to the presence of American patrols (Boyle 2020, 108). The result, as Christophe Wasinski (2019, 353) writes, is something of a self-referential security logic: "soldiers fight to protect soldiers fighting to protect other soldiers." The drones whose pilots "commute to the fight" exist due to the presence of soldiers who do not commute, planting a point of reference around which drones revolve.[186]

The presence of troops on the ground, particularly when engaged in combat, creates a particularly salient point of reference for drone operators, one with which they identify particularly strongly. Much has been made of the sense of intimacy that drone operators can experience with the environment they overfly and the people they surveil. Through video immersion, operators are not only "above – they were *in* – the action nonstop" (F. Kaplan 2014, 275) and travel easily between the "unique sense of place and time" of the ground control station and their area of operations (Woods 2015, 10), an identification aided by the fact that "Creech Air Force Base, as many military veterans noted, oddly resembled some of the landscapes in Afghanistan, Pakistan, Iraq, and Yemen that the drones surveyed" (Shane 2015, 72). Yet, as Derek Gregory (2011b, 200) notes, this intimacy is not affixed in an abstract sense, but results from association with the – American – troops on the ground which drones support. As drones became more prevalent on the battlefields of the War on Terror, Woods (2015, 85) describes a process of mutual "trust" developing between ground troops and their operators, one in which drone operators are "to some substantial degree render[ed] responsible for the evolving situation on the ground" (D. Gregory 2011b, 201). The language of "our guys on the ground" and the identification with troops present in Afghanistan or Iraq create a sense of attachment which embeds drones and their operators in the conflict, often deliberately so (Woods 2015, 183; 170).[187] Drone operators' "inability to read the intimate textures of the landscape" due to their physical and cultural distance often leads them to identify vicariously with the troops engaged in combat or which they are

[186] Chris Woods (2015, 15) mentions that most drone strikes were undertaken by conventional U.S. Air Force units, mostly in close air support roles. Close air support, in turn, allowed for the short-circuiting of rules on collateral damage calculations, and often caused significant numbers of civilian casualties (Woods 2015, 243; Pomarède 2020, 217).

[187] Woods (2015, 79), for instance, describes an Air Force colonel emphasizing to drone intelligence analysts the importance of their tasks, describing them as "guardian angels" and "trying to give them a personal vested interest in what was happening on the screen." In another incident where special forces were ambushed in what became one of the largest combat operations in Afghanistan (Operation Anaconda, in March 2002), a drone crew employed a laser illuminator to make its presence known to the ground troops and reassure them (Whittle 2015, 298).

meant to protect, tying them to ground warfare in ways that shape how they experience, interpret, and analyse the situation (D. Gregory 2013, 64).[188]

Finally, the presence of armed drones in the air carries significant risks that can reverberate onto the ground presence. The paradigmatic example of this case lies in the suicide attack on a CIA detachment at Forward Operations Base Chapman in Khost, Afghanistan, in 2009. The base served to support intelligence collection for drone operations in Pakistan, and the attack was as "a way [for al-Qaeda] to strike back" even "though drones were valued for keeping Americans far from danger." (Shane 2015, 18; also Woods 2015, 165–66). Another case of a drone strike putting local troops at risk occurred in early 2020, following the killing at Baghdad airport of Iranian general Qassem Soleimani. On January 8th, Iran launched a barrage of missiles at a U.S. base in Iraq in retaliation. As a result of this attack, more than 100 soldiers suffered traumatic brain damage, with 29 receiving Purple Heart medals in recognition of injuries incurred through enemy action (Lamothe 2021; Ali and Stewart 2020). Finally, Chris Woods has noted the extensive employment of local agents for intelligence collection in Afghanistan, Iraq, and Somalia, as well as for planting radio emitters capable of guiding drone-launched missile. The result of this extensive use of human agents was an intense campaign of Taliban counterterror, which resulted in significant numbers of casualties among local populations (Woods 2015, 268–70). The remoteness of drone use, which insulates the operators from immediate risk, does not therefore entail the reduction of risk to friendly forces, but its redistribution. Borrowing Martin Shaw's argument, it entails processes of risk-transfer, where the costs of drone strikes are offloaded onto local troops, collaborators, and civilians. The "precision" of the effects of drone strikes is "often bought at a high cost" (Woods 2015, 272–73), and the pinpoint immediate effects of drone-launched missiles must be balanced against the much wider impacts of such strikes on the security of ground troops and populations. As Pomarède suggests, drone strikes may therefore fall into the very tactical trap they purport to escape, that of increased security operations leading to the spread of effects undermining the very security they are meant to foster.

[188] Jean-Baptiste Jeangène Vilmer notes that France has deliberately chosen to always deploy its drone pilots to theatres of operation, which he argues allows them to get a better awareness for local conditions and life (Jeangène Vilmer 2021).

Protection and Risk

As chapter 4 discussed, practices of risk-transfer and externalization of costs of violence pervade the conduct of contemporary warfare. The prevailing framework of "post-heroic warfare" (Luttwak 1995) presumed that Western states would seek to conduct war while minimizing casualties at all costs. Indeed, multiple scholars have seen in the employment of armed drones the purest instantiation of this doctrine, allowing for disembodied warfare without risk (Chamayou 2013; Enemark 2013). Concepts of proxy, surrogate, vicarious, and risk-transfer warfare sought to present refinements of this principle, largely concurring that states – first and foremost the United States – would seek to conduct successful operations while minimizing casualties to their own personnel. To this end, Thomas Waldman (2018) argued, American forces would, among others, adopts practices of "bunkerization" and routinely employ excess firepower to protect their troops, including from the air, while Martin Shaw (2005, 86) argued that while the United States never explicitly intends the death of civilians, the transfer of risks onto noncombatants is accepted and factored into planning, to the extent that "the consistent overall pattern of greater losses of life among civilians than among Western militaries is intended."

This conceptualization of risk-transfer war runs explicitly counter to the principles of COIN. As Petraeus has made clear, contrary to the impulse to reduce risk by increasing distance vis-à-vis the population, COIN requires increased proximity with the local populace. Being with the populations and reducing protective measures may increase risks of casualties to counterinsurgent troops but, according to COIN doctrine, that is a necessary price to pay to achieve strategic objectives. According to Colin Kahl (2007, 45), American doctrine furthermore explicitly prohibited risk-transfer onto civilians. As evidence of this, Kahl (2007, 37) notes that the United States military has been willing to forego tactical advantages and accept operational failures in order to avoid risking causing unnecessary noncombatant casualties. Overall, the core principle of COIN, as exemplified by the surges in Iraq and Afghanistan, entailed the trading of increased casualties in the short term for, it was hoped, a long-term increase in security which would reduce overall casualties (F. Kaplan 2014, 236; 266).

In this setting, the position of drones is precariously suspended between these two poles. On the one hand, drones were – when employed with a view to civilian

casualty aversion – instrumental in reducing collateral damage of operations. In 2010, for instance, the surge in Afghanistan increased dramatically the pace of operations, leading to an increase in casualties among both Coalition troops and noncombatants (Woods 2015, 242); however, while the number of airstrikes doubled compared to the previous year, noncombatant casualties decreased, a result Woods (2015, 219) attributes largely to the increased employment of drone-launched precision strikes. On the other hand, drones strikes do cause casualties, and their employment may contribute to an overall "more permissive environment" for civilian casualties which, though unintended, may end up being self-defeating (Woods 2015, 242). Analysing the war in Iraq up to 2006, Kahl (2007, 46) notes that while the United States military reflected a strong culture of noncombatant casualty aversion, its decision to prioritise offensive kill-and-capture operations increased the risk to Iraqi civilians, and that "the tension between annihilation and restraint within U.S. military culture ultimately generated more risks for civilians than was militarily necessary or inevitable."[189] To the extent that the employment of armed drones contributes to the spread of military operations, it necessarily entails more risks to civilians and, while it may not intend any given casualties, this increase of risk is accepted and factored in to operations (M. Shaw 2005, 86–87). Drone operations, to that extent, are part of "an *imagined* economy" of risk which requires the socially constructed quantification and evaluation of risks, employing casualty numbers as "currency" (M. Shaw 2005, 98; 105).[190]

This tension of risk-transfer and risk-acceptance returns to Pomarède's tactical trap discussed above. If the objective of COIN consists in the ultimate reduction of violence as security is built up, every employment of violence in protection undermines the security which it endeavours to build up. In many cases, indeed, the very presence of troops attracts violence, putting noncombatants at risk. For Kilcullen (2006, 117), as for Pomarède, that remains a central dilemma of COIN: patrols, which are meant to "dominate an area, reassure and protect the population, disrupt insurgents and gather intelligence," by attracting violence (such as IEDs) might fail at each of these objectives. From a perspective of population protection, while Coalition troops may not directly kill civilians, their presence carries indirect effects which lead to

[189] I should note, for fairness, that the period analysed by Kahl pre-dates the adoption of an explicit COIN strategy in Iraq.

[190] The quantification of risks occurs in large part through the calculation of casualty estimates. On the process of calculation of risks and its obfuscation of likely harms, see Emery 2020.

noncombatant casualties. These risks may be compounded by the commitment to a long war, which carries with it extended periods of diffuse violence for local populations. While these tensions, which seem to point to the fundamental bankruptcy of war as a tool of risk reduction (M. Shaw 2005, 140–41), apply to all facets of military violence for protection, they raise particularly salient conceptual problems for the employment of armed drones, whose connection to the holding of territory is much more diffuse. Quite simply, if drone violence, like other forms of ground-based violence, contributes to spiraling violence which undermines both the strategic aim of building security and the overall protection of forces on the ground, drones would fail to constitute the post-heroic instrument of vicarious warfare their proponents envision, which through precise targeting can provide pinpoint violence which protects friendly forces and noncombatants alike. In purporting to reduce risks to civilians and forces on the ground, drone violence may paradoxically fuel continued violence.

Arguments asserting the productive, beneficial potential of drone warfare have indeed been made, presenting drones as a means of escaping the tactical trap. Charles Dunlap (2008a, 59), for instance, not only suggested that the elimination of insurgents was more instrumental to the establishing of security than "winning hearts and minds," thus suggesting that the strategic costs of collateral damage may be overstated, but also that air power can increase the sense of security of the population by destroying signs of enemy presence.[191] Daniel Byman (2013, 41), meanwhile, advocating in favour of U.S. drone strikes in Pakistan, argues that "drones actually protect many Pakistanis, and Washington should emphasize this fact." If Pakistanis do not agree that drone strikes increase security, it is because "many Pakistanis do not realize that the drones often target the very militants who are wreaking havoc on their country" (Byman 2013, 39). Anouk Rigterink's (2021a) study of decapitation strikes in Pakistan, however, casts doubt on this narrative: according to her study, strikes on high-level commanders in Pakistan led to a temporary increase in violence levels, particularly directed against civilians. As mentioned in chapter 8, a strategic plan might be willing to accept these temporary increases in violence in exchange for long-term gains. To present these results as protections of civilian populations, however, requires wading further into the economy of risk described by Martin Shaw, one in which the lesser evil of immediate

[191] To be clear, Dunlap (2008a, 53) does not in any way express indifference towards civilian casualties, though he rejects the suggestion that airstrikes are necessarily less discriminate than other firepower.

violence and potential noncombatant harms are balanced against the forecast harms of not acting, or of acting differently. Ultimately, with drones as with other weapons systems, the very fact of engaging in war entails risk to noncombatants and to forces involved, as well as the redistribution of these risks. Armed drones remain caught in the tactical trap.

Conclusion

Armed drones constitute a paradoxical weapons system to be employed in COIN. In itself, the drone draws on and replicates a host of spatial relations which have been a feature of previous instances of war at a distance. As chapter 7 argued in reference to the American war in Vietnam, the spatial relations of remoteness and distance surrounding the drone are the product of strategic and political choices and commitments. Nevertheless, the specific situation of counterinsurgency warfare provides an additional layer of spatial complexity. COIN, predicated on the proximity of intervening forces with the local population, can at best uneasily accommodate a weapons system piloted from several thousand miles away. Yet, even this geographical distance is not straightforward. As Manabrata Guha's (2021) discussion of the "Internet of things" suggests, the location of different elements of the drone network and platform depends not so much on their physical location but rather on their position within the network. The conceptualization of the armed drone as a 'sensor-shooter' platform is misleading to the extent that these elements, though part of a single platform, are connected through a dispersed network spanning multiple locations across the United States and the world, some of them indeed on the ground in Afghanistan or Iraq. Similarly, in the geography of archipelagos and borderlands, sites are connected by "lines of force" within "de-territorialized" networks, between which "there is nothing" (Coward 2013, 110).

These spatial relationships are partly determined by the technological characteristics of the drone, but also significantly by the strategic environment of which they are a part. Armed drones are part of the broader operations and forces of counterinsurgency in the War on Terror, and therefore equally tributary and shaping the spaces in which these campaigns take place. Most significantly, the presence of drones can never be conceived as independent of ground presence. While it is fashionable to conceive of the drone as an undifferentiated potential omnipresence and omnipotence, the employment of armed drones draws both its justification and its logic

from its relation to the war on the ground. The complex and uneasy relations between force protection, population protection, and aerial violence condition the employment of drones, and how it can be justified in a context of counterinsurgency. As such, to borrow Amélie Férey's (2020, 89) phrase once more, the drone genuinely represents a "metonymy" of the War on Terror, a part which stands in for the whole. The complex tactical and strategic situation of armed drone employment replicates dilemmas at the core of counterinsurgency strategy, while the diffuse remoteness of drone operations mirrors the diffuse remoteness of the terrorist threats the War on Terror is meant to combat. Just as Anwar al-Awlaki, for instance, occupied positions within both local and global political dynamics, being both a member of an influential clan in Yemen and a designated top target for American counterterrorism (Shane 2015, 237), so armed drones are inscribed in both local and global dynamics, responsive as much to American political dynamics as to local Iraqi, Afghan, or Pakistani political imperatives.

The conceptualization of spaces of drone use is both a product of strategic decisions and a key factor in determining their relationship to the war effort in general. In that respect, the withdrawal of main American and Coalition forces from Afghanistan reshapes significantly the spatial and strategic underpinnings of armed drone use. While the Biden administration has not yet settled on a clear policy for the legal, political, and strategic frameworks for drone strikes in Afghanistan and elsewhere, the removal of ground troops removes both a major justification for drone strikes as well as a major enabling asset, both for logistics and for intelligence support (Cohen, Bertrand, and Bo Williams 2021). This withdrawal, which may signal a return to a form of surrogate warfare in combination with Afghan insurgents or "over-the-horizon" counter-terrorism, will require new spatial and strategic frameworks for aerial power (Cooper, Schmitt, and Gibbons-Neff 2021). Similarly, if the United States were to reorient its attention towards high-intensity, high-technology warfare against China or another major power, the strategies and spaces in which armed drones exist would be equally scrambled (Brose 2020).

Chapter 10 – Conclusion

This thesis has provided an account of the genealogical and conceptual underpinnings of the contemporary use of armed drones in the War on Terror. I have traced the genealogy of aerial and remote warfare which produced the contemporary regime of drone use, in addition to analysing how this genealogy has shaped the conceptual and spatial architecture of drone employment. I argue that this work of historical contextualization, relying on genealogy and conceptual history, is crucial to situating contemporary drone employment in its proper context and to grasping its connection to wider practices of contemporary and historical warfare. As Rebecca Adelman and David Kieran (2018, 1) argue, "a preoccupation with contemporary drone warfare might obscure both its relationship to other forms of remote violence like aerial bombing and cyberwar and its location in a history of theorizing remote warfare as old as aviation itself." In what follows, I restate the contributions of this thesis, and briefly draw out five implications of this discussion for wider theorizing about contemporary warfare and the use of armed drones.

Chapter Summary

Chapter 2 outlined the methodological approach of this thesis, and the justification for drawing on a genealogical approach and on conceptual history. Genealogy allowed me to track the multiple combining threads which combine into contemporary drone employment, while emphasizing that these political-strategic constructions which rendered the use of armed drones both possible and desirable were not predetermined, but the project of debates and contestations about the purpose of military violence in war. Conceptual history highlights the importance of concept formation, contestation, and change, which delinates the parameters of discourse concerning the role of armed drones.

Chapter 3 argued that debates concerning the changing character of war have taken place with reference to the central conception of war offered by Carl von Clausewitz. It then outlines three major arguments about the changing character of war which took place around the end of the 1990s and early 2000s as armed drones were slowly entering active service, and which influenced thinking about the role of drone violence, namely the New Wars thesis, the Revolution in Military Affairs, and

the resurgence of small wars. Arguments about whether counterinsurgency is an example of a "new war" inviting a hybrid cosmopolitan response, a further instance of a network war where "closing the kill chain" faster than the enemy through an information revolution and faster and more precise lethal force could achieve victory (Brose 2020, xix), or whether the War on Terror is a "small war writ large" and a further example of "unconventional war [being] the convention" (Daase 2007, 194; Smith 2005, 44) has significant implications for how one envisages success in the War on Terror, and by extension for the role of drones in this military system.

Chapter 4 addressed arguments specifically about the transformations of war brought about by increasing remoteness at the turn of the twenty-first century, which can be associated with the broad notions of "post-heroic" and "virtual" war (Luttwak 1995; Ignatieff 2000). This chapter rejects the suggestion that the alleged "radical asymmetry" of drone warfare constitutes a decisive break with the concept and history of war, one which transitions from a paradigm of reciprocal war to one of monodirectional killing. On the contrary, I situate the employment of drone warfare within broader practices of surrogate, vicarious, and risk-transfer warfare. I emphasise that the employment of armed drones for targeted killing does not constitute a new category of violence distinct from war, but is part of broader dynamics of warfare.

Chapter 5 compares and contrasts two episodes of theorizing about strategic air power, namely the interwar theorizing of Giulio Douhet and the renewed attention to independent air power campaigns at the turn of the 1990s by John Warden and David Deptula. In contrasting these two developments, I demonstrate that arguments for the ability of air power to unilaterally achieve strategic objectives lacks a specified causal logic. With particular attention to the doctrine of Effects-based Operations, I argue that while air power can undeniably achieve significant effects, its ability to direct these effects to the desired outcome, achieving desirable results while avoiding unanticipated detrimental consequences, is lacking. Consequently, to consider armed drones as inherently strategic weapons, based on the long lineage of assertions of the strategic abilities of air power, may be missing the mark or lacking in substance.

Chapter 6 considers the reconfigurations of distance brought about by the "extension of the 'neighborhood'" induced by the development of new communication technologies as well as nuclear-armed intercontinental capabilities, particularly intercontinental ballistic missiles (Wohlstetter 1968, 252). While nuclear weapons

obviously carry much larger area effects than drone-launched Hellfire missiles or 500-pound bombs, discourses concerning nuclear war raised similar conceptual debates concerning the construction of precision, the communicative effects of remote violence, and the possibility of waging war while controlling escalation, levels of violence, and employing less-than-total force.

Chapter 7 is the only chapter that studies principally a situation of actual warfare, namely the employment of remote means in the American War in Vietnam. By looking at five main facets of the war – the decision to intervene, the use of strategic bombing, theatre interdiction, combat tactics in South Vietnam, and practices of remote decision-making – I argue that remoteness in warfare is actively constructed through practices meant to externalize and transfer risks and costs. Consequently, I reject the conceptualization of remoteness or surrogacy a single, unproblematic relationships, and argue that practices of risk-transfer pervade all levels of military operations. This has implications for the consideration of armed drones and their embedding in a plurality of more or less 'remote' relationships in the War on Terror.

Chapter 8 considers the strategic role of armed drones in the War on Terror. I argue that drones cannot be categorized as merely tactical weapons; furthermore, I argue that drone activities in and outside of declared zones of hostility can largely be subsumed under a framework of counterinsurgency focused on specific territories, namely Afghanistan and – to a lesser extent – Iraq. Consequently, drone activities must be evaluated according to whether they contribute positively to the security-building project of counterinsurgency, and whether they fulfill their role as "strategic enabler" for broader security work (Read 2010, 136).

Finally, chapter 9 examines the spatial and conceptual implications of contemporary drone employment, in light of the strategic discussion in chapter 8. I highlight the construction of an archipelago spatial logic of counterinsurgency, complemented by borderlands construed as violent, into which some violence can be externalized. I further highlight the tension between the vertical presence of armed drones and the COIN emphasis on physical proximity with the local population. Finally, I argue that drone involvement constitutes an imperfect means of risk transfer and risk management, their employment being inextricably tied to a ground presence which cannot be insulated from the effects of drone violence.

Contributions

Throughout these chapters, this thesis has offered three conceptual, genealogical, and strategic contributions to the study of armed drone employment in contemporary warfare. The first contribution is conceptual: throughout this thesis, I demonstrated that the conceptual parameters and discourses which guide the employment of armed drones are the product of series of political, normative, tactical, and strategic decisions. By studying the development of these conceptual discourses – as conceptual history proposes – I have disentangled and located a number of these conceptual contestations and decisions, particularly concerning concepts of war (chapter 3), distance (chapter 4, also 6-7), and spatial relations (chapter 9). As such, I contribute to a current of work in drone studies which has studied all these aspects, but not always in their strategic and political dimensions. As the quotation by Adelman and Kieran above suggests, to focus too much on contemporary dynamics may obscure how the conceptual constructions undergirding the use of drones develops within wider strategic and political debates.

The second contribution is genealogical: I have traced, throughout this thesis, bifurcations in constellations of meaning and discourse concerning remote and aerial warfare, which contribute to producing contemporary forms of air war, including the use of drones. Contestations and negotiations of the content of the "American way of war" and its aerial version contribute to centring and marginalizing certain forms of war, if not in practice, at least in culture and strategic theory. The contemporary use of armed drones, and its arguably pivotal role in several aspects of the Global War on Terror, grow out both of mainstream Air Force culture and doctrine (chapters 5, 6) and more marginalized practices of small and irregular warfare (chapters 3, 7, 8). This thesis is far from the first to apply a genealogical approach to contemporary warfare and to the employment of armed drones (Gunneflo 2016; Bousquet 2018; Scheipers 2015; Hippler 2017). It does, however, innovate in its attention to the concept of distance and its implications for successive theories of air power and remoteness in war.

Finally, the third contribution is strategic: I argue that contemporary armed drones must be appraised chiefly in their tactical and strategic contribution, according to whether they can contribute – and how – to achieving political objectives. Simply put, whether drones are beneficial or dangerous depends on whether they work, in

whatever situation they are placed. Just as the empirical debate concerning the effectiveness of targeted killing suffers from a lack of strategic insight (Jordan 2009; Price 2019; Rigterink 2021a; see Carvin 2012; see McDonald 2019), so it is equally misleading to consider drones as purely tactical weapons (Cronin 2013). When it is argued that armed drones "save lives", it is necessary to situate this economy of risk and casualties within wider strategic frameworks rather than focusing only on the immediate consequences of a drone strike being more precise in eliminating a specific target (Byman 2013; see M. Shaw 2005). In chapter 8, I situate the employment of armed drones within the broader frame of counterinsurgency (COIN) which dominated American approaches to the War on Terror from roughly 2007 to 2011. Building on the discussions of chapters 5 to 7, I argue that armed drones must be evaluated on their ability to achieve effects that are compatible and beneficial to the broader security-building endeavour of COIN. In chapter 9, I reject suggestions that the drone can escape the "tactical trap" of employing violence to protect forces working to reduce violence (Pomarède 2020, 204; Wasinski 2019, 353), arguing that armed drones remain part of dynamics of violence, force protection, and risk which pervade the war on the ground.

Implications

I conclude this thesis by drawing out five corollary implications of my discussion of the employment of armed drones. These seek to both relate the genealogical-strategic discussion here to broader themes in scholarship on armed drones, and also to tentatively point to potential future developments. The first implication is that the values ascribed to the employment of armed drones are inevitably networked values, produced by an array of political, strategic, and legal factors. The precision and discrimination of drone strikes is the product of a socio-technical network which conditions norms of acceptable risk, certainty, and discrimination. These norms are partly technical and partly related to the interpretation of such technology (Mackenzie 1990; Emery 2020; Zehfuss 2011); they are, also, significantly embedded in strategic calculations. As Christophe Wasinski (2019, 351) writes of air power more broadly, "civilian lives are put at risk by military operations which rely on heavy firepower delivered by fast-flying machines in a difficult environment." These networks, combining legal advisors, decision-making structures, and intelligence analysis "tails" all combine into making possible and legitimate

certain forms of violence while managing, producing, and distributing risks deemed acceptable. The armed drone and its signification are therefore as much a product of a certain networked culture as they are a technological-strategic construct (see Guha 2021; Jones 2020).[192] This, in turn, conditions the strategic utility of armed drones and their perception as more discriminate, more precise, cheaper, safer, or more effective.

More broadly, these networked values are shaped by political decisions. As mentioned in chapter 9, the criteria presented by the Obama administration to justify out-of-theatre drone strikes highlighted the impossibility of capture. In Pakistan for instance, the collapse of political relations with the Pakistani government de facto made capture impossible. The unilateral mode of operation of the CIA armed drones in Pakistan, alienating the Pakistani government, in turn legitimated the CIA's recourse to unilateral drone strikes by precluding existing alternatives. To assert that drone killings are "the only game in town" and therefore necessary is the result of an array of political and strategic decisions which make it so (CNN Politics 2009). The "economy of risk" of which drones are a part is constructed by political decisions and is not a purely empirical calculation (M. Shaw 2005, 98).

The second implication of this work is that the strategic perception of drones as strategically beneficial relies on a specific type of "good kill" discourse and imagery. Throughout this thesis, I have noted the use by Amélie Férey (2020, 44) and Grégoire Chamayou (2013, 206) of the phrase "bien tuer," to "kill well." Whereas procedural defenses of the armed drone – that it is more discriminate, more precise, more effective – rely on a conception of killing in a good manner, this phrase, in French, points to a second meaning which the English translation does not capture, that of doing good through violence. This second reality is what Dan Byman (2013, 42; Obama 2013b) points to when he argues that drones "protect many Pakistanis", and it is a means of discursively countering the tactical trap discussed in chapters 8 and 9.[193] Both Stanley McChrystal and David Petraeus repeatedly employed biomedical illustrations of violence as cleansing, counterinsurgency being like dealing with a contagious disease or counterinsurgents being "like surgeons cutting out

[192] On the organisational reforms which have made the type of drone-enabled networked war possible, see Naylor 2016; Bakos and Coburn 2019; Fuller 2017.

[193] Obama relates the life-saving potential of drone strikes to global counterterrorism, disrupting terrorist plots in the West. As discussed in chapter 8, while some strikes justified as part of a pure counterterrorist logic are conducted, the vast majority are rather part of an extended counterinsurgency mindset focused on the Afghan (and Iraqi) state (Woods 2015, 223).

cancerous tissue while keeping other vital organs intact." (Petraeus and Amos 2006, 1–124; McChrystal and Talbert-Slagle 2013) As Elke Schwarz (2018, 168–69; 177) has noted, the pervasiveness of biomedical imagery in justifying violence introduces a biopolitical mode of politics, ensconcing the necroethics of 'killing well' in a biopolitical necessity of technological violence to resolve political problems. Warden's (2015, 104; 1995, 43; 46) emphasis on "chang[ing] the enemy's physical system" through mechanistic applications of precise force becomes a medical effort of curing the enemy of its enmity through precise violence. The endeavour, in both COIN and counterterrorism, to isolate and eliminate the irreducible core of insurgents, or to "cauterize" the most problematic parts of the system, are thus rendered as biomedical problems, rather than as political problems in need of political solutions (Petraeus and Amos 2006, 1–68; 4–27; F. Kaplan 2014, 219; McDonald 2019).[194] Ultimately, through this medical approach, drone violence can therefore be legitimated as a form of "ontogenetic" violence, that is, violence which is productive of order and security, necessary to the health of the body politic (Bartelson 2018; see also Schwarz 2018; Dillon and Reid 2009).[195]

The third implication concerns the ethics of drone strikes. At various moments in this thesis (chapters 4, 8), I have noted that the ethical evaluation of armed drone strikes requires an accurate understanding of their strategic employment. In chapter 4, I noted that Enemark's critique of drones as breaking with the reciprocal model of war fails to grasp the nuances of the strategic situation of drones; similarly, the failure by Brunstetter and Braun to account for cumulative effects constitutes a significant thorn in the side of the "just limited use of force" theory (see chapter 8). As noted above, furthermore, the values embedded by drones are the product of networks and strategic-political decisions, which must be evaluated as part of an ethical assessment of drone strikes. Assertions of the morality or immorality of drone strikes, or of their transformation of ethics of war, too often take basic strategic, spatial, political

[194] Scott Shane (2015, 128) details how Obama came to the presidency with two opposed instincts, to propose a political solution to the root causes of violent terrorism and to "kill those who are trying to kill us."

[195] Among others, both Amélie Férey (2020, 215–16) and Kyle Grayson (2012, 121) argue drone violence are meant as strengthening sovereignty, through the elimination of competing centres of power and the visible demonstration of sovereign power. I have also argued elsewhere that Islamic State's employment of drone imagery is meant as a demonstration of vertical sovereignty (Archambault and Veilleux-Lepage 2020).

conceptual underpinnings as an unproblematic given.[196] An effective assessment of the ethical implications of drone strikes – and, by extension, of remote warfare – must take to heart the strategic-political construction of space, distance, and remoteness which lies at the heart of practices of vicarious, risk-transfer, surrogate, and remote warfare. I hope that, while this thesis does not engage significantly with the ethics of drone strikes, it points to a direction for this work to be developed.

The fourth implication concerns the insulation of war from democratic political pressure. Multiple scholars have argued that the effect of drone use and of air power more broadly is to insulate the domestic population from the war effort, enabling unaccountable ongoing wars (McInnes 2002; Ignatieff 2000; Chamayou 2013, 243–61).[197] If human soldiers are not put at risk, political contestation may be stifled. To a large extent, this view is correct, though it is unclear whether that is mostly due to new technologies or to the shift to an all-volunteer force after the Vietnam War (which may not have stifled militarism, but stifled appetite for long wars). In their study of popular support for drone strikes, James Igoe Walsh and Marcus Schulzke (2018, 151–54), indeed, find that public support for drone strikes is higher than for intervention with onboard piloted aircraft, and significantly higher than for ground troop intervention, though they also argue that the option of drone use does not significantly increase support for the recourse to military force in general. Yet, after twenty years, there are also glimmers of hope for public accountability. The Obama administration found itself forced to impose guidelines on the use of drones outside "areas of active hostilities" in the face of contestation, and the number of strikes dwindled rapidly from 2013 onwards (Obama 2013a; Serle and Purkiss n.d.).[198] Despite the sharp reduction

[196] A notable exception, as noted in chapter 4, is John Williams' (2015) evaluation of the ethical implications of transformations of spatial relations. Enemark (2013, 30) does briefly point to such an evaluation when suggesting a fundamental incompatibility between post-heroic drone warfare and human-centric COIN, though he does not develop this point sufficiently.

[197] In effect, this argument amounts to a mirror image of Douhet's "insurrectional popular sovereignty" discussed in chapter 5, whereby the people, directly suffering the heavy costs of aerial bombing, would demand an end to war (Hippler 2013, 130).

[198] This dwindling, however, also accompanies the abandonment of the counterinsurgency project in Afghanistan and a reduction in ground troops, as well as increasing tensions with Pakistan. The Presidential Policy Guidance applied to strikes outside of "areas of active hostilities"; the reduction of strikes in Afghanistan is therefore likely due in a downsizing of the American ground presence and activity, though that itself is in part due to public pressure. Indeed, vice-president Joe Biden spoke of the need to find a "politically sustainable" solution, one which would be accepted by the American public (F. Kaplan 2014, 297; Woodward 2010, 101–2). This need to secure political support demanded not only a reduction in American costs in lives and resources, but also efforts to reduce the number of strikes, as the Obama administration's actions demonstrate.

in American casualties in Afghanistan – under 100 since 2016, and none since November 2020 – pressure has continued to mount for an American withdrawal (Iraq Coalition Casualty Count n.d.). The Biden administration's decision to withdraw from Afghanistan has not – yet – been accompanied by a resurgence in drone violence, though air strikes have taken place in Afghanistan. While the increase in remote means of war may contribute to reducing the salience of war in the domestic Western consciousness, it is certainly an exaggeration to suggest that drones eliminate public accountability or induce indifference. On the contrary, contestation of military violence has only grown, even as the visible signs and costs of the war faded.

The final implication – related to the previous one – consists in the potential for the Biden administration to reset approaches to drone use. Since acceding to the presidency, Joe Biden has instructed a pause in air strikes while criteria are reassessed (Ackerman 2021). Except for a few publicly declared air strikes against Islamic State positions, in Somalia, and in Afghanistan, this moratorium appears to have held. The withdrawal of troops from Afghanistan has led both to an abandonment of airfields and to an end to a logic of force protection according to which air strikes could be justified by the protection of American ground troops. While the administration has tentatively hinted at a possibility of air strikes to support Afghan forces, new rules or justifications for the use of air power and drone strikes do not appear to have been announced yet (Cooper, Schmitt, and Gibbons-Neff 2021; Cohen, Bertrand, and Bo Williams 2021). The Biden administration finds itself at a juncture, as it needs to determine a new logic for the use of drone violence. It is possible the administration will revert to a more classical counterterrorism approach, in line with Reagan's NSDD 138 (Fuller 2017; Gunneflo 2016). This would represent a departure from the counterinsurgency-based strategic evaluation I apply in this thesis, and might situate drone use within a different genealogy (see Férey 2020; Bergman 2018). Such a change, however, would not be attributable to the armed drone itself, but to the political and strategic situation in which it is employed.

The Presidential Policy Guidance was imposed in May 2013, though it was only published following a lawsuit by the American Civil Liberties Union in August 2016.

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