Envisioning Future Wars

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> The popular maxim holds that generals (and, by extension, their armies) always plan for the previous war.[1] The wide-ranging chapters of this volume show the limits of this truism. There is much more to thinking about future war: it is a dynamic and on-going process, influenced by a myriad of political, military, social, economic and cultural shifts. The imagining of future war is an important factor and often a causal element in historical processes, whether or not it is immediately followed by war. The study of the thinking about and the planning for wars in the past not only opens a window on wider societal conceptions and preoccupations at the time, but is also a basis for thinking about (and hopefully implementing) military changes in peacetime.

This introductory paper begins by briefly surveying the history of military thought, focusing on the introduction of change as an immutable element in the character of war – from the Clausewitzian emphasis on the social and the political to the later emphasis on technology. The idea of the transformation of war's nature was the basis of all modern era efforts of imagining and preparing for future war. In other words, throughout the history of warfare, generals had done well preparing for the last war and learning the eternal laws of their profession, but now this was seen as a handicap rather than an advantage. Next the introduction will examine the theoretical foundations of thinking about future war and its impor-

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[1] The origins of the proverb are not clear, but it probably originates from the early 20th century. When Churchill quoted it in 1948, referring to the French defeat in 1940, he said it was "an old joke". Winston S. Churchill, *The Gathering Strom: The Second World War*, vol. 1 (Boston: Houghton Mifflin, 1985), 426. As we shall see, in earlier times, preparing for the last war was the right thing to do, because not much changed in-between wars.

tance to theories of military change and innovation, and continues by reviewing the historiography on war planning in the past.

With their *raison d'être* being preparing for war, militaries must make decisions and implement them in peacetime with regard to a possible future conflict, which is shrouded with inevitable uncertainty and may take place with little warning. Such thinking and planning is necessary and inescapable. Anticipation, the forecasting of possible changes in the future battlefield, is a key mode of military change and innovation (the other mode being adaption, a flexible response to these changes).[2] In this context, researchers have been keen to understand what drives such changes when they occur, especially in peacetime. However, military change is elusive, as it can be grasped at several different levels, ranging from actual operations to theoretical considerations.[3]

Several theorists and practitioners have noted that military anticipation often tends to fail, and claimed that such problems are inherent to the military planning endeavour, the main obstacle being the impossibility of foreseeing the developments of deadly struggle with an adapting adversary. Carl von Clausewitz referred to the phenomenon as the "fog of war," but one should add that anticipating future war through the "fog of peace" may be even more difficult. However, there may yet be a possibility to "fail better," or at least to fail in a way that is not catastrophic. Planning for the next war and attempting to work through its possible developments are necessary, in any event. US President Dwight Eisenhower phrased this paradox in 1957, "plans are useless, but planning is everything".[4]

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[2]   Dima Adamsky and Kjell Inge Bjerga, *Contemporary Military Innovation: Between Anticipation and Adaption* (New York, NY: Routledge, 2012).
[3]   Adam Grissom, "The Future of Military Innovation Studies," *The Journal of Strategic Studies* 29:5 (2006): 905–934; Theo Farrell and Terry Terriff, "The Sources of Military Change: Culture, Politics, Technology," – *The Sources of Military Change: Culture, Politics, Technology*, ed. Theo Farrell and Terry Terriff (London: Lynne Rienner Publishers, 2002), 3–20.
[4]   General Services Administration, N.A.R.S.O.F.R., and United States Government Printing Office, *Public Papers of the Presidents of the United States*, Dwight D. Eisenhower, 1957: Containing the Public Messages, Speeches, and Statements of the President, January 1 to December 31, 1957 (U.S. Government Printing Office, 1999), 818. See also Michael Howard, "Military Science in an Age of Peace," *The RUSI Journal* 119:1 (1974): 3–11; Richard Danzig, *Driving in the Dark: Ten Propositions about Prediction and National Security* (Washington D.C.: Center for a New American Security, 2011); Meir Finkel and Moshe Tlamim, *On Flexibility: Recovery*

However, future war is relevant not only to the study of military change and innovation. Researchers have shown that thinking, preparing and planning for a future war has major impact on peacetime institutions from interstate relations to national politics and various aspects of the economy and society. This approach shows that even planning for a war that never took place could be historically significant, either for its social costs, as is demonstrated in this volume by the case of the US Army exposing its soldiers to high levels of atomic radiation (the chapter by Robert Jacobs), political effects, as in the case of the total defence doctrine in Yugoslavia (the article by Blaž Torkar), or for long-term institutional effects, as shown in the example of the developments in NATO from the 1970s to the 1980s (particularly the chapter by Benedict von Bremen).

In addition, theorists of international affairs, especially neo-classical realists, have focused on state perceptions regarding future war. Military balance, whether real or perceived, is the cornerstone of such theories. In line with this point of view to this point of view, international behaviour can be determined from a balance between "offensive" or "defensive" weaponry and doctrine, as well as from beliefs regarding the costs of war and the relative chances of success between the contesting sides.[5] Therefore, according to this school of thought at least, thinking about future war is always at the heart of international relations.

The changing nature of future war

As with other social phenomena, war can be studied by how it changes through time: does it have a permanent nature, or does it change through history? Questions regarding war's enduring character, even its permanence as a social phenomenon, are a perennial feature of strategic studies field. However, military thinkers from antiquity to the pre-modern world,

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from technological and doctrinal surprise on the battlefield (Stanford, Calif.: Stanford University Press, 2011).

[5]   Stephen Van Evera, "Offense, Defense, and the Causes of War," *International Security* 22: 4 (1998): 5–43; Keir A. Lieber, *War and the Engineers: The primacy of politics over technology* (Ithaca: Cornell University Press, 2005).

indeed the major classics of military theory, claimed that the essential nature of war, derived either from basic human attributes or from immutable laws of strategy and tactics, is unchangeable.

Ancient works regarding strategy, such as Sun Tzu's *Art of War,* didn't even need to highlight the immutability of war: this was a given. "Stratagems" (innovative tactics, weapons, etc.) could be decisive in a particular battle, but were nevertheless thought to have limited influence over war in general.[6] However, Iain A. MacInnes' contribution to this volume shows that beliefs about the static nature of war did not preclude thinking and planning for the next conflict, based on a sophisticated reading of local terrain and relative strengths of the warring sides.

The supposedly unchanging character of war was arguably as much a cultural artefact as is nowadays the belief in the possibility of rapid change. War did change substantially throughout ancient and medieval history, but there is limited evidence of a sustained intellectual effort to diagnose and direct such future changes, rather than to remark on past changes.

In retrospect, one of the last huzzahs of an unchanging image of war was *"The reign of George VI, 1900–1925,"* which was published anonymously (by Samuel Madden) in 1763. The future George is described rampaging in the monarchical Europe of 1918 at the head of his dragoons, while his battles are quite similar in technology and organisation to the battles of the mid-18th century. I. F. Clarke remarked that the book "appeared during the closing phase of an ancient way of life, on the eve of momentous developments" in technology and social organisation. Madden's book draws our eyes to the perils of extrapolating a linear trend in history, a failing that has been very common in thinking about future war.[7]

A generation later, commenting on the era of Napoleonic Wars, Carl von Clausewitz created what amounts to a systematic model to describe change and continuity in the character of war. When describing changes

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[6]   Beatrice Heuser, *The Evolution of Strategy: Thinking war from antiquity to the present* (New York: Cambridge University Press, 2010), 39–40.
[7]   Anonymous (Samuel Madden), *The Reign of George VI. 1900–1925; a forecast written in the year 1763* (London: Rivingtons, 1899); I.F. Clarke, *Voices Prophesying War, 1763–1984* (London: Oxford University Press, 1966), 5–6.

in warfare, Clausewitz pointed out that weapons and military techniques were constantly changing, and that a practical art of war would be historically contingent. Each historical epoch (from the Ancients to the Revolutionary and Napoleonic wars) has had its own type of war, dependent on socio-political conditions. Indeed, his work is suffused with the impact of mass conscription and the unleashing of mass public passion on the field of battle. At the same time, Clausewitz also sought to define the "universal element" derived from the nature of war.[8]

Clausewitz's "trinity" (continually re-interpreted), influenced by this novel development, suggested that the future nature of war would be shaped by the interplay of societal involvement, political purpose and military capabilities. It was not only a tool to describe the present, but also a means of understanding the future: "this way of looking at it will show us how wars must vary with the nature of their motives and of the situations which gives rise to them". Such an understanding is "the first, the supreme and the most far-reaching act of judgement" of a commander. [9]

A second key insight of Clausewitz lies in the relationship of tactics and strategy. Clausewitz pointed out that "a change in the nature of tactics will automatically react on strategy," and so the conduct of war at the highest level will be impacted by technical or tactical innovation.[10] For all the importance of understanding the nature of future warfare, Clausewitz's ideas also make it clear why it is such a formidable task: shifts in each part of the trinity are interlinked and change war in turn from tactics to strategy. Exercising Clausewitz's "supreme act of judgement" becomes even more difficult as technology and society are changing rapidly.

Notably, Clausewitz did not attempt to predict the changes likely in future war. The only clear future war scenario mentioned in the peroration to *On War* is a coalition war against France, if it were to renew its hegemonic ambitions. The scenario is mostly used to stress Clausewitz's points on the importance of concentration of forces and strategic focus,

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[8]   Carl von Clausewitz (trans. Peter Paret and Michael Howard), *On War* (Princeton: Princeton University Press, 1989), book 8, chap. 6B, 586–591; Azar Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001), 191.
[9]   Clausewitz, *On War*, book 1, chap. 1, 5, 88.
[10]   *Ibid.*, book 4, chap. 2, 226.

rather than as a realistic effort to anticipate future war. As it is meant for the short term, it hardly diverges from the realities of the late Napoleonic warfare.[11]

The Napoleonic Wars were conducted largely with hardware available from the late 18th century, and technological change became a key factor in military affairs only around the middle of the 19th century. From that point onwards, military professionals, experts and contemporary researchers looking at military innovation have focused on new technologies, showing that the interplay between technological change and military planning is far from straightforward. Important current or expected changes must be identified and assimilated into weapon systems, tactics and plans, all with the correct timing and in competition with a rival.[12]

However, the Israeli military thinker Azar Gat has claimed that it was not only technological change as such that shifted military thought. Rather, it was the influx of scientific ideas and of political philosophy into the military realm, from Newtonian physics onward. If so, it is not only technologies and other material realities that change, but also modes of thinking about such realities.[13]

Arguments that the very nature of war was shifting gained currency in the middle of the 19th Century. Armies grew larger, their means of transportation, logistics and communications more efficient. Firepower developed rapidly. According to Martin van Creveld, the early 1930s were a watershed. When Carl von Clausewitz completed his seminal *On War* in the 1920s, the impact of new armaments still seemed minute in comparison to political and social factors that had changed the face of war in Clausewitz's own life time.[14] Writing in 1837, the French general and military thinker Antoine-Henri Jomini already noted the growing importance of technology, and a few decades later, just before the Franco–Prus-

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[11]   *Ibid.*, book 8, chap. 9, 632–636.
[12]   For example, Dima Adamsky, *The Culture of Military Innovation: The impact of cultural factors on the revolution in military affairs in Russia, the US, and Israel* (Stanford, Calif.: Stanford University Press, 2010); *Military innovation in the interwar period*, ed. Williamson R. Murray and Allan R. Millett (Cambridge: Cambridge University Press, 1998).
[13]   Gat, *A History of Military Thought*; Martin van Creveld, *Technology and War: From 2000 B.C. to the present* (New York, etc.: Free Press, 1991) argues the same.
[14]   Creveld, *Technology and War*, 167.

sian War of 1870–1871, another French officer, Ardant du Picq, acknowledged: "The art of war is subjected to many modifications by industrial and scientific progress". Both thinkers, it should be noted, were mostly interested in the unchanging elements in warfare, Jomini in the eternal laws of strategy and the operational art, and du Picq in human nature – the "heart of man".[15]

Ardant du Picq went unnoticed in his lifetime, but in the early 20th century he became an authority for the school of thought arguing that on the battlefield, moral factors ultimately trumped all others, including technology, which was quite a twisting of du Picq's original ideas. At the same time, some non-military writers, for example the Jewish-Polish banker Jan (Ivan) Bloch, cautioned that the new realities of modern war would make war economically and socially so destructive as to be "unthinkable".[16] Despite these warnings, the First World War became a textbook example of generals "planning for the previous war," staking their war plans, and national resources, on the idea of a quick victory by offensive strategies and tactics.[17]

In the latter half of the 19th century, navies changed even more extensively than armies, as new technology was proven decisive, then obsolescent, in the span of a few years – this is demonstrated by Michael Clemmesen in his contribution to this volume. Clemmesen also shows that during the four years of the First World War naval warfare changed less dramatically than land warfare, the development of submarines being somewhat an exception, and officer corps on either side of the conflict were well prepared to develop and adapt to the emerging technologies. What proved the problematic element in predictions was not the battlefield effect of new weapons but the extent of the potential escalation toward total war, as well as the officers' promises of decisive and rapid victory.

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[15] Gat, *A History of Military Thought*, 115, 297.
[16] Heuser, *The Evolution of Strategy*, 171–176.
[17] Jack Snyder, "Civil-Military Relations and the Cult of the Offensive, 1914 and 1984," *Military Strategy and the Origins of the First World War: An international security reader*, ed. Steven E. Miller (Princeton: Princeton University Press, 1985), 108–109; Stephen Van Evera, "The Cult of the Offensive and the Origins of the First World War," *ibid*, 58–107.

For several years before the First World War, officers and civilians had debated extensively over the effects of the new technology: would it favour defence or offense, and would it make war shorter or more prolonged. The basic elements of current debates regarding future war originate from the very same period.

Since the industrial revolution, adaptation and innovation have become key indicators for the effectiveness of military organisations, as militaries have been required to perceive and shape future warfare as its technological underpinnings change in time. Both military theorists and historians of the early modern European history have described the interplay of social organisation and technology as a series of "revolutions in military affairs" (RMA). The very term is debatable, but it highlights the risks possible in attempting to prepare for a possible war during a time of peace.[18]

The clearest and the most extreme example so far of military technological change was the prospect of nuclear war. The very possibility of nuclear war forced militaries to adapt to an unknown reality, while at the same time casting doubt on their own expertise (as no one can be said to be an expert on nuclear war). Indeed, as the relevance and influence of nuclear weapons has remained a subject of debate to this day, new scientific and managerial techniques were nevertheless invented and adopted, in order to manage the uncertainty of future nuclear conflict.[19] Robert Jacobs' chapter describes the US Army's frantic efforts to prepare for battlefield nuclear use and to define its own role in a future nuclear war. At the same time, and this seems to corroborate the "generals preparing for previous war" hypothesis, in their operational and tactical thinking Army commanders merely extended their experience of World War Two tactics to a battlefield that now included nuclear weapons. "Nuclear weapons were simply bigger bombs," Jacobs writes, tracing the limits of the imagination of the officers in charge of preparing for World War Three.

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[18]   *The Dynamics of Military Revolution, 1300–2050*, ed. MacGregor Knox and Williamson Murray (Cambridge: Cambridge University Press, 2001), 1–14.

[19]   Fred M. Kaplan, *The Wizards of Armageddon* (Stanford, Calif.: Stanford University Press, 1991); Andrew J. Bacevich, *The Pentomic Era. The US Army between Korea and Vietnam* (Washington, D.C.: National Defense University, 1986).

Contemporary defence debates focus on the character of current and future war, looking at different timescales and producing vastly different theories. Transformation of war could be the result of further advances in communications and computer technology, or even biotechnology. Tobias Burgers' chapter deals with one facet of this school, namely the advance of artificial intelligence and unmanned warfighting systems, the effects of which are difficult to fathom, but in the worst case scenario may lead to a non-human, perpetual state of conflict. Other theorists point to the shifting international system as marking a change in warfare: either an intensification of sub-state "new wars," a combined "hybrid warfare" or a return to great power conflict. The wealth of contending ideas may indicate both intellectual ferment and a profound worry over the role of Western militaries.[20]

Meanwhile, military historians have tended to return the focus on the enduring characteristics of war. Some have explicitly stated their case to be a remedy against excessive technophilia and optimism regarding either the character of war, or the capacity of Western forces to bring "silver bullet" solutions to the enduring problems of friction and the fog of battle. In this vein, Martin van Creveld's preface in this volume stresses the enduring lessons of military history as the only possible basis for thinking about future war.[21]

Future war in theories of military innovation

A straightforward answer to the question of how to think about future war is normative and Realist: states (and their institutions) perceive "objective" external developments and react to them. What follows from this point of view is that militaries receive policy directives from their civil-

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[20]   Rupert Smith, *The Utility of Force: The art of war in the modern world* (N.Y.: Vintage, 2008), x–xi; Mary Kaldor, *New and Old Wars: Organised violence in a global era* (Cambridge: Polity, 2013); Martin van Creveld, *The Transformation of War* (New York: Free Press, 1991).

[21]   Colin S. Gray, *Strategy for Chaos: Revolutions in military affairs and the evidence of history* (London: Frank Cass, 2002); Barry D. Watts, *Clausewitzian Friction and Future War*, McNair paper No. 52 (Washington: National Defense University, 1996); Colin M. Fleming, "New or Old Wars? Debating a Clausewitzian future," *Journal of Strategic Studies* 32:2 (2009): 213–241.

ian superiors and attempt to develop the most cost-effective solutions in order to achieve the state's political objectives. According to this perspective, war preparation is quite a simple process. However, other researchers (organisational-culturalist theorists) have pointed to the pathologies of military forecasting and anticipation, accounting for the multiple and sometimes puzzling failures of foresight in the field of military preparation for future wars. They have shown that the traditional explanation does not account for the wide variety of human, organisational and cultural factors that intervene throughout this process. It is unclear, as a variety of writings makes plain, how much is left in reality of this supposedly smooth mechanism.[22]

Thinking about future war may be shaped by a considerable range of factors, ranging from cognitive biases and especially perception and learning, socio-economic changes, strategic culture, or organisational factors inside or outside the military. It is apparent that each particular factor is highlighted by a different major school of political science that focus on individual decisions, structural relations or cultural "rules" and frameworks.[23]

Cognitive biases and group dynamics have been shown to affect thinking about future war, as its conjectural nature, possible risks and uncertainty are susceptible to the anomalies that affect individual decision makers, as well as groups. Studies about state (or military) perception and learning can be considered a subset of the cognitive approach, and researchers have often pointed out the difficulties and mistakes of learning in militaries, even after defeat. Militaries may also over-learn, or apply the lessons of the past without due modification. Recent work about military learning has emphasised the importance of pre-existing ideas that allow the translation of complex information into "lessons" that

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[22]   Stephen van Evera detailed the many misapprehensions that underlay decisions to go to war in *Causes of war: Power and the roots of conflict* (Ithaca, N.Y.: Cornell University Press, 2013), 14–32, see also Gideon Rose, "Neoclassical Realism and Theories of Foreign Policy," *World Politics* 51 (1998): 144–172.

[23]   Mark Lichbach, "Social Theory and Comparative Politics," – *Comparative Politics: Rationality, Culture, and Structure*, ed. Mark Lichbach and Alan Zuckerman (Cambridge: Cambridge University Press, 1997), 239–276; Jeffrey Legro, *Rethinking the World: Great power strategies and international order* (Ithaca, N.Y.: Cornell University Press, 2005).

are accessible to the professional soldier and can be disseminated in simpler form throughout the military.[24]

Thinking and presenting the possibilities of future war is a key field of interaction between civilian and military echelons. Officers have to make their case to their civilian overseers (at least in Western democracies) as to the preparations necessary. This process of push-and-pull influence and the struggle over resources has often been fraught with dissatisfaction and conflict. According to Allan R. Millett and Williamson Murray, the ability of the military to acquire the necessary resources depends on the professionalism, the political skills, and the authority of the top officers. From a practitioner's point of view, Rupert Smith has claimed that political constraints limit the options that officers can present to their masters.[25] Michael Clemmesen's article in this volume forcefully illustrates Smith's thesis with examples from the First World War. On the other hand, Barry Posen claims that only top-down civilian pressure brings innovation to hidebound peacetime militaries. In any case, officers have attempted to bring the wider civilian society around to their views regarding future conflict, as typified by Benedict von Bremen's paper in this volume on the popular "World War Three" literature in the 1970's.

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[24] Emanuel Adler and Peter M. Haas, "Conclusion: epistemic communities, world order, and the creation of a reflective research program," *International Organization* 46:1 (1992): 367–390; W. Alexander Vacca, "Learning About Military Effectiveness: Lessons drawn by military observers from the Russo-Japanese war" (APSA 2009 Toronto Meeting Paper), https://ssrn.com/abstract=1451509 (accessed 4 October 2017); Robert Jervis, *Perception and Misperception in International Politics* (Princeton, N.J.: Princeton University Press, 1976), 129–134; Aaron Rapport, "The Long and Short of It: Cognitive constraints on leaders' assessments of "postwar" Iraq," *International Security* 37:3 (2013): 133–171; John A. Nagl, *Learning to Eat Soup with a Knife: Counterinsurgency lessons from Malaya and Vietnam* (Chicago: University of Chicago Press, 2005); Keren Yarhi-Milo, "Knowing Thy Adversary: Assessments of intentions in international relations" (Unpublished PhD Thesis: University of Pennsylvania, 2009); Janine Davidson, *Lifting the Fog of Peace: How Americans learned to fight modern war* (Ann Arbor: University of Michigan Press, 2010).
[25] Allan R. Millett, Williamson Murray and Kenneth H. Watman, "The Effectiveness of Military Organizations," – *Military Effectiveness*, Volume 1: The First World War, ed. Allan R. Millett and Williamson Murray (Cambridge: Cambridge University Press, 2010), 1–30; Smith, *The Utility of Force*, x–xi; Barry Posen, *The Sources of Military Doctrine: France, Britain, and Germany between the World War* (Ithaca, N.Y.: Cornell University Press, 1984).

Military planning, as other aspects of defence policy formation, are classic subjects for bureaucratic politics analysis. From this perspective, war plans can be seen as a type of "standard operating procedures" that limit decision making. In this analysis, militaries as a whole, and also their sub-units, are engaged in a struggle for resources. Bureaucratic political models have been effective in post-hoc analysis, but they have been criticised for their lack of predictive power. A pertinent answer to these shortcomings is an integration of organisational and cultural theories for strategic behaviour.[26]

"Culturalist" explanations of security policy have a long history, rising in prominence with the debate over Soviet strategic culture. According to these theories, culture shapes the service arm, military and national perceptions of future war, and limits the possible range of their responses to change[27]. Later attempts at explaining strategic and military culture (as well as their interaction) have sought to explain the origins of these cultural practices and their actual influence on military doctrine and procurement.[28]

These authors all note that culture shapes military conceptions of future war, from priorities ("what is important") to possibilities. An important insight of culturalist theories is that thinking about future war is not only about enemy capabilities, but also about one's own limitations and preferences. For all their promise, cultural explanations in

[26]   Graham T. Allison and Morton H. Halperin. "Bureaucratic Politics: A paradigm and some policy implications," *World Politics* 24:S1 (1972): 40–79; Robert W. Komer, *Bureaucracy Does Its Thing: Institutional constraints on US government performance in Vietnam* (DTIC Document, 1972); Posen, *The Sources of Military Doctrine*, 222–223; Steven P. Rosen, *Winning the Next War: Innovation and the modern military* (Ithaca, N.Y.: Cornell University Press, 1994).

[27]   Raymond L. Garthoff, *The Soviet Image of Future War* (Washington: Public Affairs Press, 1959); Nathan Leites, *Soviet Style in War*, revised edition (Santa Monica: RAND, 1992); Carl H. Builder, *The Masks of War: American military styles in strategy and analysis* (Baltimore: Johns Hopkins University Press, 1989).

[28]   Jeffrey W. Legro, *Cooperation Under Fire: Anglo-German restraint during World War II* (Ithaca, N.Y.: Cornell University Press, 2013); Gil-li Vardi, "The Enigma of German Operational Theory: The evolution of military thought in Germany, 1919–1938" (PhD dissertation: The London School of Economics and Political Science, 2008); Elizabeth Kier, *Imagining War: French and British military doctrine between the wars* (Princeton, N.J.: Princeton University Press, 1997), 144–145; Adamsky, *The Culture of Military Innovation*.

the military as in other spheres tend to treat strategic cultures as immu-
table, whereas more sophisticated explanations show not only how stra-
tegic cultures are constituted but also how they can change through
time.[29]

These diverse approaches offer differing expectations regarding
military anticipation. Realist theories, as well as most of the official pro-
nouncements by military professionals, would claim that militaries focus
on the major threat to national sovereignty and existence. Organisational-
culturalist theories, however, claim that militaries (or factions within
militaries) focus on threats and missions that are most in-line with their
self-identification, such as being most suitable to their preferred weap-
ons and methods. Bureaucratic theories claim that militaries and their
sub-organisations would focus on missions that are best calculated to
enhance their organisational interests, mainly resources, but also prestige
and influence, while at the same time maintaining organisational inertia
and mostly putting off change. Next we will discuss briefly where can
an historian find plans and ideas about future war, and also trace some
trends in the historiography about future wars in history.

War plans and future wars in historiography

Thinking about future war takes place by different groups of soldiers and
civilians, for a variety of purposes. Some modern militaries have formal
documents that describe their thinking about future war – such is for
example the Russian-Soviet view of the military doctrine.[30] Lower mili-
tary echelons also sometimes put down their views of future warfare, such
as the US Army's 1974 "Astarita Report". Such views of future war are
sometimes encapsulated in describing a "future operating environment"
or "operational concept". The US armed services publish such assessment
documents (most recently the Joint Operating Environment of 2016),

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[29] Tamir Libel, "Explaining the Security Paradigm Shift: Strategic culture, epistemic commu-
nities, and Israel's changing national security policy," *Defence Studies* 16:2 (2016): 137–156;
Grissom, "The Future of Military Innovation Studies."
[30] Makhmut A. Gareev, *M. V. Frunze: Military Theorist* (New York: Pergamon, 1988), 380.

meant to guide "long term force generation" across the services.[31] Additionally, the practice of "net assessment" is an attempt to implement a formal method of envisioning future war. [32]

Thinking about future war will also inform military preparations: force generation (such as training and procurement), doctrine, and operational planning. The translation of shifts in thinking to changes in doctrine is not clear cut: Kevin Sheehan claimed that the US Army remained focused on a scenario of mainly-conventional war fought in Europe against Warsaw Pact forces, regardless of frequent doctrinal changes. A more recent work by Benjamin Jensen described processes of doctrinal innovations based on changed thinking about future war in the post-Vietnam US Army.[33]

Chapters in this volume refer to a variety of sources for official images of future war: doctrinal documents, war plans, training material, exercise reports and armed forces official magazines (Robert Jacobs), defence procurement decisions and their explanations, as well as official correspondence (Michael Clemmesen), diaries (Kaarel Piirimäe), pronouncements and even medieval chronicles in verse form (Iain MacInnes). One should also consider unofficial or semi-official sources, such as popular history books, as in the example of Sir Edward S. Creasy's *The Fifteen Decisive Battles of the Word*, published in 1851 and discussed by Oliver Hemmerle in this volume, or fictional histories of future war, which were sometimes written by retired generals and had a huge impact on debates

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[31]   COL Harry G. Summers, *The Astarita Report: A military strategy for the multipolar world* (Carlisle Barracks: US Army Strategic Studies Institute, 1981); David A. Fastabend, "That Elusive Operational Concept," *Army Magazine* 51 (2001): 37–44; John F. Schmitt, *A Practical Guide for Developing and Writing Military Concepts* (MacLean, VA: Defense Adaptive Red Team Working Paper, 2002), 2–4; Joint Chiefs of Staff, "Joint Operating Environment 2035: The joint force in a contested and disordered world" (July 2016), at: https://fas.org/man/eprint/joe2035.pdf (accessed June 2017).

[32]   "Net assessment" is a particularly US system of handling long-term forecasting in a strategic environment. As such, it is a methodology to encompass imagined war, and to create cost-effective solutions to the problems it presents, Eliot A. Cohen, *Net Assessment: An American approach* (Tel Aviv: Jaffee Center for Strategic Studies, 1990).

[33]   Farrell and Terriff, "The Sources of Military Change," 5; Kevin P. Sheehan, "Preparing for an Imaginary War?: Examining peacetime functions and changes of army doctrine" (Cambridge, Mass.: Harvard University PhD dissertation, 1988); Benjamin Jensen. *Forging the Sword: Doctrinal change in the US Army* (Stanford, CA: Stanford University Press, 2016).

and policies in the 1970s (Benedict von Bremen's contribution). The sheer range of sources, each with its own methodological advantages and limitations, shows that envisioning future war can have several different (perhaps contested) meanings and purposes, even in a hierarchical and closed organisation such as armed forces.

Historians have approached operational planning and procurement as processes, and highlighted that the supposedly logical and straightforward planning and procurement process is often dysfunctional. Various relevant factors – group dynamics, cultural explanations and bureaucratic turf-warfare – have been offered as possible explanations for suboptimal outcomes of such processes. War planning has been shown to constrain future action as well as to guide contemporary conduct (both in security policy and in diplomacy).[34]

The history of war planning in times of prolonged peace has only recently become the object of scholarly attention. Emily Goldman attributed the paucity of research on this subject to the focus of researchers on periods of crisis that provide high historical drama. Talbot C. Imlay and Monica Duffy Toft claim that planning in peacetime is mostly characterised by uncertainty. They suggest that future wars are conceived according to three major questions – identifying possible friends and foes, understanding the nature of future war, and determining its timing. Of these questions, or problems, Talbot and Toft claim that determining the timing of a future war is the most difficult, and that it exacerbates other problems.[35]

In contrast, studies of planning have often focused on events leading up to both world wars – a focus shared across other sub-fields of mili-

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[34] For example: Edward S. Miller, *War Plan Orange: The U.S. strategy to defeat Japan, 1897–1945* (Annapolis: Naval Institute Press, 1991); Nicholas A. Lambert, "British Naval Policy, 1913–1914: Financial limitation and strategic revolution," *The Journal of Modern History* 67:3 (1995): 595–626; Henry G. Gole, *The Road to Rainbow: Army planning for global war, 1934–1940* (Annapolis: Naval Institute Press, 2003); Paul Kennedy (editor), *The War Plans of the Great Powers: 1880–1914* (London: G. Allen and Unwin, 1979).

[35] Emily Goldman, *Power in Uncertain Times: Strategy in the fog of peace* (Redwood City: Stanford University Press, 2010), 5; *The Fog of Peace and War Planning: Military and strategic planning under uncertainty*, ed. Talbot C. Imlay and Monica Duffy Toft (Oxon.: Routledge, 2007), 4.

tary history. The run-up periods to either of the great wars (especially the interwar period) also allowed political scientists to compare state behaviour in planning and procurement, and to account for success or failure in the crucible of battle. Other researchers have focused on the planning process itself, either on land, at sea, or for the new air forces, as well as on the process of technological and doctrinal innovation during the period. For example, Kaarel Piirimäe's contribution to this volume shows that small states had to contend with the difficult strategic problems of the interwar period, and weren't exempt from the pitfalls of planning that befell larger states, such as France.[36]

Perhaps the best known and most widely analysed case in this regard is the First World War, both on land and at sea. The war was widely anticipated, yet disastrously different from the projections of armies throughout Europe – despite timely examples, such as the Russo–Japanese war of 1905, and prescient civilian observers. Michael Howard noted that many militaries extracted exactly the wrong ideas from historical experience. The "coming war" was also the subject of a great deal of speculative literature, both military and "civilian".[37]

War planning for the First World War is also often used to point out the price of inflexibility and the importance of planning as a decision-making factor, as well as the dynamics of an arms race. European powers were increasingly tied down in permanent military alliances, and viewed early mobilisation as decisive. The result, according to the commonly accepted wisdom, was a "doomsday machine" of automatically triggered mobilisations and declarations of war. However, recent work on Germany's notorious Schlieffen Plan has instead highlighted the permeable and politically expedient nature of war plans, as well as the need to focus on the "strategic concepts" enshrined in these plans.[38]

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[36]   Murray and Millett, eds. *Military innovation in the interwar period*; Lieber, *War and the Engineers*; Rosen, *Winning the Next War;* Posen, *The Sources of Military Doctrine*.

[37]   Michael Howard, "Men against Fire: Expectations of war in 1914," *International Security* 9:1 (1984): 41–57; Antulio J. Echevarria, *Imagining Future War: The West's technological revolution and visions of wars to come, 1880–1914* (Newport, Con.: Greenwood Publishing Group, 2007).

[38]   Kennedy, ed., *The War Plans of the Great Powers*; Gerhard Ritter, *The Schlieffen Plan: Critique of a Myth* (N.Y. Praeger, 1958); Hans Ehlert et al., eds., *The Schlieffen Plan: International Perspectives on the German Strategy for World War I* (University Press of Kentucky, 2014).

More recently, researchers have approached newly-opened archives for fresh insights on post-World War II history, including the Cold War, Arab–Israeli wars and nuclear war planning – the imagined war *par excellence*.[39]

Future war has also been imagined outside the military, both in fiction and in purportedly non-fictional works. These works have reflected and influenced military and political debate, for example in the 19th century "invasion literature" boom in Britain before the First World War, which "served as convenient weather-vanes pointing to diplomatic storm centres," shifting from France and Russia to Germany through the decades.[40] As Oliver Hemmerle indicates in his chapter, Edward S. Creasy 19th century book *Fifteen Decisive Battles of the World* has probably influenced the thinking about war to this day, contributing to the perception that great battles decide the outcome of wars and that historically most of those battles have been fought, and won, by Western armies.

Benedict von Bremen's chapter, already mentioned above, refers to another fertile period of popular literature regarding future war, dating from the 1970s. Future war scenarios are still being published, many with the express purpose of influencing defence policy. Recent examples include portrayals of a Chinese surprise attack against the United States, an EU-supported Russian invasion of Norway, or an escalating Russian "hybrid warfare" campaign in the Baltic.[41] Looking further ahead, war has

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[39] Jan Hoffenaar et al., eds., *Blueprints for Battle: Planning for war in Central Europe, 1948–1968* (Lexington, KY: University Press of Kentucky, 2012); Vojtech Mastny, Sven S. Holtsmark, and Andreas Wenger, eds., *War Plans and Alliances in the Cold War: Threat perceptions in the East and West* (Abingdon: Routledge, 2013); Kaplan, *The Wizards of Armageddon*; Michael Joseph Cohen, *Fighting World War Three from the Middle East: Allied contingency plans, 1945–1954* (London: Frank Cass, 1997).

[40] Cecil D. Eby, *The Road to Armageddon: The martial spirit in English popular literature, 1870–1914* (Durham: Duke University Press, 1987), 19–20.

[41] Peter W. Singer and August Cole, *Ghost Fleet: A novel of the next World War* (Boston: Houghton Mifflin Harcourt, 2015); General Sir Richard Shirreff, *War with Russia: An urgent warning from senior military command* (London: Hachette UK, 2016); *Okkupert* (2015), a Norwegian political thriller; and a BBC "mock-documentary" *World War Three: Inside The War Room* (broadcast May 2016) causing consternation in the Baltic states, http://www.bbc.co.uk/mediacentre/proginfo/2016/05/inside-the-war-room (accessed June 2017), Daniel Marcelino Rodrigues, "Conflict Prospects in Popular Culture: TV series, movies and future visions of war," unpublished paper

been a central subject of science fiction, from the late 18th century to our day. Beyond treatments of the effects of new technology on warfare and society, current military organisations have reached for science fiction in attempting to describe war beyond the immediate future.[42]

As the following chapters show, future war is far more than a mindless projection of the last war. It is a multifaceted image that incorporates analogies and deductions from near and far, as well as fears and hopes regarding technology and society, projected onto the uncertain future. Such a nuanced view is also supported by a recent wide-ranging review of the history of future war.[43]

The complexities and pitfalls of imagining future war are more relevant than ever, as future war scenarios still shape the policies of soldiers and statesmen around the world and are drawing greater attention in northern Europe. The common theme of this volume is that the methods and assumptions of militaries in their thinking about future war are an important area for study, analysis and debate. If thinking about future war is allowed to degenerate into an exercise in scaremongering, the failures of imagination that took place before past wars are just as likely to recur today.

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[42] Echevarria, *Imagining Future War*; Clarke, *Voices prophesying war*; David Seed, *American science fiction and the Cold War: Literature and film* (London: Taylor & Francis, 1999). A notable example of a military forecasting centre commissioning science fiction is: United States Marine Corps, Science Fiction Futures, *Marine Corps Security Environment Forecast: Futures 2030–2045* (Quantico: USMC Warfighting laboratory, 2016).

[43] Lawrence Freedman, *The Future of War: A history* (London: Penguin, 2017).

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