Mission Command, Autonomy and the RMA Question: The Organisational Impact of Uncrewed Systems

Autopilot through the Fog: Command in the Age of Machines

COMMANDANT (OF 3) ADAM BEATTY
B.A., B.SC., M.SC., M.ENG

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE
MASTER OF ARTS IN LEADERSHIP MANAGEMENT
AND DEFENCE STUDIES
MAYNOOTH UNIVERSITY
2026

SUPERVISOR: NOT YET ASSIGNED

STUDENT DECLARATION

MA (LMDS)

Student Declaration

1. I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

2. I, the undersigned declare that no Artificial Intelligence (AI) tools were used to complete all or any part of this thesis.

3. Permission is given for the Defence Forces Library and the Maynooth University Library to lend or copy this thesis upon request.

4. The views and conclusions expressed herein are those of the student author and do not necessarily represent the views of the Military College, the Defence Forces or the Maynooth University.

SIGNED: _____ **RANK:** Commandant (OF 3)

Name: ADAM BEATTY **Date:** October 2, 2025

1 Literature

But neither can the weak states ever afford to relax their vigilance on matters of security, nor bask in the protection and good will of the powers

1.1 Introduction

Much of warfare conducted during the first two decades of the 21st century was heavily influenced by the IED. The threat and the response evolved continually. Crucially, techniques were rarely rendered obsolete. Instead, their effectiveness fluctuated over time. This evolutionary pattern accords with Krepinevich's insistence that RMAs require organisational adaptation alongside technology (**KREP_1992**) and Metz's observation of incremental rather than discontinuous change (**METZ_2000**; **KREPINEVICH_1994**). This is evidenced by the continued relevance of the Philosophy of IEDD, which endures as international doctrine since the 1970s (**COCHRANE_2012**; **DORD_2022**). An RMA would perhaps fundamentally transform the battlefield by rendering existing techniques and equipment permanently obsolete. This example may reflect what critics of the RMA thesis argue, that adaptation is cyclical and rarely results in true discontinuity.

1.2 Foundational RMA Theories and Techno-Optimist Views

Cohen suggested to consider the longevity of "basic counting pieces of military power" (**COHEN_1995**), echoing RCP. Discontinuous jumps in RCP aligns well with Krepinevich's 1992 description, whereby to disregard an RMA likely condemns your soldiers to slaughter.

Krepinevich 1992's paper placed him as a seminal RMA thinker . He framed the RMA as more than just new platforms. It required agile, flat experimentation and organisation. He stressed that information itself would become power and military adoption of superior

civilian technology. He also suggested that older systems could still play a role, but increasingly in support of new technologies such as long-range precision strike and drones which would displace armour as the centre of battle . This sits alongside Cohen's idea that RMAs function like hypotheses to be tested in war (**COHEN_1996**) and Owens' vision of linked "systems of systems" reshaping force structure (**OWENS_2002**). RMA optimists have felt that evolution in technology and thinking which were displayed during Desert Storm would clear the "fog of war" (**ALACH_2008**). More recently, Brose argued that AI, autonomy and ubiquitous sensors will upend legacy concepts in the same way that smokeless powder once did, demanding a radically different force design built around swarms of cheap, expendable system (**BROSE_2019**).

Their works suggest that Cohen and Krepinevich view the RMA concept as not just an abstract model within which to attempt to understand warfare. Instead an RMA is akin to a scientific hypothesis which can be tested. If one's inaction resulted in the 'needless' slaughter of your soldiers, then one erroneously dismissed an RMA. It is clear from the literature, that proponents of the RMA framework do not simply see it as technological. Cultural, bureaucratic, financial, political and other factors influence to transform a technological invention to a military breakthrough. Metz (2000) similarly stresses that revolutions in military affairs are as much social, political and organisational as they are technological. The cultural context shapes whether new capabilities amount to true revolution.

1.3 Critical and Skeptical Perspectives on RMA

Krepinevich also recognised that technology on its own was insufficient. For him, invention without reorganisation was a dead end (**KREP_1992**). This reinforces Betts' warning that militaries often misuse technology if it is not embedded in doctrine and culture (**BETTS_1996**). Krepinevich's review of the Gulf War air campaign likewise underlined the limits of technology's impact when political control and cultural factors remained intact (**KREP_1996**). It also reflects Gray's argument that strategic culture, not hardware, usually decides whether an apparent breakthrough becomes a genuine revolu-

tion (**GRAY_2005**). Betts (1996) (and to a lesser extent Owens (2002)) cautioned against concluding that the results of Desert Storm confirm the existence of an RMA. He assesses it as improbable that that the US is able to repeat the results of the 1990-1991 Gulf War in the future. Indeed he appears to have correctly predicted the US' inability to succeed against insurgencies it faced during GWoT. William Owens similarly highlights that while technological advances offer extraordinary military effectiveness, organisational and cultural transformation lag behind and dilute its impact (**OWENS_2002**).

The skeptical tradition applies a kind of Occam's razor to claims of revolution. Rather than positing epochal breaks, it stresses that continuity and incremental adaptation usually suffice to explain apparent change. As Alach argues, much of the supposed RMA discourse is rhetorical excess layered onto what are, in practice, evolutionary adjustments (**ALACH_2008**). His conclusion is that there is an evolution in military affairs rather than a revolution. Rassler's 2015 study of non-state drone innovation reinforces this skepticism, showing that much of the apparent novelty stems from incremental civilian adaptation rather than decisive military transformation" (**RASSLER_2015**).

1.4 Doctrinal and Organisational Learning Perspectives

The tank case is also an example of organisational learning and failure. Krepinevich showed that Britain had the concept but not the structures to exploit it (**KREPINEVICH_1992**). He later extended this logic, showing that historical patterns of military change confirm the decisive role of organisational adaptation over invention alone (**KREP_1994**). This appears to align with Betts' description of military commanders approaching new technology with "conservative progressivism "(**BETTS_1996**). Conversely inter-war Germany's circumstances allowed for a more flexible approach, resulting in transformation. Metz's (2000) and Owens (2002) articles accurately correlates recent defeat or a perception of weakness with openness to creativity. This was clearly the case for inter-war Germany.

Cohen's (1996) and Krepinevich's (1992) articles suggest that revising hierarchical structures is among the hardest tasks in realising an RMA. The recurring prescription is

not mere acquisition/invention. It is often organisational change, faster decision cycles, decentralised command which realise the gain. Yet both tend to understate the cultural, political, budgetary and career incentives which impede revolutionary change. Owen's 2002 article clearly places him as an RMA optimist . However, when reviewing Desert Storm, he observed that apparent technological difficulties were, "rooted in deeper differences of service culture, procedures, and operational concepts". As Keller (2002) observed in his interviews with reform advocates, even within the Pentagon the frustration was less about technology itself than about a sclerotic culture that rewarded continuity over disruptive change. The Stimson Center similarly noted that while UAS had become indispensable to U.S. commanders, their adoption was shaped less by radical reorganisation than by incremental integration into existing bureaucratic routines (**STIMSON_2015**).

Schaus and Johnson caution that UAS use also alters escalation dynamics, lowering thresholds without necessarily changing organisational cultures, which may create dangerous gaps between intent and perception" (**SCHAUS_2018**). This is echoed by Krepinevich (1992).

1.5 AI, Autonomy, Mission Command and Contemporary Debates

In 2000, Metz posited that historic commanders such as or Guderian would likely have found the United States' AirLand Battle Doctrine (AI) compatible with their operational style. Central to this is the concept of mission command. The tension between mission command's rapid operational tempo and the temptation of micro-management due to digital visibility is noteworthy.

Cohen warns of that technologies facilitating modern to commanders to perch "cybernetically" beside their troops in combat could have an insidious effect - undermining subordinate commanders (**COHEN_1996**). He contrasts this with General Eisenhower and Field Marshall von Moltke lying on a sofa reading a book on the eve of battle. His skeptical characterisation of commanders prone to intervene indicates that Cohen is likely a

proponent of mission command. Yet as Betts observes, new technology does not sharpen judgment by itself. Militaries often misinterpret or misuse innovations (**BETTS_1996**). Together these cautions suggest that without cultural and organisational restraint, information systems may become instruments of centralised control rather than enablers of mission command. Alach (2008) concurs, stating that, "mental evolution was as critical" as technological progress.

As a proponent of mission command, the actions recounted by General Guderian are somewhat incongruent. He described driving around the battlefield in his staff car to observe and intervene, at times confronting subordinates he believed were disobeying orders. One such episode involved SS Oberführer Dietrich, whose apparent insubordination proved correct once Guderian examined the situation: "I approved the decision taken by the commander on the spot" (**GUDERIAN_1952**). His preference for active oversight was further reflected in his praise for SS Gruppenführer Paul Hausser (**YEIDE_2011**).

The tension between personal intervention and the philosophy of mission command is illustrated by Major Dick Winters during the Battle of Bastogne. Though instinct urged him to relieve Lieutenant Dike and lead Easy Company himself, Winters chose instead to uphold his broader responsibilities as battalion commander. His solution—appointing Lieutenant Ronald Speirs—proved decisive (**WINTERS_2006**).

Steven Metz argues that the USALB blended modern technology with Auftragstaktik and rapid tempo in ways Guderian or Patton would have recognised (**METZ_2000**). More recently, Husain suggested that AI could compress the OODA loop to machine speed, accelerating conflict while still leaving space for the enduring principles of mission command (**HUSAIN_2021**).

So it appears that Cohen underestimates the potential for technology to reinforce Auftragstaktik. His framing risks a reductive binary between passive commanders "on the sofa" and intrusive commanders "in the hatch". Even if a commander's judgment is superior, they cannot personally manage every decision across a dispersed and complex battlefield. What matters is leveraging subordinates' initiative at scale, while reserving intervention for moments of crisis or opportunity. In this sense, the commander amplifies

rather than replaces subordinate action. Hence, technology such as uncrewed systems and AI may enhance mission command. Krepinevich (1992) modified structures can enable technology to reinforce Auftragstaktik rather than undermine it. This highlights that the impact of technology is contingent less on the tools themselves than on organisational culture and doctrinal restraint. In favourable conditions, AI and uncrewed systems may extend, rather than erode, the practice of mission command. Authors such Alach, Gray, Betts (along with conditional optimists such as Cohen, Krepinevich and Metz) identify the incremental change/evolution combined and interactions between many systems to be a key consideration.

Summary and Conclusion

Krepinevich stands out as a bridge across the literature. He shared the techno-optimist belief that information, precision strike and new organisational forms could drive a revolution. Yet he also stressed that bureaucratic resistance and doctrinal inertia often prevent militaries from realising this potential. His recognition that invention without reorganisation fails, links early RMA theory to later institutional learning perspectives. In this sense, he links the optimism of Metz, Cohen and Owens with the caution of Betts, Alach and Gray. His insights anticipate contemporary debates on AI, autonomy and dual-use technology. This dual perspective is evident across his writings—from his broad historical analysis of past military revolutions (**KREP_1994**) to his tempered assessment of Desert Storm's limited revolutionary character (**KREPINEVICH_1996**).

Glossary of Terms

Revolution in Military Affairs A hypothesised period of rapid change in warfare driven by the interaction of new technologies, organisations and concepts.

List of Acronyms

AI Artificial Intelligence.

AI United States' AirLand Battle Doctrine.

EDA European Defence Agency.

GWoT Global War on Terror.

HiTL Human in the Loop.

IED Improvised Explosive Device.

IEDD Improvised Explosive Device Disposal.

ISR Intelligence, Surveillance and Reconnaissance.

MDMP Military Decision Making Process.

OODA Observe Orient Decide Act.

RCP Relative Combat Power.

RMA Revolution in Military Affairs.

UAS Uncrewed Aerial System.

UGS Uncrewed Ground System.

UOS Uncrewed and Optionally Crewed Systems.

Index