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Brendan Sargeant was Head of the Strategic and Defence Studies Centre, Coral Bell School of Asia Pacific Affairs at the Australian National University (ANU) and an honorary professor. Prior to joining the ANU, Brendan had a distinguished career across several leading Australian Government departments, including serving as deputy secretary – reform and governance in Defence. As Associate Secretary of Defence, he was responsible for oversight and implementation of the *First Principles Review*, and he was the principal author of the *2013 Defence White Paper.*

Michael Scott is a colonel in the Australian Army and an engineer officer by background, with extensive combat engineering, project management and construction management experience. He is a distinguished graduate of the USMC Command and Staff College and an honour graduate of the USMC School of Advanced Warfighting. His most recent postings include Director Current Military Commitments in Military Strategic Commitments Division. Colonel Scott is currently Director Infrastructure in the Indo-Pacific Enhanced Engagement Branch, International Policy Division.

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Editorial

Determined to highlight debates, emerging issues and topics of interest to our Australian Defence Force (ADF) members and the broader public, the *Australian Journal of Defence and Strategic Studies* brings together practitioners, policymakers and scholars to examine questions and share insights on Australian and Indo-Pacific defence and national security.

The dominating global discussion of pandemics, great power competition and Indo-Pacific regional stability remains a central focus for most. Despite this, concerns still simmer regarding military strategy, defence planning and the challenges of new technologies. In this bumper edition of the AJDSS, we have attempted to provide insight on the breadth of all these concerns with our authors contributing pieces that range from the war in Ukraine and the impact of COVID-19 to the operational art and the ever vexing and discussed question of what we mean by strategy.

We begin this issue by paying tribute to Brendan Sargeant and republishing his 2021 discussion paper, 'Challenges to the Australian strategic imagination'. We are grateful to Greg Moriarty, Secretary of the Department of Defence, for his introduction to the essay in memoriam of Professor Brendan Sargeant. This important essay speaks to Brendan's thoughtful, forward-thinking and creative engagement with Australia's strategic outlook and defence policy. Brendan was an inaugural member of the *Australian Journal of Defence and Strategic Studies* editorial review board and a deeply valued supporter of the journal. We are grateful for the support of Brendan's wife, Vaidehi, and his family, to Professor Toni Erskine, Director of the Coral Bell School of Asia Pacific Affairs at the Australian National University, and Dr Andrew Carr, editor of the Centre of Gravity series, for their permission to republishing this essay.

Next, Major General Chris Smith's article, 'Dogmatic application of effects-based thinking', argues that the ADF's use of effects-based concepts, which underscore much of its planning methodology, present a very real danger of leading the ADF down the path of failure. Our second article from Colonel Mick Scott also interrogates ADF concepts and language, focusing on the distinction between Australian defence and military strategy. He highlights how a combination of inconsistent language, the lack of Australian military strategy tradition and structural changes within Defence over the past 25 years have led to a focus on 'defence strategy' for long-term generation of military capability at the expense of executable 'military strategy'. In our third article, Dr Simon McKenzie considers some of the regulatory issues automated and autonomous digital technologies pose for ADF work health and safety arrangements. He identifies three key areas of concern: psychosocial risks, physical risks and the difficulty of testing for potential hazards; and asks how the ADF will ensure its personnel are properly trained, equipped and empowered to respond to emerging work health and safety risks associated with these technologies.

In our commentary section, we have four very different essays. Senior fellow at the Centre for Defence Research, Matthew Sussex surveys Vladimir Putin's war in Ukraine so far, his miscalculations and flawed assumptions, the prospects for a resolution and the implications the war may have on Putin's regime, European security and on great power contestation globally. Supporting the discussion of military strategy in Colonel Scott's article, Peter Layton outlines the fundamental characteristics of military strategy. In our third commentary piece, Captain Liz Daly raises the issue of how Army Health has been affected by the worldwide demand for and scarcity of healthcare workers in the wake of the COVID-19 pandemic, the impact it has had on recruitment and suggests some potential solutions. Our fourth commentary reviews the emerging threat posed by ransomware, and the importance of a whole-of-government approach to raising awareness and building cyber resilience across both the public and private sectors.

In this issue, we also have two review essays. The first, from Michael Evans, is a considered examination of BA Freidman's recent book, *On Operations*: *Operational Art and Military Disciplines*, and is a must read for anyone interested in the conceptual distinctions between the tactical, operational and strategic levels. Evans argues that while Friedman seems to grasp the dialectics of strategy and tactics, 'he appears to misconstrue the cognitive demands that the dichotomies of level and art demand of operations in war. The principal challenge in achieving improved operational performance is the ability of military practitioners to make the demanding intellectual transition from tactics to operational art.'

Our second review essay by historian David Walker compares two recent releases with very different views on Australia's 'China problem': *Red Zone* by Peter Hartcher and *China Panic* by David Brophy. Hartcher, he says, sees China as a real and immediate threat, arguing that it wants to 'buy or bully or break' Australian sovereignty. This contrasts with Brophy, who questions whether China truly represents an 'existential threat' and sees the emergence of China *panic* in Australia as a social and political phenomenon requiring explanation. What they both agree on, however, is the importance of strengthening Australia's democracy.

We conclude with a diverse selection of reviews, ranging from a book that marks the returned prominence of nuclear strategy, alliances and extended deterrence in contemporary international security policy debate to one that provides an important examination of the history of LGBTI personnel in Defence.

And as we head into a southern winter, we hope you enjoy, read and relax.

Dr Cathy Moloney
Editor

In memoriam: Professor Brendan Sargeant

We were all devastated earlier this year by the unexpected and tragic passing of Brendan Sargeant, one of Australia's most respected defence and security strategic thinkers.

Those of us who knew and worked with Brendan over his long career know well of the invaluable contributions he made to Defence, the Australian Public Service, the Australian National University, the wider Canberra community and the nation.

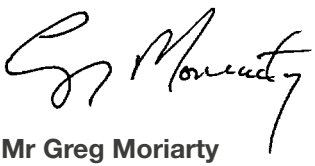
Brendan began his career in the Department of Defence in 1983 as an assistant research officer before embarking on a distinguished career across several leading Australian Government departments, including the Attorney-General's Department, Centrelink, and the Department of Finance and Deregulation. As a senior leader in Defence, he served as deputy secretary – reform and governance, and associate secretary before 'retiring' to join the Australian National University as Professor of Practice in Defence and Strategic Studies and Head of the Strategic and Defence Studies Centre at the Coral Bell School of Asia Pacific Affairs.

Many will remember Brendan's invaluable leadership on the 2013 Defence White Paper and implementation of the 2015 First Principles Review, though his influence is woven throughout Defence's recent history in ways large and small. The implementation of the First Principles Review reform agenda helped to modernise and better position Defence both internally and externally, as a more collaborative partner in whole-of-government endeavours. It is a success story that sees Defence now better prepared for the complex and challenging future we face.

Brendan has left a substantial legacy, a significant part of which will be the wisdom he passed on to so many with whom he worked. Many can tell stories of

his generosity, humility, energy and mentorship. His fine character and integrity were complemented by an ever curious, creative and strategic mind.

It is fitting then that the *Australian Journal of Defence and Strategic Studies* republishes, with the support of Brendan's wife, Vaidehi, and his family, this fine essay, which considers so eloquently the elements of Australia's strategic imagination. As Brendan notes, 'strategic imagination is a living thing, dynamic and evolving', and it is the gift of strategic imagination he so nurtured in those around him that will continue to live on.



Mr Greg Moriarty
Secretary of Defence

Challenges to the Australian strategic imagination

Brendan Sargeant

Executive summary

In the face of historic changes, Australia needs a larger conception of strategy, a richer discourse and a more searching questioning of the assumptions that underpin the Australian strategic imagination.

Reviewing the major elements of Australian strategic imagination, such as geography, time, technology and partnerships, nostalgia and borders reveals discordant notes, many elements have served us well in the past but may not be fit for the reality we now emerge into.

How are we to live in the Indo-Pacific in the twenty-first century? This is not first a question of policy or strategy. It is a challenge to strategic imagination. Not only do we need to imagine ourselves into what we might be, but also what the world might be. Is our vision of our future large enough to accommodate and respond to the scale of change that we are seeing?

Introduction

Strategic policy at the national level is a collective endeavour, the work of many people over time. It expresses our collective imagination of who we are and who we are not. In this essay, I discuss aspects of Australia's strategic imagination and some of the challenges it presents for strategic policymaking and strategy. I have been prompted to do this for two reasons. The first is that Australia faces a challenge it has never experienced before – a changing strategic order that has governed the Indo-Pacific for decades occurring in conjunction with a change in the biophysical environment, of which climate change is the most visible manifestation. The second is that the conversation about strategic policy in Australia is narrowly framed and has only begun to comprehend the implications that flow from the major changes now occurring in the Indo-Pacific.

The question we might ask is whether our thinking about strategic policy and strategy is sufficient for the challenge we face as a country. In framing this discussion, I would argue the need for a larger conception of strategy, a richer discourse and a more searching questioning of the assumptions that underpin the Australian strategic imagination and continue to shape our strategic policy and the strategies that it mandates.

This essay is not seeking to develop a new strategic policy. Rather, it looks to identify major elements of Australia's strategic imagination in order to suggest how imagination establishes the framework for debates on strategic policy and shapes strategy. What is presented here is my provisional list, exploratory rather than definitive. I am also conscious that this essay focuses on strategic policy and defence, but a country's strategic imagination extends beyond these domains. My focus on strategy and defence recognises that these are an important part of a larger conversation that questions whether ideas and frameworks that have served us well in the past are fit for the future.

Crises, strategy and imagination

One feature of any crisis is that it highlights a need for change. When this is understood, the question becomes, how should this change occur? What are its costs and gains? How should we understand success? What is failure? Why does success or failure occur? One way of thinking about strategy is to consider it as preparation for a future crisis.[1] Yet, our capacity to envisage and prepare for a future crisis can be constrained by the limits of our strategic imagination, even as the crisis becomes visible and demands a response. My central proposition is that a strategic challenge of any magnitude is first a challenge to imagination. The quality of the imagination that responds to that challenge determines the shape of the strategy that follows. An understanding of the relationship between strategy and imagination can deepen our understanding of what strategy is and how we might assess the utility of strategy in specific circumstances.

What is imagination?

Imagination creates worlds – 'images or concepts of external objects not present to the senses.'[2] Strategy finds its reality and derives its meaning and authority in the world; even as it labours to bring a new world to birth, it works within the sticky reality of the world as it is. It inhabits the world of experience. It is a tool, a process, a pathway. We judge the success or failure of a strategy by

1 I owe this insight to Dr Robbin F Laird.

2 Oxford Dictionary – The full definition in the Australian Shorter Oxford Dictionary is: 1a. mental faculty forming images or concepts of external objects not present to the senses; 2. the ability of the mind to be creative or resourceful; 3. the process of imagining.

what it achieves, not by what it is. Our judgements in relation to strategy are utilitarian because the success or failure of strategy is what matters. We are not concerned whether it is beautiful or ugly, elegant or messy – only that it works. Even when the strategy is unproven, the framework for assessment is how it might shape and therefore change the world as it is.

What is imagination in strategy? Where do we find it? How does it become visible? Lawrence Freedman defines strategy as 'the central political art'.

> Strategy is the art of acquiring power; it is the ability to get more out of any given situation that the starting conditions would suggest are possible.[3]

This definition suggests that strategy has two elements – a desired future state and a process to achieve it. Freedman discusses the contrasting qualities of *bie* and *metis* (strength and cunning) and the contrast between their expression in the characters of Achilles and Odysseus. Odysseus, a 'man of twists and turns,' was, as Freedman notes, a kind of a strategist in action. The contrast between Odysseus and Achilles is between cunning and brute force. Freedman notes that brute force was not sufficient to bring the Greeks victory over the Trojans. Odysseus' cunning employment of the deception of the wooden horse was the decisive factor in victory.[4]

Odysseus' cunning personality and his creativity represents a type of practical intelligence, a strategic intelligence that could see a path from the present moment through obstacles to the future. Freedman notes that this intelligence is 'largely intuitive, or at least implicit and at moments of a sudden danger and crisis, this might be all that could be relied upon.'[5] Freedman notes that some writers were uneasy with Odysseus' qualities, with the implication that his success was at some level unethical, for this success relied on lies and deception.[6]

Odysseus has the capacity to imagine his way into the future, to see more in any situation than those around him. He possesses a strategic imagination. It is the capacity to reconcile two powerful and often opposing forces to create a path into the future. These forces are experience, manifested in the world as it is, and imagination, manifested in the world as it might be. The act of making strategy seeks to resolve these forces. The resolution, always contingent on future events, is a strategy. Imagination in relation to experience establishes the boundaries for strategy creation. This tension sets the initial conditions out of which strategy emerges as a course of action.

3 Lawrence Freedman, *Strategy: A History*, Oxford University Press, Oxford, 2015, p xii.

4 Freedman, *Strategy: A History*, pp 23–28.

5 Freedman, *Strategy: A History*, p 29.

6 Freedman, *Strategy: A History*, pp 29–30.

Countries possess a strategic imagination

A country is an imagined community – it possesses an identity created by the people who live within it, the stories these people embody and tell, both as individuals and communities.[7] A country is a larger and more complex entity than any individual human being, but as an imagined community, a country does not exist without the people who have created it out of their actions, stories, desires, and their sense of who they are and where they belong. A country will possess a strategic imagination which will have evolved over time in response to the influence of geography, history, culture, and the many other tangible and intangible forces that go to create a community and its vision of itself. A country's strategic imagination is a living thing, dynamic and evolving in contact with the world, and full of contradictions. In those rare moments in a country's history where a genuine choice must be made and action taken, a country's strategic imagination becomes most visible.

A country's strategic imagination develops over time and takes expression in many different forms. No decision, no document or plan can exist independently of the context established by past decisions or of desires concerning the future. The artefacts of strategy are documents, plans and decisions. Some are more central than others, and the degree of centrality may change over time. A strategic imagination establishes itself and becomes visible in a pattern of decisions that build a framework for current and future decisions. To consider the artefacts of strategy as acts of imagination enables us to ask questions such as: what is excluded and for what reason? What are the constraints that it assumes and what are those that it has not understood or been aware of? What has been forgotten or not seen? What would other perspectives reveal?

The quality of a country's strategic imagination may be judged by how it responds to the world – the space it creates for action. Political leadership embodies or gives expression to a country's strategic imagination and orchestrates its realisation in policy and action. The gap between the latent potential in a country in terms of possible futures and the capacity of leadership to create and deliver a strategy to harness this potential is one way by which we might judge performance at the highest levels of political leadership.

National crises that give insight into Australia's strategic imagination include but are not limited to settlement and the war of Indigenous dispossession, exploration, Federation, the First World War, the Second World War, Korea and Vietnam, and the post-Vietnam strategic reorientation. Each crisis was a moment of discontinuity that required an act of imagination large enough to envisage a

7 Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism*, Verso, London and New York, 2006.

future different from the continuities mandated by the past, and powerful enough to generate a strategy sufficient to chart a path towards this future. Each was a moment of transition. Each represented an enormous challenge because responding meant understanding and overcoming the forces of continuity and all that they represent in tradition, culture, practice, and established and settled institutional relationships.

In the response to crises, we can see Australia's strategic imagination at work, how it shapes understanding and the broad framework for responding to crises. In a crisis, the strategic imagination's contours become visible. We can begin to get a sense of its architecture, and we can begin to understand the nature of the challenge to imagination presented by a major crisis.

The contours of the Australian strategic imagination

But what does the Australian strategic imagination look like? What are its contours? How and where does it become visible? For purposes of analysis, I have extracted and discussed what I consider to be major elements. I do so with two caveats. First, a strategic imagination is an integrating force. Different elements relate to each other to create a whole greater than the parts. It is, to use a metaphor, a living and dynamic reality that changes as it both shapes and is shaped by the world. Second, my list is provisional, a reflection of my views and experience. I expect some agreement, but also different perspectives and areas of emphasis as others bring their own frames of reference.

Fear of abandonment

In his history of Australian foreign policy in the twentieth century, *Fear of Abandonment*, Alan Gyngell explores how fear of abandonment was embedded in the Australian imagination from the earliest moments of settlement and has shaped our attempts to influence and manage the larger strategic systems in which we participate.[8] The tension that Australian strategic policy has sought to respond to is that of being a nation in command of its own destiny, while at the same time needing and wanting the support and protection of larger powers. The attempt to resolve this tension has been one of the major drivers of Australian foreign policy and it has shaped strategic and defence policy decisively. With the rise of an authoritarian China that seeks regional hegemony, and a United States that is diminishing in power and influence, we are seeing the emergence of a strategic environment that is new. In the not-too-distant future and for the first time in our history, we may, as Australians, find ourselves in a strategic environment where we may not be able to assume the protection of a

8 Allan Gyngell, *Fear of Abandonment: Australia in the World since 1942*, La Trobe University Press, Melbourne, 2017.

friendly hegemon who broadly shares our values and outlook on the world. Or we may find ourselves in a strategic environment where China has not been able to manage effectively the stresses created by its economic growth and domestic political management.

There are many possible futures, but a future that has strong continuities with our historical experience seems increasingly unlikely. The capacity to envisage a future where we may have to chart a more independent and lonelier course, where we may have to exercise leadership and act with less support from a friendly hegemon, or where we need respond to a world where the strategic order is more fragmented, will be a major challenge to our strategic imagination. At the heart of this challenge is overcoming, or at minimum learning to live with either the reality, or potential reality of abandonment. This has profound implications for our diplomacy, our relationships with our neighbours, our strategic and security role in the Indo-Pacific, our defence, and our capacity to manage relations with great powers and the tensions between them. These are major policy and strategic challenges, but what lies behind them is a challenge to Australia's strategic imagination.

Geography in the Australian strategic imagination

Geography haunts Australian strategy and will continue to do so. The role of geography in the Australian strategic imagination is very complex. One way of thinking about Australian strategic policy is to consider it as a meditation over decades on the relationship between time, space and security. Our strategic geography is a source of enduring security and forms one of the pillars of the Australian strategic imagination. It has shaped thinking about defence policy and strategy for decades, and it has established the framework for understanding the nature of Australia's defence challenge. For Australia, geography has created time and space – time to prepare and space to exhaust potential adversaries. The assumption that our geography is a source of security that gives us time and space has flowed through to planning cultures, decisions concerning capability priorities, levels of defence expenditure, and logistics and industry engagement and policy, to give some examples.

Time

One salient feature of the contemporary strategic environment is that time is a diminishing resource. To understand and recognise this is a major challenge to our strategic imagination because it requires a profound repositioning of relationship between the defence systems that we have built, the policy frameworks that sustain them, and the reality of a strategic environment that does not necessarily support those frameworks. To rethink the role of geography in Australian defence requires a profound reimagining of not only our relationship

with the continental landmass, but also a relationship with our near region. At the heart of this is a need to reimagine the role of time in our strategic imagination. It is not the abundant resource that it once was. This is first a challenge to imagination because it requires the need to imagine a world different to the one that we have assumed. The strategic policy challenge becomes one of creating more time – to prepare and to respond.

Strategic space

Australian strategic policy and strategy have always grappled with the profound influence of geography as both a constraint and an opportunity. Australia's geography provides challenges in communications, logistics and force disposition. From a strategic perspective, it provides both the luxury and the challenge of distance. In a strategic environment of reducing strategic space, the challenge for Australian strategy is to determine which force disposition and design is going to provide the most flexibility and embody the best recognition of the reality of our strategic environment.[9]

In this context, how we conceptualise our strategic geography in the context of a changing strategic order is a challenge to strategic imagination at many levels and in many ways. We live in a maritime environment, but on a continent sized island. Australia has a history of sending expeditionary forces to other parts of the world as part of a larger alliance or coalition engagement on the basis that Australian security is often best served by participation and maintenance of larger global strategic systems from which Australia benefits. Yet Australia is also an island continent, which brings with it a concomitant obligation to provide for its defence, but also creates a sense of security because any invading adversary would face almost insurmountable obstacles.

But is this changing? We have always thought about geography as providing us with space. But in a world where space as a strategic resource is diminishing, do we need to reconceptualise our strategic geography to take us beyond, for example, the demarcation of continent versus archipelago, or do we need to see that geographical space as a single continuous environment? In this context, recent developments in Australian strategic environment have emphasised the need to focus on our near region as an arena for strategic contestation.[10] This has given a renewed prominence to the question of our strategic geography, our capacity for self-reliance and the terms of our participation in larger regional and

9 For a discussion on Australia's reducing strategic space, see Paul Dibb and Richard Brabin-Smith, 'Australia's management of strategic risk in the new era', *Strategic Insights,* Australian Strategic Policy Institute, Canberra, December 2017.

10 Department of Defence, *2020 Defence Strategic Update,* Australian Government, Canberra, 2020.

global strategic systems. How we understand and conceptualise our geography is an imaginative challenge before it becomes a challenge for policy and strategy.

Technology and partnerships

Technology and alliances promise the potential to liberate defence capability from the constraints of geography. For decades, Australian strategic policy has sought to increase defence capability through technology and partnerships. This is one of the major ways in which the constraints and opportunities of geography might be either mitigated or leveraged. Australia is now in an environment where technological advantage is reducing. Part of this is a function of size – Australia is too small to be a major technology provider, even to itself. More broadly, the technology advantage that Australia gained through its relationship with United States is diminishing because the gap between United States technological preeminence and that of its rivals is narrowing.

We are also seeing an environment where the alliance, other partnerships, and other forms of international cooperation are likely to be more conditional and contingent upon specific circumstances. This challenges those elements of our strategic imagination that ground Australian strategic policy in a relatively enduring alliance and in partnership arrangements that have been a major feature of our historical experience. Partnerships, including the alliance, that are more conditional means that conceptions of the value of those partnerships will be more contingent on circumstances. At one level, this has always been the case – partnerships are a means to an end, not an end in themselves – but the public rhetoric around partnerships, particularly the alliance, is often sentimental and at variance with this reality. Developing a conception of the alliance and other partnerships that embodies this contingency and reflects the volatility of the Indo-Pacific strategic environment is a challenge for Australia strategic imagination because it reduces the sense of security and certainty that alliances and partnerships can provide.

The forces discussed above are, in their totality, changing our strategic environment in fundamental ways. In doing so, they are changing our relationship to and understanding of the strategic significance of geography. This is a challenge to strategic imagination because it embodies a challenge to our sense of our relationship with our strategic environment and the expression of that relationship in policy and action.

Borders

Australia is a sparsely populated country. One theme that runs through Australia's strategic history and which is a feature of the Australian strategic imagination has been an anxiety about the attractiveness of Australia to potential invaders

along with a lack of confidence about the capacity to defend the continent. After the experience of the Second World War, where there was a genuine fear of a Japanese invasion, and where the Australian mainland was attacked, there was a concerted effort to populate or perish. We have seen debates about what the desirable population for Australia might be, and one element of this debate has been the relationship between population size and security.[11]

One area where we have seen a recent strong focus on policy has been in the development of the border. One element of Australia's strategic imagination is that as an island continent we have the capacity to establish a hard border and exclude intrusions from the world. The COVID crisis has reinforced this perception. Yet if one feature of our strategic imagination is that geography brings security, another, perhaps contradictory feature is that participation in the world brings prosperity. This contradiction – between the desire for isolation because the world is threatening, and the need for participation in global systems because they bring prosperity – is most clearly embodied in policies associated with the establishment and maintenance of the Australian border.

In this age of globalisation, of virtual reality, of shared space that does not reflect the demarcations of time and distance and physical boundary, the border can and does move. The border can exist in different places and in different modes at the same time. It is to our peril that, as individuals, because of government fiat, we may find ourselves on the other side. Our relationship with the border, and therefore to ourselves and our community, is not only defined by where we are, but also by who we are. Who we are may also shift with the community's conception of its identity and who it will accept as being a part of it. The status of our identity has become increasingly contingent on social, political and technological forces that we as individuals cannot control.

One consequence of current policy has been an enormous expansion of conceptions of potential threat and an increasing anxiety about security. Current policy has focused on trying to maintain a hard border and governments have developed a plethora of legislation and seen enormous growth in intelligence capabilities that in their totality seek to define and manage this expanded conception of the border. Much of this thinking is embodied in the concept of the 'Extended State', a set of ideas that argue for a very expansive conception of

11 Arthur A Calwell, in a Ministerial Statement in the House of Representatives on Thursday, 2 August 1945, commenced his speech as follows: 'If Australians have learned one lesson from the Pacific War now moving to a successful conclusion, it is surely that we cannot continue to hold our island continent for ourselves and our descendants unless we greatly increase our numbers. We are but 7,000,000 people and we hold 3,000,00 square miles of this earth's surface... much development and settlement have yet to be undertaken. Our need to undertake it is urgent and imperative if we are to survive.' Arthur A Calwell, *Immigration – Government Policy: Ministerial Statement*, Government Printer, Canberra, 1945. https://nla.gov.au/nla.obj-2657258408

security and a commensurate expansion of the state's security role into almost every aspect of national and social life.[12]

We have expanded the scope and reach of security in policy discourses. We have made border security a primary manifestation of sovereignty, notwithstanding the reality that sovereignty is traded every day in our interactions in the global community as we seek national benefit or to maximise our economic and geostrategic position. We have also seen the development and implementation of border administration arrangements which in their totality serve to isolate Australia and in the reality of implementation are cruel. It is not obvious that strategic policy has been able to reconcile the fundamentally optimistic imperatives of openness to the world with the pessimism and fear that drives a hardening of the border. Are we seeing in the development of border policies and the associated expansion of intelligence capability a failure of strategic imagination at both political and bureaucratic levels?

Nostalgia

Nostalgia, in its sentimental attachment to and overvaluing of the past, its refusal or inability to understand contemporary realities, its refusal to respond to the future on its own terms, is a failure of imagination. One feature of the contemporary conversation on strategic policy is a strong thread of nostalgia that runs through it. Two examples will suffice. The first is the prominence given to Five Eyes arrangements in the public discourse. The Five Eyes origins in a set of intelligence sharing arrangements and a convenient nomenclature for identifying a particular set of shared strategic interest deriving from the Cold War, is now being positioned as a major international architecture, with proposals to extend it into other spheres of cooperation such as economic policy and strategic diplomatic interventions.[13] This makes limited sense in terms of the practical reality of policymaking across international boundaries. Economic and political interests are divergent and countries for domestic political reasons or economic imperative will make decisions in their own interests, often at the cost

12 A discussion of the idea of the extended state was presented in a speech by Michael Pezzullo AO on 13 October 2020, 'Security as a Positive and Unifying Force'. This important speech repays close and careful reading. Available as embedded video and as a transcript via the Department of Home Affairs website: https://www.homeaffairs.gov.au/news-media/speeches/2020/13-october-security-as-a-positive-and-unifying-force

13 For a discussion on possible future options for Fives Eyes, see William A Stoltz, 'A 2020 vision for Five Eyes: new structures for new challenges', *National Security College Policy Options Paper,* Australian National University, December 2020, no. 16 https://nsc.crawford.anu.edu.au/publication/18469/2020-vision-five-eyes-new-structures-new-challenges; and Simon Benson, 'Five Eyes expanded to focus on economic pact', *The Australian*, 8 June 2020, https://www.theaustralian.com.au/nation/politics/five-eyes-expanded-to-focus-on-economic-pact/news-story/31ee5e37f1942a8188535d4f7585daa1.

of partners. The strategic value of the Five Eyes arrangements resides in its focus on intelligence which provides goal clarity and focus.

The second is the ANZAC mythology. Others have discussed how recent Australian governments have sought to establish the ANZAC experience as a foundational myth in the development of Australian national identity.[14] But the reality of the modern Australian Defence Force (ADF) is that it is a complex, managerially sophisticated, and technologically advanced force led and operated by skilled professionals. The ADF is embedded in and draws capability from larger national systems, including the Australian Public Service. With the ADF in recent years we have seen the development of an operationally capable force able to work independently, but drawing capability from larger strategic systems, in particular the US alliance system.

However, the context within which the ADF is discussed in the public sphere is volatile. What stays unresolved and represents an increasing tension is the gap between what the ADF is and the continuing ANZAC mythology that surrounds it. The myth of the Digger is of a self- sufficient warrior, sceptical of authority, bonded to his (and they are always male) mates and ready to sacrifice his life for his mates. He embodies the Australian virtues, and his lineage can be seen in the 'Australian Legend' described by the historian Russell Ward.[15] His monument is the War Memorial, which a former director, Brendan Nelson, has on many occasions said is where the soul of the nation resides. This mythologising is backward looking and seeks to create a glorious past and project it into the future. This conception of the ADF, arguably an element of the Australian strategic imagination, perhaps blinds us to the reality of what the ADF is and the nature of the work that it does. The ADF that Australia requires in the future is likely to be very different to the one that has served in the past. To develop this ADF to meet the scale of potential future challenges is not just a capability development task, but a challenge to Australia's strategic imagination. It involves moving beyond the ANZAC mythology to an understanding of what the ADF is, and what it can and cannot do in Australia's emerging strategic environment.

The Indo-Pacific challenge

The Indo-Pacific is in a period of transition as great powers assert their prerogatives and seek to negotiate a new, potentially post-American, strategic order. It is a system where the potential for conflict or other problems is high.

14 James Brown, *Anzac's Long Shadow: The Cost of Our National Obsession*, Black Inc., Melbourne, 2014; Mark McKenna and Stuart Ward, '"It was really moving, mate": The Gallipoli pilgrimage and sentimental nationalism in Australia', *Australian Historical* Studies, 2007, 38(129): 141–151.

15 Russell Ward, *The Australian Legend*, Oxford University Press, Oxford, 1958.

Many states are fragile or have political systems that are in transition or are finding it difficult to manage the challenges that they face. It is an area where the impact of climate change will be felt, potentially in future disasters, along with major changes to regional environments that will affect the food and economic security of major populations.[16] From a strategic perspective, there is a mismatch between the emerging economic order and the geostrategic order that has been in place since the post–Second World War settlements. Arguably, the institutions of governance for the management of the Indo-Pacific strategic and economic order are not yet mature or capable of delivering the strategic stability to provide assurance around strategic and economic decision-making.

Learning to live in the Indo-Pacific will also be a major domestic challenge to Australia and will reshape some of our political and social institutions in ways that are difficult to foretell. In recent decades, the alliance system, technological fluency, the operational capacity of the ADF, and the relatively benign strategic environment, has meant that Australia has not had to face the reality of diminishing size and power. The focus of current debate is China, but the question of Australia's relative power is a much larger discussion about the nature of the strategic environment more broadly.

How are we to live in the Indo-Pacific in the twenty-first century? This is not first a question of policy or strategy. It is a challenge to strategic imagination, to the ability to conceive of a different order and a different Australia within that order. In time this challenge will become the challenge for policy and to the strategies that we might pursue to give expression to that policy. But first it is a challenge to imagination, and this is where the quality of imagination is vital. Not only do we need to imagine ourselves into what we might be, but also what the world might be. Is our vision of our future large enough to accommodate and respond to the scale of change that we are seeing? How does our vision of the future relate to what I have described as enduring tensions in our country's strategic imagination? How will the tension between what we imagine and what we experience play out? How do we ensure we do not concede too much to the world of experience and the forces of continuity and therefore set the conditions for future strategic failure?

The world is not more complex than it used to be. Every generation faces its own challenges in the world in which it lives. The achievement of the post–Second World War era was the building of institutions and the establishment of policy frameworks that strengthened Australia's capacity to manage its

16 Defence White Papers from 2009 through to the *2020 Defence Strategic Update* have referred to these challenges with varying emphasis.

strategic interests both globally and regionally in a time of great change and in ways that strengthened our prosperity and strategic position. Alan Gyngell has shown that this work displayed deep continuities with a longer historical tradition in foreign policy.[17] We saw a response to the world that, while observing the continuities that have underpinned Australia's foreign policy over decades, also recognised and responded to a world that was in many respects new. It was in this period that we saw the establishment of the ANZUS alliance, the building of international institutions, and the opening of new and exciting trade relationships with countries such as Japan. As the Second World War receded and with the legacy of the Korean and Vietnam wars becoming visible, we saw a much more aggressive assertion of Australian national identity in defence policy that came to fruition in the 1990s.[18]

Perhaps the deep purpose of strategic policy is to help create Australia by charting a future and giving meaning to the past. Strategic policy and its expression in action through strategy builds national identity; national identity validates strategy. Yet our language can lack authenticity. We use terms such as 'creative middle power' to describe ourselves – or we 'punch above our weight.' These are clichés, a tired rhetoric designed to mobilise political support and unlock resources, provide talking points for politicians and officials. Our policy and strategic documents repeatedly reference the 'rules-based global order' and of the US Alliance as the foundation of our security.[19] We avoid the arduous task of self-creation and instead deploy these clichés as a shield against our anxieties. Yet the Indo-Pacific asks us: how long will this rhetoric, increasingly nostalgic in tone, make sense?

The limitations of experience

Two decades of ADF deployments to the Middle East and Afghanistan has built operational capability but perhaps at the cost of narrowing our ability to think strategically about our interests. This has been recognised, and recent policy statements such as the *2020 Defence Strategic Update* have begun a process of reorientation to the Indo-Pacific as the area of our primary strategic concern. There have been the beginnings of an outreach towards other strategic relationships in our region, notably Japan and India, though this work is slow and will be very challenging. We have struggled to develop a confident position in relation to China, and we have perhaps been more optimistic than we should have been about China's strategic ambition. This argues for a much more

17 Gyngell, *Fear of Abandonment: Australia in the World since 1942*.

18 This story is charted through Defence White Papers from 1976 through to 2000.

19 Department of Defence, *2016 Defence White Paper,* Defence Publishing Service, Canberra, 2016.

agile policy and a much more aggressive approach to the construction and management of our strategic interests. Others have framed this in terms of a stronger, more geographically centred regional focus in our policy and activity that might manifest itself in a much greater engagement with Indonesia and other South East Asian countries. I agree with this approach, but I would frame it also in terms of a much richer imaginative engagement with the Indo-Pacific more broadly, with a recognition that even as we have our own distinctive Australian identity, we are part of this community and that the nature of the community also shapes our identity and the way in which we might live in this world. Such an imaginative engagement might lead us to see what we might learn from the strategic traditions across the many Indo-Pacific countries if we allow them to challenge our strategic imagination. We might also question why, as a community, we have in recent years made border protection the overriding policy and institutional imperative for the construction of our national security system, when the much larger and more strategically pressing issue is how we engage with the Indo-Pacific during a period of major change to the global strategic order? We might ask whether this preoccupation with the border constitutes the major contemporary failure of our strategic imagination.

At the beginning of this essay, I wrote about Odysseus, the Man of Twists and Turns, a 'complicated man' as Emily Wilson in her recent translation of the Odyssey describes him,[20] a man not trusted in the thinking of some subsequent schools of strategy because he seemed to embody deception.[21] I would prefer to describe him as an imaginative, but pragmatic realist. Thirty years ago, Australia was the largest and richest country in our region. In this sense Australia was like Achilles, who could rely on force to impose his will. He did not need much imagination. Perhaps Australia in the future needs to be more like Odysseus.

The work of policy, an art of desire, is to say what the world might be. The work of strategy is to create the path towards that world, responding to all the known and unknown impediments that are likely to emerge. Policy lives mostly in the world of imagination; strategy lives mostly in the world of experience. The art of the policy maker and the strategist is to bring imagination into the world of experience and through this to create strategy that can change the world. In times of great change, the challenge is to imagination, for continuity in strategy is likely to lead to failure. Sir Arthur Tange, an important figure in Australian foreign and defence policymaking and strategy, once said that strategy without

20 Emily Wilson, *The Odyssey,* W.W. Norton & Company, London and New York, 2017, p 1.

21 For an illuminating discussion of Odysseus' ambiguous reputation in the ancient world and in the present day, see Madeline Miller, 'False Counsellor', *TLS*, 12 October 2018. https://www.the-tls.co.uk/articles/odysseus-madeline-miller/

resources is no strategy. In my professional life those words were a touchstone. My argument now is that as we learn to live in the Indo-Pacific, strategy without imagination is sterile.

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Dogmatic application of effects-based thinking and the risk of Pyrrhic victories

Christopher Smith

Abstract

This article proposes the effects-based concepts that underscore the Australian Defence Force's (ADF) planning methodology presents a very real danger of leading it down the path of failure. In suggesting the ADF ought to be more circumspect about using pseudoscientific effects-based doctrine outside the manner of their original scope, it offers that the ADF's propensity to reduce complexity, say through articulating a singular means to defeat an adversary (consider centre of gravity), ultimately leaves it ignorant of an adaptive and thinking enemy in a changing and unpredictable environment. This line of thinking leads to process-focused and close-minded views of the world at the cost of critical analysis and genuine consideration.

In providing this perspective, the author reflects on the complexity of war, the rationale for the use of effects-based concepts and tempers its utility with historically precedents, echoing the viewpoints of Mattis and Moltke and the failures of Afghanistan and Vietnam.

Ultimately, it suggests that effects-based concepts are a dogma that may lead to an over estimation of what the ADF can do. For example, the organisation's tendency to use highly technical and specific language to aid precision in its expression can at times have the exact opposite effect. He concludes that a military that can 'deliver effects' may not be able to win wars. Perhaps tongue-in cheek, you might conclude part of the problem is because no one understands what anyone is actually saying.

Introduction

> Every vice is a virtue taken to extreme.

During the peace negotiations between the United States and North Vietnam, American Colonel Harry Summers famously said to his North Vietnamese counterpart, 'You know, you never beat us on the battlefield.' Summers's counterpart pondered the remark and responded, 'That may be so, but it is also irrelevant.' A week later North Vietnamese tanks rolled through the streets of Saigon bringing the long war in South Vietnam to a conclusion.[1] The United States indeed had won the battles, but it also lost the war.

The anecdote points to a truism; victory in war is much more than the sum of battles won or *effects* caused. The tale represents a failure to appreciate the complex and uncertain factors bearing on the object at stake in the war, which seems to derive from a human tendency to simplify complex things and to use process as a mechanism to avoid psychological distress. My purpose herein is to caution the ADF against taking effects-based concepts too far and to avoid the potential for future Pyrrhic victories of the kind that tormented the United States in the aftermath of its war against North Vietnam.

There are strong signs the ADF is taking effects-based concepts too far, and therefore the soil is fertile for the ADF to become an agent of Pyrrhic victory. These signs include the very broad application of effects-based approaches in circumstances outside their useful scope, and an increasingly more abstracted pseudoscientific effects-based and targeting jargon. This dogmatism risks Pyrrhic victories because the underpinning rationale for an effects-based approach to warfare is unsuited to the complexity and dynamism of war. It blinds people to war's complexity, causing them to see only the pieces of war and to forsake the whole.

Effects-based concepts

The rationales behind effects-based thinking and the associated targeting process are compelling and simple. The four big ideas behind them are:

- one should be clear about the purpose or consequences of an activity before it goes ahead
- the effects or consequences of an activity ought to be coordinated with the consequences of other activities such that the totality of the various results all work in concert for some higher purpose

1 David T Zabecki, 'Colonel Harry G Summers Jr, was a soldier, scholar, military analyst, writer, editor and friend', The Clausewitz Homepage [website], n.d., accessed 12 May 2022, https://clausewitz.com/readings/SummersObitText.htm

- one ought to be prudent about selecting and prioritising the objects to be acted upon (for example the things to be attacked) in order to make best use of limited available means (there are always more targets than there are bombs, and some things are easier to strike than others)
- taking into account imperatives, such as minimising counterproductive consequences such as killing innocent people who might be inadvertently nearby an intended target for a bomb (often referred to as collateral damage or second and third order effects).

The merits of these rationales are self-evident, but there is more behind effects-based concepts than just these simple foundations. To understand the particular doctrine undergirding the effects-based and targeting concepts it is necessary to go back to the 1990s and the aftermath of the 1991 Gulf War. Much of the analysis in the immediate aftermath of the war seemed to suggest that developments in sensors, precision munitions and information technologies had changed the very nature of war. There was a consensus among a number of pundits that armed forces that possessed and took advantage of the new information systems could succeed with very little risk to the safety of their own troops. Among them was Admiral William Owens, the Vice Chairman of the Joint Chiefs of Staff from 1994 to 1996.[2]

From this rationale emerged two related theories of warfare: effects-based operations and network centric warfare. The basis of these theories was hard systems-thinking, which was in vogue at the time. Authors of the theories, such as Admiral Arthur Cebrowski and John Garstka, perceived war as something amenable to scientific reduction.[3] Some pundits, including Admiral Owens, contended that an appropriate system of sensors and good analysis reduces operational problems down to their constituent parts and enables staffs to work out the precise mechanism by which to cause an enemy to behave in a certain way or think in a certain way.[4]

A major influence on the theories was air power theory, which contended the neutralisation of critical nodes, or linking mechanisms, within a military force (and the national infrastructure and systems that sustain and direct it) deny it the essential feedback and communication necessary for its proper function,

2 William Owens quoted in, respectively, Thomas Duffy, 'Breakthrough could give forces total command of future battlefield', *Inside the Navy*, 23 January 1995; Peter Grier, 'Preparing for 21st century information war', *Government Executive*, August 1995; and his own 'System of systems', *Armed Forces Journal*, January 1996.

3 Arthur K Cebrowski, *Implementation of Network Centric Warfare*, United States Government Printing Office, Washington DC, 2005, pp 3–7.

4 Justin Kelly and David Kilcullen, 'Chaos versus predictability: a critique of effects-based operations', *Security Challenges*, 2006, 2(1): 65.

resulting in systemic collapse or paralysis.[5] This thinking is highly reductionist and, accordingly, it seemed as though military professionals were beginning to regard enemies less as thinking and reactive entities and more like a static system of targets against which to 'apply effects'.[6] The theories regarded war, in the main, as a contest between military forces rather than a contest between nations or political entities, while the theories regarded military forces as complicated machines isolated from a broader context.

Effects-based thinking gradually expanded beyond a military focus to be generally applied to all human social systems.[7] Under the logic of the new theories, Clausewitz's transcendent properties of war (chance, friction and uncertainty) became merely problems to be solved. Analysis became more important than judgement, and the concept of decision superiority displaced the older idea of initiative.[8]

Despite their many critics, effects-based concepts and the associated targeting processes they spawned have survived (perhaps even thrived) in English-speaking militaries for nearly three decades. In that time, to some extent, effects-based concepts and the associated targeting process have proven their utility in warfare. Even effects-based theory critic, retired general and former US Secretary of Defence, James Mattis concedes: 'elements of these concepts have proven useful in addressing "closed systems" such as targeting, where their effects can be measured per the US Air Force's deliberate analysis and targeting methods.'[9] But effects-based concepts and the targeting processes derived from them are not universal cure-alls. And herein lies the problem for the ADF. There are signs the ADF is tending to apply the effects-based methodology as though it is a cure-all; more on this later.

Effects-based concepts and closed-systems logic

The closed systems that General Mattis refers to are linear systems. They are characterised by proportionality and additivity,[10] implying that the whole of the

5 Milan N Vego, 'Systems versus classical approach to warfare', *Joint Force Quarterly*, 1st Quarter, January 2009, 52, p 41. https://ndupress.ndu.edu/jfq/

6 Vego, 'Systems versus classical approach to warfare'.

7 Vego, 'Systems versus classical approach to warfare'.

8 ADF Doctrine defines decision superiority as the ability to make and implement more informed and more accurate decisions at a rate faster than the adversary.

9 James N Mattis, 'USJFCOM Commander's guidance for effects-based operations', *Parameters, 2008,* 38(3). http://www.doi.org/10.55540/0031-1723.2437

10 A system with proportionality is one in which an increase in strength of an input elicits a corresponding increase in strength of an output of the system. A system with additivity is one in which the effects of two or more inputs of a similar kind combine such that the total response in the system is proportional to the sum of the two inputs.

system is equal to the sum of the parts, and that understanding the parts allows one to understand the whole. Systems possessing proportionality and additivity also tend to possess replication or shift-invariance, meaning the system will respond the same way to the same input every time it occurs in the same context. Cause and effect are therefore demonstrable in a closed or linear system making the system predictable.[11]

Closed systems are things like factories, automobile engines and, in the main, perhaps things like infrastructure projects. In a military sense, closed systems are perhaps things like air defence systems, logistical supply systems and sophisticated computerised command systems. They are proportional to the extent that the strength of inputs into the systems tends to correspond with the strength of the outputs. They are additive to the extent that they can reasonably be regarded as a sum of their parts. For example, add more radars or missile launchers to an air defence system, or more trucks into a logistics system, and the consequence to the entire system is a direct function of the added pieces. The examples possess shift-invariance to the extent that they tend to respond in the same way to the same input every time. Cause and effect are demonstrable, and the systems are predictable to a point.

Effects-based thinking and targeting processes are suited to closed systems because the concepts assume the consequences of a particular input have a high degree of predictability. They assume, therefore, that the properties of additivity, proportionality and shift-invariance are possessed by the targets or, more importantly, by the systems that the targets are a part of. Take for example the quintessential bombing mission to destroy a ball-bearing factory in the Second World War. The mission is predicated on the expectation that a shortage of ball bearings will degrade an enemy's output of war machines because the machines rely heavily on ball bearings for their function. It is unequivocally closed-system logic; but even so, targeting ball bearings did not work as well as

11 US Army Field Manual TRADOC Pamphlet 525-5-500, *Commander's Appreciation and Campaign Design,* ver 1.0, United States Army, 28 January 2008, defines proportionality, replication and additivity as follows: '*Proportionality* means that a small input leads to a small output, a larger input to a larger output. Push down lightly on the accelerator, the car will go slowly, but push down heavily and its speed will increase… *Replication* means that the system will respond the same way to an input under the same conditions. Replication also allows *cause and effect* to be demonstrated. Thus, a driver knows that changing the position of the accelerator causes the speed to change…*Additivity* means that the whole is equal to the sum of the parts. The additive nature of linear systems legitimizes analysis. Analysis reduces the system into progressively smaller components in order to determine the properties of each. In a system that exhibits little interactive complexity, the properties of the whole system can be understood based upon the properties of the components. The most effective way to study such a system is *systematically* and quantitatively using the analytical problem solving. Unfortunately, the operational problems confronting commanders at all levels are rarely linear.'

the Allies anticipated because they did not appreciate that even this seemingly linear system was actually complex.[12]

When applied to complex open systems, the logic of effects-based concepts and targeting processes break down because complex open systems do not possess additivity, proportionality or shift-invariance. To that end, the effect of the ball-bearing factory bombing missions on the general course of the Second World War has proved very difficult to determine, even with the advantage of hindsight. In other words, while it might be possible to discern the effect of the missions on ball-bearing production and on the production of machines that required ball bearings, it is a very different challenge indeed to work out whether it mattered. There were an almost incomprehensible number of other variables at play.

The dynamism and complexity of war

Complex open systems such as war make it impossible to do a range of things that effects-based concepts are predicated on. In complex open systems it is impossible to 'pre-determine all relevant consequences of an action or event, or which actions may bring about a desired future state'. It is impossible to 'develop, communicate and analyse understanding of the causal and influence networks operating, not only because of interconnectedness, but also because many nodes and links are hidden or inaccessible'. And it is impossible to 'translate highest-level objectives into clear and comprehensive measures of success and failure across all the relevant dimensions of the situation'.[13]

In a complex open system, it is very difficult to 'detect important weak signals and discriminate them from spurious patterns'. It is equally difficult, if not impossible, to 'achieve vertical alignment between higher intents and consequences of actions'. It is impossible to 'achieve horizontal alignment (coherence) between actions of multiple different agents'. It is impossible to 'identify alternate stable states that might be reached deliberately, or inadvertently, and evaluate them against espoused objectives and measures of success and failure'. And, it is impossible to 'identify possible trajectories from the current state to alternate states, and indicators to discriminate them'.[14]

The sum of complex interactions between warring parties produces results that are emergent, unanticipated and unintended. For example, even though a missile

12 Julius Rigole, *The strategic bombing campaign against German in World War II* [LSU Master's Theses 3268], Louisiana State University and Agricultural and Mechanical College, 2002, pp 68–72. https://digitalcommons.lsu.edu/gradschool_theses/3268

13 US Army Field Manual 525-5-500, *Commander's Appreciation and Campaign Design*.

14 US Army Field Manual 525-5-500, *Commander's Appreciation and Campaign Design*.

strikes a target as precisely and effectively as intended, just like the previous ball-bearing factory example, the relative importance of the strike and its additive consequence on the full sweep of events in a war is often near impossible to know beyond a short and inconsequential horizon of time. We might be able to predict and then recognise the consequences of a missile strike on a particular target and on the system to which the target belongs (for example its parent military formation or the broader air defence network); however, our ability to anticipate whether the attack on that target or system will be consequential for the grand enterprise in the fullness of time is decisively inadequate. We cannot even really tell whether using the same resources to attack an alternative target would have mattered more.

For close to two decades in Afghanistan, Coalition forces attacked and struck thousands of targets based upon the effects-based and targeting rationales; yet the war ended on the Taliban's terms, and it is near impossible to tell whether any particular strike or the totality of strikes made any difference at all. Such is the nature of complex systems and such is the nature of war.

Like a raging river, we cannot control the currents of a war; rather the river and war carries all parties along with them. The dynamics of a river's many currents are understandable only at a relatively superficial level. At best, we can negotiate a course through a war in the same dynamic way a whitewater kayaker negotiates the rapids and pools of an unmapped river for the first time. The kayaker seeks to position their hull to take advantage of seemingly favourable currents and eddies while avoiding the risks posed by the whitewater and obstacles.

The kayaker does so based on only a very limited understanding of the system as a whole. They have little knowledge of what lies ahead other than what they can glimpse as they lift their head. More importantly, they have little opportunity to ponder the relative merits of the myriad options available to them at any given point. By the time the kayaker can come to terms with the infinitely complex features of a point on the river, they will be miles downstream and the portion of stream under investigation will have changed, making the analysis moot.

In some cases, in order to avoid catastrophe if their choice is flawed, the kayaker might be eager not to overcommit to a position or course. In other cases, the prudent choice might be to commit utterly to a particular course because a half-hearted approach might invite catastrophe. In another circumstance, the kayaker might make an optimum choice given the preceding conditions only for a massive and unknowable surge of water to overwhelm them from behind caused by an unknown storm that occurred higher in the catchment days prior. And in yet another circumstance, the kayaker's decision might be right but their execution might by poor, resulting in some unintended and perhaps catastrophic

consequence. Chance is an unavoidable and important factor in war and in warfare. We only control so much, even if we are the dominant force.

In such a dynamic situation, assessing the relative merits and effects of the kayaker's choices will have limited value because at every new moment the kayaker confronts what is essentially a new river. As the ancient Greek philosopher Heraclitus reminds us, 'You could not step twice into the same rivers; for other waters are ever flowing on to you. All is flux, nothing stays still.' So even if the kayaker had a second chance to negotiate the same part of the river, the choice that worked the first time might be utterly catastrophic the second, even if the kayaker was able to consistently execute their manoeuvres well. Therefore, because complex systems like war lack shift-invariance, measures of performance and measures of effectiveness are not useful in the same way as they might be in a relatively closed system.[15]

Take for example the Battle of Gettysburg: the expectations of the commanders of the Army of the Potomac and the Army of Northern Virginia at their first meeting on the outskirts of the town neither anticipated the events of the next three days nor the final result of the battle and its implications for the result of the American Civil War. Nevertheless, the result was advantageous for the North and disastrous for the South. Having a clear 'effect' in mind going into the battle would not have benefited either party. For starters, neither side wanted nor anticipated the battle. It occurred largely by chance, based on a Northern unit's need for boots. The battle and its great consequence emerged as a function not only of a range of deliberate and considered choices, but also as a function of chance and opportunity.[16]

Effects-based concepts and the risk of Pyrrhic victory

The complex and unpredictable features of war led the highly regarded strategist and Prussian Chief of the General Staff in the late 1800s, Field Marshal Helmuth von Moltke, to assert:

> The material and moral consequences of every major battle are so far-reaching that they usually bring about a completely altered situation, a new basis for the adoption of new measures. One cannot be at all sure that any operational plan will survive the first encounter with the main body of the enemy. Only a layman could suppose that the development of a campaign represents the strict application of a prior concept that has been worked out in every detail and followed through to the very end.[17]

15 Chris Kolenda 'Transforming how we fight', *Naval War College Review*, Spring 2003, p 100–121.

16 Huba Wass de Czege, 'The logic and method of collaborative design', *The Azimuth*, April 2010, 7(2):4. Available via https://smallwarsjournal.com/blog/the-azimuth-coin-edition

17 Bootcamp and Military Fitness Institute, 'No plan survives contact with the enemy' [webpage], Bootcamp and Military Fitness Institute, last updated 28 February 2016. https://bootcampmilitaryfitnessinstitute.com/military-and-outdoor-fitness-articles/no-plan-survives-contact-with-the-enemy/

Moltke further observed:

> With darkness all around you, you have to develop a feeling for what is right, often based on little more than guesswork, and issue orders in the knowledge that their execution will be hindered by all manner of random accidents and unpredictable obstacles. [18]

His admonitions reflect a nature in war that stands in stark contrast to the reductionist and closed-system underpinnings and technical-mindedness of effects-based and targeting concepts. Moltke's reflection on the ambiguous and complex features of war and warfare implies the predictability and linear causality assumed by effects-based concepts only have a very limited scope of applicability. Their utility seems therefore to be limited to rather specific circumstances, such as air and missile strikes and perhaps special forces raids or cyber and electronic warfare attacks.[19]

Writing on the Israeli Defence Forces' (IDF) overreliance on effects-based concepts during the 2006 Israeli–Hezbollah war, one of the main contributing factors to the IDF's poor performance, former Israeli Northern Commander, Major General Amiram Levin observed that the effects-based doctrine was:

> in complete contradiction to the most important basic principles of operating an army in general... and is not based upon, and even ignores, the universal fundamentals of warfare … This is not a concept that is better or worse. It is a completely mistaken concept that could not succeed and should never have been relied upon.[20]

Reflecting on the same war, General James Mattis came to a similar conclusion about the dangers of dogmatic application of effects-based concepts. He cautioned that effects-based operations:

- Assume a level of unachievable predictability.
- Cannot correctly anticipate reactions of complex systems (for example, leadership, societies, political systems, and so forth).
- Calls for an unattainable level of knowledge of the enemy.
- Is too prescriptive and over-engineered.

18 Verordnungen für die Höheren Truppenführer. A translation is included in the volume by Daniel Hughes: Daniel J Hughes (ed), *Moltke on the Art of War – Selected* Writings (Daniel J Hughes and Harry Bell trans), The Random House Ballantine Publishing Group, 1993, pp 171–224.

19 Christopher R Smith, *Design and Planning of Campaigns and Operations in the Twenty-First Century*, Land Warfare Studies Centre (Australia), Canberra, April 2011. https://researchcentre.army.gov.au/library/land-warfare-studies-centre/design-and-planning-campaigns-and-operations-twenty-first-century

20 Matt M Matthews, *We Were Caught Unprepared: The 2006 Hezbollah Israeli War*, US Army Combined Arms Center, Combat Studies Institute Press, Fort Leavenworth KS, 2008, p 62. http://purl.access.gpo.gov/GPO/LPS104476

- Discounts the human dimensions of war (for example, passion, imagination, willpower, and unpredictability).
- Promotes centralization and leads to micromanagement from headquarters.
- Is staff, not command, led.
- Fails to deliver clear and timely direction to subordinates.
- Uses confusing terminology and is difficult to understand.[21]

The allure of effects-based concepts

In his book, *The Logic of Failure*, Professor of Psychology Dietrich Dorner explores the reasons people fail to recognise and avoid errors in dealing with complex situations like warfare. He gives us a sense of the psychological mechanisms at play that might explain our propensity to rely so heavily on effects-based concepts and reductionist thinking. He points to two features, among others, which might explain the impulse. The first is the tendency to economise on the resource intensive and relatively slow process of conscious thinking, and the second is the inclination of people to preserve a positive view of their competence.

Dorner observes that a critical feature of the logic of failure is the slowness of human thinking.[22] Human conscious thought is only capable of processing a handful of pieces of information at the same time, which prompts people to take shortcuts to make use of their scarce resources as efficiently as possible:[23]

> [Simplified decision-making] eliminates the need to sort through the confusing variety of circumstances under which a certain action was successful; second, we streamline our planning by using only a few general rules rather than many rules that are only locally applicable and for which we must determine, case by case, whether the conditions necessary for their successful application exist.[24]

One frequent shortcut is to select a common variable as central to a problem. Selecting a common variable and giving it importance saves time by mitigating the need to clarify complex interrelationships and contradictory goals, thereby reducing the need for complex analysis. It also saves time gathering information because planners can focus their efforts on collecting information relating to the

21 James N Mattis, 'USJFCOM Commander's guidance for effects-based operations', p 20. Original formatting.

22 Dietrich Dorner, *The Logic of Failure: Recognising and Avoiding Error in Complex Situations*, Basic Books, New York, 1997, p 185.

23 Dorner, *Logic of Failure*, p 186.

24 Dorner, *Logic of Failure*, p 187.

primary variable.[25] If one believes that everything depends on a single variable, then one can justify there is no need to spend too much time thinking about other variables. The contemporary Western military orthodoxy that says there is a certain centre of gravity for all military problems is an example of this shortcut; the earlier ball-bearing example is another.

Preserving a positive view of one's competence also contributes markedly to people's thought processes.[26] Reducing things down to single variables, simple actions and linear extrapolation not only makes things easier it gives people a reassuring feeling that things are under control and success is likely.[27] Rather than think about the specific demands of a specific situation, people tend to solve only the problems they know they can solve. People often assume new problems are similar to past problems leading them to feel secure because they have coped in the past.[28] This tendency leads people to redirect their thinking away from their actual goals to the protective act of preserving a sense of competence.

This phenomenon is perhaps exemplified by the seemingly interminable, largely ineffective and rather context-ambivalent cycle of 'kill-capture' missions pursued by coalition special forces in recent wars.[29] Similarly, much of the senior commanders' unjustified optimism about the chances of success, which characterised NATO's two decades of war in Afghanistan, might also have some relationship to this psychological tendency. The American Vietnam-era optimism that the 'body count' was greater than the number of casualties the enemy was prepared to take, and greater than the 'degree of control the enemy was able to exercise over his losses', might also correlate.[30]

When staffs and commanders apply a reductionist effects-based and targeting logic to things that are not linear systems, they risk technical and simplistic thinking displacing the complicated and inexact critical thinking, and the associated boldness and risk-taking, implied by Moltke's words earlier. This messiness, awkwardness, boldness and uncertainty are necessary for dealing

25 Dorner, *Logic of Failure*, p 186.

26 Dorner, *Logic of Failure*, p 188.

27 Dorner, *Logic of Failure*.

28 Dorner, *Logic of Failure*.

29 Dear observes that 'targeted killing is, in part, a product of the human desire to categorise and simplify'. Keith Patrick Dear, 'Beheading the Hydra: does killing terrorist or insurgent leaders work?', *Defence Studies*, 2013, 13(3):316–320. https://doi.org/10.1080/14702436.2013.845383

30 Jon Askonas, 'A vicious entanglement, part v: the body count myth,' *War on the Rocks* [website], 12 October 2017. https://warontherocks.com/2017/10/a-vicious-entanglement-part-v-the-body-count-myth/

with complexity, and they are also necessary for novelty and creativity.[31] On the other hand, effects-based conceptions and associated targeting processes represent what Dorner describes as 'our tendency to pursue planning, information gathering, and structuring processes that go on interminably'.[32] And, they represent the instinct of resorting to a method to solve a problem before doing any hard thinking about the particulars of the problem and its unique features.[33]

The risk of Pyrrhic victory

The principal problem with the effects and targeting concepts is their propensity to focus on targets – the pieces – rather than the whole or, in other words, to focus on engagements and battles rather than the war. This consequence of reductionism can unwittingly become a substitute for holistic, critical and creative thought, and a handbrake on bold and opportunistic action. Under effects-based reasoning a decision-maker can sit back comfortable in the knowledge they are having lots of intended effects but be ignorant of the relative pointlessness of them. The idea that the aggregation of the results of actions against targets represents progress towards victory, or that the aggregated results will eventually manifest as victory, is a dangerous illusion. Problems of war and warfare are not a sum of the constituent parts.

These tendencies are at the heart of the risk of Pyrrhic victory. It seems that when staffs and commanders apply an effects-based and targeting logic outside of their limited range of applicability Pyrrhic victory is much more likely.[34] As Colonel Summers's North Vietnamese counterpart implied with his caustic response, armed forces can create all the effects they like but still lose a war.

The signs of an emerging effects-based dogma in the ADF

There are some signs that effects-based concepts, including the associated targeting process, are becoming a dogma in the ADF. Among these signs are widespread application of effects-based thinking and targeting processes in circumstances outside of their limited intended context, and widespread

31 Dorner, *Logic of Failure,* p169–183.

32 Dorner, *Logic of Failure*, p 188.

33 Carl von Clausewitz, *On War,* (Michael Howard and Peter Paret eds trans), Princeton University Press, Princeton NJ,1984, p 153–154.

34 Clausewitz, *On War,* p 154. 'War in its highest forms, is not *an infinite mass of minor events,* analogous despite their diversities, which can be controlled with greater or lesser effectiveness depending on the methods applied. War consists rather of *single, great, decisive actions,* each of which needs to be handled individually. War is not like a field of wheat, which, without regard to the individual stalk, may be mown more or less efficiently depending on the quality of the scythe; it is like a stand of mature trees in which the axe has to be used judiciously according to the characteristics and development of each individual trunk.' [emphasis in original].

usage of an increasingly more abstracted pseudoscientific effects-based and targeting jargon.

The word 'effect', for example, has overtaken the ADF's lexicon. It is impossible to attend an ADF meeting without someone mentioning an effect of some kind. The term effect has subsumed synonyms like consequence or result in the ADF vocabulary. Once principally a feature of military jargon, the whole Defence department now speaks about effects. Senior Defence documents such as the *2020–24 Defence Corporate Plan,*[35] or Defence's classified *Defence Planning Guidance*, among others, talk about 'strategic effects', 'operational effects', and 'joint effects', suggesting that effects have different classes like taxonomies for flora and fauna. The word *effects* appears 135 times in the ADF's targeting doctrine manual.[36] The Defence staff includes a Director General Military Strategic Effects. 'Effect' has become a buzzword.

This is not in itself a serious problem, but the way some Defence people use the term is perhaps a little more serious. The ADF has given its own special meaning to dozens of English verbs to 'help' express effects. Vague euphemisms like neutralise and disrupt substitute for plain-language descriptions of events or intentions.[37] The focus on effect rather than action or process tends to result in communication that is vague, distancing and abstract.

As one civilian policy adviser observed, for those people not versed in the lexicon, discussions at effects and targeting boards can be difficult to understand:

> There's like a hundred [verbs], with each having a definition that can be several sentences to demonstrate the subtle distinctions between them. So there's this perverse outcome where you increasingly lose meaning as you try to increase the precision of your language with different effect descriptors.

The effects lexicon is therefore not just vague and distancing, it is also unwittingly exclusionary and cliquey unless you are well versed, and it works against easy and clear communication between ADF members and others.

The effects lexicon also affects thinking. Officers in the ADF often direct someone to deliver or apply or achieve a particular effect, or they report having delivered

35 Department of Defence, *2020–24 Defence Corporate Plan*, Australian Government, updated January 2021, The Defence Corporate Plan talks about the generation of *strategic effects* outlined in *Defence Planning Guidance* (p 8), delivering *deterrent effects* (p 11), delivering cohesive *military effects* (p 16), and refers to achieving *key workforce effects* (p 27).

36 Australian Defence Force Warfare Centre (ADFWC), *ADDP 3.14 Targeting,* 2nd edn, Defence Publishing Service, 2 February 2009.

37 S Jantunen, 'Kill, capture … or neutralise? How operational planning changes the language of communicating war,' *Journal of Information Warfare*, 2014, 13(1):72–86.

or applied or achieved a particular effect. But what does it mean for someone to deliver an *engineer* effect or apply a *health* effect or achieve a *reconnaissance* effect? The construct is vague and abstract. It does little to describe what is intended or what happened. It is not much different to asking someone to go and do some engineering or health stuff, or reporting that one has just done some reconnaissance. Rather than thinking about the complex circumstance or problem to be solved – let alone the desired result or the cognitive work required to determine the causative mechanism to induce that result – the terms 'deliver' and 'apply' and 'achieve' give the impression that achieving the desired result is simply a matter of delivery or application, like spreading margarine across a piece of toast. It is an abstract, imprecise and euphemistic vernacular that is inconsistent with the sort of precision and plain language that military operations demand.

It is easy to see how this lazy lexicon might cause an officer to skip the hard thinking necessary to work out how to make something happen; including for example, whether the result is even possible or not, whether it will matter in the grand scheme, and to what extent it closes off or opens up future opportunities. Take for example an important contemporary classified Defence operations plan. It includes a diagram that is central to the document's purpose displaying a significant portion of the Earth's surface covered with labels expressing vague intentions like deter here, deny there, influence there and shape over there with no sense as to the particular things being denied, deterred, influenced or shaped, no sense of whether the vague intentions are possible given the resources available, nor any sense of circumspection that the vague intentions might not come to be.

The universality of the word 'effect' in Defence includes applying the term and its underpinning logic to inapplicable situations and processes: to circumstances that exhibit the features of a complex open system rather than a closed linear system. These can include international engagement, military diplomacy, meetings between people, public affairs, and war and warfare generally.

Take international engagement as an example. Any activity that is part of nation-to-nation engagement ought to have a purpose in mind. Selecting the right people and organisations with whom to engage and how best to engage them are also prudent things to consider when communicating with another nation's armed forces. It is probably also good to know about any existing sensitivities in the relationship and other contextual factors to avoid inadvertently damaging a relationship. But, should one turn the foreign participants into targets against which effects are to be 'delivered' or 'applied'? Should we wash them through a

'targeting board' to address these prudent considerations?[38] It is also probably unnecessary to use an effects and targeting doctrine to factor in these rather rudimentary considerations. To that end, it is probably instructive that non-military organisations, particularly those whose core business depends on engagements of a similar kind, seem not to have adopted things like targeting boards and effects-based concepts to govern how they do business.

There are now 'effects' staff branches on many military headquarters. In the Australian Army, what were once the staffs for coordinating fire support (artillery, missiles and bombs) are now also coordinating many other 'effect-causing' things, such as information and psychological operations, cyber and electronic warfare, public affairs and civil engagement, among others. Consequently, the targeting process used for planning and coordinating these particular effect-causing things is different to how operations and plans staffs plan operations more broadly. This dichotomy is largely a result of two different ways of thinking; closed-system thinking for 'effects' and open-system thinking for 'manoeuvre'. It causes a somewhat arbitrary but important schism within a staff, and a schism between the activities of different forces within these two different classes: manoeuvre and effects.

All these things considered, there are strong signs that effects-based concepts and targeting methodologies are becoming a dogma in the ADF and Defence, and therefore the soil is fertile for the ADF to become an agent of Pyrrhic victory.

Conclusion

Victory in war is much more than the sum of battles won or *effects* caused. Reductionist effects concepts and the associated targeting processes assume a particular type of world that follows a closed-systems logic. The concepts necessitate perceiving the world as a bunch of targets and therefore perceive solutions to problems as a function of *doing things* to targets. It is a very contrived and limiting way to perceive the world, and it is a very narrow way of thinking about how to solve problems.

The real world is markedly more complex than the effects concepts assume, which is perhaps why football coaches and foreign affairs officials among a myriad of other professions and disciplines do not use an effects-based approach to win football matches or carrying out foreign policy. While closed-systems logic and reductionism are fine for certain narrow problems of warfare, they cannot do duty for the more sophisticated and messy thinking necessary for war and warfare more broadly.

38 ADFWC, *ADDP 3.14 Targeting*, para 1.25.

These limitations of effects-based thinking are not normally front-of-mind in Defence. This lack of consciousness of the limitations of effects concepts and targeting processes is perhaps a function of the growing dogmatism and lack of circumspection about the concepts and the lazy overuse of effects jargon. It is also perhaps a function of the human tendencies to simplify complex things and to use process as a mechanism to avoid psychological distress. The risk of these tendencies is an ADF that is highly capable of 'delivering effects' at the expense of a nation capable of winning wars.

The ADF might reflect on this potential risk for future Pyrrhic victory caused by a growing dogmatic application of effects-based and targeting concepts. A review of how effects-based ideas, language and processes might be affecting how the ADF thinks about war, how its operational and tactical headquarters structure themselves, and how staffs and commanders come to decisions, might be worthwhile.

Many strategists but little strategy: Australia's military strategy absence

Michael Scott

> We have lived too long now in a strategy-free mode.
>
> Retired USMC General Jim Mattis to US Congress in 2015[1]

Defence in Australia – the combined Department of Defence and Australian Defence Force (ADF) – has no readily implementable military strategy to apply Australian military power for the achievement of government objectives. Military strategy and defence strategy are not the same thing. However, a combination of inconsistent language regarding strategy, a lack of a military strategy tradition and structural changes in Defence over the past 25 years have led to a focus on enterprise 'defence strategy' for long-term generation of military capability at the expense of executable 'military strategy'. However, Australia still needs a flexible and adaptive military strategy developed for the near-term strategic environment, one which can be adapted for any looming conflict. Defence must organise at the strategic level to develop, implement, monitor and adapt military strategy.

The terms 'policy', 'strategy' and 'strategic planning' are frequently used in high-level Australian defence documents, as well as in position titles inside Defence. The terms are used in the *2016 Defence White Paper* (DWP), the *2020 Defence Strategic Update* (DSU), *The Strategy Framework 2021* and *2021–25 Defence Corporate Plan*. These documents, however, do not relate to 'military strategy' for achieving the government's strategic objectives through the application of military power in the near-term. Defence at the strategic level is predominantly structured for enterprise 'defence strategy' for long-term capability generation.

1 James N Mattis, 'A new American grand strategy', *Hoover Institution*, 26 February 2015. https://www.hoover.org/research/new-american-grand-strategy

Currently, the ADF has a bottom-up approach to applying military power, which has the potential to lead to strategic surprises or missed strategic opportunities.[2] *The Strategy Framework 2021* depicts military strategy (as 'force employment') being divested to a subordinate ADF command below the 'strategic level' as a 'theatre campaign plan'.[3] Headquarters Joint Operations Command (HQJOC) at the 'operational level' distil their interpretation of strategic policy documents to achieve what the Chief of Joint Operations (CJOPS) believes the military strategic intent to be, while the Services can simultaneously do likewise. The Chief of the Defence Force (CDF) and Secretary of the Department of Defence (Secretary) – and the government – are then briefed on these plans, sometimes relatively close to execution. This divested approach is less than ideal in the current geostrategic climate.

In short, by highlighting the importance of effective military strategy this article demonstrates the reason why military strategy should be established in Defence. Our allies have experienced the effects of no or poor military strategy in recent conflicts in Afghanistan and Iraq. Their national security apparatuses have reflected on the outcomes of these 'Long Wars' and derived lessons for military strategy. Australia must learn from these to understand why military strategy is important.

This article will address the problem in four steps. First, it will clarify the confused lexicon: the terms policy, strategic policy, strategy and strategic planning are used interchangeably, while defence and military strategy are not differentiated. Second, it will trace the evolution of the Defence entities responsible for strategy and show how Defence has come to a position where it no longer has a focus on – and no two-star or above responsible for – military strategy. Third, through a study of two allies who have traditions of military strategy, the US and UK in the Second World War then Afghanistan and Iraq, this article will affirmatively answer the question, 'Does Defence need a military strategy approach?' Contemporary arguments for strategy will be offered. Finally, principles will be recommended for systematic and organisational changes in Defence to establish the military strategy approach needed to succeed in complex multi-domain and multi-agency strategic competition and conflict.[4]

2 Justin Kelly and Mike Brennan, *Alien: How Operational Art Devoured Strategy*, Strategic Studies Institute, US Army War College Press, Carlisle PA, 1 September 2009, p 96. https://ssi.armywarcollege.edu/2009/pubs/alien-how-operational-art-devoured-strategy/

3 Department of Defence (DOD), *The Strategy Framework 2021,* Australian Government, Canberra ACT, 2021, pp 12–13.

4 Multi-domain referring to the land, maritime, air, space and cyber/electro-magnetic operating environments and multi-agency referring to Joint (multi-service), interagency and multinational actors.

Defining defence strategy, military strategy and strategic planning

This section attempts to provide clear distinctions between the often conflated terms defence strategy, military strategy and strategic planning. It is acknowledged 'military strategy' means different things to different people: military and non-military, Defence and non-Defence. A common language will assist in establishing the need for military strategy and strategic planning. Scholars have attempted to define and differentiate policy and strategy,[5] although, as Freedman notes in *Strategy*, rarely providing a conclusion.[6] Adding military, national or foreign policy strategy on top can confuse the reader even more. Indeed, this has been a problem when executing a strategy no one has been able to define. The case studies provided later in this article will highlight these exact problems.

This lack of a common language is important because the primary document providing current strategic policy direction and the government's overarching purpose for Defence is the 2020 DSU. This document gives high-level direction for generating military power, albeit in a broad sense: shape, deter and respond.[7] The document lacks 'the ways' of achievement; however, this is an issue beyond the scope of this article. That said, it would be ideal to have an uninterrupted strategy continuum from applying military power in the present to the envisaged future upon which new capability is based.

Defence strategy

As a case in point, very little literature defines 'defence strategy' despite the term's frequent use, including in the 2016 DWP and 2020 DSU. The first likely reason why Defence currently lacks military strategy is a lack of definition and purpose, and differentiation from defence strategy. The UK Ministry of Defence

5 For this article, the following definition of policy is used: Policy dominates strategy by its articulation of a government's objective end-state—the *what* and the *why*—and its guidance regarding assumptions, resources, limitations on actions or similar considerations.
This definition is distilled from the academic theories of Freedman, Gray and Strachan and the institutional definitions in the 2019, *Australian Policy Handbook*, the 2010 UK House of Commons review, *Who Does UK National Strategy?*, the 2017 Royal College of Defence Studies handbook, *Getting Strategy Right (Enough),* and the 2019 US Joint Doctrine Note, *(JDN) 2-19 Strategy*.
For this article, the following definition of strategy is used: Strategy is a theory for achieving an objective that maintains a balance between ends (a future state or condition defined by *what* and the *why*), ways (the possible approaches defined by *how*, *when* and *where*), means (the authorities and resources defined by *who*) and actual circumstances (the *context*).
This definition is gleaned from the academic writings of Freedman, Lissner, Metz, Murray and Van Riper, as well as from official publications, such as the 2006 Australian Department of Defence, *Strategy Planning Framework Handbook*, the 2017 Royal College of Defence Studies handbook, *Getting Strategy Right (Enough)*, the 2020 US Joint Publication, *(JP) 5-0 Joint Planning*, and the 2021 Marine Corps War College, *Strategy Primer*.

6 Lawrence Freedman, *Strategy: A History,* Oxford University Press, New York, 2013, p xi.

7 Department of Defence (DOD), *2020 Defence Strategic Update,* Australian Government, Canberra ACT, 2020, p 6.

attempts to discern defence strategy in *How Defence Works*. The publication affirms 'Defence Strategic Direction' and sets out how the defence strategy 'will achieve the "Future Force"'. It 'provides the central framework for long-term planning and describes the Defence Planning Assumptions that are an integral part of the Defence Force Development process and inform Policy, Strategy and Planning'.[8] While not definitive, it suggests defence strategy primarily focuses on long-term capability generation to achieve long-term government policy objectives.

The 2016 DWP and 2020 DSU are the articulation of Australian defence strategy objectives and focus. The 2016 DWP states:

> The Government's defence strategy will ensure Defence is prepared to respond if the Government decides the pursuit of Australia's interests requires the use of military force. This strategy sets out three Strategic Defence Interests which are of fundamental significance for strategic defence planning.[9]

The 2016 DWP looked out 20 years. It included an assessment of the future strategic environment and incorporated a capability investment program that was fully funded over 10 years.[10] But the clear focus of the 2016 DWP was on future capability generation. The faster than anticipated deterioration of the strategic environment required a 'new strategy to sharpen defence planning' and led to the 2020 DSU, which updated the 2016 DWP.[11] The DSU sets out the government's new strategic defence policy framework, which provides clearly identified geographical, operational and capability priorities.[12] But it also focuses on capability priorities. The 2020 DSU is the new defence strategy, a strategic defence policy framework which focuses on future capability and force structure to 'ensure the future ADF can project military power'.[13] It can thus be deduced that:

8 Ministry of Defence (MOD), *How Defence Works*, version 6.0, United Kingdom Ministry of Defence, London, September 2020, p 13. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/920219/20200922-How_Defence_Works_V6.0_Sep_2020.pdf

9 Department of Defence (DOD), *2016 Defence White Paper,* Australian Government, Canberra ACT, 2020, p 17.

10 DOD, *2016 Defence White Paper*, p 9.

11 DOD, *2020 Defence Strategic Update*, p 3.

12 DOD, *2020 Defence Strategic Update*, p 21.

13 DOD, *2020 Defence Strategic Update*, p 55.

> Defence strategy is an enterprise-wide theory for creating military power to be used,[14] or threatened to be used, in support of achieving a government's long-term policy ends – principally defending the state and its national interests – in an assessed future security environment.[15]

Military strategy

Academic definitions for military strategy, such as those of Freedman, Lykke and Gray, relate to employing military power to achieve military objectives in support of national strategic ends. Perhaps paradoxically, the superseded 2006 *Strategy Planning Framework Handbook* defined military strategy as 'that component of national or multinational strategy, presenting the manner in which military power should be developed and applied to achieve national objectives or those of a group of nations'.[16] Similarly, the focus in UK and US publications is employing or applying military power. Military strategy involves a process: establish military goals and objectives to achieve political ends and to prioritise and allocate military capabilities.

> Military strategy is a theory for applying military power – the use or threatened use – to achieve a government's ends, where the strategic military objectives are a subset of the national strategy goals.[17]

Strategic planning

Strategy is not *planning*. This is a constant theme across the literature; yet academics provide limited insight into what constitutes strategic planning. Gray notes, 'planning makes strategy actionable'.[18] Mintzberg provides the first

14 In these definitions, the term 'theory' is being used in the sense of a concept and set of principles which can be used to describe a broad strategic approach to a problem.
The following definition of military power is used: Military power is the sum of a state's weapons and equipment, trained manpower, organisations, doctrines, industrial base, and sustainment capacity, used to generate force or the threat of force, or enable others to use or threaten force, to achieve a government's objectives.
This definition is drawn from US Marine Corps definitions in MCDP 1-1, *Strategy,* and the 2021 Marine Corps War College, *Strategy Primer*.

15 The 1986 report on the *Review of Australia's Defence Capabilities* (The Dibb Review) is an example of defence strategy. The report recommended a 'strategy of denial' (a defensive policy) and structuring the ADF accordingly. Paul Dibb, *Review of Australia's Defence Capabilities: Report to the Minister for Defence,* Australian Government Publishing Service, Canberra, 1986, pp 5–6.

16 Department of Defence (DOD), *Strategy Planning Framework Handbook,* Defence Publishing Service, Canberra ACT, 2006, p 10.

17 The following definition is used: Grand or national strategy is an intellectual framework from which a theory can be derived for creating and orchestrating the instruments of power (a state's *means*) in support of a state's national interests and long-term policy *ends*.
This definition is aligned to that in the 2017 Royal College of Defence Studies handbook, *Getting Strategy Right (Enough)*, Royal College of Defence Studies (RCDS), *Getting Strategy Right (Enough)*, UK Ministry of Defence (MOD), London, 2017.

18 Colin S Gray, *Strategy and Defence Planning: Meeting the Challenge of Uncertainty*, Oxford University Press, Oxford UK, 2014, p 29.

indication, 'strategy is the start point for planning'.[19] Thus, planning is derived from a strategic theory: an agreed concept and set of principles which are used to describe the broad strategic approach to a problem. Metz's study, *Eisenhower as Strategist*, notes Eisenhower was 'a consistent advocate of clarity in strategic planning' who 'methodically developed a general notion of ultimate goals, defined preliminary objectives, avoided distractions, and delineated the limits of risk and cost for the attainment of objectives.'[20] Strategic planning is strategy in detail.

The 2006 *Strategy Planning Framework Handbook* unified 'the functions of strategy development, deliberate planning for operations and capability development'.[21] Outputs of strategy development in this framework include 'defined linkages between strategic intent and operational planning, providing a shared, coherent basis for operational level decision-making' and military strategic planning guidance and detailed strategic plans.[22] US JP 5-0 *Joint Planning* notes plans 'translate the broad intent provided by a strategy into operations; successful operations achieve the strategy's objectives'.[23] Most simply, the US Marine Corps War College *Strategy Primer* states planning 'translates the broad approach (that is, the strategy) into a detailed solution (that is, the plan)'.[24] For the purposes of this article, the following definition will be used:

> Strategic planning is the process that translates a strategy's theory of victory or success into a detailed solution and provides the authorities and resources necessary to execute the required activities.

Therefore, the developed definitions cascade hierarchically. Strategy requires policy ends, although the formulation of strategy can also influence policy development—an iterative process. Both defence and military strategy are subordinate to national strategy but have different time horizons and desired outcomes—their formulation and execution should occur in parallel, each influencing the other. Strategic planning is simply the detailed process by which strategy is implemented. With a clear understanding of the lexicon for policy, strategy and planning, a study into how Defence arrived at its current approach to military strategy can be undertaken and recommended improvements made.

19 Henry Mintzberg, *The Rise and Fall of Strategic Planning,* The Free Press, New York, 1994, p 333.

20 Steven Metz, *Eisenhower as Strategist: The Coherent Use of Military Power in War and Peace*, Strategic Studies Institute, US Army War College Press, Carlisle PA, 1993, p 17. https://publications.armywarcollege.edu/pubs/1659.pdf

21 DOD, *Strategy Planning Framework Handbook*, p 2.

22 Department of Defence, *Strategy Planning Framework Handbook*, p 4 and p 21.

23 Joint Chiefs of Staff (JCS), *Joint Publication (JP) 5-0 Joint Planning*, Director Joint Force Development, Doctrine, Joint Chiefs of Staff, Washington DC, 2020, I–2.

24 United States Marine Corps (USMC), *The Marine Corps War College Strategy Primer*, The Marine Corps War College, Marine Corps University, Quantico VA, 2021, p 89.

What has led to Defence not having military strategy?

While a confused lexicon is the first likely reason Defence currently lacks military strategy, other likely factors explaining why Defence does not formulate or execute military strategy in the ways defined above are tradition and structure. Defence expresses a form of defence strategy for future capability generation but does not produce readily implementable military strategy using the available force-in-being executed via strategic plans from CDF. Is this deliberate? Neither the ADF nor its preceding entities had a tradition of military strategy. While a tradition may not have been embedded, the organisation of the ADF previously supported military strategy.[25] A review of structural changes since the 1973 Tange report shows how Defence has become an organisation that does not readily support military strategy and instead focuses at the strategic level on defence strategy and crisis management. However, first, it is helpful to look back on Australia's involvement in Second World War strategy, when our US and UK allies used military strategy to profound effect while Australia was a bystander.

Australia has a history of deferring formulation of military strategy to our allies. Horner notes there is no evidence during the Second World War of Australia's government or military leaders employing the terms 'grand strategy' or 'military strategy'. Australian national security leaders had not previously been involved in 'top-level strategic decision-making'.[26] The Australian War Council, because of a lack of coherent deliberate military strategic planning guidance formulated from an Australian perspective, was forced in the war's early stages to 'repeatedly defer decisions until strategic advice and estimates were available from Britain'.[27] As war progressed, Australia primarily drew on concepts of strategic command from Britain and America, although Australian practice was somewhat different.[28] Unlike in the First World War, the Australian Government 'demanded some influence over the strategic use of her forces',[29] although Australia 'placed its forces under the operational control of allied or coalition commanders'.[30] Australia's strategic military commanders advised the government on the military objectives to be achieved by its forces; however, they

25 The 1987 Baker Report provides an extensive review of military strategy and strategic headquarters functions and activities. Chapter 5 of the report, 'Military strategy and operational concepts', and Chapter 6 'Roles of HQADF and service offices' are useful references for studies of military strategy.

26 David M Horner, *High Command: Australia and Allied Strategy 1939–1945*, George Allen & Unwin (Publishers) Pty Ltd, North Sydney NSW, 1982, p xviii.

27 Australian Defence Force (ADF), *ADDP 5.0 Joint Planning*, 3rd edn, Defence Publishing Services, Canberra ACT, 2018, pp 3–11.

28 David M Horner, *Strategic Command: General Sir John Wilton and Australia's Asian Wars*, Oxford University Press, Melbourne VIC, 2005, p xvi.

29 Horner, *High Command*, p xix.

30 Horner, *Strategic Command*, p xvii.

did not exercise command over the deployed forces. For example, Australian forces in the Pacific were placed under General Douglas MacArthur who dealt directly with Prime Minister Curtin.[31] This is how the Australian military has been employed in almost all conflicts, including Korea, Vietnam, Afghanistan and Iraq, primarily to demonstrate Australia's commitment to its US alliance.[32] Baker noted the objectives 'were of a foreign policy rather than defence nature'.[33]

Demonstrating Australian military strategy is possible, the closest available example that exhibits an attempt to do so is the de-classified *Appreciations of the Strategical Position of Australia*, produced by the Chiefs of Service Committee for the government in 1946 and 1947.[34] These documents contained theories of strategic approaches to the initial stages of the Cold War and enunciated objectives, principles for defence, available resources and prioritised strategic military actions. Subsequent reports to the government were titled *Strategic Basis of Australian Defence Policy*. These were developed by the Defence Committee and contained assessments and broad defence policy overviews, as now seen in unclassified DWP. Therefore, there is no established military strategy tradition in Defence; but that does not mean one should not be established.

Australia's inability to establish a military strategy tradition may be a consequence of the way the Defence structure and roles have morphed over the past half-century. Once it was capable of both defence and military strategy. Now, as was made clear in the earlier discussion on the DWP and DSU, Defence is focused on just one: defence strategy. This shift can be traced through the consequences of three significant reviews: the 1973 Tange report that led to the ADF's formation, the 1997 Defence Efficiency Review (DER), which confused defence and military strategy, and finally the 2005 Wilson review, which recommended restructuring ADF higher command and control arrangements.

31 Horner, *Strategic Command*, p xvii.

32 John Blaxland, Marcus Fielding and Thea Gellerfy (eds), *Niche Wars: Australia in Afghanistan and Iraq, 2001–2014,* Australian National University Press, Canberra ACT, 2020, p 329, https://press-files.anu.edu.au/downloads/press/n7364/pdf/book.pdf.

33 John S Baker (Brigadier), *Report of the Study into ADF Command Arrangements (An Abridged Version),* Australian Defence Force, Canberra ACT, 1988, p 2-1; In these most recent conflicts, there are parallels with Vietnam. Australia provided a 'carefully calibrated and constrained contribution to operations in Afghanistan and Iraq' but with a 'lack of thought-through strategy for what the ADF would do there'. Blaxland, Fielding and Gellerfy (eds), *Niche Wars*, pp 331–332.
As the Chilcot report highlights, the British and Americans were also found wanting when it came to a coherent military strategy. John Chilcot, *The Report of the Iraq Inquiry: vol V,* Her Majesty's Stationery Office, London, 2016, p 125.

34 Stephan Frühling, *A History of Australian Strategic Policy since 1945*, Defence Publishing Service, Canberra ACT 2009, pp 51–135.

The ADF was officially established on 9 February 1976, based on the model outlined in the 1973 Tange report. It recommended the individual Service departments be combined into a single Department of Defence, the Service Boards be abolished and the creation of the Chief of the Defence Force Staff (CDFS) as a statutory authority.[35] A new deputy secretary (DEPSEC) strategic policy and force development would be responsible for 'Australia's international Defence relations and strategic policy; analysis and recommendation of force structures and associated major weapons and equipment requirements; [as well as] development of industrial capacity in support of Defence objectives.'[36] In essence, this group's function was to deliver defence strategy as defined above. Within the new ADF, in direct support of the CDFS, was a Chief of Joint Operations and Plans responsible for joint policy (the reconciliation of military objectives with other national policies),[37] plans and operations. The division of defence strategy and military strategy between the department and the ADF (while mutually supportive) continued throughout the 1980s and most of the 1990s, albeit with various name changes and adjustments in responsibilities at the division (two-star/Band-two) level.[38] This delineation was clear and broadly effective.

However, the 1997 DER precipitated the erosion of military strategy in Defence. This review, undertaken by a mix of military, bureaucrats and 'CEOs of major private concerns',[39] sought to 'make recommendations for reforming Defence management and financial processes to ensure that they: are carried out in the most efficient and effective manner possible; [and] eliminate duplication between and within Defence programs'.[40] A major concern of the DER panel was the way 'strategic policy and planning support [was] provided to the CDF and Secretary, which [boiled] down to the respective roles of the DEPSEC S&I [Strategy and Intelligence] and the VCDF' (Vice Chief of the Defence Force).[41] The report noted 'there are several areas where the staffs of DEPSEC S&I and VCDF are

35 Arthur H Tange (Secretary, Department of Defence), *Report on the Reorganisation of the Defence Group of Departments*, Australian Government Publishing Service, Canberra ACT, 1973, pp 4–5, https://www.defence.gov.au/SPI/publications/1973reorg/AustralianDefenceForceReorganisation1973_opt_Part1.pdf

36 Tange, *Report on the Reorganisation of the Defence Group of Departments*, Annex F.

37 Tange, *Report on the Reorganisation of the Defence Group of Departments*, p 24.

38 For a detailed history of structural changes in Defence see: Mick Scott, 'Military strategy a casualty of successive restructures', *The Forge*, n.d., https://theforge.defence.gov.au/publications/military-strategy-casualty-successive-restructures.

39 Eric Andrews, *The Australian Centenary History of Defence*, vol V, Department of Defence, Oxford University Press, Melbourne VIC, 2001, p 279.

40 Department of Defence (DOD), *Future Directions for the Management of Australia's Defence: Report of the Defence Efficiency Review* (Report of the Defence Efficiency Review), Australian Government, Canberra ACT, 1997, p 1.

41 DOD, Report of the Defence Efficiency Review, p 11.

duplicatively structured. Strategic guidance and force structure are two of the most prominent.'[42] The differentiation between defence and military strategies was not made. Within the integrated Australian Defence Headquarters (ADHQ), the report recommended DEPSEC S&I responsibilities included strategic policy and plans, long-term planning and preparedness policy while VCDF responsibilities included capability development and military plans. Consequently, both areas had mixed civilian–military staffs,[43] including a two-star Head Strategic Policy and Plans working for DEPSEC S&I. The DER noted this restructuring was 'in the interests of efficiency' and recommended 'in the interests of effectiveness … a greater emphasis on producing longer-term strategic analyses'.[44] The ADHQ experiment only lasted until 2000 and was changed (after more reviews) due to government dissatisfaction with Defence acquisitions.[45] In mid-2004, the position of Head Strategic Policy and Plans transitioned to the Senior Executive Service and was retitled First Assistant Secretary Strategic Policy.

The 2005 Wilson review further contributed to the degradation of military strategy. This review recommended establishing HQJOC under command of the VCDF to make ADF command and control at the strategic and higher operational levels more effective.[46] The review sought efficiencies and brought together in HQJOC planning elements from the strategic and operational levels to achieve synergy, noting the VCDF straddled both the strategic and operational levels.[47] At the time, HQJOC included a dedicated Strategic Plans Directorate responsible for writing CDF's orders and strategic-level planning.[48] However, when HQJOC was placed under dedicated command of CJOPS in 2007, to 'provide a more suitable balance between the management of Defence business at the strategic

42 DOD, Report of the Defence Efficiency Review, p 12.

43 DOD, Report of the Defence Efficiency Review, p 12.

44 DOD, Report of the Defence Efficiency Review, p 22.

45 Eric Andrews, The Australian Centenary History of Defence, pp 288–299.

46 Richard G Wilson (Major General), *Report on the Review of Australian Defence Force Higher Command and Control Arrangements,* Australian Defence Force, Australian Government, Canberra ACT, 2005, p 5; The 1987 *Report of the Study into ADF Command Arrangements* by Brigadier John Baker was seminal in defining the strategic, operational and tactical levels in ADF doctrine. A detailed study of the operational level is not needed for this article.

47 The *strategic level* is concerned with the coordination and direction of national power to secure national objectives. The strategic level includes the national strategic and the military strategic levels. The *military strategic level* plans and directs military campaigns and operations to meet national strategic objectives. At the *operational level*, campaigns and operations are planned and conducted to achieve [military] strategic objectives. This level is primarily the responsibility of a theatre commander (usually CJOPS). The focus of command at the operational level is on forming joint forces, deploying them into areas of operations, monitoring and controlling operations, and sustaining them logistically. See Australian Defence Force (ADF), *ADF-P-0 Command and Control,* 2nd edn, AL2, Defence Publishing Services, Canberra ACT, 2021, pp 38–39; Wilson, *Report on the Review of Australian Defence Force Higher Command and Control Arrangements*, p 5.

48 Wilson, *Report on the Review of Australian Defence Force Higher Command and Control Arrangements*, p 32.

level and command of operations',[49] the change of focus to the operational level did not result in reallocation of strategic planning staff to the strategic level. By late-2007, no two-star officer was responsible for military strategy or deliberate (that is, non-crisis and non-contingency) strategic military planning.

At the strategic level, there remains a focus on defence strategy, despite minor restructuring in 2019 to establish the position of Head Military Strategic Plans (HMSP). The role of HMSP is restricted to 'the development of long-range force-level military campaign planning' focused on the 'long-term geo-strategic environment' to provide 'future military options to Government' and inform 'the design and delivery of an advanced future force'. The planning-horizon for HMSP is greater than five years and the role does not include developing military strategy for employing the available force-in-being.[50] In 2022, Defence at the strategic level is focused on defence strategy under DEPSEC SP&I and under VCDF is concentrated on long-term contingency planning,[51] establishing new military commitments, overseeing existing operations and ADF activities, and crisis management. There is no focus on military strategy in Defence. But should there be?

Is military strategy required?

With no tradition of military strategy in Australia, should Defence adopt such an approach? Sceptics posit the process of strategy formulation imposes rigidity on policymaking and that 'the ritual of crafting strategy encourages participants to spin a narrative', which magnifies the 'scope of the national interest and exaggerates global threats'.[52] In the place of long-term planning, they proffer a model of 'emergent strategy' favouring 'incrementalism, short-term adaptation and crisis response'.[53] The latter, it can be argued, is the current Australian approach. These views assume strategy is a rigid and linear process or a detailed blueprint that must be precisely followed. Strategy, however, is a theory of how to solve a significant problem, one articulating a concept and set of principles that

49 Brendan Nelson (Minister for Defence), *Defence management changes* [media release], (archived), 19 September 2007. https://web.archive.org/web/20080730091651/http:/www.minister.defence.gov.au/NelsonMintpl.cfm?CurrentId=7078

50 Department of Defence (DOD), *Strengthening military strategic planning: Joint Directive 10/2018 by the Chief of the Defence Force and Secretary*, Australian Government, Canberra ACT, 2018, pp 1–2.

51 Retitled DEPSEC Strategy, Policy and Industry from DEPSEC Strategic Policy and Intelligence on 1 September 2020. The position of Chief of Defence Intelligence (CDI) – to include the role of Strategic J2 – was established in September 2020 to command the new Defence Intelligence Group, which was formed from the intelligence agencies and functions of SP&I Group.

52 Rebecca F Lissner, 'What is grand strategy? Sweeping a conceptual minefield', *Texas National Security Review*, November 2018, 2(1):64. https://tnsr.org/2018/11/what-is-grand-strategy-sweeping-a-conceptual-minefield/

53 Rebecca F Lissner, 'What is grand strategy?', p 64.

can be used to express a broad strategic approach to the problem. A competent strategist should not take a dogmatic approach to strategy formulation and a skilled strategic leader should monitor the strategic environment and adapt strategy to changing circumstances, including unanticipated actions by others. While sceptics could be right if strategy is done poorly, they are wrong with competent strategists.

Our closest military partners, the US and UK – countries with military strategy traditions – have recognised the same issue Australia is facing and adapted their organisational structures and processes to better formulate, communicate and execute military strategy. The US began this in the late-1930s, when a Second World War looked likely, and have relooked at the issue in the wake of Afghanistan and Iraq. Similarly, the UK has made changes over the past decade by implementing recommendations from the Levene review and Chilcot report. Neither the US nor UK have perfected their approaches, but they are useful models of similar organisations (albeit of different scales) to which Australia can look for adopting military strategy. To show the importance of military strategy, the next section will consider historic examples of where military strategy has been essential to success and where a lack of military strategy has contributed to failure. Two periods will be examined – the Second World War then the Afghanistan and Iraq wars – and the military strategies of the US and UK analysed. The Second World War will show how successful US military strategy was achieved, while contemporary conflicts will demonstrate the results of a lack of quality military strategy.

Second World War

The US was caught short at the start of the Second World War regarding national and military strategy, but they were able to rapidly transform to a unified joint structure. There were two principal factors of US military function at the strategic level that proved successful in the Second World War: a *structure* that unified staff effort to effectively coordinate military strategies with grand strategy and adapt to changing circumstances, and *staff ability* to develop concise theories of victory to focus holistic Allied military power.

The first success factor for Allied military strategy was structural. The US Army directed by General George Marshall (which included the future US Air Force) focused its strategic direction around one organisation: the War Plans Division

(WPD), whose name changed to Operations Division (OPD) in March 1942.[54] It was the 'primary liaison agency for the War Department' with the Executive and other government departments, sat on interdepartmental committees and provided the membership on joint Army–Navy boards. Importantly, the WPD Chief would attend the Wartime Allied Conferences, commencing with the Arcadia Conference in December 1941.[55] More broadly, an outcome of the Arcadia Conference was agreement by British and American leaders to provide 'strategic control of operations' through the 'Combined Chiefs of Staff' (CCS).[56] The US created the Joints Chiefs of Staff (JCS),[57] as their half of the CCS.[58] Reporting to these committees was a system of staff planners. These planning staffs drafted strategic assessments and concept papers for consideration by the CCS–JCS and Allied political leaders, then turned agreed strategies into executable strategic plans for issuing to theatre commanders.

From its 'knowledge of strategic plans and from the detailed operational information made available' to the WPD/OPD, the division amassed a 'uniquely comprehensive understanding' of current strategic military issues, which enabled rapid adaptation of military strategy when strategic circumstances changed.[59] The WPD/OPD and its counterparts 'helped lay down the foundations of strategy and military policy which, once approved...provided a frame of reference for the guidance' of Allied activities.[60] The combined staffs were able to ensure global operations were consistent with grand strategy and coordinated 'strategy and operations with the mobilisation and munitions-producing capacity' of their nations.[61] Unified staff effort at the strategic level proved fundamental, ensuring constrained resources were prioritised in accordance with greatest overall strategic needs.

The second factor was the strategic planning staffs' ability to develop concise theories of victory to focus limited military resources, which could be understood by both political leaders and military theatre commanders. A prime example was

54 United States Army (US Army), *US Army in World War II: The War Department: Washington Command Post: The Operations Division*, Center of Military History, US Army, Washington DC, 1951, p 2. At the critical time, just after entry of the US into the Second World War, then Major General Dwight D Eisenhower assumed the role of Chief of the WPD and OPD as the Assistant Chief of Staff from 16 February – 23 June 1942. US Army, *Washington Command Post: The Operations Division*, p 363.

55 US Army, *Washington Command Post: The Operations Division*, p 88.

56 The CCS met for the first time on 23 January 1942.

57 The JCS met for the first time on 9 February 1942.

58 US Army, *Washington Command Post: The Operations Division*, pp 98–101.

59 US Army, *Washington Command Post: The Operations Division*, p 81.

60 US Army, *Washington Command Post: The Operations Division*, pp 118–119.

61 US Army, *Washington Command Post: The Operations Division*, p 89.

'The Victory Plan'.[62] The Victory Plan was derived by assessing the US national objective, determining the military strategy to achieve the objective, calculating the forces required to execute the military strategy, then determining how military forces would be organised, equipped and trained.[63] The 14-page plan produced by Major Albert Wedemeyer succinctly outlined US policy objectives and explained the concept for how victory was to be accomplished, based on existing war plan requirements.[64] It determined both Germany and Japan would need to be defeated but efforts would need to be concentrated first against Germany. The plan noted naval and air forces were the primary strengths of the Western powers, but land forces would be required to win the war.[65] The plan also accommodated 'contemporary political and military realities' in the US.[66] The concise plan was 'in effect a comprehensive statement of American strategy that served as a fundamental planning document' for the war and set up the Allies for success.[67] The strategy provided the needed theory of victory,[68] which was the basis for prioritising limited resources and managing politics.

This provides an example that Australia could follow as a lead nation in the Indo-Pacific:[69] a strategy that articulates realistic theories for victory, gives prioritised objectives, is adaptable and, most importantly, incorporates political and military realities.

62 Formally, the Victory Plan was titled the *Joint Board Estimate of United States Over-All Production Requirements*. A copy can be found at https://history.army.mil/html/books/093/93-10/index.html; A second example is the Marshall Memorandum (formally *Operations in Western Europe*) produced by the OPD in March 1942. The Marshall Memorandum was a key document clearly articulating a theory for victory in Europe, providing a concept for applying military power and assessing the scale of resources required to achieve victory. The premise of the theory of victory in the Marshall Memorandum was to prefer the European theatre of operations over any other and defeat Germany by the shortest route through France in a concerted effort between the combat forces of the US, UK and Soviet Union. A copy can be found at http://www.alternatewars.com/WW2/Roundup/Marshall_Memorandum.htm

63 Charles E Kirkpatrick, *An Unknown Future and a Doubtful Present: Writing the Victory Plan of 1941*, Center of Military History, US Army, Washington DC, 1990, pp 60–61.

64 'The Victory Plan' explicitly noted, 'The specific operations necessary to accomplish the defeat of the Axis Powers cannot be predicted at this time.' Kirkpatrick, *An Unknown Future and a Doubtful Present*, p 125.

65 Mark A Stoler, *The Politics of the Second Front: American Military Planning and Diplomacy in Coalition Warfare*, 1941–1943, Greenwood Press, Westport CT, 1977, p 11.

66 Kirkpatrick, *An Unknown Future and a Doubtful Present*, p 116.

67 Kirkpatrick, *An Unknown Future and a Doubtful Present*, p 122.

68 As footnoted previously, the theory of victory is a concept and/or set of principles which can be used to describe a broad strategic approach to successfully solving a problem and achieving desired goals. For 'The Victory Plan', the theory of victory was to defend the US and Western Hemisphere, effectively conduct operations in the European Theatre and equip the military forces of associate and friendly powers. Kirkpatrick, *An Unknown Future and a Doubtful Present*, p 126.

69 DOD, *2020 Defence Strategic Update*, p 22.

Long wars

Our allies (like Australia) have not successfully delivered military strategies in the past two decades. The recent wars in Afghanistan and Iraq (the 'Long Wars') are viewed as short-term tactical and operational successes but strategic failures.

One major factor for the US – the leader of the coalitions who invaded Afghanistan in 2001 and Iraq in 2003 – was the disconnect between the US Joint Staff and US Central Command (USCENTCOM) resulting from the US Government's Executive Branch primarily working directly with the operational level. Gordon and Trainor noted for Iraq in 2003, 'Rumsfeld and [General Tommy] Franks dominated the planning; the Joint Chiefs of Staff were pushed to the margins and largely accepted their role.'[70] This contrasts with the success of Second World War strategic command arrangements where the Joint Staff planners formulated government-endorsed military strategy and then provided direction to theatre commanders. Consequently, military strategy and strategic planning was largely absent (or at best underdeveloped) for the Afghanistan and Iraq wars.

A key US lesson was 'senior military planners must pay more attention to the linkage between political and military objectives. Civil and military planning for post-conflict stability operations was inadequate.'[71] This linkage is central to military strategy. Hoffman observed, 'we had a narrow and implicit theory of military victory for Afghanistan in 2001 and in Iraq in 2003, but the US lacked a more comprehensive theory of success', and questioned if the US 'ever framed a coherent theory of strategic success in Afghanistan'.[72] Likewise, retired US Army General Daniel Bolger conceded 'strategy and operational art translate to "the big picture" (your goal) and "the plan" (how you get there). We got both wrong.'[73] The various studies concluded there was a deficit of US military strategy for both

70 Michael R Gordon and Bernard E Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq*, Vintage Books, New York, 2007, p 577; The JCS only met with the US President twice on the war plans for Iraq. Richard D Hooker and Joseph J Collins (eds), *Lessons Encountered: Learning from the Long War*, National Defense University Press, Washington DC, 2015, p 49.

71 Hooker and Collins, *Lessons Encountered*, p 9.

72 Frank G Hoffman, 'The missing element in crafting national strategy: a theory of success', *Joint Force Quarterly*, 2nd Quarter, April 2020, 97, p 60. https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2106508/the-missing-element-in-crafting-national-strategy-a-theory-of-success/

73 Daniel P Bolger, *Why We Lost: A General's Inside Account of the Iraq and Afghanistan Wars*, Mariner Books, New York, 2015, p xv; The first lesson in the RAND report, *Improving Strategic Competence*, included, 'The US government has experienced a persistent deficit in understanding and applying strategic art. The blurry line between policy and strategy requires both civilians and the military to engage in a dynamic, iterative dialogue to make successful strategy, but often failed to occur.' The lesson continued, 'The ends, ways, and means did not align, whether because the policy objectives were too ambitious, the ways of achieving them ineffective, or the means applied inadequate.' Linda Robinson, Paul D Miller, John Gordon IV, Jeffrey Decker, Michael Schwille, Raphael S Cohen, *Improving Strategic Competence: Lessons from 13 Years of War*, Arroyo Center, RAND Corporation, Santa Monica CA, 2014, pp–xii-xiii. https://www.rand.org/pubs/research_reports/RR816.html

Afghanistan and Iraq resulting in short-term success at the operational level but long-term strategic failure. Australia must heed these lessons.

The British – the senior coalition partner – had similar experiences and the 2016 Chilcot report came to the same conclusions regarding military strategy.[74] The Chilcot report found 'UK strategies tended to focus on describing the desired end state rather than how it would be reached' and there was 'little evidence of thorough analysis of the resources, expertise, conditions and support needed to make implementation of UK strategy achievable'.[75] The degree to which senior British military leaders failed in their duty to 'articulate a coherent strategy' became known during evidence to the Iraq Inquiry.[76] Evidence from the Iraq Inquiry indicated strategic failure in Iraq stemmed from an 'unconstrained operational level of command' (USCENTCOM, with whom British planners were embedded) resulting in the UK becoming 'committed to an operational plan designed to win a battle, but with little consideration for the war that would follow'.[77] From the British perspective, a lack of military strategy resulted in a focus on operations and tactics which were successful at achieving the initial objective of Iraqi regime change but failed (or severely struggled) in the long-term. Instead, a single concept should unify all effort from the strategic to the tactical.[78] Military objectives for applying military power were not an embedded subset of national strategy goals. There was no British military strategy for Iraq.

74 Formally *The Report of the Iraq Inquiry*. https://www.gov.uk/government/publications/the-report-of-the-iraq-inquiry

75 RCDS, *Getting Strategy Right (Enough)*, p 2; John Chilcot, *The Report of the Iraq Inquiry*, vol VI, p 568. The Chilcot report stated the British government did not take the 'decisions needed to prepare a flexible, realistic and fully resourced plan integrating UK military and civilian contributions'. In short, resources (the *means*) had not been sufficiently estimated at the strategic level to ensure achievement of the *ends*.

76 Frank Ledwidge, *Losing Small Wars: British Military Failure in Iraq and Afghanistan*, Yale University Press, New Haven CT, 2011, p 121.

77 Thomas R McDermott, *Man, the state, or war: UK strategic decision making in the Iraq intervention, 2003–2009* [unpublished PhD thesis], Australian National University, accessed 26 March 2021, p 25 and p 50.

78 Specific findings in the Chilcot report included: a lack of 'clear Ministerial oversight of post-conflict strategy, planning and preparation, and effective co-ordination between government departments, failed to analyse or manage those risks adequately'; and 'there was no coherent US/UK strategy for Security Sector Reform. The Chilcot report also found a 'military timetable should not be allowed to dictate a diplomatic timetable' such that if 'a strategy of coercive diplomacy is being pursued, forces should be deployed in such a way that the threat of action can be increased or decreased according to the diplomatic situation and the policy can be sustained for as long as necessary'. John Chilcot, *The Report of the Iraq Inquiry*, vol VI, pp 123–130. Structurally, the 2011 Levene review found 'existing departmental management structure was demonstrably not working well' and part of the reason was 'balance between ministerial/civilian and military roles and authority'. This balance resulted in 'weaknesses in the Department's ability to think strategically, and to contribute coherently and effectively to the government's strategies for influence overseas, and over the balance between policy and military advice in relation to strategy and operations'. The full title of the report is *Defence Reform: An Independent Report into the Structure and Management of the Ministry of Defence*, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/27408/defence_reform_report_struct_mgt_mod_27june2011.pdf

A military strategy significantly contributes to strategic success in war – especially where tactical success has been the norm – although analysis of each conflict will produce other factors. The contrasting extremes of military strategy in an existential global war and no military strategy in a conflict of choice means there are variations in between; however, the examples illustrate the utility of military strategy. In these limited wars, neither the US nor UK defined suitable objectives for military power to achieve, nor adjusted the ends to the limited means available. Additionally, neither country managed civil–military relationships sufficiently to produce a coherent strategy.[79] No coalition member appreciated the type of conflict they were embarking upon beyond the first phase. The strategic level should be thinking one-to-two steps ahead and planning for the next phases of competition/conflict/war in line with a military strategy articulating the theory of strategic success, allowing the operational level to plan and execute the present phase. While USCENTCOM were planning the invasion of Iraq, the Joint Staff should have been planning the phases beyond 'decisive battle' with other government agencies. In this way, effective military strategy can help validate and refine national strategy.

Future conflicts

The importance of military strategy has been demonstrated in times of conflict, but in the contemporary strategic environment it is equally as important. Moving forward, where our competitors employ hybrid warfare tactics,[80] use political warfare,[81] or unrestricted warfare,[82] to confront a more militarily powerful West, '"national campaigns"…cannot conceivably be planned or their execution coordinated other than at the highest strategic levels'.[83] The British *Integrated Operating Concept 2025* outlines how their military will address the future

79 Hew Strachan, 'Strategy and democracy', *Survival*, 23 March 2020, 62(2):78. https://www-tandfonline-com.ezproxy-f.deakin.edu.au/doi/full/10.1080/00396338.2020.1739949.

80 Frank Hoffman defines *hybrid warfare* as wars that 'incorporate a range of different modes of warfare, including conventional capabilities, irregular tactics and formations, terrorist acts including indiscriminate violence and coercion, and criminal disorder.' Frank Hoffman, *Conflict in the 21st Century: The Rise of Hybrid Wars*, Potomac Institute for Policy Studies, Arlington VA, 2007, p 29. https://www.potomacinstitute.org/images/stories/publications/potomac_hybridwar_0108.pdf

81 George Kennan wrote in 1948, '*Political warfare* is the logical application of Clausewitz's doctrine in time of peace. In broadest definition, political warfare is the employment of all the means at a nation's command, short of war, to achieve its national objectives. Such operations are both overt and covert. They range from such overt actions as political alliances, economic measures (as ERP), and "white" propaganda to such covert operations as clandestine support of "friendly" foreign elements, "black" psychological warfare and even encouragement of underground resistance in hostile states.' George F Kennan, *The Inauguration of Organisation Political Warfare* [Redacted version], History and Public Policy Program Digital Archive, 30 April 1948, p 1, accessed 18 March 2021. https://digitalarchive.wilsoncenter.org/document/114320

82 *Unrestricted Warfare* is a book published in China in 1999 written by two People's Liberation Army officers, Colonel Qiao Liang and Colonel Wang Xiangsui, which explores strategies that militarily and politically disadvantaged nations might take to successfully attack a geopolitical superpower like the US.

83 Kelly and Brennan, *Alien: How Operational Art Devoured Strategy*, p 80.

complex operating environment, emphasising 'the importance of integration with allies, of the levers of statecraft, and across the five operational domains[84] – multi-domain integration'.[85] Military strategy will be key to Australia's success, whether leading military operations in the Indo-Pacific or contributing to a coalition. The requirement to align all instruments of national power behind a military campaign in competition or conflict – and provide integrated coercive options to a government's national strategy[86]– necessitates a military strategy and not just an operational plan. Defence can respond and adopt the needed military strategy approach.

How can military strategy be established in Defence?

With military strategy a fundamental requirement for the successful application of military power, how can Defence establish a military strategy approach as the basis for successful application of Australia's military power? The derived definitions and lessons of our allies will be used as the basis for developing principles for which alternative solutions can be formed. The principles will be applied to recommend systematic and organisational changes required to establish a military strategy approach in Defence.

Principle 1: *A commonly understood approach and lexicon is essential.* The Royal College of Defence Studies handbook, *Getting strategy right (enough)*, states 'strategy and its associated lexicon do have genuine utility in the broader context if used appropriately'.[87] Mutual understanding of what constitutes policy, strategy (national, defence and military) and planning – and their interdependence – is essential to ensure unity of purpose and effort in achieving the government's objectives. The Wilson review noted consistent language use is important to 'overcome the ambiguity and misunderstanding' often associated with high-

84 The five domains are the land, maritime, air, space and cyber/electro-magnetic operating environments.

85 Albert Palazzo, *Planning to not lose: the Australian Army's new philosophy of war*, Australian Army Occasional Paper no. 3, Australian Army Research Centre, Canberra ACT, 2021, p 3.
Palazzo suggests, 'What we are witnessing is the compression of the dimensions of war in which domains will largely be irrelevant, the blending of tactics into strategy, and a reduction in the constraints traditionally imposed by distance and time in the conduct of operations.' He expands by saying 'as the strategic and the tactical blend into each other the principles of the strategic must dominate'.
The US military have similar concepts in the form of the *Joint concept for integrated campaigning* (available at https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joint_concept_integrated_campaign.pdf?ver=2018-03-28-102833-257) and T*he US Army in multi-domain operations 2028*, TRADOC Pamphlet 525-3-1 (available at https://api.army.mil/e2/c/downloads/2021/02/26/b45372c1/20181206-tp525-3-1-the-us-army-in-mdo-2028-final.pdf).

86 The online *Macquarie Dictionary* defines *coercing* as 'to restrain or constrain by force, law, or authority; force or compel, as to do something.' Coercion can be achieved through deterrence or compellence.

87 RCDS, *Getting Strategy Right (Enough)*, p 6. Similarly, it can be inferred from Krulak in MCDP-5 *Planning* a realistic appreciation of the nature of the strategy process and its related requirements is essential for effective strategy. United States Marine Corps, *MCDP 5 Planning*, Headquarters USMC, Department of Navy, Washington DC, 1997, Introduction.

level command and control within the ADF.[88] Language is key; everyone involved in strategy formulation, approval and implementation must be talking about the same concept and same objectives.[89]

Principle 2: *Ensure the government has all the information it needs to make decisions regarding the employment of military power, not just what it thinks it needs, including the type of conflict being entered, the limits of military power and an assessment of risk.* Strategic military advice should extend to the end of the requirement for military power and include potential consequences of military action – if the strategy executes as designed or, more likely, does not go to plan including escalation.[90] Advice to government should assess a competitor/enemy's strategy, including reasoning behind their objectives and their concept of success, and measure the relative will of their military forces and support of their population compared to Australia's. Our strategists must provide our Defence leaders with sufficient information to be able to edify the government (and our allies) on relevant history, theory and probabilities of success. Comprehensive and frank advice is necessary.

Principle 3: *Whole-of-government engagement at the highest levels is required from the outset.* The military is just one instrument of national power that can be used to achieve government objectives. Baker noted military strategy is concerned with 'the overall generation and application of military power within a national framework of political, diplomatic, economic, legal and social actions'.[91] Interdependent plans and actions must be developed in a mutually supporting manner from the start. When commencing military strategy formulation, it is essential to determine interdependencies and who is supported or supporting separate phases and activities.

88 Wilson, *Report on the Review of Australian Defence Force Higher Command and Control Arrangements*, p 2; The 'importance of the language of strategy' was stressed in the RCDS booklet, which emphasised that to be understood language used in strategy must be 'clear, accurate, unambiguous and easily (and expertly) translated'. RCDS, *Getting Strategy Right (Enough)*, p 27.

89 Further, military strategy must use military terminology to ensure proper execution, but this terminology requires accurate communication to government so there is no confusion about what decision is being made.

90 As Clausewitz noted in *On War*, war is 'more than a true chameleon'; conflict is continually adapting to the changing circumstances of the interplay between violence and emotions, probability and chance, and government policy decision. Strategy will very rarely unfold as designed. Carl von Clausewitz, *On War* (Michael Howard and Peter Paret eds trans), Princeton University Press, Princeton MA, 1989, p 89.

91 Baker, *Report of the Study into ADF Command Arrangements*, 4–2. Baker also notes 'under the pressure of an actual threat or conflict, departmental processes are likely to accelerate'.

Principle 4: *The military objectives must clearly link to the political objectives and the relationship of military power to the other instruments of national power must be understood.* It is essential military strategists understand political objectives and how military power nests with the other instruments of national power to achieve national objectives. Direction from a coherent national strategy should not be relied upon.[92] It may be necessary for military strategists to write a statement of national objectives as a first planning assumption. This statement should receive government approval.[93] Strategy formulation will likely be iterative to ensure national strategy and military strategy align.

Principle 5: *The military strategy must extend to the transition point where military power is no longer required or reaches a steady state.* Military strategy is a theory for applying military power to achieve a state's ends – a future condition defined by 'what' and 'why'. These ends need to be when military power is no longer required or the ends should define conditions for enduring military power, such as the threat of military force in a deterrence strategy. Either way, military strategy and advice to the government should account for the possibility of different ends. The ends may change as the strategy unfolds in a complex environment, with the military strategy adjusting accordingly, but they should always extend to the point of no or limited military power.

Principle 6: *A coherent but uncomplicated theory of victory or success must be clearly expressed that can be visualised in the minds of both political leaders and senior military commanders.* The military strategy should not be a list of broad goals or policy objectives, it must be based upon a theory of success which coherently extends from strategic-level objectives to tactical-level actions. Hoffman argues 'a theory of success should be central' and strategy must have 'an internal logic that ties policy to both ways and means to create desired strategic effects'.[94] An easily communicated theory of success – publicly understandable – is the heart of a military strategy.

92 This was the case when Wedemeyer wrote the 'Victory Plan' in 1941, where he found the 'clear statements of national policy he needed were "almost as elusive as the philosopher's stone"'. Kirkpatrick, *An Unknown Future and a Doubtful Present*, p 61.

93 Kirkpatrick, *An Unknown Future and a Doubtful Present*, pp 62–63.

94 Hoffman, 'The missing element in crafting national strategy: a theory of success', p 57. The British guides, *Getting Strategy Right (Enough)* and *The Good Operation*, echo the sentiment for a theory of success. The former calls for a 'big idea' and says a 'strategy which has no unifying idea is not a strategy'. The latter demands a vision which provides 'a clear concept in your mind' and articulates how the strategy starts, how it ends (or transitions to a steady-state), what the operation is designed to achieve, and 'why it is worth doing—why we care'. RCDS, *Getting Strategy Right (Enough),* p 20; United Kingdom Ministry of Defence (MOD), *The Good Operation: A Handbook for Those Involved in Operational Policy and Its Implementation*, MOD, London, 2017, p 17.

Principle 7: *An accurate assessment of the required resources (including time) is essential – for military and other instruments of national power – as well as clear prioritisation and apportionment to achieve the military objectives.* Means need to be balanced with ends, ways and the specific circumstances when developing strategy. Strategies 'should be resource-informed' and require compromises between competing priorities.[95] Realistic resource estimates are based on developed operational plans and are essential to military strategy.

Principle 8: *The military strategy must be regularly reviewed against strategic assumptions and measures of effectiveness to determine if the military strategy needs modification or changing to a different strategy.* Military strategy is executed in a dynamic environment. Military strategies must contain sufficient flexibility to adapt to changing circumstances.[96] Strategy evaluation (independent of strategy makers and executors when possible) is key and should specifically compare strategic assumptions with the reality of the unfolding situation. The evaluation should assess if the principles upon which the theory of success is based need changing, be applied differently or if the whole strategy needs to be changed. Parallel planning and assessments between the strategic and operational levels, and continual monitoring, are essential to timely evaluations. Modifications should be communicated to government and, based on the government's decisions, to the operational level.

Principle 9: *The military strategy must incorporate both the military and political realities.* Military strategy is applied in an ever-changing domestic and international strategic environment. Churchill said, 'It is not possible in a major war to divide military from political affairs. At the summit they are one.'[97] The best military advice must be 'nested within a larger appreciation of the strategic context and its political, economic, diplomatic, and informational dimensions.'[98] Military strategies must reflect both political awareness and realities of multi-domain and multi-agency activities.

95 Joint Chiefs of Staff (JCS), *Joint Doctrine Note (JDN) 2-19 Strategy*, Director Joint Force Development, Doctrine, Joint Chiefs of Staff, Washington DC, 2019, II-2.

96 Noting '100% advanced understanding of the problem to be addressed is never possible' and 'the opposition has a voice'. RCDS, *Getting Strategy Right (Enough)*, p 8; The Chilcot report states 'regular reassessment is essential, to ensure the assumptions upon which policy is being made and implemented remain correct'. Chilcot, *The Report of the Iraq Inquiry,* vol VI, p 630.

97 Stoler, *The Politics of the Second Front*, p 167.

98 Hooker and Collins, *Lessons Encountered*, p 8; Political awareness is a key trait for strategic leaders and strategic planners, particularly being attuned to political motives and dynamics, although senior military leaders must be careful to not become politically engaged. Nicholas Jans, *The Chiefs: A Study of Strategic Leadership,* Australian Defence College, Canberra ACT, 2013, p 61.

Principle 10: *Unified staff effort is essential to ensuring coherence and timeliness in military strategy.* As highlighted in the previous section, the centrality of the WPD/OPD was key to success in the Second World War. The various reviews of Defence have stressed central control and unified staff efforts, although a lack of differentiation between defence and military strategy has resulted in a deficit of unified staff for military strategy.[99] The Wilson review found an overlap in responsibilities resulted in 'in tension, friction and inefficiency'.[100] One staff area responsible for military strategy will ensure effective, coherent and timely military strategy.

Employing military strategy in Defence

A military strategy should be used whenever Australian military power is employed or threatened, or even considered, and when military commitments require a formed body and/or major capital assets for achievement of the government's policy objectives in a complex national security challenge. This should not only be for times of war but also for any time there are competing priorities for constrained military resources, such as periods of strategic competition.[101] This includes all major ADF campaigns and operations, as well as the application of military power to achieve the government's policy of 'shape, deter and respond' for the current era of strategic competition. Military strategy is not required for short-duration support tasks, including humanitarian assistance/disaster relief operations, although the effects of using military assets in support activities must be considered in other military strategies.

The 2020 DSU provides a current example of how military as distinct from defence strategy should be used to achieve government objectives. Specifically, a military strategy is required to harness all the available force-in-being (including departmental enablers) to achieve the 'shaping' effect sought by government. This 'shaping strategy' should be the basis against which all major regional deployments and international engagement activities are planned and executed.[102] The 'shaping strategy' should be regularly assessed and continuously monitored

99 In his seminal report, Tange aimed to provide 'greater control of military matters by the Chief of the Defence Force Staff' and recommended the principle that 'there is to be more effective central military control of operations and related military activities'. Tange, *Report on the Reorganisation of the Defence Group of Departments*, p 19 and p 23.

100 Wilson, *Report on the Review of Australian Defence Force Higher Command and Control Arrangements*, p 12.

101 The military instrument of power can be used in a variety of ways short of combat, including 'training allies, establishing presence, or acting as a show-of-force'. MCDP 1-1 *Strategy* stresses, though, 'the main use of military power is in conflict'. United States Marine Corps (USMC), *Marine Corps Doctrinal Publication (MCDP) 1-1 Strategy,* Headquarters USMC, Department of Navy, Washington DC, 1997, pp 2–13.

102 The military strategy should have a planning horizon of two-to-five years.

at the strategic level,[103] with adjustments made in response to changing strategic circumstances and/or government direction issued through CDF orders. In parallel, the ADF must also have military strategies formulated for the 'deter' and 'respond' effects, should they be required. The deter and respond strategies must include lead-indicators for which the strategic environment is monitored to determine if a change in strategy should be recommended to the government. Other major ADF commitments can be assessed against these 'baseline' strategic competition strategies, so the government is aware of resource pressures if they must make prioritisation decisions.

As the CDF is the principal military adviser to the Minister and provides advice on ADF employment to achieve government objectives,[104] unified staff for military strategy should work for the CDF. The 1997 DER Addendum stated, 'At all times, the higher defence arrangements should reflect, in substance and presentation, an organisation structured for war to ensure the transition from peace to conflict command arrangements is smooth.'[105] This supports the logic that military strategy staff should work for the CDF, who would command the ADF in times of war. If HMSP were to assume responsibility for military strategy, in addition to strategic military contingency planning, greater coherency, continuity and efficiency could be achieved. This should include regular engagement with the interagency and allied counterparts.[106]

Having two Defence groups responsible for strategy – VCDF and DEPSEC SP&I – appears contrary to efficiency principles from the various enterprise reviews since 1997. These reviews, however, did not distinguish between defence and military strategy. Noting the relationship between defence and military strategy, to ensure continuity in process, logic and concept, the military strategy staff should also contribute to defence strategy formulation in direct support of DEPSEC SP&I. This would balance the responsibilities of the strong Strategic Centre to deliver a readily implementable military strategy that is attuned to changes in the strategic environment and has continuity from the near to long-term regarding defence strategy.

103 The Wilson review forecast that such monitoring may require 'the reemergence of a second 24/7 C2 capability at the military strategic level in Canberra'. Wilson, *Report on the Review of Australian Defence Force Higher Command and Control Arrangements*, M-2.

104 Linda Reynolds (Minister for Defence), *Ministerial directive to the Secretary of the Department of Defence and the Chief of the Defence Force*, Australian Government, Canberra ACT, 27 January 2021, p 3.

105 Department of Defence (DOD), *Future Directions for the Management of Australia's Defence*, addendum to the Report of the Defence Efficiency Review, Secretariat Papers, Defence Publishing Service, Canberra ACT, 1997, p 42.

106 When Australia is a partner in coalition operations, consideration must be given to providing senior embedded officers in key command and control positions who can influence the coalition's military strategy at both the strategic and operational levels.

Conclusion

What hinders establishing a military strategy tradition in Defence is the current structure and allocated roles, which have morphed over the past half-century from one capable of both defence and military strategy to one focused on defence strategy. Neither the Defence enterprise, nor its component ADF, use military strategy. This is a result of three interrelated factors: a confused understanding of what military strategy is and why it is required, a lack of tradition for military strategy in Australia, and incremental structural changes over the past 25 years, which sought organisational efficiencies but resulted in a loss of military strategy function.

A fundamental challenge to reinvigorating the concept of military strategy and the processes of strategy formulation and strategic planning are the different understandings of the terms and concepts involved. The primary issue is conflation of the terms policy and strategy, although the distinct types of strategy for national security are also poorly understood, especially the difference between defence and military strategy. Defence should adopt a hierarchical strategy lexicon.

Military strategy is fundamental to the effective employment of military power to achieve the government's policy objectives in complex strategic security environments. The unified US and UK Second World War staff efforts produced strategies articulating realistic theories for victory, gave prioritised objectives, were adaptable and, most importantly, incorporated the political and military realities. In contrast, in the limited wars in Afghanistan and Iraq, neither the US nor UK defined objectives suitable for military power to achieve, nor were the ends adjusted to the limited means available. The requirement to align all instruments of national power behind a military campaign in competition or conflict needs a military strategy, not just an operational or tactical plan.

Defence can establish a military strategy tradition for use in strategic competition and in war, with a principles-based framework and minor organisational changes. The ten proposed principles listed above should be integrated into Defence processes, culture and organisation before a major crisis emerges. It is recommended that military strategy to achieve the government's policy objectives in a complex national security challenge be developed whenever military power is employed or threatened. This includes in periods of strategic competition and war. Military strategies should be developed to achieve each effect in the government's policy of 'shape, deter and respond', against which resource requirements for other commitments can be gauged. Finally, military strategy should have a unified staff under the CDF, responsible for military strategy and derived strategic planning.

Williamson Murray said, '[I]t is more important to make correct decisions at the political and strategic level than it is at the operational and tactical level. Mistakes in operations and tactics can be corrected but political and strategic mistakes live forever.'[107] Establishing a tradition of military strategy in Defence will lessen the chances of making such mistakes.

107 Williamson Murray, Alvin Bernstein and MacGregor Knox (eds), *The Making of Strategy: Rulers, States, and War*, Cambridge University Press, Cambridge UK, 1994, p 3.

The challenge of automated and autonomous technologies to Australian Defence Force compliance with workplace health and safety laws

Simon McKenzie

Introduction

Digital technologies are radically changing Australian workplaces. Factories, call centres, universities, hospitals – workplaces of all kinds – are using a range of techniques to work more efficiently, such as deploying automating and autonomous processes, employing robotics, or using machine learning to collect, filter and analyse large data sets. The Australian Defence Force (ADF) is also experiencing this technological revolution: in time, we can expect that it will be central to all aspects of defence work, including training, logistics, repair and maintenance, survey and surveillance, and armed conflict.

A key consideration for the ADF is how to manage the adoption of these technologies consistently with Australian workplace health and safety (WHS) laws. These laws require the ADF to protect the ongoing health and day-to-day safety of its members during their work. Along with mandating a general duty to take all 'reasonably practicable' steps to keep workers safe, the WHS legal regime includes inspections, investigations, prosecutions by WHS regulators, as well as fines to encourage employers to comply with the rules. The proliferation of digital technologies will make keeping workers healthy and safe more complicated, and some of the regulatory interventions more challenging to carry out.

This paper sketches the potential WHS risks – and benefits – of the ADF using digital technologies outside of an operational context (so, during peacetime) and reflects on how these automated and autonomous technologies might test the

legal regime.[1] Using recent scholarship from WHS literature, it suggests that the use of new digital technologies will require the ADF give greater attention to certain kinds of risks, particularly those relating to the interaction between humans and complex machines. It argues the nature of Defence work, combined with the exemptions the ADF has from some legislative requirements, increase some risks. Most significantly, the complexity of new technology has the potential to make it more difficult for ADF members to communicate health and safety risks to their managers. The paper considers how this might be offset by other activities: the same technologies will increase the range of 'reasonably practicable' WHS measures, allowing for the sophisticated monitoring of worker health and safety and hopefully providing effective and timely feedback mechanisms.

Part one of the paper sets out the legal regime. It explains how the ADF's WHS duties operate and how these obligations are reflected in the ADF's Safety Manual. It focuses particularly on the policies that are in place to identify and manage new risks. Part two of the paper turns to the impact of new technologies on workplaces and identifies three key risks of relevance to the ADF: the psychosocial impacts of new technologies; the physical risks of working closely with highly capable machines; and the challenge of testing the safety of complex systems. There are also some safety opportunities, with the deployment of digital technologies providing more ways to keep healthy and safe at work.

Part three returns to the legal regime, analysing what recent jurisprudence and scholarship on WHS regulation suggests about the impact of these technologies. First, they will change what safety measures are 'reasonably practicable' by allowing for more kinds of safety interventions. Second, the complexity of these technologies will make regulatory interventions more difficult, expensive, time consuming and increase the likelihood they will be inconclusive. Overall, the paper demonstrates the importance of ensuring that operators, managers, and regulators within the ADF understand the technologies being used and how these technologies interact with the people that work alongside them.

Australian WHS regulation and the ADF

Being part of the ADF is hazardous. The most obvious of these hazards occur during armed conflict: being tasked with using armed force for Australia means that ADF members will, at times, be exposed to grave physical risks.[2] Along

1 While there are safety issues with the use of new technologies during ADF operations – including in armed conflict – considering the implications of this is beyond the scope of this paper. Safety in an operational context gives rise to different questions and pressures and is governed by different legal regimes.

2 Neil Westphalen, 'Occupational and environmental health in the ADF', *Journal of Military and Veterans Health*, 2017 25(1):44–52. https://jmvh.org/article/occupational-and-environmental-health-in-the-adf/

with physical injuries, ADF members can also suffer severe psychological injuries associated with extreme stress and trauma. These injuries – both physical and psychological – not only occur on the battlefield but also during domestic disaster relief deployments; they can even occur during non-operational activities such as training, carrying out routine maintenance, or when travelling from one location to another. It is the health and safety risks in this latter context that are the focus of this paper.

The ADF clearly has an interest in ensuring its members can carry out their jobs as safely as possible. The Defence work health and safety policy and strategy explains that its aim is to 'ensure no person will suffer a serious preventable work related injury or illness while working for Defence' and that 'protection of our people is paramount'.[3] Even when exposing people to 'extreme risk and hazard' in military operations, the ADF commits to 'manage risk to ensure that all risks to the health and safety of our people are eliminated, or, where risks cannot be eliminated entirely, that they are managed and reduced as far as possible'.[4]

Policymakers have struggled with finding an appropriate WHS regime for the ADF

Much of the history of compensation for ADF members focuses on wartime injuries; less is written about injuries suffered in peacetime and the regulatory interventions that might prevent them.[5] Exactly how the health and safety of ADF personnel should be promoted and how they should be supported or compensated for injuries they receive during service has been contested.[6]

Three events in the 1990s led to an increased focus on how the ADF was, and should be, complying with its WHS obligations. In 1996, two Black Hawk helicopters carrying members of Australia's special forces collided during a training exercise, killing several people and significantly impacting the capability of the special forces.[7] The ADF Board of Inquiry (BOI) found that the accident

3 Defence, 'Defence Work Health and Safety Policy and Strategy', *Defence* [website], Defence: Australian Government, n.d., accessed 17 January 2022, https://www1.defence.gov.au/about/complaints-incident-reporting/work-health-safety/policy-strategy.

4 DOD, 'Defence Work Health and Safety Policy and Strategy'.

5 See, for example, Peter Sutherland, 'The history of military compensation law in Australia [paper presented to the Veteran's Law conference, Banora Point, 2004]', *AIAL Forum*, September 2006, 50, pp 39–59. Available via https://search.informit.org/toc/10.3316/aiafor.2006_n050

6 Sutherland, 'The history of military compensation law in Australia'.

7 Meredith Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army* [unpublished Master thesis], Griffith University, 2020, p 18, accessed 12 May 2022. https://doi.org/10.25904/1912/3947

was caused by several systemic factors,[8] including failures in servicing the helicopters, a lack of pilot experience,[9] and insufficient planning and risk assessment.[10] Another avoidable accident followed two years later, when a Navy Replenishment Ship, *HMAS Westralia*, caught fire after a fuel leak and four sailors were killed.[11] Once again, the investigating BOI identified 'systemic defects' in Navy safety management,[12] and made recommendations in relation to, inter alia, quality assurance and safety training.[13]

The third event was the revelation in 2000 that over a period of 20 years, hundreds of RAAF personnel had been exposed to toxic chemicals while maintaining the fuel tanks of F-111 aircraft and had suffered serious and long-term health effects.[14] The investigating BOI found that many of the contributing factors were systemic: for example, maintenance workers were relatively powerless due to a lack of union organisation or other forms of employee empowerment, such as independent health and safety representatives;[15] and the doctors who saw the symptoms of the maintenance workers did not recognise the seriousness of the problem as they did not appreciate the workers' occupational context.[16] More generally, there was an absence of a consideration in WHS in designing new processes or reviewing existing ones.[17]

These events appear to have been part of the reason that in September 2004 Crown Immunity was withdrawn from the *Workplace Health and Safety Act 2011* (Cth) (WHS Act),[18] making Defence liable for prosecution in the same way as any

8 A Board of Inquiry is a high level of inquiry constituted under Defence regulations to investigate service-related death or injury; Parliament of Australia, 'Chief of Army CA 102/97' in *Black Hawk Board of Inquiry: Documents for Public Release*, 22 February 1997, Publications - ID: publications/tabledpapers/HSTP06420_1996-98 - Source: Senate, paras 8–16. https://parlinfo.aph.gov.au/parlInfo/download/publications/tabledpapers/HSTP06420_1996-98/upload_pdf/6420_1996-98.pdf

9 Parliament of Australia, 'Chief of Army CA 102/97', para 14.

10 Parliament of Australia, 'Chief of Army CA 102/97', para 13.

11 National Archive of Australia (NAA), Royal Australian Navy 'Report of the Board of Inquiry into the fire in HMAS WESTRALIA on 5 May 1998 [electronic resource]', RAN, 28 August 1998, Bib ID 2482080, http://nla.gov.au/nla.arc-33100 https://webarchive.nla.gov.au/awa/20030706091700/http://navy.gov.au/fleet/O195westralia/boi/report.htm, pp 15–42; and p 71.

12 RAN, 'Report of the Board of Inquiry into the fire in HMAS WESTRALIA on 5 May 1998', p 210.

13 RAN, 'Report of the Board of Inquiry into the fire in HMAS WESTRALIA on 5 May 1998', ss. 12 and 13.

14 Royal Australian Air Force (RAAF), 'Chemical exposure of Air Force maintenance workers: Report of the Board of Inquiry into F-111 (Fuel Tank) deseal/reseal and spray seal operations, Vol 1: Entrenching safety in the RAAF, a review of systemic issues, and the recommendations with a view to preventing recurrence', RAAF, 29 June 2001, p 8. https://www.airforce.gov.au/sites/default/files/report_of_the_board_-_volume_1.pdf

15 RAAF, 'Chemical exposure of Air Force maintenance workers', p 87.

16 RAAF, 'Chemical exposure of Air Force maintenance workers', p 87.

17 RAAF, 'Chemical exposure of Air Force maintenance workers', p 89.

18 *Work Health and Safety Act 2011* (Cth).

employer, including exposure to civil penalties, and enforceable undertakings and prosecutions.[19]

Regulatory assessment of the WHS processes and policies of the ADF is tough. Comcare – the relevant WHS regulator – must understand the specific Defence context and how it differs from civilian workplaces.[20] Effective regulator invention requires an appreciation of the unique nature of the work of the organisation and the difference in the relationship between ADF members and the risks that they take as part of their work.[21] A failure to appreciate this context may result in unhelpful (and unsuccessful) prosecutions of 'unintended consequences in a complex and high-risk work environment'.[22] In addition, the ADF must ensure that its members understand their health and safety obligations and how to operationalise them.

The WHS regime imposes broad duties on the ADF to promote health and safety

The hallmark of Australian WHS regulation is its 'performance-based approach', where employers have broad, general duties to achieve safety, security, health and environmental outcomes.[23] Ensuring compliance with these general duties is the focus of regulator interventions.[24] While they operate in a broadly similar manner, each Australian jurisdiction (the States, Territories and Commonwealth) has its own WHS regime, supported by primary and delegated legislation and independent regulators.[25]

The health and safety of ADF members and efficient task completion are sometimes in conflict; and where this arises, a balancing process must occur.[26] For the ADF, this balancing is structured by the legal obligations of the WHS Act.[27] This Act sets out the obligations of the ADF to its members and provides for certain kinds of safety processes, inspections, and deterrence via prosecutions for breaches.

19 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, p 22.

20 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, p 6.

21 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, p 6.

22 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, p 6.

23 Michael Tooma, *Safety, Security, Health and Environment Law,* 3rd edn, The Federation Press, Alexandria NSW, 2019, p 53.

24 Tooma, *Safety, Security, Health and Environment Law*, p 53.

25 *Occupational Health and Safety Act 2004* (Vic); *Work Health and Safety Act 2011* (Qld); *Work Health and Safety Act 2011* (NSW); *Work Health and Safety (National Uniform Legislation) Act 2011* (NT); *Work Health and Safety Act 2011* (ACT); *Work Health and Safety Act 2012 (*SA); *Work Health and Safety Act 2020* (WA).

26 Of course, preventable workplace accidents are hardly conducive to efficient task completion and in many circumstances compliance with WHS requirements can be an operational enabler.

27 *Work Health and Safety Act 2011* (Cth).

Section 19(1) of the WHS Act sets out the primary duty providing a 'person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety' of workers while they are at work.[28] Section 19(3) provides a non-exhaustive list of the kinds of activities that are required, including providing and maintaining safe work environments, safe systems of work, and providing information, training, instruction or supervision.[29]

Of course, this begs the question of what exactly is meant by 'reasonably practicable' measures to ensure health and safety. Section 18 of the WHS Act provides a definition of the term which is worth setting out in full:

> In this Act, ***reasonably practicable***, in relation to a duty to ensure health and safety, means that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters, including:
>
> a. the likelihood of the hazard or the risk concerned occurring; and
>
> b. the degree of harm that might result from the hazard or the risk; and
>
> c. what the person concerned knows, or ought reasonably to know, about:
>
> i. the hazard or the risk; and
>
> ii. ways of eliminating or minimising the risk; and
>
> d. the availability and suitability of ways to eliminate or minimise the risk; and
>
> e. after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, the including whether the cost is grossly disproportionate to the risk.[30]

The investigator, prosecutor or judicial officer charged with figuring out whether something is 'reasonably practicable' considers the matter objectively.[31] They assess the employer's actions according to the knowledge 'possessed by persons generally who are engaged in the relevant field of activity and not by reference to the actual knowledge of a specific defendant in particular circumstances'.[32] The difficulty that a non-Defence investigator or prosecutor, not to mention judicial officer, might have in assessing what health and safety measure are objectively 'reasonably practicable' is easy to see: much of the work and supporting technology is very complicated and is sometimes protected by secrecy provisions. There are no other Australian organisations that offer an easy comparison.

28 *Work Health and Safety Act 2011* (Cth), section 19.

29 *Work Health and Safety Act 2011* (Cth), section 19.

30 *Work Health and Safety Act 2011* (Cth), section 18.

31 *Safework NSW v Tamex Transport Services Pty Ltd t/as Tamext* (2016) NSWDC 295, para 19.

32 Tooma, *Safety, Security, Health and Environment Law*, pp 57–8.

The regime does make some allowances for the unique nature of ADF work. Section 12D(2) of the Act provides that the Chief of the Defence Force can declare that certain provisions of the Act do not apply, or apply only in a modified form.[33] Currently, uniformed ADF members are excluded from certain rights under the WHS Act, including participation in industrial actions, forming a union, or being appointed as health and safety representatives.[34] While this declaration constrains those rights in the WHS regime seen to be incompatible with military command,[35] they mean that ADF members 'do not have the right to cease work, where they are concerned about risks to their health or safety, or disobey orders, without fear of consequences'.[36]

There are risks to these exclusions. They 'undermined one of the objects of the […] Act, to foster a co-operative consultative relationship between employers and the employees on the health, safety and welfare of such employees at work.'[37] Closing some of the conduits for information, particularly contested information, may make the ADF more vulnerable to breakdowns in communication between workers and their managers. As will be seen, this might increase the challenge of safely deploying automated and autonomous technologies.

Current ADF WHS policy provides solid ground for coping with technological change

The ADF sets out how it complies with its duties under the WHS Act in the Defence Safety Manual (known as 'SafetyMan'). The manual is the central WHS policy document for the ADF and covers a variety of topics, including working with hazardous chemicals, asbestos, noise and the general work environment.[38] The manual is written in broad terms and, on its face, can deal with the health and safety issues arising from the use of digital technologies.

There is not a specific section of the manual dealing with digital technologies (unsurprisingly, given their ubiquity). The part that deals with governance and due diligence (Section 2) is the most relevant aspect of SafetyMan for the purposes of this paper. Reflecting the requirements of the WHS Act, it provides

33 *Work Health and Safety Act 2011* (Cth), section 12D.

34 *Work Health and Safety Act 2011 (application to Defence activities and Defence members) Declaration 2012*.

35 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, p 16.

36 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, p 6.

37 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, p 15.

38 Defence, 'Defence Work Health and Safety Policy and Strategy' [website].

that leaders must take steps to 'support' and 'contribute to' a culture of safety.[39] It explains how the ADF collects information for the assessment of the WHS management systems and to 'identify work health and safety issues, guide improvement initiatives and provide assurance that initiatives are effective in achieving a reduction in work related injury, illness and disease'.[40] Ideally, these metrics should enable Defence leaders to meet their due diligence obligations and make 'informed decisions' about how best to promote a culture of safety.[41]

The risks of statutory exclusions mentioned above are somewhat offset by the explicit recognition in Section 2 that 'consultation, communication and issue resolution' are key to effective WHS management.[42] The policy emphasises the need to collect and disseminate WHS information to allow for informed decisions and due diligence. This includes collecting data and making sure it is in a form that can be used for evaluating health and safety practices.[43] Further, it provides for the education of employees on a continuing basis about how to effectively manage hazards.[44]

Hazard identification and risk management are key to health and safety,[45] and must be a routine process.[46] Along with a 'rigorous assessment of work health and safety threats' and the 'proactive elimination or control of these threats',[47] this includes:

- 'policies, processes, tools and systems used to identify, risk assess and record … safety risks and hazards'[48]
- 'systems used to record and communicate the high risk/major hazard areas and processes'[49]

39 Defence People Group (Defence), '17 Element Work Health and Safety Management System' [PDF], Defence People Policy, SafetyMan: Department of Defence, https://www.defence.gov.au/sites/default/files/2021-03/section-2-governance-and-due-diligence.pdf, para 6. Access via: Defence, 'Defence Work Health and Safety Policy and Strategy', *Defence* [website], Australian Government, n.d., 'SafetyMan – Section 2 – Governance and Due Diligence' (PDF, 9MB). https://www1.defence.gov.au/about/complaints-incident-reporting/work-health-safety/policy-strategy

40 Defence, '17 Element Work Health and Safety Management System', para 7.

41 Defence, '17 Element Work Health and Safety Management System', para 8.

42 Defence, '17 Element Work Health and Safety Management System', para 9.

43 Defence, '17 Element Work Health and Safety Management System', para 21.

44 Defence, '17 Element Work Health and Safety Management System', paras 24–28.

45 Defence, '17 Element Work Health and Safety Management System', paras 36–42.

46 Defence, '17 Element Work Health and Safety Management System', para 39.

47 Defence, '17 Element Work Health and Safety Management System', para 38.

48 Defence, '17 Element Work Health and Safety Management System', para 38.1.

49 Defence, '17 Element Work Health and Safety Management System', para 38.2.

- 'policies, processes and systems used to develop, document, communicate, supervise, audit, review and amend the control mechanisms required to mitigate … hazards'[50]
- 'methods by which highly specialised external knowledge is accessed for hazard identification, inspection and mitigation activities.'[51]

While the policies are broad enough to cope with technological change, it must be acknowledged that appropriate processes do not, by themselves, ensure appropriate outcomes. The broad framework set out in the SafetyMan policies will be tested by the deployment of automated and autonomous digital technologies,[52] particularly as hazard identification and risk management is even more important when dealing with highly complex systems that can operate in unexpected ways. Safety engineering literature has begun to address the implications of these new digital technologies as well as the potential benefits; and it is to this body of work that we now turn.

Safety implications for the ADF of new digital technologies

The convergence of several forms of technology – autonomous robots, the internet of things and additive manufacturing – has led some safety engineers to declare that we are experiencing a fourth industrial revolution.[53] It is evident that these technologies are transforming how work happens, including in the ADF.[54] By working in combination to enhance and augment one another, these technologies are displacing some roles, such as in manufacturing and creating new kinds of jobs, such as in computer engineering.[55] The boundary between home and work is becoming more blurred as remote working becomes more viable and peer-to-peer platforms making 'freelancing' possible on a global scale.[56]

The relationship between humans and the technology they work with is continuing to change. While computer systems are reliable at carrying out repetitive tasks, they cannot match the flexibility, intelligence and context-based

50 Defence, '17 Element Work Health and Safety Management System', para 38.3.

51 Defence, '17 Element Work Health and Safety Management System' para 38.6.

52 This point was made in Eve Massingham, 'Navigating to autonomy: legal questions in the use of autonomous aerial vehicles by the Australian military', *Australian Journal of Defence and Strategic Studies*, 1 July 2021, 3(1): 3–25, 22–23.

53 Gabriel Chia MPH, See Ming Lim MPH, Gek Khim Judy Sng FAMS, Yi-Fu Jeff Hwang MPH, Kee Seng Chia MD, 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', *American Journal of Industrial Medicine*, April 2019, 62(4):275.

54 Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 275.

55 Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 275.

56 Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 275.

thinking of human operators, all of which are needed to respond to unexpected events.[57] Guznov et al. explain that, instead of being manually controlled by a human or human team, 'future robotic systems will be self-directing and receive high-level commands from a single human partner as part of human–machine team'.[58] They give the example of a search and rescue being carried out by an uncrewed ground vehicle:

> [The vehicle] would navigate autonomously through debris using a multitude of on-board sensors. It would communicate to the human partner about the environment and its states via a live video feed and other forms of communication (e.g. text messages). The human is responsible for monitoring navigation performance as well as high-level decision making (route selection, task prioritization, etc.). Both the robot and human partner need to work together to achieve mission objectives.[59]

The effective use of digital technologies has real benefits for civilian industry. For example, it is hoped that the use of artificial intelligence and the internet of things will 'allow manufacturers to meet ever-changing demand more efficiently using adaptable, and responsive machinery.'[60]

Many aspects of the future of work are relevant to the ADF. The most prominent example is the 'remote work' enabled by drone technology: the pilots of uncrewed aerial vehicles can be based far away from where the device is flying. Given the need for the specialised design and manufacture of military equipment, the ADF is also likely to benefit from advanced manufacturing. The efficiencies of other tasks essential to military work like maintenance, logistics and keeping track of equipment and personnel will be improved if well-designed computer programs are used to assist with gathering and filtering information. For those tasks that can be automated, personnel will be freed to do other work. While some concerns – such as those to do with increased employment precarity and the 'gig economy' – are unlikely to directly affect the ADF, they could impact on defence indirectly through contractors or suppliers.

57 European Agency for Safety and Health at Work (EASHW), P Pappachan, A Hauke and E Flaspöler, 'The human machine Interface as an emerging risk', EASHW Publication Office, 2010, p 17. https://data.europa.eu/doi/10.2802/21813

58 Svyatoslav Guznov, J Lyons, M Pfahler, A Heironimus, M Woolley, J Friedman and A Neimeier, 'Robot transparency and team orientation effects on human–robot teaming', *International Journal of Human–Computer Interaction*, 2020, 36(7):650.

59 Guznov et al., 'Robot transparency and team orientation effects on human–robot teaming', p 650.

60 Adel Badri, Bryan Boudreau-Trudel and Ahmed Saâdeddine Souissi, 'Occupational health and safety in the industry 4.0 era: A cause for concern?', *Safety Science*, November 2018, 109:403.

New digital technologies will exacerbate some risks

Despite many engineers and scientists working and publishing on the potential of new digital technologies, relatively few papers address the health and safety implications of the changes,[61] some of which are potentially very serious.[62] Responding to these risks might require changing work practices.[63] Three risks are particularly relevant to the ADF: psychosocial risks, physical risks, and the challenge of testing new technologies to better understand the health and safety implications.

Psychosocial risks

Many of the potential WHS issues relate to how people will cope psychologically with the changes to their work. People are likely to find these changes stressful, particularly the pace of working with robots that they do not fully understand and might even mistrust or fear.[64] These risks are often overlooked by the engineers and designers of new systems.[65]

One directly relevant risk for the ADF is the potential for human–machine interfaces (HMIs) to increase mental or emotional strain on workers.[66] The capacity of technology to present copious amounts of information and combine tasks carries the risk of compounding small operator errors and leading to serious consequences.[67] Even when health and safety systems are included in the HMI, a user overloaded with information will not necessarily be able to use all the available functions to prevent harm.[68]

The central role of human–machine collaboration makes effective communication between the computer system and the human operator essential. Effective communication requires trust and transparency.[69] This is complicated by the 'natural perturbations of robot reliability' but ensuring human operators

61 Badri, Boudreau-Trudel and Souissi, 'Occupational health and safety in the industry 4.0 era', p 405.

62 Badri, Boudreau-Trudel and Souissi, 'Occupational health and safety in the industry 4.0 era', p 404.

63 Sara L Tamers, Jessica Streit, Rene Pana-Cryan, Tapas Ray, Laura Syron, Michael A. Flynn, Dawn Castillo, Gary Roth, Charles Geraci, Rebecca Guerin, Paul Schulte, Scott Henn, Chia-Chia Chang, Sarah Felknor, and John Howard, 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce: a perspective from the CDC's National Institute for Occupational Safety and Health', *American Journal of Industrial Medicine*, 2020, 63(12):1066.

64 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 1072.

65 Badri, Boudreau-Trudel and Souissi, 'Occupational health and safety in the industry 4.0 era', p 407.

66 EASHW, 'The human machine interface as an emerging risk'.

67 EASHW, 'The human machine interface as an emerging risk', p 17.

68 EASHW, 'The human machine interface as an emerging risk', p 17; Gabriel Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 277.

69 Svyatoslav Guznov et al., 'Robot transparency and team orientation effects on human–robot teaming', p 656–7.

appreciate these 'perturbations' is not straightforward.[70] Designers must find a way to balance the need to provide clear and relevant information about how the system is arriving at recommendations, decisions or actions with the risk of overloading the human operator.[71]

Some concerns are more to do barriers between work and non-work breaking down.[72] The increased fluidity of the physical boundaries of work makes it challenging for employers to ensure they are providing a safe work environment.[73] Furthermore, research suggests that there could be negative psychological effects from blurring work and non-work, leading workers to:

> experience emotional and mental stress more frequently and more intensely […], greater demands for work availability and flexibility, and decreased human connections due to remote working and the use of robots in the workplace.[74]

The increasing use of 'on-call' systems and duty officers mean that at least some ADF members, as well as some of the contractors and businesses that provide goods and services to the ADF, will be exposed to these hazards.

Physical risks

ADF members will also face physical risks from working alongside automated machinery and robots.[75] In the past, such risks were more limited as robots were confined to certain spaces or only moved according to predictable, tested and validated sequences.[76] Less predictable movement will be more dangerous and will require a response.[77] Beetz et al. use the example of a

70 Svyatoslav Guznov et al., 'Robot transparency and team orientation effects on human–robot teaming', p 657.

71 Svyatoslav Guznov et al., 'Robot transparency and team orientation effects on human–robot teaming', p 658.

72 Gabriel Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 277.

73 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 5.

74 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 6.

75 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 14.

76 Badri, Boudreau-Trudel and Souissi, 'Occupational health and safety in the industry 4.0 era', p 408.

77 Badri, Boudreau-Trudel and Souissi, 'Occupational health and safety in the industry 4.0 Era', p 405; Michael Beetz, Georg Bartels, Alin Albu-Schaffer, Ferenc Bálint-Benczédi, Rico Belder, Daniel Beßler, Sami Haddadin, Alexis Maldonado, Nico Mansfeld, Thiemo Wiedemeyer, Roman Weitschat, Jan-Hendrik Worch, 'Robotic agents capable of natural and safe physical interaction with human co-workers', in *2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (IEEE, Hamburg, 2015):6528–6535. https://doi.org/10.1109/IROS.2015.7354310

robot in a hospital assisting with tidying up and arranging surgical instruments to demonstrate the risk:

> While the robot holds a scalpel to put it onto the tray, a human co-worker suddenly steps into its reach […] As robot system designers, we would like the robot control program to identify this as a potentially dangerous situation, and react by a) pointing the sharp blade of the scalpel away from the human, and b) stopping or drastically reducing speed and stiffness of its motion.[78]

Robot control programs – including those used by the ADF – will ideally be equipped with 'basic knowledge about tasks, humans and motions to act competently and safely in open human environments'.[79]

Challenge of testing for risks

Testing is a crucial opportunity to assess the health and safety consequences of using a system and identify any risks and hazards. This is true of assessments by militaries of autonomous systems. Testing allows for the risks and hazards of new systems to be identified and documented and for mitigation strategies to be recommended. Risk mitigation might involve providing warnings, requiring certain equipment be worn, or mandating training.[80]

Testing defence systems is already time consuming, complicated and very expensive.[81] For example, the verification of software supporting aircraft 'has become the single most costly development activity' and 'testing alone cannot establish strict bounds on all behaviours that may occur during the operation of these software-intensive systems.'[82] Figuring out how to carry out these tests efficiently while also ensuring safety is particularly important as militaries attempt to speed up development timelines to enable technology to be deployed more quickly.[83]

78 Beetz et al., 'Robotic agents capable of natural and safe physical interaction with human co-workers', p 6528.

79 Beetz et al., 'Robotic agents capable of natural and safe physical interaction with human co-workers', p 6529.

80 Amar Marathe, Ralph Brewer, Bret Kellihan and Kristin E Schaefer, 'Leveraging wearable technologies to improve test & evaluation of human-agent teams', *Theoretical Issues in Ergonomics Science*, 2020, 21(4):400. https://doi.org/10.1080/1463922X.2019.1697389

81 Keith F Joiner and Malcolm G Tutty, 'A tale of two allied defence departments: new assurance initiatives for managing increasing system complexity, interconnectedness and vulnerability', *Australian Journal of Multi-Disciplinary Engineering*, 2018, 14(1):8. https://doi-org.ezproxy-b.deakin.edu.au/10.1080/14488388.2018.1426407

82 Darren Cofer, 'Taming the complexity beast', *The ITEA Journal of Test and Evaluation*, 2015.

83 Marathe et al., 'Leveraging wearable technologies to improve test and evaluation of human-agent teams', p 398.

The increasing number of systems that provide for, or depend on, human–machine teams, and the algorithmic complexity of the software supporting these systems, means these difficulties are certain to increase. Current testing and evaluation approaches are based on factors that are 'either defined or directly observed by the engineer or system evaluator'.[84] It involves 'testing edge cases of specific requirements' and developing a testing script where 'the sequence of inputs and events a system will encounter, as well as the expected result, are known prior to the execution of the test'.[85] This sort of testing will not be sufficient for autonomous, learning systems. Instead, evaluation will have to be more of a collaboration with the end users, allowing designers to understand how they will want to use the technology and how the technology will respond to this use. It might even involve users using the systems in an 'unconstrained and unscripted setting to enable evaluation of their utility'.[86]

The challenge of testing and verifying the reliability of machine-learning systems is well known. Algorithms can lack transparency, be biased to certain outcomes, and be very hard to understand and trust, even after testing.[87] The 'as yet unquantified or even unquantifiable risks' mean that 'these emerging hazards will require a robust surveillance system, adaptive risk-management tools as well as innovative control measures.'[88]

Joiner and Tutty point to a few key issues with the assurance of complex defence systems. First, they are becoming so 'synthesised or fused, complex and independent' that they can have 'emergent properties or exhibited behaviours' that are tough to predict.[89] Second, the range of permutations in modern software-enabled systems makes standard testing impractical and that instead, modelling and 'continuous through-life monitoring' is required.[90] Where systems are capable of higher-order decision-making – that is developing and executing strategies – it becomes harder to define the tasks the system must do. This makes it crucial to develop the systems with an intimate and iterative

84 Marathe et al., 'Leveraging wearable technologies to improve test and evaluation of human-agent teams', p 398.

85 Marathe et al., 'Leveraging wearable technologies to improve test and evaluation of human-agent teams', p 398.

86 Marathe et al., 'Leveraging wearable technologies to improve test and evaluation of human-agent teams', p 398.

87 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 13.

88 Gabriel Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 277.

89 Joiner and Tutty, 'A tale of two allied defence departments', p 4.

90 Joiner and Tutty, 'A tale of two allied defence departments', pp 4–5.

understanding of operator agency and decision-making and evaluating the safe operation of the system of systems (rather than just a single system in isolation).[91]

In addition, appropriately skilled human-factors engineers should be included in the development of strategies to ensure that there is iterative testing of the consequences of people being replaced or augmented.[92] Evaluating the performance of human–machine teams is difficult as the relationship between the operator and the device is complex with the behaviour of each effecting the other. This sometimes results in counterintuitive results. For example, the use of AI-enabled technology to assist with maintaining health and safety could 'lead people to take more risks to maintain the pre-intervention risk level, and for that reason, the new interventions have a limited effect'.[93]

The environment the system operates in will also have a significant impact on how technology behaves. Exploring ways to test and evaluate uncrewed underwater vehicles, Keane and Joiner explain that the phasing of the testing will have to be adjusted to deal with the 'complexities of testing a complex system in open, non-deterministic environments'.[94]

New technologies can be used to help keep ADF members safe

The rapid development and deployment of digital technologies does not only present risks; it presents opportunities to improve the health and safety of ADF members. Most obviously, the use of robots improve work for humans by reducing the need for human workers to do dangerous or repetitive work.[95] This includes tasks that risk exposure to dangerous chemicals or explosives, or tasks that are repetitive and time consuming, like surveillance. Instead of these possibilities –

91 Joiner and Tutty, 'A tale of two allied defence departments', p 5; MG Tutty and T White, 'Unlocking the future: decision making in complex military and safety critical systems', in *Systems Evaluation Test and Evaluation Conference 2018: Unlocking the Future Through Systems Engineering: SETE 2018*, (Engineers Australia, 2018) p 557, p 563; Marathe et al., 'Leveraging wearable technologies to improve test and evaluation of human-agent teams', p 399.

92 Joiner and Tutty, 'A tale of two allied defence departments', p 9.

93 Doron Cohen and Ido Erev, 'On safety, protection, and underweighting of rare events', *Safety Science*, November 2018, 109:377.

94 James Keane and Keith Joiner, 'Experimental test and evaluation of autonomous underwater Vehicles', *Australian Journal of Multi-Disciplinary Engineering*, 2020, 16(1):67. https://doi-org/10.1080/14488388.2020.1788228

95 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 14.

which have been well canvassed elsewhere[96] – this section identifies some less obvious ways that the ADF can leverage new technology to improve the safety of its members and ensure compliance with its WHS obligations.

Responsive and real-time safety monitoring

The increasing availability of wearable technology, particularly when combined with software able to analyse large sets of data, will revolutionise health and safety monitoring.[97] For example, the use of intelligent sensors might allow for a 'more dynamic [WHS] conceptual framework based on new, more personalized and dynamic risk management system'.[98] Increased automation may help cut out human-process errors and enable and automated appropriate responses when WHS issues occur.[99]

Advanced sensors can be used to monitor health and safety, including by being worn on the body, surgically placed in the body, or embedded in safety clothing or a workplace object.[100] For example, when working with dangerous substances, sensors could allow for 'continuous sampling' instead of 'a reliance on slower, episodic sampling, enabling early intervention to prevent toxic exposures'.[101] Some studies have suggested that some personal protective equipment could be equipped with thermoregulation properties to help workers maintain a safe temperature,[102] or include sensors to track the location of workers in relation to high-risk zones, to keep tabs on environmental conditions, or the physiology

96 See, for example, Australian Defence Force, *Concept for Robotic and Autonomous Systems*, vol 1.0, Reference DPN: BN9939583, Australian Defence Force: Australian Government, 2020, https://defence.gov.au/vcdf/forceexploration/_Master/docs/ADF-Concept-Robotics.pdf; Royal Australian Navy (RAN), 'RAS-AI Strategy 2040', Warfare Innovation Navy, RAN, 2020, https://navalinstitute.com.au/wp-content/uploads/RAN_WIN_RASAI_Strategy_2040f.pdf; Massingham, 'Navigating to autonomy: legal questions in the use of autonomous aerial vehicles by the Australian military', pp 8-9; Simon McKenzie, 'Autonomous technology and dynamic obligations: uncrewed maritime vehicles and the regulation of maritime military surveillance in the exclusive economic zone', *Asian Journal of International Law*, January 2021, 11(1):146-75, pp 149–153. http://doi.org/10.1017/S2044251321000011

97 Daniel Podgórski, Katarzyna Majchrzycka, Anna Dąbrowska, Grzegorz Gralewicz and Malgorzata Okrasa, et al., 'Towards a conceptual framework of OSH risk management in smart working environments based on smart PPE, ambient intelligence and the internet of things technologies', *International Journal of Occupational Safety and Ergonomics*, 2017, 23(1):1–20, https://doi-org/10.1080/10803548.2016.1214431; Sara L Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 12.

98 Badri, Boudreau-Trudel and Souissi, 'Occupational health and safety in the industry 4.0 era', p 405.

99 Badri, Boudreau-Trudel and Souissi, 'Occupational health and safety in the industry 4.0 era', p 408.

100 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 15.

101 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 15.

102 Podgórski et al., 'Towards a conceptual framework of OSH risk management in smart working environments based on smart PPE, ambient intelligence and the internet of things technologies', p 4.

of workers.[103] Examples include the integration of wearable electronics in the gloves of firefighters for 'temperature measurements, haptic feedback and gesture recognition'[104] or the use of smart watches to track movement and physical activity, detecting falls or evaluating risks associated with vibrations.[105]

Virtual training

New technologies are also transforming training.[106] AI-enabled virtual reality can be used to create 'dynamic, high-fidelity immersive environments to stimulate hazardous situations and enhance a worker's hazard recognition capabilities'.[107] The ADF is already using forms of this technology. For example, along with the currently existing RAAF aircraft simulators and RAN ship bridge simulators,[108] the North Queensland Simulation Park (NQ Spark) facility will allow the ADF to conduct immersive live and simulation training using cutting-edge technology.[109] Some analysts have argued that the ADF should go further and build the capacity to conduct live, virtual and constructive training (LVC), which is where there is a mix of 'real people, simulated capabilities and environments, and computer-generated elements'.[110]

Research suggests that this form of training can be particularly effective. A 2013 study found that using immersive virtual reality to train construction workers in identifying and assessing risks was more effective than training in a traditional classroom.[111] Trainees were able to concentrate and stay engaged for longer

103 Podgórski et al., 'Towards a conceptual framework of OSH risk management in smart working environments based on smart PPE, ambient intelligence and the internet of things technologies', p 5.

104 Podgórski et al., 'Towards a conceptual framework of OSH risk management in smart working environments based on smart PPE, ambient intelligence and the internet of things technologies', p 5.

105 Luis Sigcha, Ignacio Pavon, Pedro Arezes, Nelson Costa, Guillermo De Arcas and Juan Manuel Lopez, 'Occupational risk prevention through smartwatches: precision and uncertainty effects of the built-in accelerometer', *Sensors*, 2018, 18(11):3805. https://doi.org/10.3390/s18113805

106 Gabriel Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 277.

107 Tamers et al., 'Envisioning the future of work to safeguard the safety, health, and well-being of the workforce', p 12.

108 Julian Kerr, 'Training for the 21st century', *Australian Defence Magazine*, 17 December 2021, https://www.australiandefence.com.au/defence/simulation/training-for-the-21st-century; Louis Dillon, 'RAN awards bridge simulator contract', *Defence Connect*, 9 May 2019. https://www.defenceconnect.com.au/maritime-antisub/4009-ran-awards-bridge-simulator-contract

109 David Burke, 'Cutting-edge simulation facility planned for Townsville', *The Strategist*, 15 December 2020, https://www.aspistrategist.org.au/cutting-edge-simulation-facility-planned-for-townsville/

110 Tony McCormack, 'Covid-19 means live, virtual and constructive training's time has come', *The Strategist*, 9 February 2021. https://www.aspistrategist.org.au/covid-19-means-live-virtual-and-constructive-trainings-time-has-come/

111 Rafael Sacks, Amotz Perlman and Ronen Barak, 'Construction safety training using immersive virtual reality', *Construction Management and Economics*, 2013, 31(9):1005–1017. https://doi-org/10.1080/01446193.2013.828844

periods during the training and it allowed them to be exposed to hazards 'directly and realistically without compromising their safety'.[112]

The possibilities of virtual reality go beyond training. Sun et al. note that smart factories, data processing capacity combined with the internet of things will 'enable a close connection between the physical and digital worlds', allowing digital twins to be a 'comprehensive physical and functional description of a component, product or system'.[113] Ideally, the digital twin will 'virtually replicate the behaviour of the physical counterpart', enhancing the value of testing.[114]

Regulatory responses to new technologies

While Australian WHS laws are flexible and sufficiently broad to cope with them without legislative change, these technological changes will have an impact on the operation of the regulatory scheme. This section of the paper considers two key implications: first, the increase of 'reasonably practicable' WHS measures available to the ADF; and second, the difficulties regulators will face carrying out inspections and investigating safety incidents related to new digital technologies.

The range of 'reasonably practicable' safety measures will increase

As noted, the WHS Act requires the ADF to take 'reasonably practicable' steps to keep its workers safe. New technology will increase the range of interventions that might be 'reasonably practicable.' For example, it may be reasonable in some ADF settings to use advanced technology to undertake personalised occupational risk assessment for individual workers.[115] Depending on the risks, it might even be reasonable for this to be continuous and real time.[116]

Australian Courts have considered when adopting a new WHS measure is reasonably practicable. While a comprehensive review of this jurisprudence is beyond the scope of this paper, considering some of the cases helps understand how the law will apply to ADF use of new health and safety technology. It shows just how fact-dependent the operation of this test is: Courts consider the safety

112 Sacks, Perlman and Barak, 'Construction safety training using immersive virtual reality', p 1016.

113 Shengjing Sun, Xiaochen Zheng, Bing Gong, Jorge Garcia Paredes and Joaquin Ordieres-Meré, 'Healthy operator 4.0: A human cyber–physical system architecture for smart workplaces' 2011, *Sensors*, 2020, 20(7):1–21. https://doi.org/10.3390/s20072011

114 Sun et al., 'Healthy operator 4.0', p 2.

115 Podgórski et al., 'Towards a conceptual framework of OSH risk management in smart working environments based on smart PPE, ambient intelligence and the internet of things technologies', p 8.

116 Podgórski et al., 'Towards a conceptual framework of OSH risk management in smart working environments based on smart PPE, Ambient Intelligence and the Internet of Things Technologies', p 8.

measure in the context of the worksite and the constraints that are on the employer.

Even where a WHS measure may help in some circumstances it still may not be reasonably practicable. The benefits of the measure must be more than speculative and people with the necessary expertise to carry out the intervention should be reasonably available. For example, *May v Helicopter Resources* concerned the death of a pilot in Antarctica after he fell into a crevasse when returning to his helicopter.[117] One of the safety measures that the prosecution alleged was reasonably practicable was using satellite imagery to check if there was crevassing at the operation site and to only proceed if there was evidence of 'minimal crevassing'.[118] The ACT Supreme Court found that such a measure was not reasonably practicable: the prosecution had failed to provide enough evidence of what 'minimal crevassing' meant, and it was unclear whether the imagery (which could be many years out of date) would have actually assisted in preventing the incident.[119] Furthermore, there were not people available to the employer who had the necessary expertise to interpret satellite imagery before each flight for signs of crevassing.[120]

Similarly, the deployment of new technology may not always be reasonably practicable even if it would improve safety. The case of *Greenham Tasmania Pty Ltd v Director and Public Prosecutions* demonstrates this point:[121] the case concerned an abattoir cleaner who was crushed underneath a moving platform used in meat processing.[122] The Magistrate found installing a pressure mat under the platform to prevent its operation when someone was underneath was not reasonably practicable 'given such mats were not commercially available and were not known to have been installed in any other abattoir'.[123]

Proper training connected to the tasks being undertaken and ongoing safety briefings are key measures that are regularly found to be reasonably practicable for employers. In *Guilfoyle v Culverthorpe Pty Ltd*,[124] the Court found that holding documented 'toolbox' meetings and training workers specifically to work in

117 *May v Helicopter Resources; Commonwealth of Australia v May* [2021] ACTSC 116.

118 *May v Helicopter Resources; Commonwealth of Australia v May* [2021] ACTSC 116, para 19.

119 *May v Helicopter Resources; Commonwealth of Australia v May* [2021] ACTSC 116, para 34.

120 May v Helicopter Resources; *Commonwealth of Australia v May* [2021] ACTSC 116, para 36.

121 *Greenham Tasmania Pty Ltd v Director and Public Prosecutions* [2021] TASSC 51.

122 *Greenham Tasmania Pty Ltd v Director and Public Prosecutions* [2021] TASSC 51, paras 2–5.

123 *Greenham Tasmania Pty Ltd v Director and Public Prosecutions* [2021] TASSC 51, para 14.

124 *Guilfoyle v Culverthorpe Pty Ltd* [2019] QMC 17.

deep trenches were reasonably practicable and would have addressed the risk of injury if the trench collapsed (as happened in that case).[125]

As can be seen, whether the adoption of a new technology or new form of training is reasonably practicable depends on several factors. ADF managers will have to maintain awareness of what types of new WHS monitoring are available and continue to consider how computer systems might aid in keeping their workers safe. They should ensure that where monitoring programs are adopted, there are systems and processes in in place to properly respond to these risk assessments. It does not mean that every possible WHS measure is required but rather only those that are reasonable considering the nature of the risk or hazard and the cost of addressing it.

New digital technology makes investigating some safety incidents more complicated

The complexity of new digital technologies makes carrying out workplace inspections and investigations of any WHS incidents more difficult. Where a system is governed by code, a visual inspection will not reveal some of the most important aspects of its operation. If a workplace accident happens, it might not be possible to conclusively assign responsibility for incidents involving multiple complex systems interacting in unexpected ways. More people and organisations are likely to be involved in the development, deployment and use of these systems – which might be made up of smaller, separately programmed technologies – that result in an accident when they are combined together. At a minimum, investigators will need highly specialised skills,[126] and even then, there might be some parts of the system that cannot be understood.

Furthermore, where a system operates through complex 'black box' algorithms, it might not be possible for anyone to know exactly what went awry; all that will be observed is the unexpected outcome that put someone's health and safety at risk. While an incident like this may not be able to be anticipated, once it has occurred, the operators and managers of the system will be on notice and be required to take 'reasonably practicable' steps to avoid it happening again.

Investigating and prosecuting breaches of WHS law will require specialised knowledge of how the systems operate and technical evidence demonstrating how any breach happened. This is likely to become more time consuming and

125 *Guilfoyle v Culverthorpe Pty Ltd* [2019] QMC 17, para 90; para 93.

126 This has been acknowledged by the regulator: see Comcare, *Comcare Corporate Plan 2019–2023*, Comcare: Australian Government, 2019, p 5. https://www.comcare.gov.au/about/forms-publications/documents/publications/corporate-publications/corporate-plan-2019-23.pdf

costly as the systems become more complex. Adding to the difficulty is the reliance of the ADF, at least in part, on systems that do not have a direct corollary in civilian life and that only ADF insiders properly understand. It might be hard to find independent investigators that have sufficient knowledge and expertise to unpack what has occurred. If a WHS incident ends up in some sort of judicial investigation – whether in a contested hearing or some other form of inquiry – evidence about the operation of the system will have to be presented to the decision-makers in a way they can understand. Where this involves pulling apart programming language, assessing the approach taken to testing, or considering the operation of many algorithms working in concert, they will be almost completely reliant on expert evidence. Again, this will make any proceedings take longer and cost more and may ultimately lead to an inconclusive outcome.

These difficulties have the potential to undermine a key component of the regulatory regime. One of the few things that can be said with a degree of confidence about WHS regulation is that, generally speaking, health and safety outcomes are improved by regular inspections backed up by sanctions for failures to comply.[127] These inspections are not necessarily in response to a WHS incident but are conducted to ensure the employer is meeting their WHS obligations. Inspections by regulators – both with and without penalties – are associated with reducing injury rates and compliance;[128] some even argue inspections are more important to deterrence than the level of penalties.[129] The effectiveness of inspections is improved when managers are made aware of any safety issues and given information to allow them to comply with their obligations.[130]

While this evidence on the effectiveness of WHS regulation is useful, it should be treated with caution. Assessing the general impact of any regulatory measure, let alone the extent to which they will be challenged by new technology, is complicated. It is hard to unpick what workplace cultures, policies or regulatory

127 Kevin Purse and Jillian Dorrian, 'Deterrence and enforcement of occupational health and safety law', *International Journal of Comparative Labour Law and Industrial Relations*, 2011, 27(1):35–6; Emile Tompa, Christina Kalcevich, Michael Foley, Chris McLeod, Sheilah Hogg-Johnson, Kim Cullen, Ellen MacEachen, Quenby Mahood, Emma Irvin, 'A systematic literature review of the effectiveness of occupational health and safety regulatory enforcement', *American Journal of Industrial Medicine*, November 2016, 59(11):929. https://doi.org/10.1002/ajim.22605

128 Johan Hviid Andersen, Per Malmros, Niels Erik Ebbehoej, Esben Meulengracht Flachs, Elizabeth Bengtsen and Jens Peter Bonde, 'Systematic literature review on the effects of occupational safety and health (OSH) Interventions at the Workplace', *Scandinavian Journal of Work, Environment & Health*, 2019, 45(2):103. https://doi.org/10.5271/sjweh.3775

129 Nestor, *The effect of occupational health and safety regulator intervention on the Australian Army*, pp 25–6.

130 Safe Work Australia, *Effectiveness of Work Health and Safety Interventions by Regulators: A Literature Review*, Safe Work Australia, April 2013, p 7. https://www.safeworkaustralia.gov.au/system/files/documents/1702/effectiveness-whs-interventions-by-regulators-literature-review.pdf

interventions are most important; and furthermore, compliance with WHS rules does not always result in a corresponding improvement in actual workplace health and safety.[131] Studies have shown that the 'nexus between compliance and injury rates is very much a mediated relationship' and that this 'important dynamic' should be considered when assessing the effect of WHS regulation.[132] A 2013 Australian study found that the key mechanisms within businesses to improve safety include awareness of safety requirements, an understanding of how to comply, concern with reputation and the perception of their level of risk.[133] Duty holders should have access to adequate information and training for them to meet their legal obligations.[134]

The ADF should reassess its WHS policies and processes in light of emerging technologies

The WHS arrangements that Defence currently have in place are hard to assess from outside the organisation. The Defence Work and Safety Management Committee is responsible for monitoring, reviewing and reporting on the *Defence Work Health and Safety Strategy 2017–2022* ('the ADF WHS Strategy'), including ensuring that WHS is 'managed as an enterprise priority' and that 'significant work health and safety risks are identified and addressed'.[135] The committee was designed to address a gap in 'joint and service policy specifying how health surveillance information collection at a tactical level informs operational and strategic health intelligence products and the follow-on feedback loop',[136] and it reports directly to the Defence Enterprise Business Committee and the Defence Audit Risk Committee.[137]

The ADF WHS Strategy does acknowledge the 'fundamental' importance of WHS in the 'design, acquisition, sustainment and disposal of Defence materiel' and that risk-management approaches must be 'integrated into the capability life cycle'.[138] It also commits to ensuring that 'safe systems of work are improved

131 Purse and Dorrian, 'Deterrence and enforcement of occupational health and safety law', pp 26–7.

132 Purse and Dorrian, 'Deterrence and enforcement of occupational health and safety law', pp 26–7.

133 Safe Work Australia, *Effectiveness of Work Health and Safety Interventions by Regulators*, p 7.

134 Purse and Dorrian, 'Deterrence and enforcement of occupational health and safety law', p 37.

135 Department of Defence (Defence), *Defence Work Health and Safety Strategy 2017–2022*, Department of Defence: Australian Government, 2017, p 3. https://www.defence.gov.au/about/complaints-incident-reporting/work-health-safety/policy-strategy

136 Derek Licina, A Brittain, A Tout, T Strickland, D Taplin, 'Aligning Defence environmental and occupational health (EOH) capability with future requirements: The 4th Australian Defence Force EOH Conference', *Journal of Military and Veterans' Health*, April 2016, 24(2):22.

137 Defence*, Defence Work Health and Safety Strategy 2017–2022*, p 4.

138 Defence, *Defence Work Health and Safety Strategy 2017–2022*, p 4.

through collaboration, innovation and integration'.[139] Beyond this, it is unclear whether there are plans to review policies in light of the rapid acquisition and deployment of emerging technologies.

The lack of certainty about the effectiveness of any intervention means we should be cautious before recommending particular policies. In its 2013 report Safe Work Australia noted that there is a 'paucity of available research on intervention effectiveness' in the WHS context, and that there was 'no currently published work available' specifically addressing the Australian context.[140] This is true more generally: outside of aviation, there is a lack of studies addressing the use of autonomous devices and human–machine teaming looking at interventions to prevent and/or reduce psychosocial risk factors and the effects of these interventions on psychological health.[141] Despite these difficulties, some general points can be made.

ADF safety managers and commanders must ensure that they continue to manage the emerging risks of new technology appropriately. As has been shown, communication between human team members and the machines they operate alongside will be key. Collaborating with a wide range of specialists will help the ADF reduce risk,[142] such as working with ergonomists to design forms of human–machine integration that minimise the risk of information overload.[143] It might also require new governance mechanisms that are more 'collaborative and anticipatory'.

> Anticipatory governance is a proactive, iterative, trial and error approach with rapid feedback loops to allow for calibration of policy tools. This differs from traditional governance structure where regulations take years to draft and implement and are rarely considered once in effect.[144]

The ADF should ensure that its command structures facilitate working together to keep safe when operating with technologies.

139 Defence, *Defence Work Health and Safety Strategy 2017–2022*, p 11.

140 Safe Work Australia, *Effectiveness of Work Health and Safety Interventions by Regulators*, p 45.

141 Andersen et al., 'Systematic literature review on the effects of occupational safety and health (OSH) interventions at the workplace', p 109.

142 Gabriel Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 277.

143 Gabriel Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 277.

144 Gabriel Chia et al., 'Need for a new workplace safety and health (WSH) strategy for the fourth industrial revolution', p 278.

Conclusion

The ADF is no stranger to dealing with new and potentially dangerous technologies. WHS law provides a key framework for how this technology will be designed and deployed by the ADF, requiring the responsible commanders and managers to maintain awareness of risks and hazards and plan for new ones. The benefits of using new technology must be weighed against the requirement to take reasonably practicable steps to keep ADF members healthy and safe at work.

This paper has set out some of the WHS risks posed by automated and autonomous computer technologies, identifying three key concerns: psychosocial risks, physical risks, and the difficulty of testing for potential hazards. It noted some of the potential benefits to the use of new technology, including responsive and real-time WHS monitoring and virtual training. The ADF should take advantage of opportunities presented by these new technologies.

The paper also considered some of the regulatory issues the technology presents. First, as the duties imposed by WHS law are so context-dependent, the increase in the range of technologies will increase the range of health and safety measures that are reasonably practicable. Second, the complexity and opaqueness of at least some computer systems will make investigating and prosecuting health and safety incidents more costly and time consuming. Inspectors, investigators and prosecutors should be equipped with the knowledge and understanding of systems to ensure the regulatory regime continues to be effective. It is in the interests of all ADF members if the organisation ensures that its personnel are properly trained, equipped and empowered to respond to these emerging health and safety risks.

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Commentary

Putin's war in Ukraine: missteps, prospects and implications

Matthew Sussex

The main intended phase of Vladimir Putin's war in Ukraine, launched on 24 February 2022, was a rapid strike at Kyiv aimed at decapitating the Ukrainian political and military leadership. This was supposed to have lasted three days, maybe five at the most.[1] And yet more than three months after the Russian invasion, Putin's forces continue to suffer embarrassing setbacks. Even if estimates of Russian casualties are only half true, Putin's 'special military operation' has resulted in horrendous costs for the Russian military, in personnel, equipment and in prestige, that will take it decades to recover.[2] Through a series of misjudgements, Russian forces have made only limited advances from their initial positions in Crimea and the Donbass, and along the way have been accused of carrying out some of the most barbaric abuses of human rights in recent memory. Russia's gains have come at the price of a wrecked economy, becoming an international pariah (at least in the West), and bringing about the very thing Putin claimed as the reason for the war in the first place – NATO expansion – through the formal applications by Finland and Sweden for membership in the alliance.[3]

1 For more on Russia's risky decapitation strategy, see Frederick W Kagan and Mason Clarke, 'How not to invade a nation', *Foreign Affairs*, 29 April 2022. https://www.foreignaffairs.com/articles/ukraine/2022-04-29/how-not-invade-nation. See also Alex Horton, Karoun Demirjian and Dan Lamothe, 'Russia's military strategy in Ukraine aimed at key cities, decapitating central government', *Washington Post*, 24 February 2022. https://www.washingtonpost.com/national-security/2022/02/24/ukraine-russia-military-strategy/

2 Steven Pifer, 'The Russia-Ukraine war at three months', *Brookings Institution*, 23 May 2022. https://www.brookings.edu/blog/order-from-chaos/2022/05/23/the-russia-ukraine-war-at-three-months/. Others looking at Russian costs include Mark F Cancian, 'Russian casualties in Ukraine: reaching the tipping point', *CSIS Commentary*, 31 March 2022. https://www.csis.org/analysis/russian-casualties-ukraine-reaching-tipping-point; and for estimates by US Under Secretary of State, Victoria Nuland, see Yury Baranyuk, 'Russia taking "incredible losses" in Ukraine, senior US official says', *RFE/RL*, 30 March 2022. https://www.rferl.org/a/nuland-ukraine-incredible-losses/31777845.html

3 The Economist, 'Finland is hurtling toward NATO membership', *The Economist*, 22 April 2022. https://www.economist.com/europe/finland-is-hurtling-towards-nato-membership/21808705?gclid=EAIaIQobChMIjdz00en29wIV4plmAh346Ab8EAMYASAAEglyHvD_BwE&gclsrc=aw.ds

In sum, Putin has weakened his state, his armed forces and, perhaps most troubling for him, his own standing. But it is far too soon for the West to celebrate a Ukrainian victory or Russia dwindling as a threat to European and global order. On the contrary, Putin's failures, especially since they are so publicly visible, are likely to make the Russian regime even more hostile and dangerous.

In this commentary, I survey Putin's flawed assumptions leading up to the war, the prospects for its resolution, and its potential implications for the Putin regime, regional security and major powers' strategic objectives. I find that while the causes of the war lie in a series of miscalculations by the Kremlin, its final outcome is by no means certain. And while Putin himself has lost significant political capital, there is little appetite at present for a change in leadership – which in any case may not appreciably alter the trajectory of Russia's reflexive hostility to the West. What is apparent, though, is that Russia's invasion of Ukraine will have significant impacts for the future of the European security order, as well as for the strategic postures of the US and China, including their mutual competition in the Indo-Pacific space.

Why war? Putin's many mistakes

Putin's miscalculations on the path to invading Ukraine have been both numerous and costly. First, he fell into the trap of believing his own propaganda. For many years the Kremlin has relentlessly repeated the convenient narrative that the 2013 uprising against the pro-Russian regime of Viktor Yanukovych was due to a shadowy cabal of neofascists comprising the infamous Azov Battalion and shadowy Ukrainian elites that were aided by the US and NATO.[4] Unenlightened by the Federal Security Service (FSB), which in the grand tradition of never contradicting the Tsar provided intelligence to the Kremlin that dutifully endorsed the leader's view, Putin appears to have confidently believed that Russian invaders would be welcomed by most Ukrainians.[5] This has proven completely incorrect due to another Putin misjudgement: that Ukraine and Russia are one united people. From the bizarre essay the Russian President allegedly penned in 2021 to his more recent rhetoric, Putin has claimed variously that Ukrainians have no real identity, deserve no sovereignty and that only the most die-hard Nazi traitors

4 Lilia Shevtsova, 'The Maidan and beyond: the Russia factor', *Journal of Democracy*, 2014, 25(3): 74–82. See also Alexey Kovalev, 'Russia's Ukraine propaganda has turned fully genocidal', *Foreign Policy*, 9 April 2022. https://foreignpolicy.com/2022/04/09/russia-putin-propaganda-ukraine-war-crimes-atrocities/; and Peter Dickinson, 'How modern Ukraine was made on Maidan', *Atlantic Council Ukraine Alert*, 21 August 2021. https://www.atlanticcouncil.org/blogs/ukrainealert/how-modern-ukraine-was-made-on-maidan/

5 On Putin swaying intelligence reports, see Nick Reynolds and Jack Watling, 'Ukraine through Russia's eyes', *RUSI Commentary*, 25 February 2022. https://rusi.org/explore-our-research/publications/commentary/ukraine-through-russias-eyes?msclkid=9c148a04cf1e11ec81e9f50fc30d4b1b

would resist reintegration with Russia.[6] As events have demonstrated, Putin could not have been more wrong. On the contrary, the widespread destruction of Ukrainian infrastructure and the treatment of its citizens by Russian forces has only ensured the lasting enmity of the Ukrainian people, many of whom are Russian-language speakers.[7]

Two further miscalculations from the Kremlin are that it significantly overestimated Russian military capabilities and, to at least the same degree, vastly underestimated the quality, morale and determination of Ukraine's armed forces. This has led to some extraordinary and ongoing evidence of hubris. Russia's military failed to destroy the Ukrainian air force at the outset of the war, and three months later Ukrainian airspace remains contested.[8] Russian logistics have proven almost comically weak, with numerous reports of expensive mobile equipment simply being abandoned after running out of fuel (which are then often salvaged by Ukraine's famed army of tractors).[9] After undergoing an extensive military modernisation program lasting over a decade, and costing an estimated USD600 billion, Russia's armed forces seem incapable of combined operations.[10] Morale is low, and there are numerous reports of Russian soldiers refusing to obey orders.[11] Active sabotage campaigns in Belarus and Russia itself have interrupted resupply by rail, and have targeted Russian fuel dumps near Belgorod.[12] It is estimated that at least a third of Russia's original invasion force of 150,000 personnel have been lost: killed, wounded or missing. This amounts to at least 15,000 combat fatalities alone, which is equivalent to the

6 Masha Gassen, 'How Putin wants Russians to see the war in Ukraine', *New Yorker*, 1 March 2022. https://www.newyorker.com/news/dispatch/how-putin-wants-russians-to-see-the-war-in-ukraine

7 See Peter Pomerantsev, 'We can only be enemies', *The Atlantic*, 1 May 2022. https://www.theatlantic.com/ideas/archive/2022/05/putin-war-propaganda-russian-support/629714/

8 Steve Inskeep, A Martinez, 'A big mystery of the war in Ukraine is Russia's failure to gain control of the sky' [audio and transcript], *NPR News*, Morning edition, 11 May 2022, 5.10am ET. https://www.npr.org/2022/05/11/1098150747/a-big-mystery-of-the-war-in-ukraine-is-russias-failure-to-gain-control-of-the-sk

9 User generated content submitted to RFE/RL, 'Ukrainian tractors versus Russian armour' [video], *RFE/RL*, 16 March 2022. https://www.rferl.org/a/ukraine-russian-invasion-tanks-towed-tractors/31756402.html

10 Michael Kofman and Richard Connolly, 'Why Russia's military expenditure is much higher than commonly understood (as is China's)', *War on the Rocks* [website], 16 December 2019. https://warontherocks.com/2019/12/why-russian-military-expenditure-is-much-higher-than-commonly-understood-as-is-chinas/

11 See for instance Guy Falconbridge, 'Russian soldiers refuse orders: top UK spy', *Canberra Times*, 9 May 2022. https://www.canberratimes.com.au/story/7680847/russian-soldiers-refuse-orders-top-uk-spy/

12 *Agence France-Presse* (*AFP*), 'Are Ukraine supporters carrying out a sabotage campaign inside Russia?', *South China Morning Post*, 8 May 2022, 8.45pme. https://www.scmp.com/news/world/russia-central-asia/article/3176969/are-ukraine-supporters-carrying-out-sabotage

number of Soviet personnel killed over the nine years (1979–1989) of the USSR's war in Afghanistan.[13]

While Russian doctrine and operations have failed, Ukrainian strategy of 'corrosion' has in contrast been extremely successful.[14] Essentially a highly mobile campaign designed to bleed Russia of its most vulnerable assets, the Ukrainian armed forces have been able to pull off some impressive and unanticipated victories. This includes defeating the initial Russian airborne assault on Hostomel airport, aimed at decapitating the Ukrainian leadership;[15] killing significant numbers of Russian commanders;[16] sinking the flagship of the Russian Black Sea Fleet;[17] blunting and then pushing back invading Russian forces from Kyiv and then Iziyum and Kharkiv; and holding out first in a devastated Mariupol and then its Azovstal steel plant against numerically superior forces for a total of 82 days.[18] Over the course of the war, Ukrainian forces have had clear advantages in intelligence, both through assistance from the US,[19] as well as local voices, and superior operational security. Russia's electronic and cyber warfare strategy has also been poorly executed: it has been unable to prevent Ukrainian forces using the Starlink satellite system, and its own forces have been reportedly using the Ukrainian cell-phone network for connectivity – which has made it possible for the Ukrainian Army to trace, locate and target Russian troop concentrations.[20]

Finally, Putin clearly underestimated – although not with some reason – the reaction by the West, and especially the United States. Both European states and successive US administrations have made avoiding irritating Vladimir

13 David Axe, '15,000 Russians have died in Ukraine: UK Defence Ministry', *Forbes*, 23 May, 2022. https://www.forbes.com/sites/davidaxe/2022/05/23/up-to-15000-russians-have-died-in-ukraine/?sh=7e9390bb5b11. The Ukrainian government claims around double that number.

14 Mick Ryan, 'The ingenious strategy that could win the war for Ukraine', *Sydney Morning Herald*, 17 May 2022. https://www.smh.com.au/world/europe/the-ingenious-strategy-that-could-win-the-war-for-ukraine-20220517-p5alz4.html

15 James Marson, 'Putin thought Ukraine would fall quickly. An airport battle proved him wrong', *Wall Street Journal*, 3 March 2022. https://www.wsj.com/articles/putin-thought-ukraine-would-fall-quickly-an-airport-battle-proved-him-wrong-11646343121

16 Julian E Barnes, Helene Cooper and Eric Schmitt, 'US intelligence is helping Ukraine kill Russian generals, officials say', *New York Times*, 4 May 2022. https://www.nytimes.com/2022/05/04/us/politics/russia-generals-killed-ukraine.html

17 'How did Ukraine destroy the *Moskva*, a large Russian warship?', *Economist*, 20 April 2022. https://www.economist.com/the-economist-explains/2022/04/20/how-did-ukraine-destroy-the-moskva-a-large-russian-warship

18 Natalia Zinets, 'Ukraine hails Mariupol defenders as heroes who changed the course of the war', *Reuters*, 18 May 2022. https://www.reuters.com/world/europe/mariupol-defiance-changed-course-war-ukrainian-presidential-adviser-2022-05-17/

19 The Moscow Times, 'Russian generals killed in Ukraine with help of US intelligence – New York Times', *The Moscow Times*, 11 May 2022. https://www.themoscowtimes.com/2022/05/05/russian-generals-killed-in-ukraine-with-help-of-us-intelligence-nyt-a77583.

20 Sam Sabins and Laurens Cerulus, 'Three reasons Moscow isn't taking down Ukraine's cell networks', *Politico*, 7 March 2022. https://www.politico.com/news/2022/03/07/ukraine-phones-internet-still-work-00014487.

Putin something of an art form. Some, including energy-dependent states like Germany, have actively bankrolled the Putin regime and its rearmament campaign through oil and gas purchases. This dependency was what originally watered down Western sanctions after the Russian seizure of Crimea in 2013, and even after the shooting down of Malaysia Airlines MH17 by Kremlin-backed forces in the Donbass in July 2014.[21] But recent German moves to wean itself from Russian gas within a couple of years, coupled with the announcement of a considerable USD33 billion dollar aid package for Ukraine from the Biden administration[22] – not to mention ongoing hefty military aid from the UK, Poland and the Baltic States – indicate that there is a general sense in the transatlantic political community that Putin overstepped the mark by invading Ukraine. Few leaders in the West can claim credit, however, given they have largely been led to those positions by their own populations, the tenacity of Ukrainian resistance, and by the charismatic persona of Zelenskyy, whose carefully calibrated yet blunt messaging has won him considerable appeal.

The full-scale Russian invasion of Ukraine has therefore belatedly demonstrated a renewed degree of Western unity. However, there is still little in terms of consolidated strategy, primarily because some leaders remain clearly worried about backing Putin into a corner. The French President Emmanuel Macron, for instance, continues to give Putin a platform to air his grievances – and a sense that he is being taken seriously – by persisting in holding talks between his office and the Kremlin, which have unsurprisingly proven futile.[23] Germany's Chancellor Olaf Scholz, meanwhile, repeatedly refused to allow German territory to be used for the delivery of heavy weapons to Ukraine by other NATO partners. He also urged Kyiv to trade land for peace, even as he announced a massive increase of EUR100 billion for the German defence budget.[24] For his part, Hungary's illiberal leader Viktor Orbán has vacillated between blocking and supporting oil and gas bans on Russia. But strong support for Ukraine from Poland, the Czech

21 Matthew Sussex, 'It's time for the West to re-evaluate its whole approach to Russia', *Lowy Interpreter*, 8 December 2014. https://www.lowyinstitute.org/the-interpreter/its-time-west-re-evaluate-its-whole-approach-russia

22 Matt Viser, Missy Ryan, Bryan Pietsch and Jeff Stein, 'Biden seeks a dramatic increase in aid for Ukraine', *Washington Post*, 28 April 2022, 8.00am EDT, updated 28 April, 2.12pm EDT. https://www.washingtonpost.com/politics/2022/04/28/biden-russia-oligarchs-assets-ukraine/

23 Deborah de Lange, 'Why Emmanuel Macron's peace efforts with Vladimir Putin are probably pointless', *The Conversation*, 17 May 2022. https://theconversation.com/why-emmanuel-macrons-peace-efforts-with-vladimir-putin-are-probably-pointless-182838

24 Derek Scally, 'Scholz dismisses "slanderous" critics of SPD Russia policy', *Irish Times*, 22 April 2022. https://www.irishtimes.com/news/world/europe/scholz-dismisses-slanderous-critics-of-spd-russia-policy-1.4859640

Republic and Slovakia has fractured the Visegrád Group (V4), which Orban had previously used as a populist bloc to stymie the EU.[25]

How will the war end?

With Russia's offensives frequently becoming bogged down, and in some cases forced onto the defensive, there have been several spirited debates about how the war in Ukraine might end. One of these concerns whether Moscow will seek to escalate the conflict, perhaps through the use of chemical weapons or tactical nuclear weapons; or even try to draw NATO into war.[26] Although such a possibility cannot be discounted, there are several good reasons why such an outcome remains unlikely. To begin with, one would have to assume that Kremlin planners had reached the conclusion that the conflict was conventionally unwinnable, and that it would be necessary to resort to weapons of mass destruction in order to kickstart Russia's offensive.

This is, in itself, a possibility. It is well known that Russia considers tactical nuclear weapons useful tools for potential employment on the battlefield, and to control escalation through the concept of 'escalate to de-escalate'.[27] But having misjudged NATO before, it would a significant risk for Moscow to use such weapons, given that the Biden administration would come under significant pressure to respond: if not in kind, then at least with some form of active support such as a no-fly zone. And while that would certainly bring NATO into the conflict, thus allowing Putin to falsely claim that NATO had ultimately been seeking war all along, it is difficult to believe the Kremlin would seek to hasten its defeat for the sake of a narrative. The only way out of that cycle for Putin would be if he were prepared to escalate even further and employ strategic nuclear forces against Western targets. The inevitable response would leave his country badly damaged and his own leadership in a far weaker position than it is currently. The incentive for Putin, therefore, is to continue the war conventionally in order to try and capture as much Ukrainian territory as possible. This would potentially include trying to establish a corridor linking Russian-held territory in Donbass to occupied Crimea, thus preventing Ukraine from accessing the

25 Tim Gosling, 'The war in Ukraine undermines Orban's illiberal project', *Foreign Policy*, 10 May 2022. https://foreignpolicy.com/2022/05/10/ukraine-conflict-visegrad-group-orban-hungary-illiberal/

26 On this debate see for instance the roundtable held at the Atlantic Council on whether Putin might seek to escalate to nuclear weapons or other WMD, featuring leading commentators such as Alexander Vershbow, Daryl Press, and Walter Slocombe. Atlantic Council Experts, 'Will Putin use nuclear weapons in Ukraine? Our experts answer three burning questions', *New Atlanticist* [website], Atlantic Council, 10 May 2022. https://www.atlanticcouncil.org/blogs/new-atlanticist/will-putin-use-nuclear-weapons-in-ukraine-our-experts-answer-three-burning-questions/

27 For example Kevin Ryan, 'Is "escalate-to-de-escalate" part of Russia's nuclear toolbox?', *Russia Matters*, 8 January 2020. https://www.russiamatters.org/analysis/escalate-deescalate-part-russias-nuclear-toolbox

sea and relegating it to a landlocked rump state.[28] And whereas he is likely to continue to be restrained in not overtly attacking NATO forces, there remains the possibility that Russia will escalate its covert campaigns on NATO soil, including the use of proxies to conduct sabotage and disruption operations, and even acts of terrorism.[29]

The reason that capturing more of Ukraine than he has accomplished thus far is so important for Putin is that he currently has precious little to negotiate with. Already Russian domestic messaging has altered to favour the line that the objective of the 'special military operation' is to protect the people of Donbass, even though the more muscular voices in the Russian media continue to call for the complete elimination of Ukrainian culture and identity.[30] As part of this, Russian propagandists have made much of the installation of pro-Russian leaders in captured towns and villages; street signs have been changed from Ukrainian to Russian and compulsory 'education' about the causes of the war has begun in schools.[31] Ukraine's human rights commissioner, Liudmyla Denisova, has claimed that half a million Ukrainians have been forcibly deported to Russia via filtration camps in Donetsk, including some 120,000 children.[32] A subsequent Organisation for Security and Cooperation in Europe report, established under the organisation's Moscow Mechanism, detailed numerous and consistent claims that Ukrainians had been coerced into being removed to Russia, and claims others had been forcibly conscripted into military units of the Donetsk and Luhansk 'republics'.[33]

28 Andrew Roth, 'Russian commander suggests plan is for permanent occupation of southern Ukraine', *Guardian*, 23 April 2022. https://www.theguardian.com/world/2022/apr/22/ukraine-south-occupation-russian-military-chief-rustam-minnekayev

29 Of course, this has already happened before: witness, for instance, Russia's use of GRU operatives to blow up a munitions dump in the Czech Republic in 2014. See Bellingcat Investigation Team, 'Senior GRU leader directly involved with Czech arms depot explosion', *Bellingcat*, 20 April 2021. https://www.bellingcat.com/news/2021/04/20/senior-gru-leader-directly-involved-with-czech-arms-depot-explosion/

30 Masha Gessen, 'Inside Putin's propaganda machine', *New Yorker*, 18 May 2022. https://www.newyorker.com/news/annals-of-communications/inside-putins-propaganda-machine. On the influence of sensationalist figures such as Margarita Simonyan and Roman Babayan, see Robert Coalson, 'Military brainwashing: Russian state TV pulls out the stops to sell Kremlin's narrative on the war in Ukraine', *RFE/RL*, 29 March 2020. https://www.rferl.org/a/russia-ukraine-war-tv-brainwashing/31776244.html

31 *Agence France-Presse* (*AFP*), 'Separatists take down Ukrainian road signs in Mariupol', *France 24*, 6 May 2022. https://www.france24.com/en/live-news/20220506-separatists-take-down-ukrainian-road-signs-in-mariupol

32 Sabine Siebold, 'Moscow has deported 500,000 Ukrainians to Russia, Ukraine lawmaker says', *Reuters*, 20 April 2022. https://www.reuters.com/world/europe/moscow-has-deported-500000-people-russia-ukraine-lawmaker-says-2022-04-20/

33 For details, see Office for Democratic Institutions and Human Rights (ODIHR), Report on violations of international humanitarian and human rights law, war crimes and crimes against humanity committed in Ukraine since February 24, Organisation for Security and Cooperation in Europe, Warsaw, 12 April 2022. https://www.osce.org/resources/publications PDF link: https://www.osce.org/files/f/documents/f/a/515868.pdf

These activities by the Russian invading forces – which recall the forced population displacements and mass Russification of the Stalinist era – are further evidence that the war in Ukraine is unlikely to conclude soon. This is because it adds to the pressure on Zelenskyy to continue to prosecute Ukrainian counteroffensives, and to regard the expulsion of all Russian forces from Ukraine – including the Donbass and Crimea – as a precondition for the termination of hostilities. Hence both Putin and Zelenskyy have little incentive to conclude the war: for Putin, a swift end would be seen internationally and domestically as a major defeat; whereas for Zelenskyy Ukrainian successes coupled to the sense of outrage at the conduct of Russian forces makes it politically inadvisable to sue for peace now.

Certainly, a long and grinding conflict will be unpalatable for European elites who have sought to identify 'off-ramps' for Putin, which would bring the war to a speedier conclusion.[34] But such suggestions ignore the fact that thus far Putin has shown a complete disinterest in face-saving ways out. More importantly, it is the Ukrainian government, rather than the West, which has agency in the conflict, and it will ultimately have to live with any peace deal.

That said, it is also difficult to see whether a Ukrainian victory such as that described above would be possible, and what it would look like in practice. Russian forces are well ensconced in Crimea, and they have absolute control over the narrow peninsula connecting it the rest of Ukraine. For its part, Ukraine has no navy to speak of that would make a seaborne landing even physically possible, let alone stand any realistic prospect of success. And in the Donbass, it will be very difficult for a Ukrainian counteroffensive to push Russian forces too far back from the territory seized by its proxies in Donestsk and Luhansk in 2014, given that supply lines to Russia are much shorter, and advancing Ukrainian forces would be well in range of Russian military aviation operating on the other side of the border.

With both Moscow and Kyiv committed to military solutions to the conflict for the foreseeable future, the most likely outcome is a long and drawn-out struggle that leads eventually to both sides deciding to negotiate a compromise neither is happy with. The only realistic resolution to that scenario would be one of two, presently unlikely, eventualities – the collapse of the Ukrainian or Russian government. Effectively this means, like other conflicts launched by Russia, the situation in Ukraine seems destined to become a frozen conflict, which will add yet more enclaves and statelets around Russia that owe their existence and protection

34 See for example Tom McTague, 'Putin needs an off-ramp', *The Atlantic*, 14 March 2022. https://www.theatlantic.com/international/archive/2022/03/west-save-putin-russia-ukraine/627051/

to Russian patronage.[35] Ukraine, meanwhile, will be profoundly damaged as a state and society. Currently it is estimated that the war has cost Ukraine nearly USD600 billion, and is increasing at the rate of around USD5.5 billion in damage to buildings per week.[36] It is unlikely that Russia will be so weakened that it will be forced to bear that cost, so much of the reconstruction effort will fall to the West and to Ukrainians themselves, and will take decades to complete.

Implications: from local to global

What are the implications of Russia's invasion of Ukraine for Putin and Russia? For the European security order and the future of Russia–West relations? And for great powers more generally, including in the Indo-Pacific? In this last section, I turn to these questions. I note that doing so while the war is still ongoing is fraught with difficulty and ignores exogenous shocks, major reversals in fortunes and other potentially intervening variables. Hence any conclusions should be regarded as both tentative and reflective of a snapshot at the time of writing, in late May 2022. But there are some observable trends that, should the conflict play out the way suggested above, provide some lessons for the types of effects it might have.

The end of Putin?

Since the dramatic reversals Russia experienced on the battlefield, there has been a notable enthusiasm in the West that the war will bring about the end of Putin's regime. Yet while Putin himself has seemed a diminished figure since the invasion began, and rumours of his ill health have continued to circulate,[37] it is necessary to temper such views. For one thing, there is no sign that Russia is on the brink of revolution, either inspired from below or through some kind of palace coup from Kremlin powerbrokers.

Those at the top of the Russian 'power vertical' – including the *siloviki* (former members of the security services), leading defence figures and bureaucrats who are members of Kremlin clans – remain beholden to Putin and are fearful of both

35 Kenneth S Yalowitz, Dennis Corboy and William Courtney, 'Hitting the pause button: the "frozen conflict" dilemma in Ukraine', *Wilson Centre Kennan Institute*, November 2014. https://www.wilsoncenter.org/publication/hitting-the-pause-button-the-frozen-conflict-dilemma-ukraine

36 Madeline Halpert, 'Russia's invasion has cost Ukraine up to $600 billion, study suggests', *Forbes*, 4 May 2022. https://www.forbes.com/sites/madelinehalpert/2022/05/04/russias-invasion-has-cost-ukraine-up-to-600-billion-study-suggests/?sh=4a60e7dc2dda. See also Richard Partington, 'Russia's war in Ukraine causing GBP3.6 billion in building damage a day', *Guardian*, 4 May 2022. https://www.theguardian.com/world/2022/may/03/russias-war-in-ukraine-causing-36bn-of-building-damage-a-week

37 These reports are of course unconfirmed. See for example Joe Middleton, 'Vladimir Putin sparks more health rumours as coughing President covers up with blanket', *Independent*, 9 May 2022. https://www.independent.co.uk/news/world/europe/putin-health-rumours-russia-president-b2074827.html

him and the *Rovsgardia*, his 200,000 member-strong personal guard.[38] Russia's internal stability would have to deteriorate markedly or Putin suffer a medical emergency for such a move to be contemplated, let alone attempted. Even then, there is no guarantee that a successor to Putin from within the inner circle would be any friendlier to either Ukraine or the West.[39] At best, a post-Putin leader would be an arch-pragmatist; at worst, a brutal demagogue.

The prospects for a widespread popular uprising are also relatively remote. Russian propaganda around the inevitability of war against in Ukraine has been aided by a militarised society that Putin has cynically manipulated for years, recalling past heroic victories and rehabilitating some of its most brutal historical figures. In doing so, Putin has reconstructed the idea of Russia as the 'Third Rome'; a necessary great power that brings people (by force if necessary) from disparate ethnicities and identities under the one unifying civilisational imperative.[40] Paradoxically, for all its claims about de-Nazification in Ukraine, Russia's 'Z movement' and its nationalistic, xenophobic and anti-Semitic domestic discourse recalls the virulent dogma of past fascist regimes instead of its self-styled role as the innocent victim of Western encirclement.[41]

This is accepted by many Russians, even if those who endorse it overtly are doubtless far fewer in number than official pronouncements would have it.[42] Speaking out against Putin's regime is not just directly dangerous for those who do so: beyond the risk of beatings and incarceration, the Russian government's extensive levers of control allow it to threaten the social network of whole families, ostracising them from communities and denying them jobs, health care and schooling for their children. Under those circumstances, the prospects for a

38 Andrew Roth, 'Putin's security men: the elite group who fuel his anxieties', *Guardian*, 4 February 2022. On the origins and fortunes of the siloviki see for instance Tatiana Stanovaya, 'Three things the world should know about Putin', *Foreign Policy*, 27 January 2022. https://foreignpolicy.com/2022/01/27/putin-russia-ukraine-crisis-invasion/; Andrei Illiarioniv, 'Reading Russia: the siloviki in charge', *Journal of Democracy*, 2009, 20(2): 69–72; Ian Bremmer and Samuel Charap, 'The siloviki in Putin's Russia', *Washington Quarterly*, 2007, 84, pp 83–9; and Brian D Taylor, 'The power ministries and the siloviki', in Brian D Taylor, *State-Building in Putin's Russia*, Cambridge University Press, Cambridge, 2011, ch2. https://doi.org/10.1017/CBO9780511974144

39 Speculating about Putin's successor may be an entertaining parlour game, but making predictions is fraught with difficulty. On this point see for instance John Teft, 'Understanding the factors that will impact the succession to Vladimir Putin as Russian President', *RAND Perspectives*, July 2020. https://www.rand.org/pubs/perspectives/PE349.html

40 On the concept of the third Rome, which has become heavily associated with the Russian Far Right under Putin, see for instance Sergei Magaril, 'The mythology of the "Third Rome" in Russian educated society', *Russian Politics and Law*, 2012, 50(4): 7–34.

41 Timothy Snyder, 'We should say it. Russia is Fascist', *New York Times*, 19 May 2022. https://www.nytimes.com/2022/05/19/opinion/russia-fascism-ukraine-putin.html

42 Joshua Yaffa, 'Why do so many Russians say they support the war in Ukraine?', *New Yorker*, 29 March 2022. https://www.newyorker.com/news/news-desk/why-do-so-many-russians-say-they-support-the-war-in-ukraine

revolution from below are slim. A revolutionary movement would also struggle to enlist prominent members of the Russian elite, whose fortunes are tied to Putin and would be denied golden parachutes should a popular revolt be successful. Even prominent moderate voices in Russian foreign and security policy debates understand this, and have tempered their commentary to fall in line with the official position.[43]

European security

The likelihood of continuity rather than change in Russian domestic politics has its own implications for the European security order, and for the future of Russia–West relations. Essentially, it is difficult to see any kind of thaw emerging between NATO and Russia, or the EU and Russia, while the war in Ukraine continues. Though it has stopped short of direct involvement, the Biden administration has invested heavily in helping Ukraine to protect its sovereignty, including most recently approving the transfer of S-300 surface-to-air missile systems, as well as providing training to Ukrainian personnel on their use.[44] And with EU nations seeking to diversify away from reliance on Russian energy that has in the past been used against them as a strategic lever, it is much more likely that the Russia–West relationship will remain adversarial for the foreseeable future.

This will not be without its challenges for the stability of the European security order. Although Putin's reaction to the applications by Sweden and Finland for NATO membership has been tepid – lending weight to the thesis that Russia's war against Ukraine had less to do with the perceived 'threat' of NATO enlargement and much more to do with Putin's desire to recreate the geopolitical footprint of the USSR – an enlarged NATO will result in an extra 1,300 kilometres of border with Russia itself.[45] Careful management of that strategic space will be necessary against inevitable attempts by Moscow to provoke hostilities.

43 See for example the remarks of Dmitri Trenin, formerly of the (now banned) Carnegie Moscow Centre based on a speech he gave to the Council on Foreign and Defence Policy. Dmitri Trenin, 'Politics and circumstances', *Russia in Global Affairs* [website], 20 May 2022. https://globalaffairs.ru/articles/politika-i-obstoyatelstva/?fbclid=IwAR3jE2zANSa_VlrDXEA9HDiSyh3nmAC2x3PPbEAnIHk3mxW0tGdt4FizpQ0 An English summary is available on Twitter by the respected historian Sergei Radchenko. Sergei Radchenko (@DrRadchenko), 'Some weeks after Moscow-Carnegie sadly tanked, its former director Dmitri Trenin has a new piece', Twitter, 23 May 2022, 10.05pm, https://twitter.com/DrRadchenko/status/1528708763682844672?s=20&t=jd6sYcwFp2YWTxWrXNi4Vw

44 'Slovakia confirms Patriot, S-300 air defense systems are headed to Ukraine', *defensenews.com*, 9 May 2022. https://www.defensenews.com/global/europe/2022/04/08/slovakia-confirms-patriot-s-300-air-defense-systems-are-heading-to-ukraine/

45 Henry Ridgwell, 'Will Finland's 1,300-km border become NATO-Russia frontier?', *VOA News*, 12 May 2022. https://www.voanews.com/a/will-finland-s-1-300-kilometer-border-become-nato-russia-frontier-/6569130.html

A broader challenge for NATO and the EU will be to maintain a united front as the war drags on, for the sake of Ukraine's prospects and to contain further Russian adventurism. With the possible exception of the UK, Western European nations will need to resist the temptation to lapse into their previous postures, in which the costs of placating Putin were seen as less troublesome than containing him. A firmer EU and NATO stance will require increased military spending, ongoing trade embargoes and clearly articulated consequences for Moscow's bad behaviour. In part, this will be necessary for the EU to finally emerge as a security actor of consequence. But, it is far more critical given that the US will clearly not be able to absorb the same level of European free-riding on American security guarantees that it has in the past.

Great power implications and the Indo-Pacific

If the US is to advance its agenda of 'integrated deterrence' in balancing China's challenge to the established order in the Indo-Pacific, it will have less capacity to balance Europe against Russia as well. Repeated refusals by allies to burden share will add to domestic pressure for the US to do less rather than more, and will animate its internal debate about the relative benefits of deep engagement versus offshore balancing.[46] It will also fuel those voices – especially those associated with the Trump foreign policy line – who see security partnerships as purely transactional, and seek to abandon what they regard as costly American global and regional leadership roles.

For its part, the Chinese government has tried to carefully tread a middle path. It has sent rhetorical support, often amplifying Kremlin talking points, mixed with low-level signals of displeasure to Moscow.[47] On the normative level, Russian behaviour sits uncomfortably with Xi Jinping's assurances that China firmly upholds the principle of non-intervention. The 'no limits' partnership,[48] announced between Beijing and Moscow just prior to the start of hostilities in Ukraine, puts China in the awkward position of having to back a regime that has demonstrated a propensity for invading the states surrounding it. Should Moscow escalate further, China may find itself in a neutrality trap where it becomes the target of Western opprobrium for not doing more to end the war.

46 On this debate, which began over a decade ago, see for instance Eric Edelman, *Understanding America's contested primacy*, Centre for Strategic and Budgetary Assessments (CSBA), Harvard Kennedy School, Belfer Centre for Science and International Affairs, 2010. https://www.belfercenter.org/publication/understanding-americas-contested-primacy

47 Michael Schuman, 'China's Russia Risk', *The Atlantic*, 9 May 2022. https://www.theatlantic.com/international/archive/2022/03/xi-putin-friendship-russia-ukraine/626973/

48 Anastasia Kapetas, 'Russia and China's "No Limits" partnership tested over Ukraine invasion', *ASPI Strategist*, 8 March 2022. https://www.aspistrategist.org.au/russia-and-chinas-no-limits-partnership-tested-by-ukraine-invasion/

Moreover, the strengthening of Western resolve in Europe runs counter to the central objective of China's challenge to what it sees as US hegemony, which is to weaken established structures of Western order through bilateral inducements such as the Belt and Road Initiative. At the same time though, doubtless Beijing also realises that its interests are best served by a longer war in Ukraine, which simultaneously weakens Russia and draws US attention and resources away from strategic competition in the Indo-Pacific.

Conclusions

As is so often the case for those who start wars based on bad information and assumptions, Putin's invasion of Ukraine has not produced the rapid victory he anticipated. Through a series of miscalculations, Putin's carefully curated image as a master strategist has been badly dented. In seeking to recapture old Russian glories through conquest he has managed to enlarge NATO even further; cripple his economy; weaken his conventional forces and reveal their poor capabilities and doctrine to the world in the process. A previously fragmented West has been nudged towards a more united position, and Putin has made Russia more beholden to its senior Chinese partner in the future. Finally, he has ensured the lasting enmity of the Ukrainian people.

That is certainly an impressive set of failures. But it does not mean that the war in Ukraine is over, we should prematurely celebrate the end of Putin and Putinism, or have false confidence in an overwhelming Ukrainian victory. Having performed militarily so poorly Putin's options are now all bad. Hence, his main incentive is to continue the war for the foreseeable future in order to be able to fashion a domestically saleable 'victory'. If this is to be remotely credible, it will need to go further than territorial gains and also include the considerable destruction of Ukrainian infrastructure, making its reconstruction the West's problem. Meanwhile, realising that Russia is unlikely to change of its own volition, the transatlantic security community will require a new unity of purpose and decisive strategy – based on power rather than platitudes – to blunt Russian ambitions. Ideally, this would allow the US the luxury of being the final arbiter over regional security challenges rather than the assumed first responder. Having vacillated for so long on the 'Russia question', it is therefore now incumbent on both the EU and NATO to finally assume the mantle of managing the European order rather than conveniently leave it to others.

Military strategy fundamentals

Peter Layton

The phrase 'military strategy' in this article's title might be a tautology for some, as strategy originally concerned the art or skills of the general.[1] However, today, strategy is applied across almost all areas of society with the field of business strategy arguably more vibrant than that of contemporary military strategy. Given such common usage, adding an adjective to 'strategy' is now essential to aid comprehension. Adding an adjective has also become necessary as the idea of grand strategy has become more widely used.[2]

Grand strategy is conceived as sitting hierarchically above various subordinate strategies that it informs and integrates. These subordinate strategies are frequently titled using Harold Laswell's fourfold division of a nation's major instruments of national power into diplomatic, information, military and economic (DIME).[3] This is the basis both of the well-known DIME acronym used at defence staff colleges worldwide, and of diplomatic strategy, information strategy, military strategy and economic strategy being regularly used terms.

This article focuses on the idea of military strategy. The first section discusses four fundamental characteristics of military strategy and the second applies these to Operation Iceberg, the capture of Okinawa in the largest joint operation in the Pacific during the Second World War. This historical case of almost 80 years ago involved American forces in a great power war against a major north-east Asian nation. The strategic-level experiences of that time may have some resonances in contemporary strategic thinking about worst-case, regional contingencies.

1 Beatrice Heuser, *The Evolution of Strategy: Thinking War from Antiquity to the Present*, Cambridge University Press, Cambridge, 2010, p 4.

2 Peter Layton, 'The idea of grand strategy', *The RUSI Journal,* 2012, 157(4):56–61.

3 Harold D Lasswell, *Politics: Who Gets What, When, How*, McGraw-Hill, New York, 1958, pp 204–05.

Four fundamental characteristics

Strategy is simply a methodology able to be used to solve specific types of problems. These are problems where an objective – an endpoint – can be defined. The strategy adopted may not succeed, but the intention is to try to achieve this desired outcome. Western thinking since Carl von Clausewitz has stressed military force is used to achieve political outcomes; 'the political object is the goal, war is the means of reaching it'.[4] Taking action to achieve a defined endpoint is the first fundamental characteristic of military strategy.

The objective in a strategy (as specifically relates to armed conflict) is accordingly best expressed in terms of politics. The field of politics between states has been examined for decades within the academic discipline of international relations (IR). Its language, concepts and theories, developed over many years, can be used to assist defining strategic ends.

There was an important modifier articulated by British strategist Basil Liddell-Hart, who held that the aim of war should be a better peace.[5] The political object is not just the return to the *status quo ante*, as this led to the war in the first place. Military strategy should seek the peace beyond, not the war in itself. Clausewitz noted: 'The political object…will thus determine…the military objective to be reached.'[6]

In recent years, Western states have had great difficulty in defining the desired endpoints of the various conflicts entered into in the greater Middle East. However, strategy is an inappropriate problem-solving methodology if the objective cannot be defined with sufficient clarity to guide military actions. In such circumstances, better approaches may be those that respond to events and do not try to shape the future.

An example is risk management, which tries to limit losses to an acceptable level if some specific feared threat eventuates. This is the logic underlying the views that perceive defence forces as insurance policies to be 'cashed in' if national security is seriously threatened. Another approach is opportunism: where states take advantage of events, exploiting sudden windows of opportunity that open. Both approaches are valid if ends cannot be reasonably defined. In this, they both require having the right means available at the right time to be able to adequately respond when called.

4 Carl von Clausewitz, *On War* (Michael Howard and Peter Paret eds trans), Princeton University Press, Princeton, 1984, p 605.

5 B H Liddell-Hart, *On Strategy*, 2nd rev edn, Faber and Faber, London, 1967, p 338.

6 Clausewitz, *On War,* p 81.

To illustrate with a contemporary case, a strategy might be an appropriate approach to defeat a specific terrorist group like Islamic State; sensible 'ends' could be devised. Terrorism in general though cannot be addressed using strategy. Terrorism is a tactic any hostile non-state group could potentially use in the future and so specificity in ends sought is impossible. Risk management – that is trying to diminish the impact terrorism might have at some future time – becomes a more sensible approach to adopt.

In this, the desired endpoint depends on the context. As the old maxim declares: the enemy gets a vote. This highlights the second fundamental characteristic of military strategy: it involves interacting with intelligent and adaptive others, whether friends, neutrals or adversaries. This social interaction, however, is of a particular kind.

Each party involved continuously modifies their position, intent and actions based on the perceptions and actions of the others participating. These interactions 'are essentially bargaining situations…in which the ability of one participant to gain his ends is dependent …on the choices or decisions the other participant will make.'[7]

In operation, a strategy constantly evolves in response to the other actors, each implementing their own countervailing or supportive strategies. Edward Luttwak termed this 'the paradoxical logic of strategy', where successful actions cannot be repeated as the other party adapts in response to ensure the same outcome cannot be gained in this way again.[8] Strategy is simply a particular form of interactive social activity where victory comes from bargaining with those involved.

This attribute reveals the difference between a strategy and a plan. The objects of a strategy actively try to implement their own strategies, changing and evolving as necessary to thwart efforts made to impede them. In a strategy, all involved are actively seeking their own ends. In contrast, in a plan all involved are working towards the same objective; they do not have their own countervailing goals. Plans are not 'essentially bargaining situations'.

And so, to the third fundamental characteristic of military strategy: it is just an idea. In an oft-used model, Art Lykke deconstructed the art of strategy into ends, ways and means where the 'ends' are the objectives, the 'ways' are the courses of actions and the 'means' are the instruments of national power (in this article

7 Thomas C Schelling, *The Strategy of Conflict,* A Galaxy Book, Oxford University Press, New York, 1963, p 5.

8 Edward N Luttwak, *Strategy: The Logic of War and Peace,* Belknap Press, Cambridge, 1987, pp 7–65.

in the form of military power).[9] The 'means' are used in certain 'ways' to achieve specific 'ends'. All three parts are important; yet some people err in trying to simplify this even further.

Some conceive of strategy as being solely a balance between ends and means. Some declare: 'strategy is simple: it is the process by which a state matches ends to means.'[10] In the industrial era then, victory would be assured through fielding greater mechanised forces. In today's information technology era, victory would go to the actor fielding greater information technology (to get inside other's OODA loops no less).[11] In this perspective, great *means* leads directly to great victories.

Historically, nations with great means have often found it surprisingly difficult to convert these into achieving their desired ends.[12] Given its great means, the US should have been readily able to achieve its objectives in Afghanistan after 2001, in Iraq after 2003 or in the 1960–70s in South Vietnam, Laos and Cambodia. The poor outcomes actually achieved suggest strategy is more than the simple balancing of ends and means. The ways also need deep consideration. Sir Lawrence Freedman nicely phrases this in observing that strategy is 'about getting more out of a situation than the starting balance of power would suggest'. [13]

Good strategy involves an astute course of action, a shrewd 'way', that is additive to the available power; the impact of the means is then magnified. In contrast, poor strategy subtracts from the available means; it destroys the power you have. This might all be simplified into Ends = Ways + Means, albeit it is essential to recall the inherent impossibility of actually summing unlike objects.

The formula highlights that if a strategy fails it may not be solely due to inadequate means; there could be shortcomings in the ways the means are used as well. If the means are meagre, the ends may still be achievable through using the means in clever ways without needing to adjust the ends downwards. Freedman continues:

9 Jr. Arthur F. Lykke (ed), *Military Strategy: Theory and Application*; US Army War College, Carlisle, 1989, pp 3–9. Harry R Yarger, 'Toward a Theory of Strategy: Art Lykke and the Army War College Strategy Model', in J Boone Bartholomees Jr (ed), *US Army War College Guide to National Security Policy and Strategy,* 2nd ed, Carlisle Barracks: Strategic Studies Institute, June 2006, pp 44–45.

10 Christopher Layne, 'Rethinking American grand strategy: hegemony or balance of power in the twenty-first century?', *World Policy Journal*, Summer 1998, 15(2):8.

11 OODA is an acronym for Observe-Orient-Decide-Act devised by John Boyd. See: Chet Richards, 'Boyd's OODA Loop', *Necesse*, 2020, 5(1):142–165.

12 Critics of this power-as-resources model decry this as a 'vehicle fallacy'. David Macdonald, 'The power of ideas in international relations', in Nadine Godehardt and Dirk Nabers (eds), *Regional Powers and Regional Orders,* Routledge, Abingdon, 2011, p 34.

13 Lawrence Freedman, *Strategy: A History,* Oxford University Press, Oxford, 2013, p xii.

> underdog strategies, in situations where the starting balance of power would predict defeat, provide the real tests of creativity. Such strategies often look to the possibility of success through the application of a superior intelligence which takes advantage of the boring, ponderous, muscle-bound approach by those who take their superior resources for granted.[14]

Strategy is the ways in Lykke's formula. It sets out the causal path to victory. Strategy explains how the means will be used in terms of how this leads to the defined political objective. Strategy is an idea but one with a defined purpose.

The final characteristic is often neglected: military strategies have a finite life. There is sometimes a perception that strategies are simply set-and-forget, which once started continue unchanged for an indefinite but protracted period. This is a serious misunderstanding; strategies should remain dynamic throughout their life.

A strategy fundamentally involves interacting with intelligent others, all seeking their own objectives. A strategy as first conceived will inevitably decline in effectiveness and efficiency over time as others take actions that oppose it, either deliberately or unintentionally. Moreover, the complex environment within which strategies operate remains continually evolving and changing.

Strategies should be continually adjusted to meet the ever-changing circumstances. In this way, they then have a distinct life cycle: strategies arise, are purposefully evolved through learning and then at some point finish. A strategy may finish when it reaches its desired objective, although an earlier termination may be as likely given a strategy is characterised by interaction with intelligent and adaptive others. Minor adjustments can only go so far to address steadily changing situations and eventually the extant strategy may reach a point at which its utility is less than its costs.[15]

Clausewitz's notion of a culminating point captures this idea.[16] At some time in its life cycle a strategy will reach a culminating point where it has achieved the greatest effect for the effort expended. Beyond this point, greater efforts will yield diminishing effects and bring only marginally greater benefits.

There are two broad alternatives when a strategy reaches its culminating point. The strategy may be terminated, with a careful transition to a replacement strategy or some other approach. Conversely, the strategy may be continued if there are reasonable expectations it will still achieve the desired objectives. The

14 Freedman, *Strategy: A History*.

15 A strategy may though also reach such a point of diminishing returns because of poor implementation not just due to the original conception losing effectiveness.

16 For Clausewitz, an offensive strategy continued until it could no longer advance and then the strategy needed to transition to the defensive. Clausewitz, *On War*, p 528.

focus may then move to optimising the strategy's effectiveness and efficiency to shift its culminating point further into the future.

Operation Iceberg: capturing Okinawa

The four fundamental characteristics of military strategy – having defined ends, interdependent interaction between those involved, being simply an idea and having a life cycle – can be further appreciated in a case of military strategy in practice: the three-month operation from April to June 1945 to capture from Japan the island of Okinawa in the Ryukyu Island chain south of the Japanese home islands. The possibility of such an operation had been a feature of American war plans since 1906.

When the Russo-Japanese war (1904–06) ended, President Theodore Roosevelt inaugurated what became War Plan Orange, a contingency plan for a future American war against Japan. Plan Orange went through many iterations as the context evolved, Japanese force structure changed and new technologies emerged. Even so, the basic military strategy remained the same: pushing across the central Pacific, capturing various well-placed islands as fleet bases, including in the Ryukyu Island chain, and culminating in severing Japan's sea lines of communications. A negotiated peace was then assumed to shortly follow.

This was a military strategy of unlimited economic war where the US Navy would strangle Japan, bringing about 'complete commercial isolation' and leading to 'eventual impoverishment and exhaustion.' There are echoes here of Operation Anaconda during the American Civil War (1861–65) when the USN strangled Confederate merchant ship trade. This was unsurprising as in 1906 that was the big war that USN planners remembered and looked back to for guidance.[17]

The military strategy was continually refined in numerous war games, gradually being incorporated into the USN's and US Marine Corps' (USMC) strategic culture. Military capability and capacity development was driven by the demands of the envisaged transoceanic strategy, particularly in terms of developing a fleet supply train, including refuelling at sea. Major General Ben Hodge, Commander of the XXIV Army Corps at Okinawa, referred to the battle as '90% logistics and 10% fighting.'[18] Of equal import was the USMC's concentration on developing

17 Edward S Miller, *War Plan Orange: The US Strategy to Defeat Japan, 1897–1945,* Naval Institute Press, Annapolis, 1991, p 28.

18 Major General Ben Hodge, 12 April 1945, Interview with LTC Stevens, Army Historical Division, National Archives College Park.

the tactical expertise, doctrine and technology for opposed landings; in the interwar period this focus was unique amongst major powers.[19]

When the Plan was eventually implemented after the December 1941 Pearl Harbor attack, to a considerable extent the US armed forces simply needed expanding; albeit, Japan was a clever enemy and the military strategy needed constant adjustment. Admiral Chester Nimitz, for the invasion the Commander-In-Chief Pacific Fleet, famously stated that the war unfolded just as the Plan Orange war games had predicted.[20] This might be overstating matters a little in the specific case of the invasion of Okinawa.

The USN was surprised by the Kamikazes, the manned forerunner of the modern anti-ship missile, which sank more than 30 ships and damaged another 350 or so. For the time, USN warships had leading-edge air defence technologies that were highly effective but the Japanese counter to them was simply unimaginable to pre-war planners. Moreover, the logistics supply train was stretched to the limit because of conflicting demands elsewhere in the Pacific and Europe. Some consider the consequent supply shortages contributed to the battle being protracted, with subsequently high US causalities.

The US Army and USMC land force units were similarly surprised that Japanese forces adopted a military strategy of defence-in-depth rather than the previously employed military strategy of beachhead defence, which included 'bamboo spear' tactics and nocturnal Banzai charges.[21] Japan had learned from earlier battles and inflicted many more casualties on attacking US military forces than previously. On the other hand, Japanese forces were surprised that US land forces rarely attacked at night, as the Japanese found this hard to counter.[22]

At the higher strategic level, matters were somewhat more confused. The USN focused on implementing Plan Orange even though it was without a compelling causal path to explain how Japan losing control of the sea would necessarily lead to victory. Regardless, the Okinawa invasion by the USN submarine fleet combined with airborne mining and maritime air attacks had already achieved the required sea dominance. While the original pre-war strategy called for the Ryukyu Islands to be taken, technological developments now made the invasion unnecessary if the original economic strangulation 'way' was still sought. In the Navy's defence however, the war plans assumed that strangling Japan would

19 Williamson Murray and Alan R. Millet (eds), *Military Innovation in the Interwar Period*, Cambridge University Press, Cambridge, 1996, p 59.

20 Miller, *War Plan Orange*, p 2.

21 G Vance Corbett, *Operation Iceberg: Campaigning In The Ryukyus,* Naval War College, Newport, 1998, p 10.

22 Corbett, *Operation Iceberg*, p 22.

lead to a negotiated peace – not an unconditional surrender – and only after a long while.[23]

The US Army's way to gain victory was based upon a large-scale land battle to defeat the Japanese Army on the Tokyo plains, impose their will upon the enemy and achieve an unconditional surrender. Clausewitzian in approach, the Japanese Imperial Army thought the same – except they would win the large-scale battle, and the American public would lose interest and give up. The US Army did need the Ryukyu Islands captured in order to turn them into a forward mounting base to support such a way. The problem was that this was now anticipated to possibly cost between 1.7 and 4 million American casualties including 400,000 to 800,000 killed, and 5 to 10 million Japanese deaths. Many Americans, including the President, lacked enthusiasm for this.[24]

The US Army Air Force's (USAAF) 'way' to gain victory was different again. Air power would destroy Japan's ability and will to resist. By the Okinawa invasion the USAAF was undertaking large-scale city raids, having to divert bombers from this to provide tactical support for Operation Iceberg. The USAAF did not need the Ryukyu Islands captured for their way.[25] The USAAF way was no easy path to victory. American and Japanese studies estimated some 500,000 Japanese died (including the two atomic attacks) although there is robust disagreement over totals.

In the end, two atomic bombs made a Japanese home island invasion unnecessary.[26] They addressed the Plan Orange strategy's defect of how to translate maritime trade strangulation into a quick surrender. At least, the Japanese emperor believed the bombs were decisive. In his speech to the Japanese people, he declared that the: 'cruel bombs … kill and maim extremely large numbers … To continue the war further could lead in the end to … the extermination of our race … [surrendering] would open the way for a great peace'.[27]

Even so, Operation Iceberg killed 12,000 Americans, 110,000 Japanese military and around 100,000 Okinawans (mostly civilian). The invasion was necessary for victory only if the US Army's way was followed.

23 Miller, *War Plan Orange,* pp 366–368.

24 Figures from a study undertaken for Secretary of War Henry Stimson. See: Richard B Frank, *Downfall: The End of the Imperial Japanese Empire*, Random House, New York, 1999, p 5.

25 Haywood S Hasell, *Strategic Air War Against Japan*, Air War College, Alabama, 1980, p 91.

26 An alternative view is given in Hibiki Yamaguchi, Fumihiko Yoshida and Radomir Compel, 'Can the Atomic Bombings on Japan Be Justified? A Conversation with Dr. Tsuyoshi Hasegawa', *Journal for Peace and Nuclear Disarmament*, 2019, 2(1):19–33.

27 Emperor Hirohito's speech of 15 August 1945 quoted in John W Dower, *Embracing Defeat: Japan in the Aftermath of World War II*, Penguin Books, London, 1999, p 36.

On the other hand, some argue that such losses made clear to American military and political leaders that invading the home islands would be a most difficult operation. The benefits of unconditional surrender – like that achieved in Europe against Germany halfway through Operation Iceberg – started to look less appealing when weighed against the potential costs. A negotiated peace became more attractive, and this was explicitly offered in the Potsdam Deceleration on 26 July 1945, which included a subtle implication that the emperor might be retained.[28]

The four fundamental characteristics of military strategy were discussed earlier: defined ends; interdependent interaction between all involved; being simply an idea, the 'ways' in 'ends, ways and means'; and having a lifecycle where strategy arises, evolves through learning and finishes.

While Plan Orange outlined the way Japan would be defeated, it was vague about the better peace that would result. There were no thoughts of dismemberment, rather a more fuzzy understanding that the negotiated victory would reintegrate a now-peaceful Japan into the regional economic system. By the time the Pacific War started though, America and Great Britain had agreed in the 1941 Atlantic Charter to a relatively well-defined better peace that would result.

In the language of IR, this was a vision of an institutionalised peace that bought order, prosperity and legitimacy.[29] Similar to today's rules-based order, 'better peace', the institutionalised peace sought in the Second World War was different because it was built around people being free to decide their governments themselves. In contrast, the rules-based order advocated today considers authoritarian states as equal to democracies in the establishment and application of the rules.

War Plan Orange was weak on what happened in the endgame, which partly explains why the US Navy, Army and Army Air Force drifted into seemingly fighting separate wars albeit assisting each other as needed. The military strategic ends were not closely integrated with the ways and as American forces neared Japan this became progressively more troublesome.

The accidental atomic victory proved congruent with the desired ends. The Plan Orange military strategy was now replaced by another different strategy, which aimed to guide Japan's recovery from the war towards mutually acceptable

28 Akira Iriye, *Power and Culture: The Japanese–American War 1941–1945*, Harvard University Press, Cambridge, 1981, pp 248–264.

29 Elizabeth Borgwardt, *A New Deal for the World: America's Vision for Human Rights*, Belknap Press, Cambridge, 2005, p 5.

outcomes.[30] The Plan Orange military strategy finished with the military victory over Japan but there was another strategy waiting in the wings to replace it.[31]

The other characteristics of military strategy can be appreciated in this discussion: the strategy evolved under wartime demands; the strategies in play were simply ideas, as Plan Orange ran out of steam and its lack of a compelling causal path to victory became apparent there were several competing ideas, and finally the Plan Orange strategy had a definite lifecycle: it finished and was replaced.

Military strategy is an intellectual tool to solve certain types of problems – but not all. The four fundamental characteristics discussed provide the bare bones on which to build. Making military strategy is important and consequential in times of both peace and war, as Operation Iceberg revealed. Moreover, it drives defence force development, doctrine and tactics. As Clausewitz realised, military strategy is fundamental to victory, the ultimate purpose of a nation's armed forces.

30 Iriye, *Power and Culture*, pp 266–267.

31 John W Dower, *Embracing Defeat,* pp 65–84.

The impact of COVID-19 on the recruitment of Army Health officers

Liz Daly

Introduction

The Australian Defence Force (ADF) has a moral, ethical and legal obligation to provide its members with first class healthcare support, commensurate with civilian best practice wherever possible, whether non-deployed, mobile, afloat or deployed.[1] The restructure of Army Health, implemented from January 2022, will see an increase in the provision of health support to ADF personnel including the establishment of a second field hospital unit in Adelaide and additional health companies across Australia.

This restructure is a positive move in increasing the capability of the ADF to provide timely and adequate health support across the various areas of operations. However, there will be a number of logistical challenges such as procurement, allocation of equipment and recruitment of additional clinicians. An added and unforeseen complexity to this restructure is the potential impact that COVID-19 will have on the recruitment of Army Health officers.

Before the COVID-19 crisis, the Australian healthcare system faced challenges with maintaining sufficient numbers of experienced health professionals and carers to meet the growing demands of an ageing population and increases in chronic disease.[2] The impact of the pandemic has resulted in a number of short-term and long-term pressures on healthcare systems worldwide, especially with demands on services exceeding capability. In attempting to address staffing shortfalls, long-term problems may arise, including how to retain a workforce at increased risk of COVID-19 exposure and infection and increased mental health risks.

1 JP2060 Phase 4 – ADF Health Knowledge Management System, dated September 2018.

2 Helen Burns, Ben Hamer and Angi Bissell, *COVID-19: Implications for the Australian Healthcare Workforce*, PwC Australia, 2 April 2020. Available at https://www.pwc.com.au/important-problems/business-economic-recovery-coronavirus-covid-19/australian-healthcare-workforce.html

Purpose

The purpose of this commentary is to identify the implications that COVID-19 will have on the recruitment of Army Health officers and the subsequent impact this may have on providing effective health support to ADF personnel if appropriate mitigations are not employed. This will include an analysis of the Australian healthcare system and its proposed mitigations to address the national shortage of clinicians.

Background

COVID-19 was officially declared a pandemic on 11 March 2020 by the World Health Organization (WHO). The causative virus is designated as severe acute respiratory syndrome coronavirus (SARS-CoV-2) and patient responses vary widely from asymptomatic to requiring hospitalised ventilation. Frontline healthcare workers have been required to continually put themselves at risk of exposure of this highly contagious disease.

As a measure to protect the nation, the Australian Government rapidly enacted a number of biosecurity measures and travel restrictions. This included closing the Australian borders in March 2020; for two years the only people permitted to travel to Australia were Australian citizens, permanent residents and immediate family members. Quarantine requirements resulted in caps on arrivals each week, which, when combined with limited flights, created a backlog of Australian citizens seeking to return home. The border closure to non-citizens and residents was not lifted until February 2022.

Impact on the Australian health workforce

Due to the rapid spread of COVID-19, there was limited surge planning in place to address the impact on the Australian healthcare workforce. As noted in the WHO technical guidance, *Strengthening the Health System Response to COVID-19*, surge capacity can be enhanced through a variety of measures, including repurposing and mobilising the existing workforce, changing working patterns, bringing inactive or retired health professionals back to the workforce, calling on volunteers, and mobilising non-governmental and private sector workforce capacity.[3]

Within Australia, in an aim to slow the spread of the virus and to relieve the stress on civilian hospitals, lockdowns and restrictions on numbers of people

3 World Health Organization, *Strengthening the Health System Response to COVID-19: Maintaining the Delivery of Essential Health Care Services while Mobilizing the Health Workforce for the COVID-19 Response. Technical Working Guidance #1*, Document number: WHO/EURO:2020-669-40404-54161, WHO Regional Office for Europe, Copenhagen, 18 April 2020. Available at https://apps.who.int/iris/handle/10665/332559

congregating were introduced. However, increases in positive COVID-19 cases and hospitalisation rates required further measures be introduced, including the cancellation of non-essential medical procedures in order to reallocate clinicians to the frontline.

The ADF were tasked with providing support in aged care homes, hospitals, testing sites and vaccination centres and to occupy headquarter roles as part of the national effort. The support provided by the ADF was not just to meet the increased demand in acute and emergency healthcare settings, but also to increase testing, monitoring and surveillance capacity. This helped to ensure that essential services across all settings could be maintained.[4]

A major impact of COVID-19 has been burnout of healthcare staff due to the stress of working overtime in arduous conditions, including the constant wearing of personal protective equipment. This burnout has further limited the availability of staff. The Australian Government adopted several measures to address this including border exemptions for clinicians from the UK and Ireland to work in Australia, recalling retired clinicians, short-term contracts with weekly bonuses to work in remote areas and upskilling nurses to work in intensive care units (ICU).

A study conducted by the Australian and New Zealand Intensive Care Society in August 2021 found that Australia had 200 fewer ICU beds than in March 2020. Reduced staff numbers caused by work restrictions, leave, redeployment to other pandemic activity, cancellations of surgery and active re-development of ICU infrastructure have led to closure of a number of these ICU beds.[5]

The pre-COVID ratio of full-time nurses to critically ill ICU patients was 1:1. This critical care nurse-to-patient ratio must be maintained in ICUs, and the availability of trained nursing staff is consequently rate-limiting.[6] However, as the ICU capacities began to increase, combined with shortages of nurses from burnout, diagnosis of COVID-19 or requirements to quarantine, hospitals began to struggle to meet this minimum. As a result, the professionally accepted ratio of clinicians to patients was suspended to meet the decline in health workforce numbers.

4 Gemma A Williams, Claudia B Maier, Giada Scarpetti, Antonio Giulio de Belvis, Giovanni Fattore, Alisha Morsella, Gabriele Pastorino, Andrea Poscia, Walter Ricciardi and Andrea Silenzi, 'What strategies are countries using to expand health workforce surge capacity during the COVID-19 pandemic?', *Eurohealth: Quarterly of the European Observatory on Health Systems and Policies*, 2020, 26(2):51–57. Available at https://www.lse.ac.uk/lse-health/publications/eurohealth

5 Edward Litton, Sue Huckson, Shaila Chavan, Tamara Bucci, Anthony Holley, Evan Everest, Sean Kelly, Steven McGloughlin, Johnny Millar, Nhi Nguyen, Mark Nicholls, Paule Secombe and David Pilcher, 'Increasing ICU capacity to accommodate higher demand during the COVID-19 pandemic', *The Medical Journal of Australia,* 2021, 215(11):513–517. https://doi.org/10.5694/mja2.51318

6 Litton et al., 'Increasing ICU capacity to accommodate higher demand during the COVID-19 pandemic'.

Worldwide shortage

Nurses make up 59 per cent of the world's health workforce. The International College of Nurses estimates there is a global shortage of 5.9 million nurses and, within Australia, there are currently more than 12,200 vacant nursing positions.[7] At the start of the pandemic, Australia had 337,000 registered nurses and on average, registered 20,000 new nurses each year from Australian training institutions. These newly registered nurse figures include a high number of healthcare migrants. Figures provided by the Australian Nursing and Midwifery Federation show that skilled migrants make up 21 per cent of all newly registered nurses. The impact of the border closures has not only affected the current health workforce but also will have impacts in the mid to long-term.

Other health workforce positions affected by COVID-19 include psychologists and mental health clinicians. This is attributed to delays in training, an increase in demand and impacts from border closures. Australia has 3,615 psychiatrists, 28,412 psychologists and 24,111 mental health nurses.[8] To meet the increased demands, Australia would need to double the number of psychiatrists, psychologists and mental health nurses or introduce an amended scope of practice that would enable provisional psychologists to practise.

Psychological impacts

Adding to the existing low health workforce numbers, the impacts of COVID-19 on clinicians' mental health has also affected staffing levels. As early as April 2020, the COVID-19 pandemic was associated with substantial psychological distress, including anxiety and burnout, among Australian healthcare workers.[9] A Deakin University study on the effects of COVID-19 found that clinicians working on the frontline in Australia experienced a considerable amount of psychological distress. Nurses and midwives reported more severe symptoms of anxiety than doctors and allied health staff, and their mental health scores were significantly worse than the general Australian population norm.[10]

7 Chip Le Grand, 'Plan to bring thousands of nurses and doctors into "Fortress Australia"', *Sydney Morning Herald*, 9 October 2021. https://www.smh.com.au/national/plan-to-bring-thousands-of-nurses-and-doctors-into-fortress-australia-20211008-p58yf0.html

8 Australian Institute of Health and Welfare (AIHW), *Mental Health Services in Australia, Mental Health Workforce 2019*, AIHW: Australian Government, data last updated July 2021. https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia/report-contents/workforce

9 Hannah Dobson, Charles B Malpas, Aidan J Burrell, Caroline Gurvich, Leo Chen, Jayashri Kulkarni and Toby Winton-Brown, 'Burnout and psychological distress amongst Australian healthcare workers during the COVID-19 pandemic, *Australas Psychiatry*, February 2021, 29(1): 26–30. http://doi.org/10.1177/1039856220965045

10 Judy Baulch, *Revealing the Impact of COVID-19 on Our Healthcare Workers*, Institute for Health Transformation: Deakin University, 4 June 2021. https://iht.deakin.edu.au/2021/06/revealing-the-impact-of-covid-19-on-our-healthcare-workers/

The pandemic has placed a heavy burden on all healthcare workers and many are now indicating they intend to leave the industry. A survey by the International Council of Nurses (ICN) found that 20 per cent of National Nurses Associations reported an increased rate of nurses leaving the profession in 2020. As a result, ICN have estimated that, globally, the nursing workforce alone could hit a shortfall of 13 million by 2030.

Impact on recruitment for Army Health officer roles

The impact on recruitment for the ADF during COVID-19 has been mixed. After the first lockdown was announced in March 2020 Australia experienced its highest ever one month increase in the unemployment rate. This initially had a positive impact on recruitment for the ADF across a wide range of different trades (primarily general entry roles). The unemployment rates, as well as a general decline in wages and part-time work, postured the ADF to be seen as an ideal employer, due to its constant provision of employment and competitive pay and benefits.

However, demand in a number of occupations grew due to the pandemic, and Defence will continue to face significant pressure when seeking to recruit individuals with related skillsets into Defence positions.[11] This is most pertinent in the recruitment of Army Health officers. The Australian health workforce is already under-resourced and this will be further eroded for the next few years due to impacts on overseas migration.

Army Health roles were identified as a priority for recruitment prior to the pandemic and, as the demand in the civilian health workforce increases, there will be further pressure on filling these roles. The increase in health positions as a result of the Army restructure, combined with existing vacancies within the service category (SERCAT) 7 Army Health workforce, will require the ADF consider some interim adjustments to how recruitment is conducted.

Current employment state of Army Health officers

Within the SERCAT 7 workforce there are existing vacancies across medical officers, nursing officers and psychology officers (Table 1). These three roles are key to the provision of health effects for the ADF and each had an increase in separation rates in 2020–2021. Of note is that these separation rates are higher than the current separation rate for all Army officer roles which is 7.4 per cent.[12]

11 James Plummer and Sayan Chakrabarty, *Impact of COVID-19 on the Defence Workforce*, 1st edn, Directorate of People, Intelligence and Research: Department of Defence, 2020. Not publicly available.

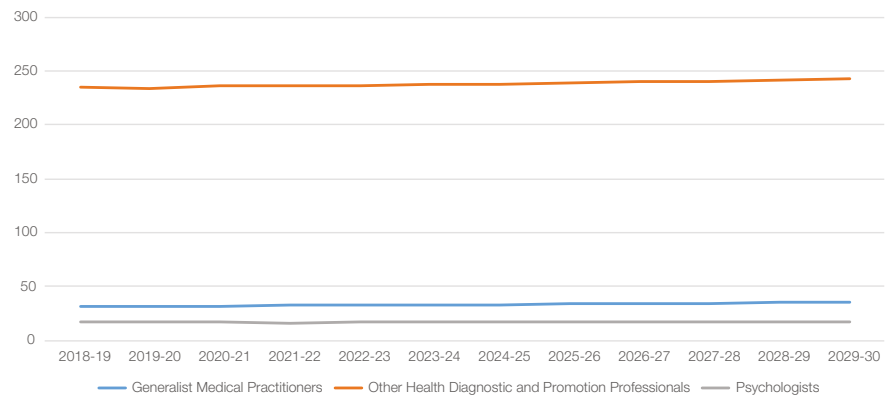
12 Baulch, *Revealing the Impact of COVID-19 on Our Healthcare Workers*.

Table 1: State of SERCAT 7 Army Health officers as at 1 October 2021.
Retrieved from 211013 – Complete Officer Report on Defence Protected Network.

Role	Vacancies	Separation rate – last 12 months	Separation rate – last 3 years
Medical Officer	9	11.8	8.5
Nursing Officer	20	11.7	8.9
Psychology Officer	15	15.5	13.6

A number of reviews and initiatives have been conducted to address these separation rates. These have resulted in a significant increase in remuneration for medical officers and the introduction of nursing officer specialisation levels. However, if these separation rates continue to increase and are coupled with a dwindling pool of civilian health workers from which to recruit, Army Health faces a significant impact on operational capability due to an inability to provide health support commensurate with the need of the ADF's operational, training and garrison health support.

Figure 1: Ratio of domestic skills available to employment (forecast).[13]



Forecasting undertaken immediately prior to the onset of the pandemic suggested that the domestic supply of health qualifications would be essentially static relative to employment over the next decade (Figure 1).[14] Medical services are, and will increasingly be, in considerable demand and this will see increased pressure placed on the recruitment and retention of Army Health officer roles.

13 Plummer and Chakrabarty, *Impact of COVID-19 on the Defence Workforce*, p 37. Graphic produced by the Department of Defence based on data sourced from Deloitte Access Economics, February 2020 and republished with permission.

14 Baulch, *Revealing the Impact of COVID-19 on Our Healthcare Workers*.

It should also be noted that the health restructure has resulted in the creation of additional health officer roles for Army. This increase, as well as the demand for Australian health workers in the public and private sector, potential burnout and the requirements for leave and respite post-pandemic, has potential to impact the recruitment of both reserve and full-time health officers. Some of these factors will also impact the provision of effective health support in the ADF and the ADF health workforce, as uniformed clinicians who have deployed in support of COVID-19 have accrued high leave balances and need to take the necessary time off for respite.

Defence is expected to continue to face considerable difficulty in recruiting and retaining those in the health sector over the short term.[15] Therefore, it is recommended that a number of interim strategies be investigated in regard to recruitment and retention in order to prevent adverse impacts on the provision of effective health support to ADF members. Not only is there a need to fill existing vacancies but also to help prepare the ADF for future surges in healthcare needs if a pandemic is to occur again. These interim measures could include fast tracking of graduates, waiver of citizenship or increased salary and packages.

Fast tracking of nursing officer candidates

COVID-19 has reinforced the vital importance of leveraging long-term sustainable investments in the health workforce to ensure there are enough health workers attracted, deployed and retained, where they are needed, and with the skills and equipment to do their jobs safely.[16] The strain on the civilian health workforce, combined with the increase of health officer positions as part of the Army restructure, presents a challenge for the ADF to continue to meet the provision of ADF health support.

The Australian Army mandates that in order for a nurse to apply as an Army Reserves or full-time nursing officer they must, as a minimum, have two years recent postgraduate experience in a civilian hospital.[17] This requirement is due to nursing officers traditionally being tasked to work in austere environments with limited communication or access to civilian health facilities. However, with the operating environment moving from combat and austere environments to augmenting at civilian health facilities and supporting pandemics, the fast

15 Baulch, *Revealing the Impact of COVID-19 on Our Healthcare Workers*.

16 Juana P Bustamante Izquierdo, 'COVID-19 and the health workforce: six lessons', *Global Health Workforce Health Labour Market Hub blog series*, Universal Health Coverage 2030, 23 April 2021, https://www.uhc2030.org/blog-news-events/uhc2030-blog/covid-19-and-the-health-workforce-six-lessons-555473/

17 Defence Force Recruiting, *Nurse: Job Overview* [webpage], DefenceJobs: Department of Defence, https://www.defencejobs.gov.au/jobs/army/nurse

tracking of graduates to Army nursing officer roles could allow shortages to be addressed while also providing on-the-job experience.

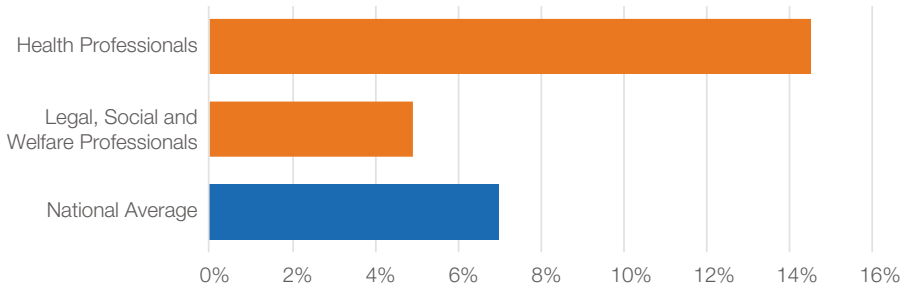
This is a measure that has been examined by the Royal Australian Navy for recruitment of nursing officers and is aligned with an initiative launched in 2021 by the Australian Health Practitioner Regulation Agency (AHPRA). After 500 retired doctors in Queensland volunteered for service, AHPRA realised that there was a willingness by retired personnel to return to clinical services. As such, they announced an initiative to fast-track the re-registration of clinicians and waived minimum recent experience times.

By removing the minimum two years recent postgraduate experience, the Australian Army could increase the talent pool for recruitment and compete for nursing officer candidates alongside civilian organisations. While there is a risk that clinicians may lack confidence to work as Army nurses, this risk stands true in civilian health facilities and has been accepted by the respective state Departments of Health to address the current shortfall.

Waiver of citizenship for applicants

To serve in the ADF, applicants must be an Australian citizen. The ADF may consider a temporary deferral of the citizenship requirement for a permanent resident of Australia if the position for which they are applying cannot otherwise be filled, but only in exceptional circumstances.[18] Therefore, temporary skilled migration is not an option directly available to the ADF. Nevertheless it will have a direct impact on Defence and recruitment of Army Health officers.[19]

Figure 2 – Migrant share of labour (both temporary and skilled migration) 2016.[20]



18 Bustamante Izquierdo, 'COVID-19 and the health workforce: six lessons'.

19 Baulch, *Revealing the Impact of COVID-19 on Our Healthcare Workers*.

20 Plummer and Chakrabarty, *Impact of COVID-19 on the Defence Workforce*, p 37. Graphic produced by the Department of Defence based on data sourced from the Department of Home Affairs and ABS and republished with permission.

The civilian health workforce relies on overseas citizens and many health sector occupations have a high share of migrant labour, both temporary and permanent (Figure 2).[21] However, border restrictions limited the supply of trained clinicians who have not met citizenship requirements, as well as those who have migrated to Australia but cannot meet the AHPRA registration requirements due to state closures. While some foreign-trained nurses were able to gain registration online during Australia's lockdowns, AHPRA requires that those who have qualifications relevant (but not substantially equivalent) to Australian standards, must take a series of tests. These tests can only be completed in person in Adelaide and are scheduled four times a year. But border closures resulted in a number of clinicians being unable to travel to complete this final step in registration.

These factors combined will result in the ADF competing with the civilian health sector for a limited number of workers who are increasingly in demand. Interim measures that could be introduced include removing the need for citizenship, pending the applicant meeting security clearances, in order to recruit those who have migrated from overseas. If they are able to meet the AHPRA requirements, they would be able to meet the registration requirements for an Army clinician.

Increase in salary

Defence will need to carefully tailor its employment package to appeal to highly skilled and specialist workers in a increasingly competitive environment.[22] In 2021, the ADF announced an increase in the remuneration for medical officers as part of a Human Resources management strategy. The strategy was devised so that the ADF could develop and implement a long-term sustainable medical officer workforce that meets the ADF's capability need to deliver both general and specialist medical support.[23] This included improving retention rates by offering clear professional pathways and additional funding for professional development opportunities. Key to this was that the creation of retention conditions to increase the tenure of ADF medical officers within the garrison environment that would potentially reduce the number of contracted doctors used to supplement ADF medical officer positions (with consequential savings attached).[24]

Through applying similar increases in financial remuneration for other Army Health officer roles, the ADF will be a competitive employer. Civilian hospitals and state health departments have begun to compete with each other by offering

21 Baulch, *Revealing the Impact of COVID-19 on Our Healthcare Workers*.

22 Plummer and Chakrabarty, *Impact of* COVID-19 *on the Defence Workforce.*

23 I Asbury, and A Morris, *Australian Defence Force: Tri-Service Medical Officers*, Defence Force Remuneration Tribunal, 2021.

24 Defence Force Recruiting, *Nurse: Job Overview*.

bonuses and additional pay supplements in order to recruit and retain civilian health workers. Through conducting reviews of current salaries, and ensuring they align with civilian offerings, including increased funding for professional development and specialisation training, the Australian Army may increase its recruitment and retention of Army Health officers.

Conclusion

Since the onset of the COVID-19 pandemic, the demand for medical professionals has increased across the government and private sectors, and it is likely to continue to increase.[25] Health underpins all aspects of the Australian Army. Whether it be training, garrison activities or deployments, Army Health officers are key to ensuring that the force is postured and able to complete the task at hand. The speed and scale of the response required of the health system as a consequence of the pandemic has highlighted how fragmentation within the system effects its ability to respond effectively.[26]

Army Health is going to be challenged in the short to medium term when considering the current increase in separation rates, the increase in Army Health officer positions created as part of the Army Health restructure and the impact that COVID-19 has had on the existing civilian health workforce. This can have a direct impact on the ability of the Australian Army to meet its operational readiness and effectiveness if there is limited health support able to be provided.

Interim mitigations, including removal of recent postgraduate experience, citizenship requirements, as well as increased remuneration, have the potential to help address the impacts of COVID-19 on recruitment of Army Health officers. As the supply of civilian healthcare workers becomes further constrained, there is increased pressure on the Australian Army to posture itself as a suitable employer.

By filling existing vacancies, the wellbeing and workload of currently serving Army Health officers can also be addressed. The ADF has a robust clinical governance standard that would still be met through these individuals having AHPRA registration and clearly defined scopes of practice. For the ADF to continue to maintain a force postured for operations, these interim measures must be analysed and applied to address the immediate impact that COVID-19 will have on the health workforce.[27]

25 Baulch, *Revealing the Impact of COVID-19 on Our Healthcare Workers*.

26 Australian Healthcare and Hospitals Association (AHHA), 'Australian health care after COVID-19. An opportunity to think differently' [PDF report], AHHA, Deakin West ACT, 2020. https://ahha.asn.au/healthcare-after-covid-19

27 Disclaimer: The views expressed in this publication are the author's own and do not necessarily reflect the views or policies of the Australian Government, the Department of Defence or Defence Force Recruiting.

Ransomware 2.0: an emerging threat to national security

Mohiuddin Ahmed, Sascha Dov Bachmann, Abu Barkat Ullah and Shaun Barnett

Introduction

The global Covid-19 pandemic has seen the rapid evolution of our traditional working environment; more people are working from home and the number of online meetings has increased. This trend has also affected the security sector. Consequently, the evolution of ransomware to what is now being described as 'Ransomware 2.0' has governments, businesses and individuals alike rushing to secure their data.

Australia, as an open market economy and democracy, is both dependent and reliant on the internet and online security for our prosperity, way of life and the functioning of our democracy. Cyber security as a prerequisite for our ever-increasing interconnectivity is under assault from cyber attacks and malicious cyber activity being conducted by states and 'hybrid actors', such as cyber criminals and syndicates. *Australia's Cyber Security Strategy 2020* identified these threats as posing a risk Australia's national security, social cohesion and prosperity, stating: 'Well-equipped and persistent state-sponsored actors are targeting critical infrastructure and stealing our intellectual property.'[1] Consequently in 2021, the Australian Government launched its *Ransomware Action Plan* to 'ensure that Australia remains a hard target for cybercriminals'.[2] This short commentary provides a short overview of Ransomware 2.0 threats to

1 Peter Dutton MP, 'Minister's Foreword', *Australia's Cyber Security Strategy 2020*, Department of Home Affairs: Australian Government, Canberra, 2020, p 4. https://www.homeaffairs.gov.au/about-us/our-portfolios/cyber-security/strategy/australia%E2%80%99s-cyber-security-strategy-2020

2 Department of Home Affairs (Home Affairs), *Ransonware Action Plan*, Australian Government, Barton ACT, 2021, p 6. https://www.homeaffairs.gov.au/about-us/our-portfolios/cyber-security/strategy/australias-ransomware-action-plan

our cybersecurity and online safety, which can have serious implications for our national security.

Ransomware 2.0 is a relatively new concept and employs a 'double extortion' model, where a ransom must be paid to prevent both data loss and data leakage. Many new and improved detection techniques that have been developed for traditional ransomware are beneficial in this new ever-changing threat landscape. These include tools such as EldeRan, RansomWall and RansHunt, which possess features and capabilities that are essential in the early identification and eradication of ransomware.

Behaviour analysis

Key differences exist between the behaviour of traditional ransomware and what is now being called Ransomware 2.0. While traditional ransomware focuses on encrypting data on your device and locking your data away until you pay a ransom to regain access, Ransomware 2.0 encrypts your data and steals a copy, threatening to release it publicly if you do not cough up the payment requested. Ransomware 2.0 attacks require an extra level of skill for threat actors, as the data they are after is generally business critical and is not going to be found on the device that is their initial foothold into a network.[3]

To successfully pull off a Ransomware 2.0 attack, the threat-actor is required to conduct lateral movement techniques, such as credential theft, network discovery, open-port discovery and identify vulnerable objects within the network.[4] This cannot necessarily be achieved automatically, and thus there has been a significant increase in the number of ransomwares requiring hands-on keyboard intrusions. This means the attackers are interacting directly with your network or devices, working to maximise the impact of the ransomware and thus increasing the likelihood of you paying the ransom.

Another behavioural characteristic of Ransomware 2.0 is its desire to interact with a human. Traditional ransomware aimed to quickly infect a device, encrypt the local data and then prompt the victim for payment to decrypt the data. However, antivirus software can flag such ransomwares and can automatically stop their execution. Ransomware 2.0 aims to deceive these automatic defences, by ensuring its interacting with a human target. This is completed by using tools to lure in victims, such as CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) tests. This technique allows

3 Carolyn Crandall, 'Derailing Ransomware 2.0 requires a little trickery', *Security* [eMagazine], 16 September 2020, accessed 7 March 2022. https://www.securitymagazine.com/articles/93303-derailing-ransomware-20-requires-a-little-trickery

4 Crandall, 'Derailing Ransomware 2.0 requires a little trickery'.

threat actors to ensure their attack will not be stopped by automated defences and exploits the additional possibility of human error through clicking malicious links or downloads.[5]

Criminal business model

The business model of attackers is straight forward: making money with the least amount of effort required. This model is easily achieved in ransomware attacks. Once the ransomware is built, the attackers can sit back and watch more and more people fall victim to their attack, and a percentage of those pay up the ransom.[6] Ransomware 2.0 still capitalises on that model and takes advantage of a basic rule of business, increasing revenue while reducing costs.

To increase the diversity of the ransomware threat landscape, attackers are taking advantage of the growing popularity of the 'Ransomware as a Service' (RaaS) model that allows sophisticated ransomware, developed by talented threat actors, to be sold to other attackers. This service allows a new breed of non-technically minded cybercriminals access to the ransomware business. These new cyber criminals simply hire a service and reap the rewards. Additionally, the RaaS model provides its customers with training and reference materials to successfully plan and deploy a cyber-attack.[7] This evolution in the criminal business model means that it has never been easier to make money with minimal effort.

There are three key purchase models of RaaS that have emerged in its development over the past decade.[8] These models are known as subscription, affiliate and purchase. Subscription is where a RaaS provider receives a predetermined amount of cryptocurrency for a period of usage, independent of the outcome of the use of the ransomware. Similar to the subscription model, in the affiliate model the RaaS provider receives a recurring fee and a percentage of the earnings from the ransomware attacks (this model can be seen in Figure 1). The third model, the purchase model, is where the RaaS provider simply sells a ransomware package to a buyer for a one-off price.

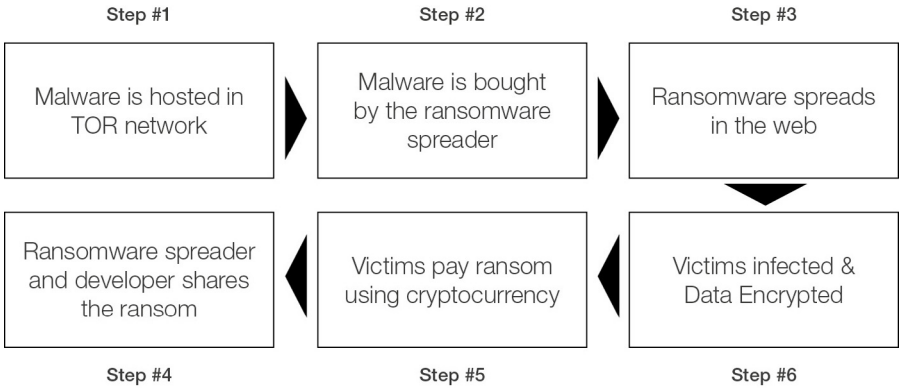
5 Danny Bradbury, 'Double trouble: how Ransomware 2.0 puts your data under threat', *Infosecurity Magazine* [eMagazine], 11 March 2021, accessed 7 March 2022. https://www.infosecurity-magazine.com/magazine-features/double-trouble-ransomware-data/

6 Noa Bar-Yosef, 'An inside look at hacker business models', *Security Week*, 19 October 2010, accessed 7 March 2022, https://www.securityweek.com/inside-look-hacker-business-models

7 Sean Renshaw, Ransomware-as-a-service: A new business model for cybercriminals, RSM US [website], accessed 7 March 2022, https://rsmus.com/insights/services/risk-fraud-cybersecurity/ransomware-as-a-service-a-new-business-model-for-cybercriminals.html

8 Bar-Yosef, 'An inside look at hacker business models'.

Figure 1: RaaS Affiliate Model [9]



Detection techniques

Detecting ransomware at the earliest stage of infection has never been more important than in the new war against Ransomware 2.0. The earlier that ransomware is detected, the less likely it is that you are going to lose data to encryption or face extortion to prevent your data being released on the internet. Below are three detection techniques that can assist in the battle against ransomware evolution. These detection techniques utilise an array of methods to stop ransomware in its tracks, including both static and dynamic analysis.[10] Static analysis refers to when the ransomware is analysed without being executed, whereas dynamic analysis occurs when the ransomware is being executed, usually in a testing environment.

EldeRan

EldeRan uses a sandbox environment (an isolated system for testing the behaviour of ransomware), to perform static and dynamic analysis of the following operations: application programming interface (API) calls, registry key modification and additions, directory operations, analysis of dropped files and the strings of executables. This presupposes that ransomware possesses and executes behaviours that are significantly different to that of harmless software. Research on EldeRan revealed that it has a 96.34% detection rate in ransomware families that it is familiar with, while having a 93.3% detection

9 This is a very generic overview of the RaaS. For more details see gbhackers.com. Balaji N, 'Ransomware-as-a-Service – now anyone can download free ransomware that is available on dark web', gbhackers.com, 18 February 2018, accessed 7 March 2022, https://gbhackers.com/ransomware-as-a-service-2/

10 Damien W Fernando, Nikos Komninos and Thomas Chen, 'A study on the evolution of ransomware detection using machine learning and deep learning techniques', *IoT*, 2020, 1(2): 551–604. https://doi.org/10.3390/iot1020030

rate on ransomware families that it has not seen before (including the likes of Ransomware 2.0).[11] These detection rates are competitive with the detection rates of modern antivirus systems. The research points out that ElderRan can detect ransomware infections at the earliest stages, a clear requirement for the detection of Ransomware 2.0.

RansomWall

Built as a layered system, RansomWall is designed and developed to detect ransomware attacks in real time. Designed for Windows operating systems, this system also makes use of a sandbox to conduct behavioural analysis. The system employs five layers to conduct analysis; the first being a static analysis layer, followed by a trap layer then the dynamic analysis layer.[12] The final two layers are a backup and machine-learning layer. Overall, it is a comprehensive approach that combines several detection methods to build its multilayered approach, arguably its greatest strength. Additionally, the backup layer provides a further protection layer. However, this is only useful in traditional ransomware attacks, where data is only encrypted on the device and not stolen. Regardless, RansomWall has a detection rate of 98.25%. What gives RansomWall its place as a detection technique is its comprehensive approach to detecting the behaviour of ransomware at its early stages of infection.

RansHunt

RansHunt is a detection framework that has been designed to identify the characteristics that are prevalent in a ransomware infection. This system employs both static and dynamic features, which have been built from the analysis of 21 ransomware families. Research conducted on RansHunt demonstrated that the system had a 97.1% detection rate, with an extremely low 2.1% false-positive rate.[13] While those figures are promising, what really gives RansHunt its place as a Ransomware 2.0 detection method it its ability to learn behavioural patterns and detect the next generation of ransomware.

The research on RansHunt continues to outline that the next generation of ransomware is what is known as a ransomworms. Like Ransomware 2.0, ransomworms are a ransomware/ worm hybrid with the ability to propagate across networks. Due to its ability to detect key ransomware behaviour and

11 Fernando et al., A study on the evolution of ransomware detection using machine learning and deep learning techniques', p 564.

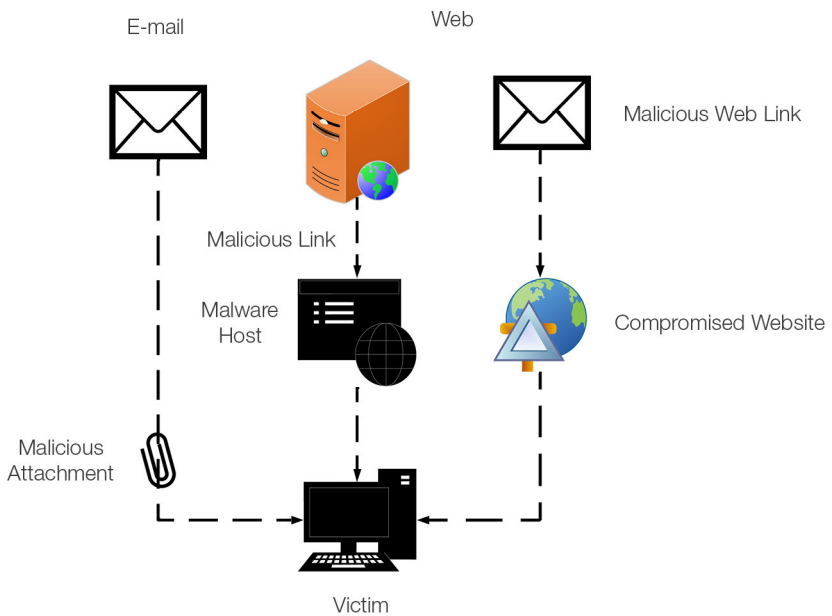
12 Fernando et al., A study on the evolution of ransomware detection using machine learning and deep learning techniques', p 565.

13 Fernando et al., A study on the evolution of ransomware detection using machine learning and deep learning techniques', p 568.

use previous attacks to identify the next generation of ransomware, such as ransomworms and Ransomware 2.0, RansHunt will be an extremely useful tool in the fight to protect your data.

Regardless of the use of these or other state-of-the-art ransomware detection techniques, the threat of Ransomware 2.0 is still underpinned by the fundamental problem of how the ransomware makes its initial entry to a network or system, known as an attack vector. A generic overview of these attack vectors is showcased in Figure 2 (more details can be found in the blogpost by Justin Vaicaro).[14]

Figure 2: Ransomware Attack Vectors[15]



Lessons for Australia

Speaking on occasion of the release of an advisory co-authored by the Australian Cyber Security Centre and partners from the US and UK in February 2022, Australia's Assistant Minister for Defence, Andrew Hastie MP, warned of the rise

14 Justin Vaicaro, 'Incident response ransomware series – part 2', *TrustedSec* [website], 30 October 2019, accessed 7 March 2022, https://www.trustedsec.com/blog/incident-response-ransomware-series-part-2/

15 Vaicaro, 'Incident response ransomware series – part 2'.

of ransomware attacks as a form of grey-zone tactic that has manifested in the post-COVID security landscape.[16]

It is imperative to investigate the available cryptocurrencies, how criminals take advantage of anonymity and potential solutions to track such entities. In recent times, only a handful of investigations have been conducted to de-anonymise crypto-transactions and identify the actual receiver of ransomware payments. While these are primarily heuristics and works in progress, it is critical to determine whether cybercriminals are state-based actors.

From Australia's national security perspective, this has become even more critical since the AUKUS nuclear submarine deal was announced last year, which attracts more cybercriminals to attack Australian critical infrastructure, homes and businesses.[17] Such attacks can originate from hybrid actors such as states, criminal organisations or both. This threat may become even more exacerbated with the Russian invasion of Ukraine and Australia's announcement of cyber assistance, provision of humanitarian and lethal aid and the imposition of sanctions. Subsequently, the ACSC has warned of an increase of ransomware attacks and their potential as a national security threat.[18]

Given Defence's ever-increasing partnerships with critical civilian partners in terms of research, defence procurement and services, the potential for Ransomware 2.0 attacks will have multiple objectives: from economic damage (ransom) to our wider defence partnership networks to testing the resilience of our IT networks, in respect to malware and other malicious cyber operations. The economic consequences alone can seriously affect the success of Australia's business and industry partnership with Defence. There is also the potential for espionage and intellectual property theft linked to such malware attacks. Given the 'hybridity' of both attacker and the cyber threat (malware, ransomware etc.) both cyber resilience and cyber awareness are fundamental first steps toward meeting the challenge.

Cyber resilience requires not only a whole-of-government approach but also the inclusion and cooperation of the commercial and civil sectors, as part of any

16 Andrew Hastie MP, *Australia US and UK stand together to confront global ransomware threat* [media release], Australian Government, 10 February 2022, accessed 7 March 2022, https://www.minister.defence.gov.au/minister/andrew-hastie/media-releases/australia-us-and-uk-stand-together-confront-global-ransomware

17 Adam Creighton, 'Australia more exposed to cyber attack after AUKUS: Karen Andrews', *The Australian*, 16 December 2021.

18 Australian Cyber Security Centre (ACSC), *Australian organisations encouraged to urgently adopt an enhanced cyber security posture* [webpage], Australian Signals Directorate, 23 February 2022, accessed 16 May 2022. https://www.cyber.gov.au/acsc/view-all-content/alerts/australian-organisations-encouraged-urgently-adopt-enhanced-cyber-security-posture

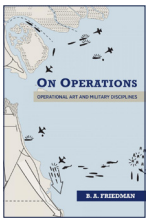
comprehensive cybersecurity approach. Continuing to educate the population about ransomware, and their attack vectors, such as phishing links or malicious sites, is a critical component of this battle. Similarly, continuing to employ a defence-in-depth model of network and system security also plays a role in defending against ransomware.

Raising awareness is the prerequisite of such an approach, something this short commentary hopes to contribute to.

Review Essays

Review Essay

Of Young Turks and Mustache Petes: deconstructing the operational level of war



Michael Evans

On Operations: Operational Art and Military Disciplines
BA Friedman
Naval Institute Press, Annapolis MD, 2021.

There has long been a debate in Western military circles on the relationship between the operational level of war and the operational art. Much of the debate centres on the validity of the operational level of war as the level between tactics and strategy that links tactical missions together to accomplish strategic aims. The operational level is that at which campaigns and major operations are planned, conducted and sustained, to accomplish strategic objectives within a theatre, or area of operations. As the American strategist, Bernard Brodie, once observed: 'War is a question not of winning battles but of winning campaigns'.[1] In Western military doctrine, the skillful orchestration of military resources and activities at the operational level is called the operational art. The latter involves achieving campaign success as the acme of the commander's professional skill-at-arms.

During the late Cold War, in a conceptual revolution led by the United States, most Western militaries adopted the operational level and the operational art – a recognition that in conditions of advanced industrial age warfare – tactical battles must be moulded into a coherent campaign serving the ends of strategy and fulfilling the political aims of a war.[2] Without the cement of operational

1 Bernard Brodie, *Strategy in the Machine Age,* Princeton University Press, Princeton NJ, 1944, p 437.

2 Richard M Swain, 'Filling the void: The operational art and the US Army', in BJC McKercher and John English, (eds), *The Operational Art: Developments in the Theories of War*, Praeger, Westport CT, 1997, pp 147–72; Shimon Naveh*, In Pursuit of Military Excellence: The Evolution of Military Theory*, Frank Cass, 1997, especially chs 7–8; the essays in JJG Mackenzie and Brian Holden Reid (eds), *The British Army and the Operational Level of War,* Tri-Services Press, London, 1989; Clayton R Newell, *The Framework of Operational Warfare,* Routledge, London, 1991; and Antulio J Echevarria II, 'American operational art, 1917–2008', in John Andreas Olsen and Martin van Creveld (eds), *The Evolution of Operational Art: From Napoleon to the Present*, Oxford University Press, Oxford, 2011, ch 5.

coherence, warfare risks being reduced to a series of disconnected tactical actions with relative attrition of an enemy the only measure of success or failure. It was precisely 'a strategy of tactics' without operational linkage to strategic aims during the Vietnam War that led to American defeat in the rice paddies of South-East Asia. The result was summed up by the US Army's Colonel Harry Summers Jr, in a now famous conversation with his North Vietnamese counterpart, Colonel Tu, in 1975. Summers said, 'You know you never defeated us on the battlefield'. To which Tu replied: 'That may be so, but it is also irrelevant'.[3] The North Vietnamese had lost all the battles but had won the war. They matched America's firepower attrition tactics and wore down Washington's will to pursue the war; they then overran the south and achieved their strategic aim of a unified Vietnam. It would take the United States and its allies 15 years to reform their military organisations around the need to develop an operational framework for tactics that would bring strategic success. Vindication came in 1991 and again in 2003, when American-led forces destroyed the Iraqi Army in two Persian Gulf campaigns marked by speed and operational skill.[4]

Today most advanced Western military establishments accept the need for an operational approach to war that ensures that tactics serve strategy. However, there has always been an intellectual tension between the concept of an operational level of war and the practise of operational art. While many military professionals accept the proposition that the operational level and the operational art are closely connected, the two are not synonymous. Rather, in operational warfare, level and art represent a reciprocal relationship between *locus* (position) and *function* (activity). As Lukas Milevski puts it, in contemporary warfare, the operational level of war became the level at which tactical actions are sequenced in such a way as to produce military success, whereas operational art became the actual practice of doing so.[5] As a doctrinal generalisation then, the operational level describes the 'why of operations' – that is the technical-organisational features of campaign planning and design that occurs in a headquarters as a *locus* for preparation. In contrast, the operational art is about the 'how of operations' – that is the possession of cognitive and creative warfighting skills

3 Harry G Summers Jr*, On Strategy: A Critical Analysis of the Vietnam War*, Presidio, Novato CA, 1982, p 1.

4 John S Brown, 'The maturation of operational art: Operations *Desert Shield* and *Desert Storm'*, in R Cody Phillips and Michael D Krause (eds)*, Historical Perspectives of the Operational Art: An Historical Anthology*, Center of Military History, United States Army, Washington DC, 2005*,* pp 439–82; Williamson Murray and Robert H Scales Jr, *The Iraq War: A Military History*, Harvard University Press, Cambridge MA, 2005.

5 Lukas Milevski, 'Western strategy's two logics: diverging interpretations, *Journal of Strategic Studies*, published online 10 October 2019, p 16. https://doi.org/10.1080/01402390.2019.1672158

to successfully sequence tactical actions for strategic purpose as an activity or *function* of campaigning.[6]

In the equation of locus and function, the operational level and the operational art need to be thought about separately but must eventually be integrated into what American military theorists such Clayton R Newell and Milan Vego, see as a unified framework of operational warfare.[7] British writers, such as Lieutenant General Sir John Kiszely and Sir Hew Strachan respectively, have also reflected a holistic perspective by viewing the operational level as the place where operational art is most likely to be exercised. Writing in 2005, Kiszely observed, 'the operational level is determined by where the operational art is practised; in the past, it has most often been carried out 'in-theatre' but it need not be and is not always so'. For example, Kiszely suggests, operational art can exist in a joint operational headquarters.[8] Similarly, Strachan notes that in terms of operational warfare, the level is where the art is exercised from. As he puts it, 'the operational level of war is the level of command situated between the tactical and the strategic, between the company or battalion commander in the field and the president in the White House'.[9] The views of Vego, Kiszely and Strachan suggest that activity at the operational level resembles the work of a planner while the activity of an operational artist resembles the work of an orchestrator. Planners may be more mechanistic and orchestrators more creative in considering warfare, and they may have different locations and roles; but ultimately, they share the common purpose of bringing military operations to strategic fruition.

Yet for other military professionals, a holistic operational warfare framework is misleading because the operational level is seen as an artificial construct that inhibits, rather than facilitates, operational art. This strand of military theory might be styled the 'post-operational level school of war'. [10] Today, given Western military failures in Iraq and Afghanistan, post-operational sceptics insist that the construct of an intermediate level of war has proven to be redundant in

6 For discussion see Wilson C Blythe Jr, 'A history of operational art, *Military Review,* November–December 2018, p 49.

7 Newell, *The Framework of Operational Warfare*, passim; Milan Vego, *Joint Operational Warfare: Theory and Practice*, US Naval War College, Newport RI, 2009 and 'On operational art', *Strategos*, 2017, 1(2):15–39.

8 Lieutenant General Sir John Kiszely, 'Thinking about the operational level', *RUSI Journal,* December 2005,150(6):42.

9 Hew Strachan, 'Strategy or alibi? Obama, McChrystal and the operational level of war', *Survival, Global Politics and Strategy*, October–November 2010, 52(5):157–58.

10 See the special edition of the *Infinity Journal* featuring essays by Yacov Bengo and Shay Shabtai, 'The post-operational level age: How to properly maintain the interface between policy, strategy and tactics in current military challenges' and by Yacov Bengo, Glora Segal and Shay Shabtai on 'The post-operational level age: The operational focus part 2 and part 3', *Infinity Journal*, Spring 2016, 4(3):7–12 and 14–27. William F Owen, 'The operational level of war does not exist', *The Journal of Military Operations*, Summer 2012, 1(1):17–20; Justin Kelly and Michael Brennan, 'The Leavenworth heresy and the perversion of operational art', *Joint Force Quarterly,* 1st Quarter 2010, 56, pp 109–16.

twenty-first century conditions. Redundancy has occurred because the new age of post–industrial war restores the connection between tactics and strategy, permitting direct sensor-to-shooter contact through computer networks and video screens over a simultaneous battlespace.[11]

On Operations: *Operational Art and Military Disciplines* by former US Marine Corps officer, BA Friedman is a work that clearly belongs to the post-operational level of war school of military theory. The book is a sequel to Friedman's 2017 study, *On Tactics*: *A Theory of Victory in Battle*, a thoughtful and well-written analysis of tactical theory in warfare.[12] The earlier book foreshadowed the author's belief in in the operational level of war as 'an unnecessary and detrimental firewall between strategy and tactics' and it is this conviction that receives full treatment in *On Operations*.[13] As a military theorist rather than a military historian, Friedman extends his critique on the Western adoption of an operational level of war as intellectually regressive and unnecessary in waging war. He believes the operational level has 'amputated tactics from strategy' leading to warfare being conducted in a hermetic, 'politics-free zone' by a generation of commanders.[14]

The artificiality and apolitical character of the operational level has contributed to the West's inability to connect tactics and strategy to policy goals while impeding civil–military relations in the conduct of armed conflict. Friedman highlights that the operational level suffers from a multiplicity of definitions that serve only to confuse the profession of arms. For some military professionals, the operational level represents a command position; others define it by scale; and yet others by function. Yet factors of command position, scale and function can be found throughout military history – from the Peloponnesian War and the Punic Wars through the Seven Years War and the American War of Independence to the World Wars of the twentieth century.[15]

A 'conceptual inconsistency' dogs the idea of an intermediate level of war or, as the author puts it, 'the operational level of war cannot find solid purchase as

11 The origins of the debate are found in Douglas Macgregor, 'The merging levels of war', *Parameters: US Army War College Quarterly*, Winter1992–93, 22(4):33–47 and Antulio J Echevarria Jr, 'Dynamic inter–dimensionality: A revolution in military theory'*, Joint Force Quarterly,* Spring, June 1997, 15, pp 29–36 and continues. See Lawrence M Doane, 'It's just tactics: Why the operational level of war is an unhelpful fiction and impedes the operational art', *Small Wars Journal* [website], 24 September 2015, https:// smallwarsjournal.com/jrnl/art/it%E2%80%99s-just-tactics-why-the-operational-level-of-war-is-an-unhelpful-fiction-and-impedes-the- and Chad Buckel, 'A new look at operational art: how we view war dictates how we fight', *Joint Force Quarterly*, Ist Quarter, January 2021, 100, pp 94–100.

12 BA Friedman, *On Operations: Operational Art and Military Disciplines*, Naval Institute Press, Annapolis MD, 2021 and *On Tactics: A Theory of Victory in Battle*, Naval Institute Press, Annapolis MD, 2017; Friedman, *On Tactics*, p 156.

13 Friedman, *On Tactics*, p 156.

14 Friedman, *On Operations*, p 1.

15 Friedman, *On Operations*, p 4.

an idea because there is simply no logical space for it'.[16] The classic definitions regarding strategy and tactics that are drawn from Carl von Clausewitz's *On War* constitute war's enduring logic. It is a logic that requires tactics to gain battlefield victories and for strategy to then use those victories for the political purposes of war. Moreover, since tactics are linear and strategy is nonlinear, the two activities form a dialectical relationship in which there is no space for an operational level of war. 'As soon as the operational level moves closer to strategy', observes Friedman, 'politics and strategic effect become involved, and the non-linear logic of strategy takes over'**.** The danger of the operational level in military theory and practice is that that it is an 'orphan concept' that serves only to distort the tactics–strategy dialectical relationship.[17]

While Friedman dismisses the operational level of war as an unnecessary concept, he upholds the validity of the operational art – the orchestration of tactics to serve strategic ends – as an essential intellectual activity. Rather idiosyncratically, Friedman prefers the older 1873 JJ Graham translation of Clausewitz's *On War* to the classic 1976 scholarly translation by Michael Howard and Peter Paret. Employing the Graham translation, Friedman argues that operational art concerns what Clausewitz defines as tactical 'preparations for war'.[18] The latter is an area of distinctive staff activity, which is directly concerned with the continuous interplay of tactics and strategy. Operational art 'is the planning, preparation, synchronization, and sustainment of tactics' over a sustained period of time, in a large geographic expanse, or both'. While operational art is tied to tactical tenets, it is always reliant on strategy for its logic and direction.[19]

Friedman engages in a brave and iconoclastic sally against the mainstream of Western scholarship on the Soviet theoretical contribution to operational warfare. The author argues that the interwar twentieth-century Soviet military thinkers who are credited with conceptualising the operational art never merged the art of operations into a new level of war. For Friedman, while Soviet operational art exists, the parallel notion of a Soviet operational level is a myth.[20] This conclusion is far cry from Israeli military analyst, Shimon Naveh's belief that the Soviet experience in unveiling the operational level of war and its offspring, the operational art, represented 'the most creative theoretical adventure in the

16 Friedman, *On Operations*.

17 Friedman, *On Operations*, pp 5–6.

18 Carl von Clausewitz, *On War* (JJ Graham trans), Barnes and Noble, New York, 2004 edn. Graham's was the first English-language translation appearing in 1873. The Graham translation is obsolete and has been superseded by Carl von Clausewitz, *On War* (Michael Howard and Peter Princeton eds trans), Princeton University Press, NJ, 1976.

19 Friedman, *On Operations*, pp 5–6.

20 Friedman, *On Operations*, pp 1–2; 30–38.

military history of the twentieth century'.[21] The operational level of war is a myth for Friedman because the notion of an intermediate level between strategy and tactics obscures how the Soviet theorists of the 1920s and 1930s used the theory of operational art as safe way to discuss the challenges of industrialised warfare without contradicting the tenets of Marxist–Leninist class warfare.[22] Such a view contradicts the weight of scholarship of many respected Western experts on the Russian military, including not only Shimon Naveh but also David Glantz, James J Schneider, Richard Harrison, Robin Higham and Frederick W Kagan.[23] Indeed, Friedman overlooks the reality that the very term *operatika* was coined in 1912 by Tsarist officers of the old Imperial Russian Army. As a result, much of the subsequent operational theorising in the new Soviet armed forces represents a synthesis of the Tsarist and Bolshevik military experience of industrial warfare. In other words, Soviet operational thought conceived of an operational level not simply as a response to the restrictions of Marxist–Leninist ideology but as a direct by-product of a form of modern warfare that rendered the dualism of strategy and tactics too limited for use as analytical categories.[24]

Soviet military theorists such as Alexsandr Svechin, Mikhail Tukhachevsky, Vladimir Triandafillov, Nikolai Varfolomeev and Georgii Isserson came to view operational art as a solution to coordinating an array of tactical battles on the vast and distributed battlefield created by mass armies and industrialised technologies. Such a solution required a locus or new level to connect strategy and tactics. Soviet operational theory grappled with problems of scale, distance, and depth in modern warfare alongside the need for methods to support forces in what came to be called Deep Operations – a concept in which strategy, operational art and tactics became interrelated components of military art. Extended battles in scale and space transcended mere tactics and came to comprise a modern operation both in front and depth. In mass industrial warfare no commander could ever act as a Napoleon, directly organising combat actions by means of physical presence and use of the naked eye on the battlefield.[25]

21 Naveh, *In Pursuit of Military Excellence*, p xvii.

22 Friedman, *On Operations*, pp 30–38.

23 Naveh, *In Pursuit of Military Excellence*, chs 5–6; David Glantz, *Soviet Military Operational Art: In Pursuit of Deep Battle*, Frank Cass, Abingdon, 1991; James J Schneider, *The Structure of Strategic Revolution: Total War and the Roots of the Soviet Warfare State*, Presidio, Novato CA, 1994; Richard W Harrison, *The Russian Way of War: Operational Art, 1904–1940*, University Press of Kansas, Lawrence KA, 2001; Robin Higham and Frederick W Kagan, *The Military History of the Soviet Union*, Palgrave, New York, 2002.

24 Harrison, *The Russian Way of War*, pp 24–39; 270–73.

25 Harrison, *The Russian Way of War*, chaps 3–4; Frederick W Kagan, 'The rise and fall of soviet operational art, 1917–1941', in Robin Higham and Frederick W Kagan (eds), *The Military History of the Soviet Union*, pp 79–92.

For Friedman, the difficulty in Western military theory since the end of the Cold War is that the United States and its NATO allies have misunderstood the intricacies of operational warfare and the particular Soviet contribution to the field. Western militaries are guilty of conflating a mythical Soviet concept of an operational level of war with the reality of operational art and, as a result, have failed to understand the differences between the two concepts.[26] The author attributes this flawed theoretical situation to three post-1975 Vietnam War factors. First, in the late 1970s, German tactical ideas drawn from the Second World War blitzkrieg era were injected into studies of Soviet operational thinking by American military theorists, creating doctrinal distortions.[27] Second, the publication in 1976 of a new translation of Clausewitz's *On War* by Michael Howard and Peter Paret injected the terms 'operations' and 'operational' into the English language – words that Friedman suggests Clausewitz never used in his original German writings.[28] The third and final factor was the publication of Edward Luttwak's influential 1980 essay, entitled 'The operational level of war', which criticised Anglo-American Western militaries for their myopia in pursuing a 'strategy of tactics' that ignored the conceptual innovation of an intermediate level of war. Luttwak pointed out that Western militaries possessed no term 'to describe that middle level of thought and action wherein generic methods contend and battles unfold in their totality'.[29] Taken together these three post-Vietnam War factors created a situation in which the operational level of war and operational art were adopted into Western military doctrine and used as interchangeable terms without proper elucidation of the true meaning of either.

It is important to note that Friedman's critique of operational level theorising is not a new one and builds on the work of earlier military theorists. For example, in 1987, Colonel Kenneth Carlson, the chief of doctrine and concepts in the US Army in Europe, pointed out that to conflate the operational level with the operational art was to mix location with activity in a manner akin to confusing tennis courts with the game of tennis.[30] Similarly in 2011, Brigadier General Huba Wass de Czege, one of the principal American architects of 1980s operational warfare, noted that 'operational art is not a level of war' but rather an activity

26 Friedman, *On Operations*, pp 39–45. Friedman largely attributes the conflation of the operational level and operational art to the work of the leading American military reformer, General Donn A Starry, Commander of the US Army's Training and Doctrine Command between 1977 and 1981.

27 Friedman, *On Operations*, pp 39–45.

28 Carl von Clausewitz, *On War* (Michael Howard and Peter Princeton eds trans), Princeton University Press, NJ, 1976. Howard and Princeton's is the standard academic translation of Clausewitz in English.

29 Edward N Luttwak, 'The operational level of war', *International Security*, Winter 1980–81, 5(3):61, 62–79.

30 Kenneth G Carlson, 'Operational level or operational art?' *Military Review*, October 1987, pp 50–54.

that mediates and interprets the interactions between strategic and tactical reasoning.[31]

Friedman argues that the operational level of war acts to shield military officers from considering politics while simultaneously distancing politicians from warfare. This situation represents a mutual civil–military retreat from the inherently political nature of strategy. In the twenty-first century, the American military profession has been an enthusiastic accessory in fostering political aloofness and is guilty of confusing 'compliance with professionalism'. As the author goes on to note, 'the military must embrace, rather than retreat from, the political nature of war and warfare, just as much as the policymakers must be willing to do the work of understanding the tactics and campaigns that they expect the military to carry out'.[32] Again, this is not a new charge. It was at the centre of Justin Kelly and Michael Brennan's 2009 Australian critique of American operational art as a phenomenon that wreaked havoc on war's conceptual boundaries by 'devouring strategy' like the creature which destroys the spaceship crew in the film *Alien.*[33] A variation on this theme is the claim by military analysts such as Franz-Stefan Grady and Stephen Robinson that a particular fetish with the manoeuvre tenets of American operational art has encouraged US commanders to believe they can win wars free from the intrusion of politics and strategy.[34] Hew Strachan has summed up the challenge by warning that the operational level can never be allowed to act as an ersatz location for strategy making because of political myopia by military professionals or military ignorance by policymakers. 'The understanding of operational art has become so stretched from the strategic corporal to the political general', Strachan writes, 'that it ceases to have specific meaning and so is of diminishing value'.[35]

Friedman's solution to the impasse he believes has been created by the fiction of the operational level of war is to restore the tactical–strategic dialectic to supremacy in operational art. Strategy, he argues, can only be accomplished through tactics. 'The gap that needs to be bridged in the West', he notes is 'not between tactics and strategy, but between tactics and policy, and strategy

31 Huba Wass de Czege, 'Thinking and acting like an early explorer: Operational art is not a level of War', *Small Wars Journal* [website], 14 March 2011. https://smallwarsjournal.com/blog/journal/docs-temp/710-deczege.pdf

32 Friedman, *On Operations*, pp 46–51.

33 Justin Kelly and Michael Brennan, *Alien: How Operational Art Devoured Strategy*, US Army War College, Strategic Studies Institute, Carlisle PA, 2009.

34 Franz-Stefan Grady, 'Manoeuvre versus attrition in US military operations', *Survival: Global Politics and Strategy*, August–September 2021, 63(4):131–48; Stephen Robinson, *The Blind Strategist: John Boyd and the American Art of War*, Exisle Publishing, Dunedin, 2021, pp 264–70 and pp 279–86.

35 Strachan, 'Strategy or alibi?' p 175.

is the interface between them'.[36] The Clausewitzian framework of war remains valid since it is built on the logic of a tactical–strategic dialectic involving combat and politics respectively; it is not distorted by an ill-defined intermediate level of command involving variations on the scale of war, or the size of military forces.

An insidious effect of the adoption of the operational level of war is the notion that tactics and strategy are discrete and hierarchical activities rather than forming an interactive synthesis as Clausewitz envisaged in *Vom Kriege*. War is a nonlinear and interactive phenomenon, but Western joint professional military education (JPME) still tends to teach the levels of war as linear phenomena rather than acknowledging the logic of dialectics. The latter recognises that reciprocal influences exist between policy, strategy, operations and tactics. Without an appreciation of the dialectical character of war's levels there can only be flawed analysis in joint military education leading to a poor understanding of how military power is applied in real-world conditions.[37] Here Friedman is surely correct in his assessment. American scholar, Thomas Bruscino, highlights the crucial role of dialectics in an understanding of the levels of war when he states:

> The point is that operational art is something different from strategy and tactics, but it is never separate from strategic contexts and tactical capabilities; just as tactics are something different from strategy, yet tactical capabilities are derived from strategic choices; and just as strategy is different from policy, yet strategy is inexorably a part of the policy of the war.[38]

Friedman extends Bruscino's critique of the dangers inherent in a linear teaching of the levels of war as a dangerous distortion of military reality. The levels of war emerge in practice as nonlinear phenomena with strategy providing the interface between combat and policy. Indeed, the author suggests that neither tactics nor strategy are really levels of war at all, but should be viewed, in dialectical fashion, as activities or functions that interact continuously.[39]

As military theory, then, operational art represents the 'actualization of tactics' through 'planning, preparing, conducting, and sustaining tactics aimed at accomplishing strategic effect'.[40] Yet its execution relies not on an operational level but on the reinvigoration of the modern military staff system, by employing what Friedman styles as military disciplines – activities which have in the past

36 Friedman, *On Operations*, p 53 and pp 54–59.

37 Friedman, *On Operations*, pp 52–56 and pp 130–34.

38 Thomas Bruscino, 'The theory of operational art and unified land operations', *SAMS Theoretical Paper,* US Army Command and General Staff College, Summer 2012, p 6. This paper is unpublished but is available at https://www.academia.edu/43347393/The_Theory_of_Operational_Art_and_Unified_Land_Operations

39 Friedman, *On Operations*, p 8; p 55 and p 141.

40 Friedman, *On Operations*, p 56.

been variously described in Western doctrine as warfighting functions or battle operating systems. Military disciplines embrace intelligence, manoeuvre, fire support, command and control, logistics and sustainment, and force protection.[41] In networked twenty-first century conditions of joint warfare, a modernised staff system for operational art requires a careful blending of the nineteenth century Prussian Scharnhorst Model, the American McChrystal 'Team of Teams' concept and, British scholar, Anthony King's construct of collective command by collegial staffs.[42] Such a reformed staff system would require a strong focus on organisational theory alongside major reforms to doctrine, training regimes and JPME curricula. As Friedman puts it:

> the complexity of modern warfare in our time can best be met effectively by effectively institutionalising operational art as performed by professionally trained staffs and aligning doctrine and other aspects of military organizations to the newly modernized structure.

The latter is the most interesting proposition advanced in Friedman's book. It is thus disappointing that the implications of creating a new staff system from a synthesis as diverse and complex as Scharnhorst-McChrystal and King models are not examined further. Instead, the author prefers to digress by concentrating on creating his own campaign taxonomy, based on *persistence* and *raiding* as overarching categories of military activity that employ a shifting mixture of offensive, defensive, persisting, annihilation, cumulative tactics and hybrid operations.[43]

Friedman's deconstruction of the operational level of war is emblematic of a younger generation of Western military officers whose operational experience has been one of smaller counterinsurgency wars, not large-scale conventional warfare in all-arms combat. As a result, for many contemporary Western officers, the doctrinal stress on the operational level of war appears to have little relevance and is a legacy of twentieth-century Cold War military theory. This conviction is held not just in the mid-career officer corps of the United States and Britain but also by younger members of the officer corps of middle-power countries, such as Australia in Canada. In the latter countries, there has been intermittent debate over the relevance of the operational level versus the operational art. Both the Australian and Canadian militaries have a long tradition of operating

41 Friedman, *On Operations*, pp 56–59 and pp 60–117.

42 Friedman, *On Operations*, pp 130–34.

43 Friedman, *On Operations*, p 137 and pp 118–49. The role of Scharnhorst is examined by Charles E White, *The Enlightened Soldier: Scharnhorst and the Militarische Gessellschaft in Berlin, 1801–1805,* Praeger, New York, 1988. See also Hajo Holborn, 'The Prusso-German School: Moltke and the rise of the general staff', in Peter Paret (ed), *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, Princeton University Press, Princeton NJ, 1986, pp 281–95; Stanley McChrystal, *Team of Teams: New Rules of Engagement for a Complex World*, Portfolio, New York, 2015; and Anthony King, *Command: the Twenty-First Century General*, Cambridge University Press, Cambridge, 2019.

as junior coalition partners to the United States – and often adhere to a linear understanding of strategy and tactics – rather than to the dialectical relationship that Friedman considers essential to the proper conduct of operational art. It will be interesting to see if *On Operations* revives debate in Australia and Canada over the levels of war and the intangibles of 'level versus art' in locus and activity for American allies that possess smaller militaries.[44]

To adopt an Italian American Mafia analogy, Friedman's operational level critique represents a post–Cold War 'Young Turk' onslaught on an older generation of Cold War 'Mustache Pete' military professionals. The latter's formative years were spent not fighting al-Qaeda or Islamic State of Iraq and Syria irregulars and militia but on puzzling over how NATO could defeat numerically superior Soviet and Warsaw Pact conventional forces in Europe without triggering escalation to the use of nuclear weapons.[45] The combination of the precision weapons revolution and the rise of operational theory during the 1970s helped reinvigorate the stagnant state of conventional warfare in the 1980s. For Cold War American and British military theorists such as Richard Simpkin and Donn A Starry respectively, these developments were a godsend in restoring the relevance of military art to strategy. After all, for two decades, the profession of arms had been in thrall to civilian nuclear deterrence theorists who viewed conventional warfare as a tripwire in an escalation ladder.[46] In short, far from amputating tactics from strategy, the operational level of war reconnected tactics to strategy after deterrence theory had disconnected the two areas at the beginning of the nuclear age. As American military historian Russell Weigley notes, in 1945 Hiroshima and Nagasaki ended the tactical 'use of combats' as viable means of strategy, a situation highlighted by the military stalemate of the Korean War.[47] For the Western profession of arms in the late Cold War years, there was a sense of liberation at the concept of an operational level of war. To this military generation, the locus of the operational level and the activity of the operational art were

44 For discussion see Michael Evans 'The closing of the Australian military mind: The ADF and operational art', *Security Challenges*, Winter 2008, 4(2):105–31 and Allan English, Daniel Gosselin, Howard Coombs and Laurence M Hickey (eds), *The Operational Art: Canadian Perspectives, Context and Concepts*, Canadian Defence Academy Press, Kingston Ontario, 2005.

45 Richard Lock-Pullan, 'How to rethink war: Conceptual innovation and airland battle', *Journal of Strategic Studies*, 2005, 24(4):679–702; John L Romjue, *From Active Defense to Airland Battle: The Development Of Army Doctrine, 1973–1982*, Historical Office, US Army Training and Doctrine Command, Fort Monroe VA, 1984; Blythe, 'A history of operational art', pp 43–47; Swain, 'Filling the void: the operational art and the US Army', pp 147–72.

46 Richard Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare*, Brasseys, London, 1985; General Donn A Starry, 'A perspective on American military thought', *Military Review*, July 1989, 69(7):2–11 and 'Extending the battlefield', *Military Review*, March 1981, 61(3):32–50. https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/

47 Russell F Weigley, *The American Way of War: A History of United States Military Strategy and Policy*, Macmillan, New York, 1973, p 365.

less theoretical contradictions than reciprocal practicalities in restoring the status of conventional warfare to the nuclear-age battlefield. Harnessed together, the operational level and its art, led to a renaissance in grand tactics and the higher art of generalship permitting a restoration of operational manoeuvre to warfighting. As the British Chief of the General Staff, Field Marshal Sir Nigel Bagnall observed in 1989, nuclear deterrence required an equally convincing conventional capability to make it credible.[48]

Friedman's critique of the operational level as 'the amputation of tactics from strategy' takes little of this conceptual history into account and this is a major weakness of his book. Indeed, his analysis is a cautionary tale of how great intellectual care must be taken when integrating military theory with military history, lest distortion or loss of context render any propositions and conclusions untenable. Friedman's work demonstrates the paradox that military theorists are seldom good historians, while military historians seldom become military theorists.[49] As a military theorist, Friedman does not consider the historical reality that the operational level of war has flourished over the past two decades because there has been a vacuum created by poor policy decisions and a lack of strategy in the long wars of counterinsurgency in Iraq and Afghanistan. Strategy and policy must always dominate operational art and tactics because 'whenever the ends and means at the strategic level are seriously disconnected or mismatched brilliance at the operational and tactical level … can only delay, but not prevent ultimate defeat'.[50]

Yet in a postmodern age where end-dates seem more important to liberal democratic political leaders than achieving end-states, the deficiencies in Western strategy are all too clear to see – not least in the chaotic American withdrawal from Afghanistan in mid-2021. Warfare in Iraq and Afghanistan too often resembled a blend of the German *Wehrmacht's* strategic dilemma of 'lost victories' in the Second World War and a Groundhog Day of the jumble of tactical victories in Vietnam, which accumulated no strategic value for American policy. In the post–Cold War era, there has been what American scholar, Michael Handel diagnosed as a 'tacticization of strategy' – largely because so many

48 Bagnall foreword in Mackenzie and Holden Reid, *The British Army and the Operational Level of War,* p vii. See also Roger J Spiller, 'In the Shadow of the Dragon: Doctrine and the US Army after Vietnam', in idem, *In the School of War: Essays*, University of Nebraska Press, Lincoln Nebraska, 2010, pp 220–57; and Colin McInnes, *Hot War, Cold War: The British Army's Way in Warfare, 1945–95*, Brasseys, London, 1996, pp 54–75.

49 Michael Evans, 'Learning lessons: The value of a contemporary approach to history' in Thomas G Mahnken (ed), *Learning the Lessons of Modern War,* Stanford University Press, Stanford CA, 2020, pp 7–23 and 'A usable past: A contemporary approach to history for the Western profession of arms, *Defense and Security Analysis*, 2019, 35(2):133–46.

50 Vego, 'On operational art', p 29.

politicians and policymakers are now so divorced from military affairs and thus oblivious to understanding of the nature and character of war.[51] At the same time, many Western military professionals have clung to an outmoded Cold War Huntingtonian model of civil–military relations in which subordination to civilian political control permits a retreat into the technicalities of a form of operational art divorced from politics. The result is the evolution of an officer corps increasingly innocent of the political knowledge required from newly evolved forms of civil–military relations that are vital to success in twenty-first century war.[52]

There are strong grounds for believing that over the past 20 years, the main problem facing Western militaries has not been the operational level of war at all, but the failure of both policy and strategy to articulate clear goals governing the use of military force. Hew Strachan put it well in 2010 by observing:

> The problem [with contemporary war] lies not with our understanding of the operational level, but with our understanding of strategy, and even more with our approach to its direction. Operational art has been stretched hither and yon because it has not contained a sure grasp of the relationship between war and policy, and by proper structures to debate and guide strategy. *Once they exist, operational art and the operational level of war will discover both their true purpose and their proper place*.[53]

In short, operational warfare as both a level and an art, can only be effective if it is guided by strategy. While there may be a difference between the cognitive (or *why*) aspects of the operational level and the practical (or *how*) aspects of executing operational art, the two activities are not opposites but instead represent dichotomies in warfare.

If Friedman grasps the dialectics of strategy and tactics, he appears to misconstrue the cognitive demands that the dichotomies of level and art demand of operations in war. The principal challenge in achieving improved operational performance is the ability of military practitioners to make the demanding intellectual transition from tactics to operational art. Tactical problems are 'tame' in the sense that they generally have a linear, or mechanical, solution. In sharp contrast, operational challenges – especially when linked to the achievement of strategic outcomes – often present 'wicked' problems that are ill-structured and

51 Michael I Handel, *Masters of War: Classical Strategic Thought*, 3rd edn, Frank Cass, London, 2001, p 355.

52 See Hew Strachan, 'Making strategy work: Civil–military relations in Britain and America', in idem, in Hew Strachen (ed), *The Direction of War: Contemporary Strategy in Historical Perspective*, Cambridge University Press, Cambridge, 2013, pp 64–97 https://doi.org/10.1017/CBO9781107256514.005 and Risa Brooks, 'Paradoxes of professionalism: Rethinking civil–military relations in the United States', *International Security*, Spring 2020, 44(4):7–44; Samuel P Huntington*, The Soldier and the State: The Theory and Politics of Civil–Military Relation*s, Belknap Press, New York, 1957.

53 Strachan, 'Strategy or alibi?' p 177. Emphasis added.

open-ended. Operational thinking requires immersion into the realms of complex systems analysis involving a balance between reasoning and intuition in framing problems and solutions. In achieving this balance, the operational level of war and the operational art are the dichotomous 'why and how' of comprehensive operational knowledge. Planning and design execution are linked in warfare because it is only through a holistic understanding of operational warfare that the military professional can translate tactical expertise into operational artistry to achieve strategic success.[54]

While there may well be merit in Friedman's suggestions to improve the modern staff system, it is surely the case that any military staff system is likely to be located in the intermediate operational field between strategy and tactics. The operational level – properly conceived as related to operational art in a duality – should seek to resolve the natural tensions between the abstractions of strategy and the mechanics of tactics by supplying the integrative features of military preparation and planning.[55] As Shimon Naveh writes: 'the operational level, not only bridges between the strategic and the tactical levels, but also combines the unique qualities and characteristics of each of these levels, that is abstract contemplation and mechanical action'.[56]

While Friedman's book is a Young Turk criticism of the Mustache Pete theorists who conceived of an operational level of war during the Cold War, the latter may yet have a final say. At the time of writing this review in mid-2022, we have seen mass Russian conventional forces invade Ukraine with columns of armour and the pounding of cities with air strikes, artillery and long-range precision missiles in the very type of large-scale war so greatly feared by the West during the Cold War era. Conventional war against a peer-level rival armed with a nuclear arsenal – the very phenomenon that originally ignited Western interest in the operational level – has unexpectedly re-occurred to defy, and even overturn, the age of postmodern liberal globalisation. The counterinsurgency theorists who only a decade ago pronounced verdicts that 'conventional war is a thing of the past' and that irregular warfare was the future of armed conflict are now proven to be spectacularly wrong.[57]

54 For a useful discussion see Barry D Watts, *US Combat Training, Operational Art, and Strategic Competence: Problems and Opportunities,* Center for Budgetary and Strategic Assessment, Washington DC, 2008, pp 33–42 and chs 4–5.

55 Naveh, *In Pursuit of Military Excellence*, pp 2–8.

56 Naveh, *In Pursuit of Military Excellence*, p 8.

57 Greg Mills and David Richards, 'Introduction: Contemporary insurgency' in David Richards and Greg Mills (eds), *Victory Among People: Lessons from Countering Insurgency and Stabilising Fragile States*, RUSI, London, 2011, p 1; John Arquilla*, Insurgents, Raiders and Bandits: How Masters of Irregular Warfare Have Shaped Our World*, Ivan R Dee, Plymouth, 2011, ch 20.

As American and NATO force commanders contemplate what conventional Russian military aggression in eastern Europe means for the West, it is a good bet that they are not debating theoretical solecisms over operational warfare. Instead, they are likely to be busy contemplating Lieutenant General Kiszely's injunction: 'the operational level is determined where operational art is practised'.[58] In other words, the operational level and the operational art are dichotomies of planning and design execution and of 'pitch and game' – dichotomies that must be woven into a skillful tactical composite that serves the demands of policy and strategy.

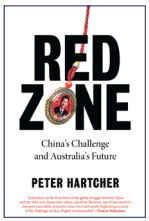
Friedman's work appears at a time when its natural audience of younger Western veterans of Iraq and Afghanistan are faced with the challenge of adjusting their military thinking away from their military experience. A military generation weaned on fighting insurgents and militias must now orientate itself towards a reconsideration of conventional conflict against great power militaries and their proxies. Despite its iconoclastic tone and weaknesses in historical analysis, then, BA Friedman has still contrived to write a provocative book on military theory. Although the author achieves no military theoretical version of Charles 'Lucky' Luciano's 1931 'Night of the Sicilian Vespers', in which the Young Turks wiped out the older Mustache Pete *mafiosi*, Friedman's book is a useful contribution to assessing the processes of operational cognition. While not landing a knockout blow on the operational level of war, *On Operations* does succeed in presenting a synthesis of a 'post-operational level' school of military thought. It is a study that, with its creative ideas on the dialectical character of strategy and tactics and on the politics of war, is well worth the intellectual attention of members of the Western profession of arms.

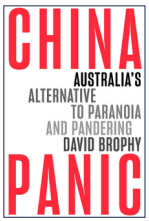
58 Kiszely, 'Thinking about the operational level', p 42.

Review Essay

Worlds apart on China

David Walker





Red Zone: China's Challenge and Australia's Future
Peter Hartcher
Black Inc., Melbourne, 2021.

China Panic: Australia's Alternative to Paranoia and Pandering
David Brophy
La Trobe University Press, Melbourne, 2021.

Peter Hartcher, author of *Red Zone*, is a political and international editor of the Sydney Morning Herald and The Age, is often asked to comment on Australia's relationship with China. Author of *China Panic*, David Brophy is an historian at the University of Sydney with a specialist interest in the Xinjiang region and the development of Uyghur nationalism. They agree on one thing: Australia has a China problem. There agreement ends.

Running through Peter Hartcher's *Red Zone* is a central metaphor drawing on Homer's tale of how the Greek hero Odysseus and his crew become trapped in the land of the lotus-eaters. Setting the scene in his 'Introduction', Hartcher explains that when the crew ate the 'honey-sweet' lotus fruit they quickly abandoned all thoughts of returning home. All they wanted to do was bask in a drugged stupor. Hartcher offers this as a useful metaphor to describe how Australian elites have 'spent years feasting' on the easy profit that came from trade with China. He traces this dependency back to 1977, five years after Australia recognised the Peoples' Republic. As he tells it, after China's dramatic opening to the world, intrepid Australian 'scouts' quickly set forth looking for trade opportunities, the vanguard of an ever-expanding rush of treasure seekers. Hartcher identifies their 'craving' for profit as the fatal flaw leading to a 'national dependency' on the China trade. He contends that these elites were ensnared in a clever trap set by the 'godlike beings who controlled the supply of the lotus' – none other than 'the chieftains of the Chinese Communist Party'. Hartcher emphasises that until recently, Canberra's politicians did little to address Australia's dependency.

There is no clear consensus about the drug Homer had in mind when speaking of 'lotus fruit'. Hartcher claims it was the narcotic blue water lily from the Nile, but

others argue that it may very well have been the opium poppy. Given that it was the Western powers who introduced opium to China in the nineteenth century as part of a strategy to open up the country to trade – a strategy that led to the Opium Wars – this metaphor of drug-dependent lotus-eating rides roughshod over a sensitive period in China's history.

Next, we may ask who were the Australian elites Hartcher claims were getting hooked on the 'opioid temptation of effortless, limitless profit'? They were selling iron ore and other minerals, or exporting wool, beef, wine and barley, pharmaceuticals, coal and natural gas. The universities were in on the act, vying for fee-paying Chinese students. Tourist operators also sought their slice of the growing market. Can these diverse endeavours be properly characterised as 'effortless'? A lot more goes into securing export markets than Hartcher would have us believe. Moreover, Australia did not act alone. US President Jimmy Carter had moved quickly to grant China 'most favored nation' tariff status in October 1979.

Thirdly, how adequate is Homer's tale as a guide to Australia's postwar relations with rising China? In *Red Zone*, the complex and often fraught process of reorienting Anglo-Celtic Australia towards engagement with China is reduced to sleepwalking into a carefully laid trap. As an attempt to explain the complex manner in which a society that down to the 1940s described itself as '98 per cent British' came to recognise its geopolitical position as part of Asia, this is quite ahistorical.

Through the late 1960s, politically astute John McEwan, Leader of the Country Party, Deputy Prime Minister and Minister for Trade called upon the experienced economist and senior public servant John Crawford to seek opportunities for new markets in Asia.[1] Both men were seasoned strategists who understood that Australia's economy was becoming very vulnerable as Britain turned to Europe. Asia offered trading possibilities but reaching these markets was difficult. Moreover, it proved far from easy to persuade the Australian public, many of whom were still emotionally attached to the idea of 'White Australia', that its economic future lay in Asia. It was no coincidence that Australia's decision to recognise the People's Republic of China coincided with the negotiations that led Britain to enter the European Community on 1 January 1973. Once Australia's reorientation was deemed necessary, a host of complex challenges emerged. To make the move, Australia required a less Eurocentric education system, one capable of equipping the nation with necessary language and cultural skills.

1 David Walker, *Stranded Nation: White Australia in an Asian region*, UWA Publishing, Crawley WA, 2019.

The makeover proved a slow, laborious and not always successful process.[2] In consequence, moves from Australian business into Asia and particularly into China did not occur in any kind of headlong rush.

As the case for engaging with Asia intensified, so did the pushback. The Menzies government had faced sharp opposition from returned servicemen's organisations as it signed the 1957 trade agreement with Japan. Trading with defeated Asian enemies was one thing, trading with communists was quite another. In 1918, Lenin had warned that the road to Paris (and therefore Australia) lay through Beijing. In the 1950s and 1960s, conservative commentators were quick to point out that the infinitely patient Chinese were determined to fulfil Lenin's prophesy. In 1957, the Catholic intellectual BA Santamaria, warned that China had a three-stage plan for 'revolution by stealth' in Australia, a plan that started with trade. The following year the British journalist, Malcolm Muggeridge, toured Australia, warning that Mao's China would invade within 15 years. In 1962, the front cover of journalist Denis Warner's book *Hurricane from China* shouted, 'What you MUST know about Mao Tse-Tung's plan for world conquest'.[3]

With the benefit of hindsight, we can see that these fears were vastly overstated. Trade continued unabated. As Hartcher points out, by 2019, 38 per cent of Australia's exports were going to China. By this time, China had grown enormously in economic terms, and by 2013 had lifted 850 million people out of poverty. With economic strength came political power, and China began to flex its muscles on the world stage. But it was often perceived as behaving badly. Hartcher condemns not only China's aggressive stance in the South China Sea and its political pressure on Hong Kong, but also its genocidal treatment of the Uyghur minority in Xinjiang Province. He describes how China was throwing its weight around: using cash to peddle influence with tiny Pacific nations, harassing Australian journalists working in China and trying to buy Australian politicians with electoral donations. China was also acquiring large portions of Australian farmland and real estate, commanding strategic assets like the Port of Darwin and hounding Chinese Australians. Last, but not least, Hartcher warns that China poses a continued and increasing cybersecurity threat. It all makes for a long charge sheet and arresting media coverage. Over time, the Australian people have begun to take notice. By 2016, according to a Lowy Institute poll, eight out of ten Australians had concerns about China's human rights record.

As Hartcher outlines, Malcolm Turnbull was the first Australian prime minister to take decisive action. He introduced a bill to curb foreign interference in December

2 Christine Halse (ed), *Asia Literate Schooling in the Asian Century*, Routledge, London, 2015.

3 Walker, *Stranded Nation*.

2017. In August 2019, Turnbull ensured that the Chinese telecommunications firm Huawei was excluded from Australia's 5G network; Australia was the first country globally to do so. In 2020, Prime Minister Morrison consolidated Australia's stance. He raised Chinese ire by calling for an international enquiry into the origins of COVID-19. Hartcher details how China responded by instigating costly trade boycotts, warning its students not to study in Australia and its tourists not to visit. In addition, a typewritten list of 14 'grievances' against Australia was issued by the Chinese Embassy in Canberra.

China panic

Brophy addresses all these issues but gives them a wider international context and a different explanatory framework. He traces China's path from isolation to global engagement. Addressing America–China rivalry, Brophy describes the growing competition between these two superpowers in Asia, the vast ambition of China's Belt and Road initiative and the emergence of very sophisticated tech warfare. This sets the scene for a discussion of Australia's difficult balancing act as it attempts to protect its China trade while strengthening its alliance diplomacy and security in its Pacific backyard.

Brophy insists that it is not possible to understand the collapse of the Australia–China relationship over the past five years without taking into account the role that Australia has played in fomenting the China threat. While clearly a China specialist, Brophy cannot be dismissed as an apologist for China or as an uncritical 'Panda-hugger'. He is critical of China's poor human rights record, particularly in Xinjiang and its brutal crackdown on the democracy movement in Hong Kong. In both cases, he provides considerable historical context to support his position. In insisting that Australia in turn looks to its own record, Brophy is not attempting to exonerate, mitigate or deflect blame but to make the point there are two sides to any bilateral relationship.

Unlike Brophy, but like many others in the media, Hartcher sees his role as making a case for the prosecution. His mission is waking up a sleeping nation to the China threat. In contrast, Brophy sees the emergence of China *panic* as a social and political phenomenon requiring explanation. From the 1970s, sociologists and criminologists have researched examples of disproportionate responses to perceived threats to the social order. The foundational study was Stanley Cohen's *Folk Devils and Moral Panics* (1972), which examined British outrage at the behaviour of Mods and Rockers.[4] Cohen contended that such reactions were typically tendentious ('slanted in a particular ideological direction')

4 Stanley Cohen, *Folk Devils and Moral Panics,* MacGibbon and Kee, London, 1972.

and misplaced. Case studies examined by Sarah Wright Monod, show that it was almost impossible for a 'moral panic' to develop without active involvement of the media. The media amplify and dramatise the fear and in the name of law-abiding citizens, and the nation more broadly, demand action from political representatives.[5]

The difference in approach between Hartcher and Brophy is evident in their treatment of comments made by the outgoing director of ASIO, Duncan Lewis. In 2018, Lewis claimed that foreign interference in Australia was 'unprecedented' and that in 2019 it had become an 'existential threat'. Later, in a post-retirement interview, he made it clear that this threat came 'overwhelmingly' from China, a country that was employing 'insidious tactics' to take over the Australian political system. In both his Quarterly Essay, 'Red Flag', and in *Red Zone*, Hartcher reports Lewis's comments without further interrogation. They are accepted as authoritative assessments from an unimpeachable source. Brophy, on the other hand, questions both the timing and the purpose of Lewis's remarks. He asks what exactly the 'insidious tactics' are and positions ASIO as the nerve centre of a security system that has its own agenda. Any security agency will have a vested interest in identifying threats and perhaps in cultivating images of China as a 'uniquely dangerous country'. Brophy claims that Australia's security agencies have too often said 'trust us', adding that 'many journalists have obliged'. Brophy does not dismiss the China threat outright – it may well have substance. But he makes the case that in a democratic society we have a right to examine the evidence first before accepting this argument in its entirety.

The concept of an 'existential threat' to Australia also requires examination. Such language is commonly applied to the state of Israel, surrounded as it is by hostile neighbours, many of whom do not recognise its legitimacy. Australia is far from being in a comparable situation. In a world threatened by the Covid-19 pandemic and by climate change, the elevation of attempts by China to influence Australia's political system to the level of an 'existential threat' is both disproportionate and a politically convenient distraction.

The idea that Australia may be annihilated by invasive Asia has a long history. In 1901, when the Commonwealth of Australia was established many feared that the infant nation would not survive long. This threat often appeared in fiction. Over 50 Australian novels have dealt with fears of Asian invasion from William Lane's serialised story, *White or Yellow: A Story of the Race War of AD 1908*,

5 Sarah Wright Monod, *Making Sense of Moral Panics: A Framework for Research*, Palgrave Macmillan, Switzerland, 2017.

which appeared in 1888, to *Bruny* by Heather Rose, published in 2019.[6] One of the common tropes in this literature is the idea of cunning and determined oriental masterminds taking advantage of a naïve and complacent nation. We should look behind the rhetoric to understand the wider context – why this persistent motif? What cultural function does it serve?

Lane's invasion story was designed to warn Queenslanders about political interference from wealthy Chinese, the dangers of a mixed-race future and the problems they faced defending a largely 'empty' land. In the late 1880s, Sir James Bevan Edwards, commander of British troops in China undertook a review of military defences in the Australian colonies.[7] He found colonial troops uncoordinated, poorly trained and ill equipped. Moreover, notorious differences in the width of railway gauges made it impossible to move troops expeditiously to points of danger. To him, it was clear the colonies had to federate so that a national army could be established. The premier of New South Wales, Henry Parkes agreed. Parkes struck a mighty chord when he reminded colonists that the thing which brought them together and which provided the foundation of nationhood was their 'crimson thread' of kinship – their shared British blood. Sinophobia is not an incidental factor in the story of Federation. It served as a catalyst by strengthening the argument that the scattered colonies needed to join forces if they were to secure their place as a white nation on the edge of Asia.

Today, the China threat still pushes us towards maintaining alliances with the Anglosphere. Hartcher criticises Australia for clinging to an outdated vision of the US 'as its mighty and ever-dependable saviour'. He argues that Australia must accept 'this is an imaginary America'. It is worth noting that many Asian countries including Japan, The Philippines, South Korea and Vietnam seem less agitated about China's rise than Australia. How is this explained? Brophy argues that Australia's 'China panic' is, at least in part, a response to the 'America First' nationalism of former President Donald Trump. The Coalition government grew concerned that America's willingness to maintain its dominance in the Indo-Pacific was waning and felt it should be fortified. Raising the threat of China would help do this. Australia stepped forward as a willing 'canary in the coalmine'.

Australia has long feared being isolated in an Asian world, appealing for recognition and protection from Britain and America, its Anglo-Celtic friends. In the 1890s, the influential Victorian politician and historian, CH Pearson, noting

6 Jessica Gildersleeve, *The Routledge Companion to Australian Literature*, Routledge, New York, 2021; Heather Rose, *Bruny*, Allen & Unwin, Sydney, 2019.

7 Louise C Johnson, Tanja Luckins, David Walker, *The Story of Australia: A New History of People and Place*, Rutledge, London, 2022.

Australia's vulnerability to the rise of China, described the Australian continent as the last Aryan homeland available to the 'higher races.' This moved Australia in geopolitical terms from the forgettable margins of Empire to the centre of a great global contest for power and influence. Pearson's book was read with keen interest in both Britain and the United States. The poet, Henry Lawson, popularised Pearson's arguments by describing Australia as the last 'outpost of the white man's race'. In 'Song of Australia' (1908), he called on his countrymen to let Europe know that in this far-off continent, a new civilisation would be born. Australia mattered.[8]

As Pan and Hagström have noted,[9] Australia today remains uncertain about its place and identity as a middle power in a rapidly changing strategic environment. This is *ontological insecurity*, giving rise to profound doubts about identity, continued existence and relationships with other countries. They argue that Australia's neoliberal political stance in an era of increasing globalisation makes government more responsive to market forces but less responsive to popular democratic processes, increasing generalised feelings of anxiety in the community. Raising fears about a 'clearly identifiable external target' (like China) can help alleviate such anxiety. But the fear-laden 'China narrative' may also operate to strengthen the power of the state and 'the power of the national security apparatus'. Under the Coalition government, this has appeared to be occurring. We now have a greatly enlarged Department of Home Affairs, a 'Border Force', many new security laws and markedly increased funding for security. In May 2021, the Morrison government gave ASIO $1.3 billion over ten years in additional funding.

Throughout his analysis, Hartcher continually applies a security lens, admonishing Australians for their ignorance of China's security apparatus. He sees this as 'wilful refusal' to take China seriously, a state of mind he attributes to the addictive power of the China market. Many of his comments focus on the sinister activities of China's United Front Work Department (UFWD), which he warns is linked to at least 300 entities in Sydney alone, most of them involving Australian Chinese. Brophy, for his part, certainly acknowledges that the UFWD is active in Australia, cultivating links with Chinese–Australian organisations but doubts that these 'organisations are directed by, or take instructions from the UFWD'. He sees the UFWD as a rather weak organisation whose work is mainly carried out within China. Claims that China is attempting to infiltrate Australia's population

8 David Walker, 'Significant other: anxieties about Australia's Asian future', *Australian Foreign Affairs*, Schwartz Media, Melbourne, February 2019, AFA5, pp 8–27.

9 Chengxin Pan and Linus Hagström, 'Ontological (in) security and neoliberal governmentality: explaining Australia's China emergency', *Australian Journal of Politics & History*, 2021, 67(3–4):454–473. https://doi.org/10.1111/ajph.12785

of 1.2 million Chinese has potential for social unrest. Both Hartcher and Brophy agree that as the Australia–China relationship deteriorates, this population needs to be protected from xenophobia and racism.

Both Hartcher and Brophy believe that Australia's best way forward is to strengthen its democracy. That said, Hartcher is more inclined to set a binary opposition between 'good' Australian values and 'suspect' Chinese ones; whereas, Brophy sees the values debate as unhelpful because it is too politicised. It has re-energised the right. He notes with some surprise that Australia is said to share values with Vietnam but not with China, although both are communist regimes. Hartcher is inclined to accept that there is a rules-based international order, while Brophy notes discrepancies and double standards in how these rules are applied. Brophy argues that the problem for the global order is not that China has broken the rules, but that China has learned how to opportunistically apply them.

Hartcher sees China as a real and immediate threat, arguing that it wants to 'buy or bully or break' Australian sovereignty. Brophy argues that Australia's sovereignty is less constrained by China than by American installations at Pine Gap. In the event of war, if America acts, Australia would be under considerable pressure to follow. It is of interest to raise the case of Finland as examined by Jared Diamond.[10] Faced with the security challenge of its long border with Russia, Finland has participated in constant negotiations with its communist neighbour. Two of its leading postwar prime ministers spoke fluent Russian. While accepting some restraints, tiny Finland has been able to retain its sovereignty, becoming a modern industrial nation and a progressive liberal democracy with a high standard of living and one of the best education systems in the world. Diamond argues that it was the dialogue, engagement and cultural respect for its large communist neighbour that allowed this evolution to take place. Putin's invasion of Ukraine has, however, now changed Finland's stance and both it and Sweden are set to join NATO.

Hartcher ends his book by returning to the story of Odysseus and his crew. Having got away from the lotus-eaters, they faced another dreadful danger – the giant one-eyed Cyclops. To escape, the Greeks blind Cyclops by driving a stake through his single eye then employ some clever trickery to evade his clutches. This is a disturbing and brutal endpoint. If by analogy, China is a vengeful one-eyed 'man-mountain' who can only be defeated by violence and trickery, where does that leave Australia? Brophy is more even-handed. His particular concern is that in trying to combat China's rise and the real security challenges this

10 Jared Diamond, *Upheaval: How Nations Cope with Crisis and Change*, Allen Lane, London, 2019.

presents Australia has adopted too many secretive and illiberal responses that both weaken its human rights credentials and harm its democracy. Brophy sees a new ‘progressive politics’ as one way forward. The prospects for this do not seem promising. At a recent address to the National Press Club in Canberra, the Leader of the Australian Labor Party, Anthony Albanese refused to criticise the government for the deterioration of the bilateral relationship. He insists that it is China that has changed, not Australia. It seems that both major political parties have no appetite for a re-evaluation and searching analysis of how the Australia–China relationship might be improved.

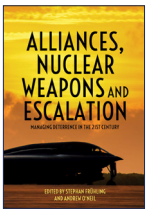
Reviews

Alliances, nuclear weapons and escalation: managing deterrence in the 21st century

Stephan Frühling and Andrew O'Neil (eds)

ANU Press, Canberra, 2021.

Reviewed by Michael Clarke



It is now commonplace to assert that 'great power competition' is one of the defining characteristics of the contemporary strategic environment. Part and parcel of this condition is a return of nuclear weapons and nuclear strategy to a place of prominence in contemporary international security policy and debate not seen for decades.

Russia, as demonstrated in the lead-up to and after its invasion of Ukraine, has been prepared to tout its nuclear weapons capabilities as a means of achieving escalation control during crises.[1] Beijing, meanwhile, is in the midst of a significant nuclear force modernisation that may signal a shift away from the 'minimum deterrent' posture it has maintained for decades towards what two respected analysts term a 'medium deterrent' posture that 'will position China between the smaller nuclear-armed states (France, Britain, Pakistan, India, Israel, and North Korea) and the two big ones (Russia and the United States)'.[2] All the while, technological advances are offering the prospect of new weapons systems – such as hypersonic missile –that appear likely to undermine the basis of stable nuclear deterrence between the great powers and stimulate new arms racing dynamics.[3]

Such developments, as Stephan Frühling and Andrew O'Neil argue in their introductory chapter to this timely volume, have 'roused' nuclear

1 John Daniszewski, 'Putin waves nuclear sword in confrontation with the West', *CTV News*, 26 February 2022, https://www.ctvnews.ca/world/putin-waves-nuclear-sword-in-confrontation-with-the-west-1.5795596

2 See Hans Kristensen and Matthew Korda, 'China's nuclear missile silo expansion: From minimum deterrence to medium deterrence', *Bulletin of the Atomic Scientist*, 1 September 2021, https://thebulletin.org/2021/09/chinas-nuclear-missile-silo-expansion-from-minimum-deterrence-to-medium-deterrence/

3 Christian Brose, 'The new revolution in military affairs: war's sci-fi future', *Foreign Affairs,* 2019, 98(3):122–134; and Benjamin Zala, 'How the next nuclear arms race will be different from the last one', *Bulletin of the Atomic Scientists*, 2019, 75(1):36–43.

strategy from its post–Cold War 'hibernation'.[4] With 18 succinct chapters by an outstanding list of international experts, the volume they have edited makes an important contribution. It focuses our attention on the role of nuclear strategy, alliances and extended deterrence in managing the potential risks of escalation in great power competition and of overt conflict in Euro-Atlantic and Indo-Pacific geostrategic environments.

The core question that the volume addresses in this regard is: how can US allies 'achieve credible threats of military escalation, including through use of nuclear weapons, to deter attacks by nuclear-armed powers'? As the four-part structure of the book makes clear, grappling with this question encompasses dilemmas centred on: (1) nuclear deterrence and strategic stability; (2) allied political–military coordination for crisis escalation; (3) the integration of nuclear and non-nuclear deterrent capabilities; and (4) public discourse on nuclear weapons and extended deterrence.

Part I of the book examines nuclear deterrence and strategic stability in the Indo-Pacific. The essence of strategic stability is to limit incentives for states to launch a first strike by ensuring secure second-strike capabilities. During the Cold War, the prospect of near-certain nuclear retaliation and escalation – should either the US or Soviet Union attempt a disarming first strike against the other – appeared to provide sufficient basis for mutual nuclear deterrence and thus stability in their strategic relationship.[5]

However, each of the contributions in this part of the book, comprising chapters by Elbridge Colby, Oriana Skylar Mastro, Jeffrey Larsen and Heather Williams, suggest significant challenges to the replication of such a scenario in the Indo-Pacific context. Colby, formerly Deputy Assistant Secretary of Defense for Strategy under the Trump administration, argues that the central challenge for the US and its allies is how to frustrate Beijing's drive for regional and global 'preeminence' *without* reliance on US extended deterrence.[6] Due to the fact that US stakes in the region 'are grave but not existential', strategies that 'rely too much on nuclear weapons for deterring and defeating China' will be neither credible nor 'sensible'. Rather, Colby asserts the US and its allies must focus on 'ensuring an

4 Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, pp 2–3. http://doi.org/10.22459/ANWE.2021

5 Thomas Schelling noted here that: 'If both sides have weapons that need not go first to avoid their own destruction, so that neither side can gain great advantage in jumping the gun and each is aware that the other cannot, it will be a good deal harder to get a war started. Both sides can afford the rule: When in doubt, wait.' Thomas Schelling, *Arms and Influence*, Yale University Press, New Haven CT, 1966, p 246.

6 Elbridge Colby, 'US defence strategy and alliances in the Indo-Pacific', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, p 14.

effective conventional defence' of what he terms, somewhat incongruously, an 'anti-hegemonic coalition' (that is anti-Chinese coalition) with the US nuclear arsenal 'reserved to deter China from escalating its way out of conventional defeat'.[7]

The relevance of this pathway to escalation is underscored by Oriana Skylar Mastro's chapter examining the relative importance of nuclear deterrence in Sino–US relations. She notes that although China's current nuclear doctrine reduces the strategic importance of nuclear weapons in Sino–US relations, this could be overturned by conflict over Taiwan. Mastro argues that the 'impetus and nature of the [potential] war from China's perspective' will determine the prospects for escalation and de-escalation and distinguishes between 'reactive' and 'proactive' pathways to conflict.[8] A reactive pathway – precipitated by actions by Taipei or Washington that China perceives as a direct attack on its interests – may compel Beijing to respond 'by implementing the highest intensity military option' (that is nuclear use). While this remains a possibility, Mastro makes a persuasive case that this is not a probable scenario. Rather, a 'proactive' pathway of escalation is more likely, in which Beijing uses a range of instruments below the nuclear threshold to gradually ratchet up pressure on Taipei. Such an outcome, Mastro judges would provide greater opportunity for de-escalation.[9] In either case, 'the prospect of allied involvement is the greatest deterrent against a proactive Chinese use of force'. However, while their involvement 'will reduce the likelihood that the conflict will escalate to the nuclear level', the trade-off is it 'increases the likelihood they will become a military target'.[10]

China is also central to the challenges examined by Jeffrey Larsen and Heather Williams. Larsen provides a comparative discussion of US nuclear cooperation in the Euro-Atlantic and Indo-Pacific contexts. He finds that while such cooperation is less structured and formalised in the Indo-Pacific – as US efforts are structured around NATO in the Euro-Atlantic but in the

7 Colby, 'US defence strategy and alliances in the Indo-Pacific'. This, Colby suggests, poses problems for Australian defence strategy as rather than 'fielding a military optimised' for either expeditionary operations in the Middle East or the 'territorial defence of Australia' as in the recent past Canberra should focus on developing capabilities that will assist the US and other Asian allies 'achieve their joint objectives in key scenarios the Western Pacific'.

8 Oriana Skylar Mastro, 'Nuclear deterrence and the US–China strategic relationship', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, p 31.

9 We have arguably already seen this type of scenario develop over the last two years with Beijing's increased use of a variety of conventional and non-military means to attempt to coerce Taiwan. See for example, Sheryn Lee, 'Towards Instability: The Shifting Nuclear-Conventional Dynamics in the Taiwan Strait', *Journal for Peace and Nuclear Disarmament* (2022), pp 1–13. https://doi.org/10.1080/25751654.2022.2055912

10 Mastro, 'Nuclear deterrence and the US–China strategic relationship', p 35.

Indo-Pacific around largely bilateral arrangements – the core US objective of reassuring allies remains constant. Yet, as Larsen rightly notes, in each instance the US's ability to achieve their objective hinges to a considerable degree on allies' belief in the credibility of US extended deterrence commitments. As we saw during the Trump presidency, the extent of this belief can wax and wane depending on the occupant of the White House.[11]

Williams's chapter, in turn, provides a needed reflection on the relationship between arms control and strategic stability and the prospects for such a linkage in the Indo-Pacific. A central challenge given the marked disparity in US, Russian and Chinese nuclear arsenals and capabilities is adequately incentivising Beijing to engage in arms control negotiations. Williams argues that rather than seeking to 'replicate US–Soviet arms control or fitting China into existing arms control structures', the US and others should consider a 'more practical approach' focused on 'crisis management as a means of promoting transparency and dialogue'. Before such an approach is dismissed as no longer practicable given the deterioration of Sino–US relations and the latent arms racing dynamic between the two, we would do well to recall the manner in which US–Soviet crises during the Cold War often served as weigh stations on the road towards formalised bilateral arms control agreements.[12]

Part II explores how US alliances across Europe and the Indo-Pacific seek to manage the political, financial, and material costs and benefits of deterrent strategies. A particular focus of the contributors is on how – or if - allies plan for escalation scenarios. Sten Rynning argues that NATO's efforts in this context are framed by the fact that it is 'explicit on defence and deterrence posture' but 'deliberately vague on escalation'.[13] This partly reflects a historic division between European and American interests, whereby the former 'prefer threats of rapid escalation' in order to prevent 'Europe turning into a theatre of protracted warfare', while the latter, concerned that such threats lack credibility, 'has tended to favour more paced escalatory options'.[14] This presents NATO with a considerable problem in the contemporary context, as it requires not only a sufficiently decisive posture to 'deny Russia

11 See for example, Keren Yarhi-Milo, 'After credibility: American foreign policy in the Trump era", *Foreign Affairs*, 2018, 97(1):68–77.

12 See for example, Jon B Wolfsthal, 'Why arms control?', *Dædalus,* 2020, 149(2):101–115; Hal Brands, 'Progress unseen: US arms control policy and the origins of détente, 1963–1968', *Diplomatic History* 2006, 30(2):253–285; and Avis Bohlen, 'The rise and fall of arms control', *Survival,* 2003, 45(3):7–34.

13 Sten Rynning, 'NATO: Ambiguity about escalation in a multinational alliance', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, p 67.

14 Rynning, 'NATO: ambiguity about escalation in a multinational alliance', p 68.

opportunities for limited aggression' but also 'strict measures of political control' to prevent local crises from escalating.[15]

Seukhoon Paul Choi and Tomohiko Satake turn our attention to South Korea and Japan respectively. While both states have bilateral alliances with the US and face similar threats in their immediate neighbourhood (that is North Korea and China) both contributors demonstrate how Seoul and Tokyo face distinctly different challenges in managing deterrent strategies. For Seoul, the challenge is to plan for three potential escalatory pathways: Chinese intervention in a Korean Peninsula contingency; a regional Sino–US crisis; and responding to further nuclear and missile brinkmanship from Pyongyang. Choi highlights well how the South Korea–US alliance lacks a 'shared understanding of escalation dynamics and of the role of deterrence' across each of these contingencies. Satake meanwhile notes that Japan under the Abe government tried to make its alliance with the US more 'symmetrical' in response to the perceived decline in its security environment. This was manifest through Prime Minister Abe's efforts to push through a variety of defence reforms and capability acquisitions such as F-35 fighters, *Izumo*-class destroyers and development of a hypersonic anti-ship missiles. Satake demonstrates, however, that while such 'incremental' reform of Japan's defence policy continues to be constrained by both public opinion and the effect of the post-1945 legal and institutional limits of the role of the Self-Defence Force (SDF) a more problematic issue is how such reforms have in fact contributed to an escalation dilemma for Tokyo. Satake pointedly notes that the new defence capabilities have been justified as a necessary measure to enable Japan to respond, in particular, to Chinese 'grey zone' activities, yet such efforts to deter 'could also escalate matters beyond grey zone situations'.[16] Ironically, this 'inevitably makes Japan even more dependent' on US extended deterrence as its security environment deteriorates.

Brendan Sargeant closes out Part II with a thoughtful examination of the alliance management challenges confronting Australia, most notably how Canberra would respond to a Sino–US crisis. He identifies two distinct challenges in this context: how Australia might 'participate effectively in a global alliance system managed by the US and underpinned by US nuclear capability' and developing 'effective conventional deterrence'

15 Rynning, 'NATO: ambiguity about escalation in a multinational alliance', p 70.

16 Tomohiko Satake, 'Japan: the political costs of deterrence', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra 2021, p 100.

capable of addressing 'major power' threats in 'Australia's near region'.[17] With respect to the former, Sargeant notes that in the recent past a relatively stable strategic environment where major crises were resolved or managed by the US (and other great powers) provided Australia with considerable discretion as to when and how it contributed to allied deterrence efforts. That discretionary space has arguably been considerably narrowed by deepening Sino–US rivalry over the past decade and the increased risks for escalation in a variety of regional contingencies that that rivalry may imply.[18] Thus Sargeant argues 'time is an increasingly diminishing resource' for Australian strategic and defence policy. The narrowing of Australia's discretionary space, in turn, has implications for alliance management. In particular, it leads to sharper questions about the types of escalatory scenarios Australia should be preparing for and the types of conventional capabilities it will require to contribute to allied efforts to address them.

Part III of the volume examines the role of nuclear and non-nuclear deterrent capabilities in allied posture. Lukasz Kulesa explores the impact of new technologies (for example cyber) on NATO's evolving deterrent posture. While the 'integration of new capabilities and domains into the deterrence and defence toolbox seems inevitable', he argues, it may in fact also pose a latent challenge to NATO unity and coherence. This is due to the fact that 'if the US or other allies were able to provide advanced strategic non-nuclear assets for common defence and deterrence' it may incline some to 'reduce the "traditional" contributions of their armed forces' to NATO.[19] More immediately, the potential integration of new technologies into NATO deterrent posture may hold escalatory challenges, given Russia's demonstrated willingness to not only brandish its nuclear arsenal but also pursue confrontation and/or coercion across multiple domains. Alexander Mattelaer focuses on NATO's nuclear sharing arrangements. He argues that despite some contemporary challenges the forward deployment of US nuclear weapons and the varying degrees of support provided by NATO allies to hosting, fielding and delivering such capabilities retains a threefold logic. It restrains horizontal proliferation pressures amongst allies, underpins NATO political cohesion and strengthens the credibility of NATO deterrent posture. Mattelaer

17 Brendan Sargeant, 'Australia: maximising deterrence in an untested alliance', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, p 105.

18 Sargeant, 'Australia: maximising deterrence in an untested alliance', pp 107–108.

19 Lukasz Kulesa, 'New capabilities and nuclear deterrence in Europe', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, p 117.

suggests that the second of these has become the most important function, as 'nuclear sharing ties different allies together' in a manner that 'ensures that their security is indivisible'.[20] This, it should be noted, has arguably been underlined by the US and NATO response thus far to the Russian invasion of Ukraine.

Michito Tsuruoka, Manashi Murano and Andrew Davies then provide examinations of the role of US nuclear capabilities in North-East Asia, the impact of new capabilities and technologies on deterrence in North-East Asia, and how new technologies challenge Australian strategic policy, respectively. Tsuruoka notes that as the balance of power in the region shifts in Beijing's favour, extended deterrence will become more important to South Korea and Japan. He makes the case for the replication of some aspects of the NATO model in the region, such as potential commitments from Seoul and Tokyo to host forward deployed US nuclear capabilities.[21] Although he notes that this is fraught with potential costs (for example domestic political opposition), it would nonetheless provide physical 'visibility' of US extended deterrent commitments and thereby enhance the credibility of the same.

Manashi Murano then presents a somewhat provocative argument that the US and its allies need to rethink their Cold War–era doctrine of nuclear deterrence in light of the potential impact of new technologies. In particular, he suggests that a doctrine of deterrence by retaliation (for example to deter an adversary by threat of nuclear response) is no longer fit-for-purpose in a strategic environment, as the deployment by adversaries of non-nuclear strategic capabilities – from hypersonics to offensive cyber operations – may provide them with escalation dominance in crisis scenarios. Andrew Davies contribution, in turn, highlights how the three major comparative advantages that have underpinned Australian defence and strategic policy for decades – Australia's strategic geography, alliance with the US and Australia's relative technological advantage vis-à-vis potential regional challengers – have all been undermined by rapid geopolitical and technological change. Davies pointedly notes here that while in the past the US alliance provided Australia access to cutting-edge military technology, that is no longer necessarily the case with respect to a range of technologies of the so-called 'fourth industrial revolution', which

20 Alexander Mattelaer, 'Nuclear sharing and NATO as a "nuclear alliance"', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, p 126.

21 Michito Tsuruoka, 'US nuclear weapons and US alliances in North-East Asia', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, pp 136–137.

may dominate our strategic environment in the coming decades.[22]

The volume concludes with Part IV's examination of an often neglected aspect in commentary: public discourse about nuclear weapons and deterrence. Michael Ruhle's chapter demonstrates that despite cycles of increased advocacy for nuclear disarmament amongst NATO countries, the alliance's nuclear component in fact remains a key element of reassurance in the face of increasing Russian challenges to European security. Australia, argues Tanya Ogilvie-White, faces a number of 'legitimacy' challenges with respect to its stance vis-à-vis nuclear deterrence and nuclear disarmament. While some of these are of long standing, for example simultaneous reliance on US nuclear extended deterrence and advocacy of non-proliferation and disarmament agendas, Ogilvie-White suggests that amid the increasing salience of nuclear weapons, as great power competition unfolds, 'it is becoming harder to deny' that this position places Canberra 'in the role of nuclear enabler and disarmament laggard'.

Brad Roberts concludes the volume with a valiant attempt to mount a moral case for nuclear weapons and deterrence in order to 'build and maintain' a political constituency in the US and amongst allies for nuclear deterrence. Ultimately, he concludes that while neither 'interested publics…nor their elected officials will soon "learn to love the bomb"' a public debate based on 'a thoughtful and comprehensive review of nuclear policy and posture', and its contribution to national security must be joined.

This volume makes an admirable contribution to this objective by providing a thorough and informed yet concise set of chapters on the core escalation, extended deterrence and alliance management challenges confronting the US and its allies. It is a worthy addition to the bookshelf for anyone concerned with the shape of the global strategic environment in the years to come.

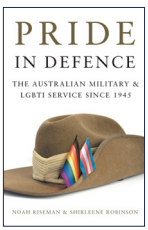
22 Andrew Davies, 'Australia's shrinking advantages: how technology might defeat geography', in Stephan Frühling and Andrew O'Neil (eds), *Alliances, Nuclear Weapons and Escalation: Managing Deterrence in the 21st Century*, ANU Press, Canberra, 2021, pp 152–155. For the "fourth industrial revolution" see David Barno and Nora Bensahel, 'War in the fourth industrial revolution', *War on the Rocks* [website], 19 June 2018. https://warontherocks.com/2018/06/war-in-the-fourth-industrial-revolution/

Pride in Defence: the Australian military and LGBTI service since 1945

Noah Riseman & Shirleene Robinson

Melbourne University Press, Carlton Vic, 2020

Reviewed by Dana Pham



Had you asked me a decade ago if I would be openly transgender whilst serving in the Australian Defence Force (ADF), I would have said no. As detailed in *Pride in Defence: The Australian Military and LGBTI Service Since 1945*, I was "a bit 'panicked" before starting RAAF Officer Training School' in 2014.[1]

I had 'stopped being open about being trans. I more or less kept quiet about my trans status for most of my first year in the ADF. I was afraid of what people would think of me if they found out. I was so used to being openly trans, the new silence was suffocating. It turned out that my silence was unnecessary. Slowly, but surely, I steeled myself to come out to a handful of people, then another handful, then some more. Then eventually, I was openly trans again, with zero consequences in the workplace or socially. I vowed to never to be so irrational again.'[2]

My silence was due in part to pop culture, and the mainstream and social media that gave me funny ideas about what to expect upon joining Air Force. In spite of this, I continue to be 'humbled by the overwhelming acceptance by subordinates, peers, and superiors of my transgender status… what ultimately matters to [my] colleagues is that [I] can perform [my] job effectively and render honourable service to the nation.'[3]

My story is an ordinary story to retell in the year 2022, but it is one of many extraordinary stories to tell in the context of Defence's history. Since the Second World War, Defence has undergone remarkable transformations in their treatment towards lesbian, gay, bisexual, transgender

1 Noah Riseman and Shirleene Robinson, *Pride in Defence: The Australian Military and LGBTI Service Since 1945*, Melbourne University Press, Carlton VIC, 2020, p 194.

2 Dana Pham, 'Growing up transgender and Vietnamese in Australia', *Empowered Trans Woman*, Medium [website], 7 April 2019. https://medium.com/empowered-trans-woman/growing-up-transgender-and-vietnamese-in-australia-3eb4b63285b8

3 Connor Haas, 'Transgender personnel provide outstanding military service in Australia', *DEFGLIS* [website], n.d. https://www.defglis.com.au/news/330-transgender-personnel-provide-outstanding-military-service-in-australia

and intersex (LGBTI) service personnel. These transformations were, and still are, a response to the silence. Noah Riseman and Shirleene Robinson confront that silence in *Pride in Defence*, including that of yours truly. The book charts the changing policies and practices of Defence, telling 140 stories of LGBTI members and ex-members in what was often a hostile institution.

A story in the book that really stands out is that of Senior Lieutenant Alix Blundell. Ms Blundell, an education officer in the Australian Army, was summoned to a surprise interview at Lavarack Barracks, Townsville, on 21 June 1988.[4] Subsequently, she was brutally and aggressively interrogated in an attempt to pressure her into confessing to homosexual behaviour, and to implicate other peers in said behaviour. This was a time when LGB members were still banned from serving in Defence, where there was an instruction stipulating that offenders, including suspects, should be treated 'sympathetically and with discretion'.

However, during the interrogation, Ms Blundell was in intense physical pain due to ongoing injuries. 'My interrogators made no attempt to obtain a medical clearance as to my fitness for interview,' she said. 'They forced me to maintain a fixed, seated posture and denied me water, pain relief and toilet breaks.' Unlike many of those expelled from Defence under the ban, Ms Blundell fought long and hard to eventually gain redress for the physical and metal injuries she suffered from the interrogation.

As part of her redress package, based on her Defence Abuse Response Taskforce (DART) submission, the then Chief of Army, LTGEN Angus Campbell, apologised to her in person for the abuse she had suffered, followed by a handwritten letter from him, where he described her experience as

> an utterly unacceptable and inappropriate interrogation at the hands of fellow officers you should've been able to trust … Their actions were wrong, inexcusable and extremely damaging to you and your subsequent [post-Defence] life … You were treated in a degrading, damaging and wholly unlawful manner, for which I am deeply ashamed.

Pride in Defence explores the depth of such oral history, including subcultures of interest, the distinctions across the services, and the different experiences of men, women and everyone in between. The book also explores the politics and activism outside of Defence that influenced and evolved LGBTI service, thereby making it the first known scholarly

4 Menios Constantinou, 'Serving in silence: the secret lives of LGBTI diggers in Australia's defence forces', *Impact* [website], Australian Catholic University, n.d. https://www.impact.acu.edu.au/community/serving-in-silence-the-secret-lives-of-lgbti-diggers-in-australias-defence-forces

book to explore why this complex evolution occurred and how it affected Defence personnel.

The book takes a saliently oral history approach due to the lack of LGBTI history in written records until recent times. For example, until recently, the most common archival sites for records on gay men were either in police or psychology files. And since female homosexuality was never criminalised in Australia, the historical silence surrounding lesbians is even more pronounced. Defence is also not immune to such archival research barriers, and privacy and access restrictions imposed by the *Archives Act 1983 (Cwlth)* pose further research problems. The authors were, however, able to source some valuable records kept by LGBTI ex-Defence members, which formed part of the oral history approach.

Oral history interviews, like those detailed in *Pride in Defence*, allow marginalised communities and individuals to frame their past experiences, thereby breaking the silence and filling in historical knowledge gaps. These were synthesised with archival sources to reveal both common themes and the diversity of experiences. One of the challenges of the oral history approach, however, is reliability of memory. Arguably, 140 oral history interviews might not be a representative sample, and when they corroborate common tropes, these interviews may come across as narrator-influenced memories that are inaccurate or unreliable.

Much like the strong link between dominant public narratives of the First World War and the way that ANZAC veterans composed their war memories, arguably, the 140 interviewees could have been in a dialogic relationship with the relevant collective memories. However, this is not always the case and, given the limited visibility of LGBTI Defence members in wider public accounts, it is unsurprising that entrenched Defence policies, practices and culture towards its LGBTI members, in earlier years, led to many more stories not too dissimilar to that of, say, Ms Blundell's.

Further, the interviewees in *Pride in Defence* generally had clear, structured narratives of their military life that corroborate with available written records. Yet there remains little public interest in the historic persecution of LGBTI Defence members, and this book remains the first known scholarly book to take such an interest. Putting my story aside, I strongly commend this book for the veracity of the oral histories compiled by Riseman and Robinson.

Moreover, whilst Defence has come a long way since Ms Blundell's time (and prior), the curtains are not drawing on its LGBTI history – the book is the foundation for understanding current and future LGBTI affairs in Defence. For example, in May 2021, the Defence Gay and Lesbian Information Service

(DEFGLIS) launched their #standproud campaign, which illuminated diversity in Defence that strengthens warfighting capability.[5] This was in response to media reporting during the same month that challenged visible diversity in Defence.[6]

5 Defence Gay and Lesbian Information Service (DEFGLIS), 'DEFGLIS #standproud Campaign Launch', *DEFGLIS* [website], https://www.defglis.com.au/news/369-defglis-standproud-campaign-launch-defence-is-stronger-together.

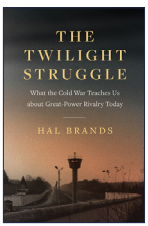
6 *Pride in Defence* is available courtesy of Melbourne University Press: https://www.mup.com.au/books/pride-in-defence-paperback-softback. Any views, opinions, findings, conclusions, and recommendations contained herein are those of the author alone and do not represent the work or viewpoints of Air Force, and the wider Australian Defence Force

The twilight struggle: what the Cold War teaches us about great power rivalry today

Hal Brands

Yale University Press, New Haven, 2022

Reviewed by David Hood



Hal Brands new book, *The Twilight Struggle: What the Cold War Teaches Us about Great Power Rivalry Today*, is a well-crafted evaluation of American Cold War statecraft and, as the subtitle suggests, what the contest between America and the Soviet Union can teach us about today's great power competition.[1] The book explores several strategic themes, is logically structured and easy-to-read.

Brands agrees with many others that great power competition is influential in determining the course of world events.[2] He does, however, go further, suggesting that great power competition is deceptively more normal than we think: the power and influence of such competition often plays out in the background, and over the long-term, as a series of 'twilight struggles' between the 'sunshine of peace' and the 'darkness of war'.[3] Brands subsequently lays out various persistent traits of long-term great power competition, including that it is unsatisfying and indecisive, unfolding over generations and demanding contradictory policies; that it is a test of systems as much as statecraft, with the best strategy being the one that uses state systems to best effect; and that the pressure to succeed is immense, because the costs of failure are enormous.[4] An important part of Brands's argument is that we underestimate the ubiquity, influence, importance and continued relevance of great power competition at our own peril.

Each of the ten core chapters in *The Twilight Struggle* address a Cold War–era challenge that Brands claims has enduring relevance for contemporary statecraft. Unsurprisingly,

1 Hal Brands, *The Twilight Struggle: What the Cold War Teaches Us about Great-Power Rivalry Today*, Yale University Press, New Haven, 2022.

2 For example, see Hedley Bull, *The Anarchical Society: A Study of Order in World Politics*, Red Globe Express, London, 2019; Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000*, Random House, New York, 1987; and John Mearsheimer, *The Tragedy of Great Power Politics*, WW Norton & Company, New York, 2003.

3 Brands, *The Twilight Struggle*, p 1, p 7.

4 Brands, *The Twilight Struggle*, p 7, p 8.

these challenges include the need to craft a winning strategy, which Brands defines as a theory of victory.[5] Other challenges are perhaps less obvious or are often overlooked, such as seeking limits for competition so as to avoid disastrous escalation and having strategic empathy for the enemy. A central theme running throughout the book is the existence of strategic asymmetries between opponents. One of the starkest Cold War asymmetries citied is Soviet secrecy versus American openness. Brands argues that it is essential to exploit one's own asymmetric advantages, while guarding inevitable weaknesses. American strategy was successful in part because it built a range of institutions, and adopted advanced technology, to break through Soviet secrecy. In addition, American strategy capitalised on the honest analysis and debate made possible by an open bureaucratic system, while accepting that such a system could be slower to act compared to the Soviet authoritarian regime.[6]

The concluding chapter examines 12 key lessons for contemporary statecraft. These lessons cover a diverse range of issues including the benefits of strategic patience, the need to focus on sustaining alliances, and the importance of aligning – at least broadly –grand strategy with national values. The last of these lessons is perhaps the most provocative: great power competition must be viewed as a way of life. Brands suggests the Cold War forced Americans to accept that 'the hardships of competition were the alternative to the greater misery of a world in which hostile ideologies and hostile powers were once again ascendant'.[7] This lesson speaks to the very nature of great power competition as a slow, enduring rivalry of great influence. Such great power competition is a grand-strategic issue to be managed, not a problem of statecraft that can be solved.

The book conveys Brands's strong endorsement of America's Cold War grand strategy of containment, which he uses as a yardstick to develop his arguments. For Brands, containment deserves great credit for ensuring there was no rapid reversion to global anarchy after the Second World War, and because it made the world richer and more humane.[8] He boldly argues that containment 'delivered the greatest peaceful victory in the history of great power rivalry'.[9] Notably however, Brands suggests

5 Brands, *The Twilight Struggle*, p 13.

6 Brands, *The Twilight Struggle*, ch 7.

7 Brands, *The Twilight Struggle*, p 252.

8 Brands, *The Twilight Struggle*, p 3.

9 Brands, *The Twilight Struggle*, p 13.

containment did not endure beyond the Cold War for three reasons: China and Russia did not integrate into the post–Cold War world order; the balance of power shifted as America declined in relative terms; and America became distracted and disengaged after September 11, 2001.[10] For me, the lessons of the concluding chapter infer a more fundamental reason why containment did not endure beyond the Cold War: a new grand strategy was *required*. Brands's lessons suggest that grand strategy cannot achieve an enduring cessation of great power competition: *the very nature of great power competition precludes its eradication*. Perpetual peace is an end that is simply unachievable and grand strategies must evolve. This also means grand strategy should be assessed in humble terms. Lawrence Freedman has provided a realistic benchmark:

> strategy is best understood modestly, as moving to [a] "next stage" rather than to a definitive and permanent conclusion. The next stage… may not necessarily be better, but it will still be an improvement upon what could have been achieved with a lesser strategy or no strategy at all. It will also be sufficiently stable to be a base from which to prepare to move to the next stage after that.[11]

One could argue then that in relation to the Cold War, containment was indeed a success; but not because it achieved a 'great peaceful victory', which implies a permanence in the result. Rather containment succeeded in resolving – as definitively as any strategy could – an existing ideological contest. But this 'victory' simply ended one stage of a perpetual twilight struggle that has now taken on a different form. This new struggle requires a new grand strategy, to be contested in the next stage of competition.

The Twilight Struggle covers a complex and broad subject, and Brands rightly trades exhaustive analysis for eloquence and readability. This means, however, that it is a book best read with a knowledge of other works on strategy. Other distinguished experts – such as Robert Jervis,[12] Eliot Cohen,[13] and Joseph Nye[14] – explore some of the lessons discussed by Brands more deeply. There are strong similarities between Brands's focus on strategic asymmetries and the argument made by Edward Luttwak that strategy is par-

10 Brands, *The Twilight Struggle*, p 3, p 4.

11 Lawrence Freedman, *Strategy: A History*, Oxford University Press, Oxford, 2013, p 611.

12 Robert Jervis, *Perception and Misperception in International Politics*, new edition, Princeton University Press, New Jersey, 2017.

13 Eliot Cohen, *The Big Stick: The Limits of Soft Power and the Necessity of Military Force*, Hachette UK, London 2017.

14 Joseph Nye, *Soft Power: The Means to Success in World Politics*, 1st edn, Public Affairs, New York 2004.

adoxical, ironic and passes through phases of action, reaction, culmination, overextension and reversal.[15] Finally, while not addressed in *The Twilight Struggle*, another key lesson from the Cold War that remains essentially relevant today is surely that strategic decision-making is affected by both organisational and political factors, meaning decisions are often non-rational, manifest as collages, and are difficult to predict.[16]

While directly related to American statecraft, the major themes of *The Twilight Struggle* and the key lessons identified by Brands have strong relevance for other nations, including those that do not qualify in the 'great power' category. Great power competition affects not just great powers, and lesser powers can adopt Brands's lessons as part of their grand strategies when attempting to influence such competition. *The Twilight Struggle* is therefore an important resource for any strategist or statesperson in the current era, as they employ statecraft against powers such as Russia and China. We must attend to Brands's lessons, lest the current rules-based global order and liberal democratic systems that the West enjoys end as the Soviet system did in the Cold War: 'more suddenly, peacefully and decisively than almost anyone expected'.[17]

15 Edward Luttwak, *Strategy: The Logic of War and Peace*, rev and enlr edn, Harvard University Press, Massachusetts, 2001.

16 Refer Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, Longman, Harlow, 1999.

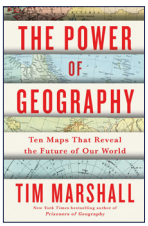
17 Brands, *The Twilight Struggle*, p 209.

The power of geography: ten maps that reveal the future of our world

Tim Marshall

Elliott & Thompson, London, 2021

Reviewed by Sam Brady



> We never think of China as being geographically close to Poland, but Beijing is as close to Warsaw as it is to Canberra.[1]

In this highly anticipated sequel to his 2016 book, *Prisoners of Geography: Ten Maps That Tell You Everything You Need to Know About Global Politics (Prisoners)*, Tim Marshall delves deeper into his core thesis that geography is a fundamental contributor to the state of the world today. Where *Prisoners* focused on the major powers and how geography has shaped their historical development, *The Power of Geography: Ten Maps That Reveal the Future of the World* (*Power*) examines current and potential future flashpoints. Australia, Iran, Saudi Arabia, the United Kingdom, Greece, Turkey, the Sahel, Ethiopia, Spain and space are all covered in this latest volume.

Quick to dismiss the criticism that a focus upon geography is deterministic, Marshall takes a fresh approach and advocates for (quite literally) turning the map upside-down and viewing the world from another perspective. His introductory quote (above) appears in the first chapter on Australia and challenges the reader to consider the world map from a Chinese perspective. It is striking to note, particularly for an Australian audience preoccupied with the local ramifications of China's rise, that China must maintain a 360 degree view of the world.[2] While Australia primarily looks to the north, China must concern itself with Russia, Japan, the Korean Peninsula, Vietnam, Afghanistan and India amongst others on its periphery.

Born in England, Marshall has covered a variety of conflicts as a journalist including the Balkans in the 1990s, Iraq, Afghanistan, Libya and Syria. He is a former diplomatic

1 Tim Marshall, *The Power of Geography: Ten Maps That Reveal the Future of Our World*, Elliott & Thompson, London, 2021.

2 Janes Podcast, 'The Power of Geography interview with Tim Marshall' [video], Episode 58, *Janes Podcast*, YouTube, 24 November 2021, accessed 12 March 2022. https://www.youtube.com/watch?v=X716EpouAKg Also available at https://www.janes.com/intelligence-resources/open-source-intelligence-podcasts/podcast-details/the-power-of-geography-a-conversation-with-tim-marshall

editor and foreign correspondent for Sky News and describes himself as a generalist, 'essentially a hack with a journalist's view'.[3] He is by no means a qualified geographer or historian, but rather than detracting from his analysis, this makes his work accessible to a broader audience. It affords him the opportunity to take greater licence with his narrative than might otherwise be possible in a traditional peer reviewed academic publication. Marshall cites American author Robert D Kaplan as an influence in his approach to this work.[4]

The *Power* provides an accessible overview of potential future flashpoints around the world. It abounds with factual information from which Marshall draws conclusions, which may initially appear simple but are actually quite insightful. For example, he observes that Ethiopia is the source of the Blue Nile, which combines with the White Nile to flow through Egypt. In order to guarantee its water and energy security, Ethiopia has constructed the Grand Ethiopian Renaissance Dam. This dam is capable of regulating the flow of the Blue Nile and, in turn, that of the Nile flowing through Egypt. This may have second and third order effects for an Egyptian populace reliant on the Nile for agriculture and their own water security. Marshall argues that this exploitation of geographic advantage places significant political leverage in the hands of Ethiopia and could lay the groundwork for future conflict with Egypt, particularly if water becomes scarce due to changing climate and demographic pressures.

Marshall assesses the extent to which a nation's geography has shaped its historical development and the role it may play in that nation's future. Does it possess a navigable river system, flowing in a suitable direction to facilitate trade and commerce? Is it surrounded by mountains that might prevent its ability to expand but also provide a barrier against expansionist neighbours? His analysis allows the reader to better understand the geostrategic environment of today and to make an informed assessment of what the future may hold.

This book is useful for developing leaders and strategists interested in the way that geography has shaped Australia (and other parts of the world) and how it may dictate our future. This includes junior military officers, emerging civilian strategists and analysts who will find that this book serves as a primer, a starting point for further exploration. Marshall's narratives are broad and provide a host of statistical data relevant to each potential flashpoint. However, those with niche or specific interests may find only certain sections of the book relevant to them. This book is not intended to be com-

3 Janes Podcast, 'The Power of Geography interview with Tim Marshall'.

4 Janes Podcast, 'The Power of Geography interview with Tim Marshall'.

prehensive. Rather, Marshall presents a window into the topics through his historical narratives.

Marshall's easy style and conversational tone make complex geopolitical topics easily digestible. He laces his descriptions with humour and weaves his own colourful experiences as a foreign correspondent into the subject matter. For instance, the chapter on Australia provides a historical snapshot and captures many of the current strategic challenges facing the nation. However, some parts do not make comfortable reading for an Australian audience, given the various ethical quandaries throughout the nation's history since British settlement.

Other intriguing chapters include those on Ethiopia – the water tower of Africa – Iran and the Sahel. These areas may not be front-of-mind for Australian audiences but provide powerful lessons for the budding strategist regarding the way in which geography may drive future conflict over water and the geopolitical consequences of the mass migration of refugees. The final chapter on space may not satisfy practitioners seeking a deep or technical appreciation of the subject, but it is invaluable for those looking to break into what can be an intimidating topic for the uninitiated. Marshall approaches the space domain in the same manner as he approaches a continent, viewing it as a geographic landscape.[5] This approach has merit as it provides the reader with a familiar framework with which they may navigate the relevant issues.

Clearly, Marshall seeks to achieve balance. Although he may not necessarily signpost where his narrative adopts some old-fashioned journalistic licence, he is critical of recent trends in some parts of mainstream journalism. For example, he decries the latest fad of assuming the existence of an agreed 'world view' and that stories must be approached only from this perspective.[6] He also criticises the increasing use of journalists' (often emotive) personal opinions to shape narratives rather than relying upon objective source material.[7] The expression of these views goes some way to assuring readers that he has applied a level of rigour to his own research and writing.

Marshall may have exhausted some of his best material in *Prisoners*, which provided an in-depth assessment of the USA, China, Russia and key Indo-Pacific states, including India,

5 Janes Podcast, 'The Power of Geography interview with Tim Marshall'.

6 Janes Podcast, 'The Power of Geography interview with Tim Marshall'.

7 Janes Podcast, 'The Power of Geography interview with Tim Marshall'.

Pakistan, Korea and Japan. Aside from the opening chapter on Australia, *Power* focuses predominantly on Europe and Africa. Readers seeking insight into Indo-Pacific matters will not be fully satisfied. *Power* should, therefore, be read in conjunction with, and perhaps after, Marshall's earlier work.

The reader should be cognisant that Marshall tailors his historical narrative to fit his own viewpoint at times. This is not to say that he fails to provide a balanced perspective, simply that the reader should apply their critical thinking skills and not become lost in the seductive flow of his narrative. For example, in the chapter on Australia, Marshall quotes a 2019 speech by Kevin Rudd that posits a definition of Australia's national identity. Unfortunately, a review of that speech reveals that Marshall has omitted the words 'for the centre-left' which preceded his quoted section.[8] This certainly provides the unassuming reader with important context as to Rudd's political perspective and that his idea of Australia's national identity may not sit comfortably with many Australians.

Reviews of the book that have appeared in the *Canberra Times* and the *Washington Post* have generally been quite negative.[9] The chapter on space has attracted criticism for its apparent terrestrial focus;[10] for instance, Mark Thomas did not appreciate Marshall's alternative approach to conceptualising the strategic domain of space. A further critique by Joshua Keating is that Marshall's 'fixation on territory leads him into some odd revisionism'.[11] These reviews make (some) salient observations but are not necessarily fair. They tend to emphasise the minor blemishes of the book in their authors' apparent effort to appeal to their own fickle audiences. Nevertheless, the Canberra Times' mixed review of the chapter on Australia is likely representative of the response that Australian audiences more generally will share to a chapter that can make for confronting reading. However, the challenging nature of this chapter is a reason to read it rather than a reason to avoid it.

8 Kevin Rudd, 'The Complacent Country: On the Elements of a National Vision for Australia's Future', Speech to the University of Queensland, *Kevin Rudd* [website], 26 August 2019, accessed 12 March 2022. https://www.kevinrudd.com/archive/2019-08-26-speech-to-the-university-of-queensland-alternative-visions-for-australias-future

9 Mark Thomas, 'Tim Marshall's *The Power of Geography* does not live up to its ambitions', *Canberra Times*, 18 September 2021, accessed 12 March 2022. https://www.canberratimes.com.au/story/7427774/an-ambitious-thesis-that-falls-flat/; Joshua Keating, 'How mountains, rivers and seas shape the fates of nations', *Washington Post*, 3 December 2021, accessed 12 March 2022. https://www.washingtonpost.com/outlook/how-mountains-rivers-and-seas-shape-the-fates-of-nations/2021/12/02/b9d52310-3105-11ec-93e2-dba2c2c11851_story.html

10 Thomas, 'Tim Marshall's *The Power of Geography* does not live up to its ambitions'.

11 Keating, 'How mountains, rivers and seas shape the fates of nations'.

The final word

Marshall explains complex topics in a clear and entertaining manner. Any minor blemishes are just that and do not detract from the overall quality of the publication. The subject matter covered may vary in its direct relevance to an Australian audience, but the chapter on Australia alone is worth the price of entry. Marshall is insightful and engaging and the simple thesis of the power that geography holds over human affairs is of enduring relevance.[12]

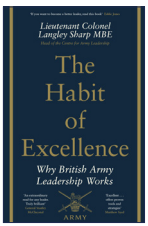
12 The views expressed in this book review are those of the reviewer and do not necessarily represent those of Defence.

The habit of excellence: why British Army leadership works

Lieutenant Colonel Langley Sharp MBE

Penguin General UK, 2021

Reviewed by Renée Kidson CSM



> [M]y belief [is] that Leadership is not about the heroic exception or one-off action, but the habitual practice of doing what is right, difficult and necessary every single day to build a team, look after the people in it, and work towards the next objective.[1]

Introduction

The cover jacket of *Habit of Excellence* promises readers the first comprehensive 'institutional view' of leadership as taught and practiced at the Royal Military Academy, Sandhurst, and has been heralded as a leadership 'handbook' by some luminaries of civil and military leadership. The book itself asserts that

> For any organization…committed to maximising the effectiveness of its teams and unlocking the potential of its people, the book distils centuries of the Army's experience in developing the leadership that defines its ability to fight and win.[2]

These are big promises – and that Penguin has chosen to publish the title within the business category of its general publications is a significant signal of their ambition to reach a general, non-military – rather than scholarly – target audience. Author, Langley Sharp certainly renders the topic of military leadership *accessible* for general audiences. The caveat is around how *attainable* this leadership approach is for civilian leaders. For an Australian Defence Force (ADF) audience, the value of Sharp's work is its focus on achieving – excellence – in a leadership context, which is one of the ADF values after service, courage, integrity and respect.

Sharp articulates the British Army's new 'Army leadership framework', researched and developed by the UK Centre for Army Leadership. The book initially defines leadership as

> a human endeavour whose central concerns are to influence the individual and mould the collective in

1 Langley Sharp, 'Preface', *Habit of Excellence: Why British Army Leadership Works*, Penguin Business, 2021, p xiii.

2 Sharp, 'Introduction', *Habit of Excellence*, p 4.

> service of the ultimate mission: 'a combination of character, knowledge and action that inspires others to succeed'.[3]

He then proceeds to introduce the corresponding three-element framework, encapsulating:

- what leaders are (values – especially those aligned with the deontological (principles-based) and Aristotelian (virtue) ethical traditions)
- what leaders know (expertise – namely knowledge of self, your people, leader–follower relations and understanding power)
- what leaders do (expressions of values and expertise through action and behaviours).

Prima facie, the actual framework presented is remarkably similar to the ADF's new philosophical doctrine, *ADF-P-0 Leadership*.[4] While longer in the elaboration, the British version is more elegant in its simple articulation; however, ADF-P-0's harmonisation across all services is more mature and sophisticated from a joint perspective, if more direct in style and tone. Rather than critiquing the framework itself, it is informative to highlight three areas where *Habit of Excellence* makes new contributions to the field of leadership and two areas warranting further exploration.

Historical influences

The book's first contribution is its historical perspective. It argues that the contemporary British Army's leadership approach reflects its unique historical experience and has evolved in response to this through time. The chapter 'In history and changing society' charts two macro-influences on the British Army: society and the hard lessons of battlefield failure. It describes British society's journey through the Victorian Enlightenment and the shift from a punitive approach to managing motivation and discipline towards a paternalistic model, which has culminated in the 'servant leadership' ethos represented by the current orthodoxy.

Sharp suggests the British Army's soul-searching responses to military failures (notably the Crimean and Boer campaigns) motivated the development of a professionalised leadership curriculum and the emergence of mission command as a central tenet of current British military leadership thought. Modern army professionalism is contrasted with the preceding system of patronage and purchased commissions that characterised officer selection and advancement processes. The latter development, mission command, is a relatively recent development, borne of British Army experience in 'irreg-

3 Sharp, 'In history and changing society', *Habit of Excellence*, p 9.

4 Department of Defence (DOD), *ADF-P-0 ADF Leadership*, 3rd edn, Australian Government, Canberra, 2021.

ular' campaigns. *Habit of Excellence* contextualises mission command as an outcome of the premium placed on decentralised, small-team leadership, which has seen a 'universal leadership culture' emerge whereby every soldier and officer considers themself a leader.[5]

Overall, the first part of the book prompts an important comparative question: how 'distinctive' is the British Army leadership approach from other services, such as the Navy and Air Force, or the militaries of other nations, for example the US and Australia?

Officer and soldier leadership

The book's second contribution is its articulation of the distinct yet complementary characteristics of *officer* and *soldier* leadership, which are a unique feature of military leadership constructs. These two chapters are especially valuable for non-military readers seeking to understand the military rank structure. The chapter 'Officer leadership' outlines the leadership transitions for officers progressing through the service rank structure. Sharp highlights the key distinction between tactical and operational leadership and strategic leadership. Briefly, tactical and operational leadership are exercised up to unit command level, which is focused on leadership internal to the military organisation. Whereas, strategic leadership is exercised by senior officers and is increasingly focused on positioning the military organisation relative to external trends, influences, political decision-making and events. The following chapter, 'Soldier leadership', neatly describes the major transitions for non-commissioned officers (NCOs) including the sergeant rank, which involves embracing 'the power of indirect leadership' and the 'ambiguous role' of mentoring often inexperienced junior officers.[6] The key artforms NCOs specialise in are pitched as a sophisticated form of leadership achieved through influence and followership.

The crucial pairing relationship of officer and NCO at each rank level in the overall exercise of leadership is emphasised, to the extent of stating: 'Officers cannot lead without NCOs.'[7] This is a significant point of difference between the military and civilian leadership structures in most organisations.

Reflecting on these chapters more broadly prompts two points. First, the descriptions assume a full-time army experience, and perhaps even a full-time military readership. An

5 'Army recognizes that operational success depends not on the willingness of soldiers to blindly follow the orders of their superiors, but to interpret their intent and decide how best to implement it'. Sharp, *Habit of Excellence*, p 38.

6 Sharp, *Habit of Excellence*, p 161.

7 Sharp, *Habit of Excellence*, p 6.

unconsidered question in the book is how the reservist experience of part-time leadership interfaces with the descriptions offered. A reservist's experience is clearly different, but the ways and extent of this remain unscoped. Second, the unique officer–NCO leadership model of Army begs a 'compare and contrast' analysis with civilian leadership models, both in the public and private sectors.

Future leadership challenges

The book's third contribution is in explaining the critical challenge faced by organisational leaders at all levels in preparing for the range of plausible futures. Sharp describes the integration across multiple, competing capability time horizons of the near-term, mid-term and long-term. The tension between preparedness for warfighting and more frequent natural disaster responses is discussed, as is the perception of a growing gap between service-orientated Army values and individualistic societal values. Sharp speculates this gap may erode younger generation's intrinsic motivations towards military recruitment.

Habit of Excellence does not resolve these dilemmas, but it does indicate the British Army's cognisance of the challenges of leading through change, bravely signalling its open-mindedness to examination of its own business model. In particular, this section examines a central leadership tension for all old, large institutions: what needs to endure, and what needs to evolve?

In terms of *endure*, Sharp argues that the British Army leadership approach has timeless applicability, being 'values-based, orientated around the action-centred model, shaped by the philosophy of Mission Command and ultimately grounded in the imperative of servant leadership'.[8]

In terms of *evolve*, he aligns his argument with recent developments in US leadership doctrine, calling for leaders with superior empathy, humility and emotional intelligence as the 'master skill of team builders in the modern environment'.[9] The chapter describes an overall leadership effect of fusing top-down and bottom-up leadership skills from across the team, acknowledging the formidable challenge of adapting Army's hierarchical command and control systems (for example leadership selection and training systems) to identify and nurture such leaders. As the ultimate extension of mission command, this is a bold idea.

A critical appraisal

Against the many strengths of *Habit of Excellence*, there are two areas

8 Sharp, *Habit of Excellence*, p 232.

9 Sharp, *Habit of Excellence*, p 238.

deserving deeper treatment. The first is the challenge of mission-driven leadership approaches when applied 'in real life' (IRL). *Habit of Excellence* does lightly gloss over how to balance the intensity of a mission-driven approach to work with sustainable, longer-term work practices. The former is most easily achieved on operations, where the team can dedicate their entire energies, uninterrupted, towards the mission at hand. However, the book tellingly acknowledges that it is not realistic to expect such a level of intensity from staff 'in barracks', where the undivided attention of troops living out (for example, the typical family scenario) cannot be commanded because 'people have got lives to get back to at the end of the day'.[10] Staff with rich family and professional lives and responsibilities are daily balancing a number of competing interests on their time. For some readers, the calibre of commitment implicitly required by *Habit of Excellence* to achieve leadership excellence may seem unattainable.

The second area not addressed by Sharp is how to lead the unconditioned (or unresponsive). A perennial issue in the military is the separation of soldiers from society. Many militaries strive to be representative of the populations they are sworn to defend. Yet, soldiers are expected to strive for standards considerably exceeding their society, which often places them apart from the people they serve. As the book repeatedly states, the military leadership approach works because its members have been conditioned and their teams structured, often over years of dedicated professional practice, to respond in certain followership terms. Civilians are not conditioned to respond to leadership in the same way. To the extent that leadership is contextualised by culture, and with an increasing frequency of multi-agency and domestic operations, bridging this conditioning gap is not a trivial leadership task.

It is not a fault of the book that these two leadership challenges are not thoroughly addressed but rather an opportunity to expand current leadership theory. These challenges warrant much more serious examination in 2022 and beyond, given the ability of individuals (either within or outside the military) to concentrate their vocation and life to a single cause seems increasingly unrealistic.

The book's thesis therefore presents a paradox. If military leadership has much to offer civilian scenarios but the only way to attain that professional leadership proficiency is through a full-time military career – where the whole environment actively cultivates that skill – how is this leadership excellence attainable for the average civilian leader? In its assumptions of the organisational and team structure

10 Sharp, *Habit of Excellence*, p 127.

surrounding a (military) leader, *Habit of Excellence* risks intimidating some readers, as its prescription requires the concentrated professional and vocational investment typically found in the military and rarely elsewhere. Is this leadership excellence a bridge too far for ordinary folks (who remain nonetheless capable of extraordinary things)?

Conclusion

Habit of Excellence reads true to its title and purpose: it is a very good description of, and handbook for, military leadership in the British style. The leadership framework assembled is clear, intellectually coherent and scalable across an ambitious span of applied leadership from the tactical to the strategic level. Of course, it is left to each reader to internally reflect and contextualise how this handbook can best inform their own leadership practice. Leadership is both an art and a science. The 'science' is in the application of discrete, individual tools and techniques. The artform is in how these are woven together, assembled and synthesised into a cohesive, dynamic, overall leadership style, which is ultimately a very individual expression of self and service.

The tantalising question the book hints at, but does not have scope to explore, is the applicability of military leadership to different civilian contexts. This invites a corporate, government or community-based leadership response to the work. A second volume could take a collaborative approach, partnering with a prominent civilian leader, or leaders, to 'compare and contrast' military and civilian leadership. Such a study could seek to understand, in a two-way sense, the opportunities and limitations of applying military leadership approaches to civilian contexts and the elements of contemporary civilian leadership that may offer utility in some military contexts.

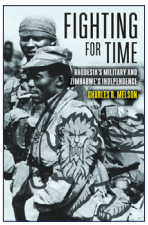
Habit of Excellence will inform, challenge and inspire even the seasoned reader in leadership. It would be a commendable inclusion on the Chief of the Defence Forces's reading list for officers and enlisted alike. Further, Sharp's implicit gauntlet challenges the great writers with our ranks to produce an Australian equivalent, a compelling account of ADF leadership for the popular press.

Fighting for time: Rhodesia's military and Zimbabwe's independence

Charles D Melson

Casemate Publishers, Havertown PA, 2021

Reviewed by Michael Evans



There are few American military historians that know more about the Rhodesian war than Charles 'Chuck' Melson, a Vietnam veteran and a former Chief Historian at the United States Marine Corps University in Quantico. Melson's status and nationality provide him with an advantage in writing about the war in Rhodesia (now Zimbabwe). The author brings a foreign lens to a war that contains inadequate archival sources and suffers from a simmering political and racial division between Rhodesian nostalgia for a lost cause on the one hand and Zimbabwean commemoration for a victorious cause on the other. Melson's study of the military history of the Rhodesian war effort between 1964 and 1979 benefits from the oral testimony of many Rhodesian participants and provides a fine synthesis of the fragmented and scattered primary documentation available. Given the research effort employed, Melson's book is almost certain to become the standard military history text on the Rhodesian view of the war, superseding earlier studies by Paul Moorcraft and Peter McLaughlin and by JK Cilliers.

The war fought in the 1960s and 1970s between a Rhodesian state dominated by a quarter of a million Europeans and a Zimbabwe nationalist cause that could, in theory, call upon six million Africans now seems like an echo from another age. Like the French war in Algeria before it, the Rhodesian conflict appears to twenty-first century eyes as a futile struggle against a tide of history that favoured decolonisation and the end of European empires. Yet, one only needs to study the West's counterinsurgency experience in Vietnam and, more recently, in Afghanistan to see the resonance of the Rhodesian war to contemporary military events. Like the Rhodesians, the Americans in Vietnam and US-led coalition forces in Afghanistan won every battle against insurgent opposition but lost the struggle at the strategic and policy levels. The Rhodesian war is yet another reminder of how Western militaries struggle to forge strategic victory when pitted against non-Western irregular forces determined to outlast them.

The small, regular Rhodesian Army (little more than 3,500 strong throughout the 1960s) had a rich heritage of counterinsurgency from the Malayan Emergency to draw upon. The regular army also contained a number of ex-British officers with experience of Kenya, Cyprus and Aden. Although small, the regular army was reinforced by a 15,000 strong territorial reserve, a powerful air force (in African terms) and a large paramilitary establishment in the form of the British South Africa Police (named after Cecil Rhodes's BSA Company police who founded Rhodesia in 1890). In 1979, the Rhodesians could field up to 60,000 military, police and auxiliary security personnel – many of them African including four battalions of the Rhodesian African Rifles – a formidable regular infantry regiment. The war over Rhodesia–Zimbabwe was a bitter and bloody civil war that at times spilled over into neighbouring Zambia, Botswana and Mozambique. By 1979, out of a population of little more than seven million, 30,000 people had been killed, 285,000 maimed and wounded, and up to 850,000 were displaced with 250,000 refugees. These are grim figures when assessed against population size.

As Melson makes so clear in his study, this was a war lost by the Rhodesians at the strategic level not the tactical level of war. The Rhodesians were highly proficient militarily and fielded what Major General Rodney 'Sam' Putterill, a former Chief of the General Staff called 'a dinkum little army'. Unfortunately, in fighting a counter-revolutionary war against a Maoist-style insurgency, a dinkum little army however tactically excellent was not enough to compensate for a lack of a political strategy by the Rhodesian Front government of Ian Smith. Like Algeria then, Rhodesia unfolds as a political and human tragedy in which liberals and compromisers on both sides of the racial divide were eclipsed by Rhodesian reactionaries and Zimbabwean revolutionaries. Given the racial and cultural differences between the settler population and the Indigenous African population perhaps no compromise was ever possible. Certainly, there were many white Rhodesians who viewed the advent of African rule as a death warrant for their British expatriate civilisation. Such people preferred to face a horror without end through war, rather than end in horror through African rule. Any real chance for lasting compromise was lost in the first half of the 1960s in the detritus of rapid British decolonisation.

In 1956 the British Empire in Africa still existed, but by 1966 it had disappeared in a political whirlwind of change that left the unique self-governing colony of Southern Rhodesia in crisis. The Rhodesians simultaneously confronted the refusal of Britain to cede minority rule independence alongside the demands of the Zimbabwean nationalists that majority rule independence be granted immedi-

ately. Township rioting and terrorism by African nationalists and a flood of Belgian refugees from the disastrous decolonisation in the Congo bred further fear and despair. The result was a unilateral declaration of independence by the Rhodesian Front government of Ian Smith in November 1965, the suppression of the African nationalist parties and the development of a Zimbabwean revolutionary guerrilla movement-in-exile armed by the Eastern communist bloc. For a decade, the Rhodesians held out successfully, despite economic sanctions and international isolation. Indeed, had it not been for the fall of the Portuguese Empire in Africa in 1974–75, the Rhodesian state might have endured into the 1990s. However, the fall of Mozambique opened the entire eastern flank of Rhodesia to guerrilla warfare and doomed the Rhodesian state to a counter-revolutionary war it could not win militarily.

Melson's military account does not pretend to be a comprehensive analysis of the entirety of the Rhodesian crisis from 1962 until 1980 in the vein of Alistair Horne's magisterial book on Algeria, *A Savage War of Peace* (1976). Melson's aims are more modest but no less valuable. He brings the skills of a first-rate military historian to illuminate the operational dynamics of this equally 'savage war of peace' in southern Africa. Few scholars will be able to write about Rhodesia's war in the future without reference to the author's in-depth account of the settler state's armed forces and their operations. Melson takes the reader through the background to the Rhodesian military effort, examines border control and cross-border operations, and command and control organisation. He provides an assessment of the Rhodesian Fire Force, an innovative air-ground 'killing machine' of helicopters, close air support and first-rate assault infantry which, as a tactical system, held back the Zimbabwean guerrilla onslaught to buy time for civic action and political reform. Special operations, at which the Rhodesian Special Air Service and Selous Scouts special warfare unit often excelled, are also recounted in detail and will be of interest to any student of unconventional warfare.

In the classic Maoist recipe of revolutionary warfare, 'time, space and will' are key features of strategy. These elements were harnessed by Herbert Chitepo, the Zimbabwean nationalist strategic mastermind who proved so dangerous an adversary that he was assassinated by the Rhodesians in 1975. Chitepo pioneered the 'strategy of attenuation' that the Shona tribal guerrillas pursued from Mozambique into Rhodesia focusing on the Rhodesian state's Achilles heel of limited European demography. As Chitepo calculated, Rhodesia simply lacked the numbers to defend the entire country effectively and the aim of the guerrillas became to bury the Rhodesians under the sea of people's war. Space and will, which the Zim-

babwean insurgent possessed in a landlocked country the size of France, yielded time to mobilise a people's war movement from the base of the rural peasantry. Ideology and terror were used in tandem to fuel the second Chimurenga as a war of liberation in a violent mixture of Afro-Marxism, historical memory of 1890s resistance and African religious traditionalism using spirit mediums. The strategic centre of gravity for the Rhodesian military was, as Melson points out, to 'fight for time' to facilitate a political solution as soon as possible. But the time the military gained was wasted by recalcitrant Rhodesian Front politicians, who saw the Zimbabweans as merely communist terrorists serving the Eastern bloc. As a result, the Smith government was unable, or unwilling, to cede white rule and still less to embark on the rapid reforms required to broker a peace – notably the end of racial discrimination. By the time the Rhodesian Front under enormous political pressure from South Africa at last came to terms with internal moderate African nationalists, notably Bishop Abel Muzorewa, the Shona and Ndebele tribal insurgents led by Robert Mugabe and Joshua Nkomo respectively, possessed too much of a hold over the African peasantry to be ignored in any settlement. It was an inability to end the war that doomed Muzorewa in 1980 and led to Mugabe's electoral victory, as the Shona ethnic majority voted to end the killing by propelling the revolutionaries into power. It is difficult to disagree with Melson's conclusion:

> In the long run, [Rhodesian] military success was upset by political failure based in retrospect on the 'no-win' goal of continued European minority rule. The military option only bought time for a negotiated settlement in which all parties were forced to the table in 1979 and the subsequent election in 1980. The elusive political solution, the nationalists desired and the settlers denied was reached.

When Tanzanian president, Julius Nyerere, visited Salisbury (now Harare) for the independence celebrations of February 1980, he was so impressed by the Rhodesian state, the second most developed in Africa except for South Africa, he famously told Robert Mugabe: 'You have inherited the jewel of Africa. Don't tarnish it'. The Rhodesians lost the war, but the Zimbabweans were to suffer the peace of the damned as Mugabe proceeded to crush the jewel of Africa. By the dawn of the twenty-first century, Zimbabwe had descended into a failed state with hyperinflation, a destroyed economy and the reappearance of long-conquered diseases, such as cholera. In the end, then, the Rhodesian–Zimbabwe racial civil war proved tragically futile for both black and white alike. All the population, except Mugabe's revolutionary elite with its North Korean-style internal security system, came to suffer from one of the worst dictatorships in African

history. As Danton noted, revolutions are often said to devour their own children but in Zimbabwe's case the revolution devoured an entire nation. One statistic says all: in 1980, the life expectancy of an African male was 60; by 2010, it had fallen to 37 years. The Rhodesian crisis may still await the sweep of an Alistair Horne but Charles Melson has written a fine book on the Rhodesian war effort and deserves a wide readership.

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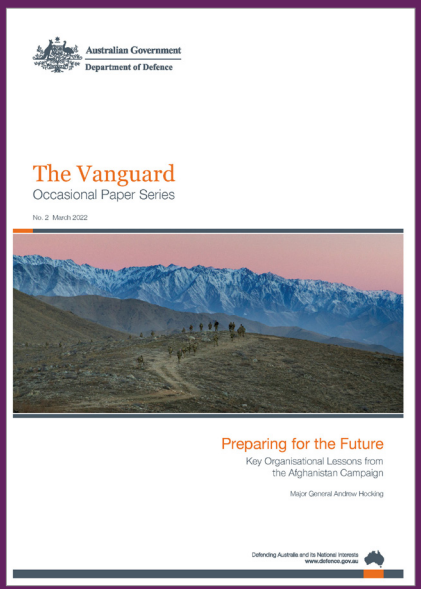

> While the ADF's strengths and weaknesses, successes and failures, contributions and lapses were on occasion magnified or exacerbated by the conflict environment in Afghanistan, none of them were created there. As for generations of military forces going back to antiquity, we fought essentially as we trained. Reflecting thoughtfully on our Afghanistan experience provides a lens through which to strengthen our training and preparation for the challenges of the future.
>
> *General Angus J. Campbell, Chief of the Defence Force, September 2021*

With the conclusion of the Afghanistan War in 2021, the Australian Defence Force is now in a position to reflect on what the campaign may teach us that will help prepare it for the future. As the lead of the Preparing for the Future: Key Organisational Lessons from the Afghanistan Campaign research project, Major General Andrew Hocking identified 21 key lessons and has proposed 50 recommendations across five focus areas – strategy making, campaign design, command and control, ADF culture and ADF learning, adaptation and risk management.

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