



Army



Australian Army Journal

2021 Volume XVII, Number 1

Serving our Nation



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The *Australian Army Journal* is published by authority of the Chief of Army.

The *Australian Army Journal* is sponsored by Head Land Capability.

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Enquiries regarding this publication should be addressed to the Director of the Australian Army Research Centre.

ISSN (Print) 1448-2843

ISSN (Digital) 2200-0992

researchcentre.army.gov.au

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Editorial

Despite the ADF's withdrawal from operations in Afghanistan, the Army's operational tempo remains high. Several important strategic policy documents were released over the past year, and the maintenance of professional discourse is vital for a military force to ensure it is ready for future operational challenges. This edition of the Australian Army Journal is an integral part of our past, present, and future contributions to the discourse on the profession of arms.

In the first article of this edition, Major Sam Baumgarten explores the force structure, training, and utility of the Australian militia forces during the Interwar period. This article raises some enduring themes in consideration of how reserve forces are trained, equipped, and tasked. It sets the tone perfectly for an article by a research team from The Defence Science Technology Group and Army Headquarters that conducted force structure experiments for dismounted teams equipped with disruptive technologies. The resulting 'actionable concepts' are certainly worth considering for future operations in the region.

Dr Justin Chadwick takes us back to the pentropic division force structure experiments in the 1960s in the third article for this edition, highlighting the challenges of command and control that particular force structure posed. Following the force structure theme, Captain Will Leben proposes a potential option for integrating strike capabilities into small and agile teams designed to operate in the near region.

Captain Samuel White continues the theme of integrating disruptive technology at the tactical level, proposing using artificial intelligence to support vital administrative functions such as military justice and career management. The concepts put forward by Captain White are pragmatic and seek to remove the administrative burden upon commanders. Colonel Phillip Hoglin addresses the Army's core capability, people, in the second-to-last article of this edition. This article uses current workforce demographic data to review the provision of pastoral care by military chaplains.

The final article in this edition is from the Australian Army Vault. Published in May 1950, *The Basis of Expansion for War* draws upon the lessons from the Second World War to propose a model for expanding the Army for large scale conflict. The key themes explored in this Cold War-era article are as relevant today as they were at the outset of the Korean war.

The three book reviews in this edition focus on the moral, cultural, and practical challenges of wars both past, present and future. Dr Jordan Beavis reviews Harry Parker's *Anatomy of a Soldier*, a heartfelt exploration of service in Afghanistan. Next is followed by John Mackenzie's review of *Warfare and Culture*, edited by Wayne E. Lee. Finally, Lieutenant Colonel Mark Tutton reviewed *On Contested Shores*, a recent work on amphibious operations throughout history edited by Timothy Heck and BA Friedman.

The Australian Army Research Centre supports the professional discourse on future land capability through our Occasional Papers, the Land Power Forum, and the Australian Army Journal. This edition of the journal continues the Army's long legacy in engaging in military scholarship for future capability development.

The Interwar Militia — A Reappraisal

Major Sam Baumgarten

Abstract

The informal, part-time military formations of the Australian Militia between 1930 and 1945 are an understudied aspect of military history. Part of the Australian Military Forces (AMF) (the predecessor to the Australian Army), the Militia never achieved its key founding objective: to be a sufficient force for defending territorial Australia. Official and academic accounts of the organisation are largely critical, depicting it as a victim of poor government planning and cost-cutting. However, these accounts undervalue the extent to which the Militia was constrained by the economic and social consequences of the Great Depression. The Militia also contributed to the broader capability of the AMF—its decentralised structure and the leadership training it provided to AMF personnel were valuable. In examining the Militia's constraints and successes, this article highlights how Army might structure and prioritise resources in future times of economic difficulty.

Introduction

The voluntary Australian Militia of 1930–1939 was a successful part-time force in the interwar period because it made institutional changes that produced quality leaders. This article will assess the two iterations of part-time service during the interwar period: the compulsory Militia of

1921–1930 and the voluntary Militia of 1930–1939. The voluntary Militia was better able to undertake institutional and professional development due to better retention and recruiting of veterans of the First World War. This paper will contend that the voluntary Militia suffers an unfair reputation as an inefficient force and that this perception is based on key literature that is inconsistent with many of the primary and secondary sources.

The compulsory Militia sought continuity with the Australian Imperial Force (AIF) by retaining a multi-division structure to defeat invasion; however, it was subsumed with the training of large numbers of conscripts to fill these divisions. Ultimately, it was unable to achieve any strategic aims and left no lasting institutional developments. The voluntary Militia's problems extended beyond a lack of funding—namely its difficulty in recruiting and retaining personnel during the Great Depression and the inability to mechanise its force. The difficulties of personnel and mechanisation are related to the negative perception of this Militia. However, recruitment and retention ultimately improved by the end of the 1930s and it is difficult to fault the Militia for its inability to mechanise, given the complex range of war planning that faced the AMF. The voluntary Militia focused on producing leaders, and its individual and collective training concentrated on that task. It was a decentralised organisation where gradual improvements were accomplished at the unit level. There were some institutional developments as well, primarily at the end of the period, including in doctrine, centralised courses and collective training. The voluntary Militia became more effective throughout the 1930s, in part because of the diminishing effects of the Great Depression. The voluntary Militia made steady institutional improvements and became a positive organisation for the development of leadership.

Reasons for a Negative Perception of the Militia

Negative appraisals of the Militia are significantly more prominent than positive ones, particularly in official accounts immediately after the Second World War and in academic and popular accounts from the 1970s and 1980s. Some of the common criticisms relate to a lack of funding, reflected over time from Gavin Long's official history *Australia in the War of 1939–1945*¹ (1961) to Jeffrey Grey's *A Military History of Australia*² (2001). The Commonwealth halved Defence allocations and curtailed acquisition

between 1930 and 1936.³ The desire of policymakers to avoid what were perceived as the mistakes of the Militia likely marks the start of a perception of the force's inadequacy, commencing immediately after the Second World War. An emblematic political criticism came during the reformation of the part-time Citizen Military Forces (CMF) in the late 1940s when Minister of the Army and former Militia officer HBS Gullett stated in Parliament that the Militia of the 1930s had:

[n]ever been up to strength ... and ... I can say that the standard of the militia ... was so low that on the eve of the war the militia forces could not have undertaken the simplest military operation against a trained force with the least chance of success ... [T]hey were a paper army.⁴

The Directorate of Military Training reflected dissatisfaction in the Australian Army Journal in 1950 noting that the Militia was 'too weak to provide useful experience for the leaders and not much more than elementary training for the troops'.⁵ Part of the explanation for the negative sentiment was an attitude held by policymakers that both iterations of the interwar Militia failed to make a useful contribution to the defence of Australia in the lead-up to the Second World War. It should be recognised that many of the decision-makers immediately after the war, such as then Chief of the General Staff Sir Sydney Rowell, had clashed with Militia officers prior to and during the war and were now in a position to address perceived missteps.⁶ These negative perceptions moved from official accounts to popular and scholarly accounts, with at least two prominent negative appraisals of the Militia featuring in the 1980s.⁷ A comprehensive secondary source is the Master of Arts Thesis of Claude Neumann, *Australia's Citizen Soldiers, 1919–1939: A Study of Organization, Command, Recruiting, Training and Equipment* in 1978. This more than any other single document exhaustively examines the Militia and is cited in many of the authoritative histories of the Australian Army, such as Jeffrey Grey's *The Australian Army: A History* and Albert Palazzo's *The Australian Army: A History of Its Organisation*. The consistent theme of Neumann's thesis is the inability of the Militia to defend the Australian continent. The causes, according to Neumann, were largely systemic and rooted in the lack of funding, including poor quality of training,⁸ an inability to retain trained personnel,⁹ and issues with rationalising the strategic role.¹⁰

A popular perception of the Militia since the 1990s is perhaps best epitomised by the tone of Peter Brune's books. They often commence with a short description of the prewar Militia, serving as a starting point for assessing the development of the AMF through the 1940s, with descriptions of it as 'a threadbare defensive force rather than a highly trained army'.¹¹ A similar perception is reflected in Adrian Threlfall's well-researched 2014 book *Jungle Warriors*, where meagre training allocations are linked to poor performance: 'This was clearly not sufficient to provide an adequately trained formation that could form the nucleus of an expanded force in the event of war'.¹² The position that the Militia failed to buttress the expansion of the Second AIF, and was in any event outperformed by the AIF in the Second World War, is central to the perception that it was an inadequate military organisation.

The Positive Perceptions

Positive assessments of the Militia largely reside in either official correspondence or personal accounts. Sir Carl Jess provided an early, useful narrative in 1945, hereafter called the Jess Report. Jess was the Adjutant-General from 1934–1939 and was defensive of policies with which he was associated. The report exists in draft form only, as Jess retired in March 1945 due to ill-health.¹³ Notwithstanding that, it contains useful observations, particularly about improvements through the 1930s and the benefits of higher leadership standards. A balanced appraisal of the Militia and its surrounding circumstances can be obtained from the official history, specifically Gavin Long's *Volume 1 — To Benghazi* in 1961. Long was critical of all aspects of defence preparations during the interwar period.¹⁴ Ultimately though, he accepted that the Militia produced good leaders¹⁵ and acknowledged that leadership development had been the primary role predicted for the Militia at its inception in 1920.¹⁶ Many memoirs and biographies of Second World War participants also incorporate their subject's participation in the prewar Militia. These often reflect favourably on the formative experience and the utility of the professional relationships. An example is the memoirs of Rowley Richards, who served in the 1st Artillery Survey Company in the 1930s. He provided a positive perspective of being commissioned as a Militia officer in 1939:

*I had been determined to rise through Militia ranks as quickly as I could ... At that particular moment I thought the King and I were on equal status.*¹⁷

The memoirs of GD Solomon, a staff corps officer, provide a positive perspective on the professionalism of a Victorian Militia battery at the start of the war.¹⁸ These positive appraisals are reflected in some of the unit histories of CMF battalions, possibly because many of the histories were written by participants.¹⁹ One noted that the small training budget 'did not, however, prevent the men from utilising that which was available with great enthusiasm'.²⁰ Some recent historical sources are also positive, or at least neutral, towards the Militia. Grey concluded in his 2001 history of the Australian Army, that the force 'was neither as bad as its critics suggested, nor as satisfactory as its defenders in government maintained'.²¹

Garth Pratten's comprehensive *Australian Battalion Commanders in the Second World War*, published in 2009, notes that approximately 90 per cent of Second World War battalion commanders served in the Militia, mostly as officers, and provides a number of examples of their positive development.²² Pratten's book possibly marks a turn from the negative perceptions. The historiography is probably more positive, at least in terms of primary sources, than is popularly believed. Ultimately though, the official rejection must be more acceptable than the positive personal accounts because of the enduring prevalence of negative appraisals. The positive accounts of the Militia generally focus on perseverance and demonstrate that at least some participants regarded the experience as positive.

Implementation of the Compulsory Militia

The compulsory Militia aimed to preserve a multi-divisional structure, mirroring the First AIF, to defeat invasion. The establishment was determined at the Senior Officers Conference in 1920. The conference, constituted by ranking generals, determined that the Militia would consist of five infantry and two cavalry divisions and would be manned by selective conscription with a two-year commitment.²³ The compulsory Militia's structure directed brigades located along regional lines.²⁴ However the primary function, executed at unit level, was training the substantial throughput of conscripts who manned the large number of units. This contradictory operation can

be explained by the competing demands placed upon the organisation. The Senior Officers Conference had recognised 'the importance of creating an effective, ongoing training organisation to compensate for the inevitable decline in the AIF'²⁵— and presumably to develop its own institutional professional standards. However, there was clearly a desire to retain as much of the structure and heritage of the AIF as possible.

Palazzo would describe adherence to the multi-divisional structure as causing 'policy choices aimed at sustaining the organisational structure, even at the expense of creating a force capable of waging a modern war'.²⁶ The force required 180,000 at war establishment.²⁷ Subsequently, manning declined from 124,489 in 1921 to a figure approximately 25 per cent of the war establishment: 45,000 personnel in total by the late 1920s.²⁸ Conscripts largely constituted the establishment of each unit, which had the responsibility to train these personnel. In effect, individual units became *ab initio* training organisations. Their ability to achieve individual training standards was limited by resourcing. There was initially a statutory allocation of 16 days of training annually, divided evenly between home training (usually in the evenings) and camps. Camps were effectively of eight days duration including travel; home training days generally consisted of one working day. The allocation was reduced to 12 days annually, still split evenly, by 1930.

The Commonwealth directed that the Military Board, the Army's executive, make preparations on the basis that only localised raids would require an Army response.²⁹ The Military Board largely ignored the Commonwealth's direction and persevered with preparations to counter a substantial invasion, likely from Japan.³⁰ The failure to rationalise this dilemma, in spite of the government's clear direction, was a primary reason for the retention of the seven-division structure. It was felt that only this size, 180,000 men strong, 'would give the nation a sporting chance to hold out until help arrived from overseas'.³¹ The alternative and radically different Army contingency was Plan 401, which provided for the raising of a divisional-strength contingency force. Plan 401 was initiated due to a war scare with Turkey over the terms of the Treaty of Sèvres in 1922. The Military Board planned to raise a division 'drawn from the various states on a pro rata scale in accordance with the size of the Force'.³² Training would have been conducted in the respective states. The planning was revised through the 1930s and ultimately implemented in 1939 for the raising of the 6th Division of the Second AIF. The Military Board demonstrated that the compulsory

Militia was intended for continental defence by making provision for an expeditionary force. The structure of the compulsory Militia demonstrated its purpose, but manning this structure was the cause of its primary shortfalls.

Appraising the Compulsory Militia

The capability limitations of the compulsory Militia were a consequence of adherence to its structure and it left limited institutional developments. There were various reasons why the compulsory Militia was not a successful force. The organisation did not achieve any resounding collective training standards; nor did it leave any institutional structure. Grey has noted the Army's own preference for compulsory training,³³ which facilitated the multi-division structure. It also denied the force the ability to conduct functional collective training, because it was always occupied with training conscripts. The Jess Report estimated that in the period 1926–1929 approximately one-third of the posted strength of any unit were volunteers who had completed their compulsory obligation, one-third were 18-year-old conscripts in their first year, and one third were 19-year-old conscripts in their second year.³⁴ He assessed that tactical training was confined to 'the most elementary platoon drill in fire and movement'.³⁵

Notably absent from primary accounts and the secondary sources is the presence of formal or ad hoc leadership, command or staff training. The obvious reasons for these shortcomings were the lack of time and the fact that it was felt that the First World War veterans provided sufficient knowledge to abate the diminishing professional knowledge. Retention of conscripts after the completion of their compulsory service was pitiful and in reality substantially less than the one-third estimate of the Jess Report; approximately one in seven of the total force was a volunteer, inclusive of officers and non-commissioned officers (NCOs). Most of the officers and the senior other ranks were AIF veterans or long-service militiamen.³⁶ However, many of the ex-AIF officers resigned in short order. Their reasons were exemplified by those of Albert Jacka VC, who had no prewar military experience and was appointed a company commander in the compulsory Militia. He subsequently resigned when he 'learned how expensive and time-consuming it was to hold a commission as a citizen officer'.³⁷ Furthermore, common sense dictated that a new generation of younger officers would need to supplement these veterans, preparatory to

replacing them; this was denied by the limited retention. The possible strategic purpose was unambitious but did not match the force that had been allocated to it.³⁸ Plan 401 was a practical consideration; however, the compulsory Militia made no meaningful contribution its development. Similarly, defence against raids could only have been achieved with forces trained at least at unit level and with higher standards of readiness. The lack of institutional structures is probably the most concerning outcome.

Palazzo has critically compared the Australian Army in the interwar period to the Reichswehr in Germany. The German Army undertook doctrinal review during the interwar period, which culminated in sound institutional developments.³⁹ Conversely, the British and Commonwealth armies did not effectively consolidate their lessons,⁴⁰ with the key shortcoming being a failure to expand on British armoured doctrine after 1918.⁴¹ There are limited sources examining the institutional developments of the period, apart from Neumann. However, the obvious inference is that the compulsory Militia was consumed with ab initio training to man its establishment. It consequently neglected collective development or professionalisation of its leadership.

Constitution of the Voluntary Militia

The voluntary Militia superficially resembled the compulsory force's organisation but was motivated by clearer strategic direction and a changing recruitment and retention policy. The Scullin Labor government, elected in 1929, legislated to end conscription, largely because of its unpopularity,⁴² and replaced it with a smaller, volunteer force. The multi-divisional structure was retained,⁴³ with a reduced peace establishment of 35,000 personnel, comprising less than 50 per cent of the war establishment.⁴⁴ The government continued to direct preparations for localised raids⁴⁵ articulated in the 'Plan of Concentration'.⁴⁶ The key assumption for policymakers was the infallibility of the Singapore strategy, whereby the presence of the Royal Navy at Singapore would deter major invasions.⁴⁷ However, the persistence of formation-level headquarters remained controversial. Major General Thomas Dodds, who was the Adjutant General in the period and was responsible for the reorganisation after compulsory training, observed:

*... the money the army saved through the elimination of division and brigade headquarters could provide for additional militia training ... However on further reflection, the army decided to salvage its organisation.*⁴⁸

This reflected a continued focus by the Military Board on countering a Japanese invasion.⁴⁹ There were developments throughout the 1930s which increased Militia strength and potential. A recruiting campaign in 1936 raised the force to its authorised strength of 35,000; it had diminished somewhat in the preceding years. A more prominent effort increased the strength to 70,000 from 1938. The training day allocation increased from 12 days total to 12 days in camp and six days home training in 1938.⁵⁰ The Militia was expanded by re-establishing a number of previously amalgamated battalions and regiments and filling existing vacancies with the new recruits. The voluntary Militia ended the 1930s as an enlarged force with less hollowness and a greater capacity for training.

Implications of the Depression for Personnel

The voluntary Militia was faced with complex personnel issues during the 1930s that extended beyond pay and funding. The ultimate personnel problem was retention. Several complicated considerations prevented effective retention until some of the broader economic conditions of the Depression abated. Neumann's research demonstrates that the voluntary Militia came close to meeting recruiting targets and was able to maintain strong quotas even in the early 1930s.⁵¹ There were many factors which impacted retention negatively. Firstly, Militia salaries were incomparably lower than those expected in civilian employment. The average salary of a private soldier, paid for each day of parade, was five shillings per day until 1936, and eight shillings until the Second World War.⁵² This was lower than the Commonwealth's recommended basic weekly wage in capital cities (67 shillings in 1931, rising to 79 shillings by September 1939).⁵³

Militia attendance was also problematic. Some employers were unwilling to release their staff for training.⁵⁴ There was also a high level of casualisation of the workforce in the early 1930s.⁵⁵ Men were reluctant to jeopardise potentially more lucrative job opportunities by engaging in Militia training, so they separated, avoided training or were disinclined to join in the

first place. Sustenance payments were suspended on attending Militia camps, further disincentivising service.⁵⁶ The early 1930s featured a strain of pacifism probably stronger than at any stage in the 20th century.⁵⁷ This was noted, possibly with a degree of overreaction, by staff throughout the 1930s.⁵⁸ Each of these issues impacted retention. Better pay from 1936, lower levels of unemployment and greater acceptance of the need for military participation coincided with improved retention. The proportion of personnel separating who had served three or more years rose from 21 per cent between 1 July 1931 and 30 June 1936 to 34 per cent between 1 July 1936 and 31 December 1938.⁵⁹ Discharges against total unit strength reduced from 43 per cent in 1932–33 to 25 per cent in 1936–37.⁶⁰ The roots of this improved retention reflect the complexities of the period. Pay cannot explain the development, because it never reached parity with basic civilian standards. Ralph Honner, later the commanding officer of the 39th and 2/14 Battalions in Papua New Guinea, provided an interesting perspective on this period:

*I had gone back to the Militia in 1936 ... and although I was over age, over 35, to be a junior officer in the AIF, I think if I hadn't made strenuous efforts to get in, I could hardly have held my head up high again.*⁶¹

Honner's re-engagement occurred after he completed his legal training and coincided with Militia participation by other Perth lawyers. Honner's experience demonstrates many of the competing motivations for retention. It is likely that while Militia conditions improved and economic pressures diminished, men were also more willing to serve for altruistic reasons such as patriotism or a sense of obligation. There is no single cause for improved retention, and it reflects the complex conditions of the period.

The Inability to Mechanise

The AMF made appropriate decisions about mechanisation in the 1930s. Two narratives loom in the limited historiography of mechanisation. The first is that the Army made perfunctory attempts to mechanise and that these demonstrate the limitations of defence spending. Specifically, small numbers of officers were sent to the UK for training in tank tactics, a small number of tanks were purchased for demonstration purposes, and Light Horse regiments were converted into ad hoc armoured car units by mounting Vickers machine guns on trucks.⁶² These efforts have been

assessed negatively, both contemporaneously⁶³ and since. Grey noted of the period that the voluntary Militia suffered from 'inadequate and 'experimental' equipment, funding deficiencies and conservative resistance to change',⁶⁴ and Wilcox described the mechanisation efforts as 'gestures towards modernisation'.⁶⁵ The second narrative reflects the fact that limited attempts to mechanise may have been responses born of necessity—specifically the decline of horse stocks and horsemanship in the interwar period. Jean Bou has identified the falling standards of Australian horsemanship and the difficulty in sourcing remounts as at least equal to the pressure to modernise.⁶⁶ Chauvel observed in 1928 that 'good saddle and harness horses are fast reaching the vanishing point'.⁶⁷ Therefore, the gradual introduction of light car troops into cavalry regiments was probably intended to complement horses rather than replace them.⁶⁸

The Army remained committed to the utility of cavalry forces into the 1930s, a situation which the 1920 Senior Officers Conference predicted, partly because they assumed it would be difficult to supply fuel during a defence of the Australian continent.⁶⁹ Undoubtedly the AMF reflected the British reluctance to accept the obsolescence of cavalry. As Jeremy Black has noted of the period:

*Learning lessons was scarcely an easy process for, aside from issues of applying conclusions, there was a lack of clarity as to why the Allies had been successful in 1918.*⁷⁰

The AMF placed unnecessary reliance on the performance of cavalry in the Middle East in 1918.⁷¹ However, it is important to recognise that the AMF was not alone in this regard. Large cavalry forces were employed in the Russian Civil War, the Russo-Polish War and the Chinese Civil War, three of the largest conflicts of the interwar period.⁷² The fact that the AMF failed to mechanise seems consistent with prevailing military wisdom. A more appropriate explanation is that the AMF was trying to balance complex competing considerations in developing an appropriate force for its next conflict.

The voluntary Militia benefited from a bias of responsibility at the unit level, where informal methods of training enhanced efficiency. The regionalisation of units allowed commanders to leverage local assistance, which provided useful extensions to training budgets. This diminishes the relevance of the Military Board and the confusion that resulted from the divergent strategic direction. Consequently, doctrine and policy were of less importance.

The Primacy of the Unit

The voluntary Militia was decentralised so that unit commanding officers maintained a substantial level of responsibility for their own training and readiness. Partly this must have been a result of regionalisation⁷³ and the nature of Militia leadership. Territorial titles were imposed on Militia units from 1937. The Jess Report observed that this was intended to endear units to local organisations from which they could draw support.⁷⁴ Pratten notes that 'each battalion had its own individual 'character'.'⁷⁵ The nature of service was somewhat at odds with Australian notions of egalitarianism. Officers were obligated to purchase their own uniforms and attend a substantial amount unpaid training.⁷⁶ Further, Neumann noted with regard to NCOs, '[t]he social composition and rank structure of Militia units followed the pattern set by the officer corps'.⁷⁷ However one by-product of this class-biased selection was the appointment of officers and NCOs who were often able to serve without financial constraints. Another factor which defined the leadership was a preference to commission men who had served in the First World War. Furthermore, policy dictated that in the absence of First World War service, officers were to be commissioned from the ranks.⁷⁸ Thus experience tempered the enthusiasm of the restricted pool of candidates. The First World War dominated all Militia units: most commanding officers were veterans as late as the 1940s.⁷⁹ The First AIF possessed many young unit commanders in 1918. These officers often continued to serve into the 1930s. Many quickly found themselves outmoded at the start of the Second World War, but they had started the job of building the Second AIF.⁸⁰ In 1935, 81 per cent of all Militia members had served in the First AIF, demonstrating renewed enthusiasm for Militia service after the low participation in the 1920s.⁸¹ Independent units maintained responsibility for ab initio training. Some synergies must have been possible if there was greater retention.

As Pratten reflected of comparable ab initio unit training for the Second AIF:

*... the individual battalion syllabi were structured on conventional military lines that first sought to train the individual soldier, both intellectually and physically, before progressing through the training of each successive subunit.*⁸²

There was no broad increase in training allocation from 12 days annually until 1938; however, there is a general sense that by the late 1930s better retention was reducing the impost of ab initio training. This central role of training in all aspects of Militia operations ensured that leaders gained experience as instructors. Decentralisation stands in contradiction to the highly centralised divisional structure embodied by the Plan of Concentration. But as Horner has noted, ‘without the necessary resources the plans were quite unrealistic’⁸³ and therefore, except as a guiding operational concept, were probably of little relevance at the unit level. In contrast, the unit maintained responsibility for all manner of technical, leadership and collective training.

Approaches to Leadership Development

Leadership development in the voluntary Militia benefited from innovation, adroit management of minuscule budgets, and perseverance. Its primary success was in the development of its leaders. The methods of developing leadership were tactical exercises without troops (TEWTS), staff rides and professional development courses at the unit level. Informal training approaches prevailed partly because the voluntary Militia lacked formal structures for professional development, but also because of lack of funding. There were seven corps schools during the 1930s, but they were intended for the permanent force instructors.⁸⁴ These instructors, along with the five syllabi of the examinations for promotion, made up the primary institutional structure ensuring some standardisation, and there is minimal evidence of their reach at unit level. Unit programs of professional development were more prominent. Some focused on preparing candidates for promotion, others on imparting specific individual skills, such as in using a particular weapon. Commanding officers retained discretionary funds for the payment of NCO and officer salaries specifically for activities in support of career development.⁸⁵ Additionally, the Jess Report noted that ‘many other (activities) were held at the voluntary expense of the individuals’.⁸⁶ The effect of this experience can be demonstrated by the practice of Sir Edmund Herring, who served as an artillery commanding officer during the 1930s:

*He kept himself abreast of military theory and technical developments so far as that was feasible ... He joined weekend bivouacs and with other senior officers took part as often as possible in TEWTS, some conducted at the Naval and Military Club.*⁸⁷

Many NCOs and officers ignored the six days of home training and paraded weekly, often without pay.⁸⁸ The Jess Report and the independent accounts from the period demonstrate high levels of motivation and improvements in the performance of officers in the 1930s. This has led Pratten to note:

*The Militia in the 1930s did have one strength however, and this was the commitment of its long-serving officers, NCOs and soldiers, who gave up much of their leisure time to military training despite the 'rather discouraging circumstances' in which they served.*⁸⁹

Use of Community Opportunities

The voluntary Militia made significant use of community organisations to enhance training. These connections likely become more entrenched in the late 1930s as a consequence of continuous local connections. A prominent support was local rifle clubs. They had a long history of association with the part-time force;⁹⁰ however, the 1920 Senior Officers Conference had recommended that the Defence Department cease the association,⁹¹ a sentiment reciprocated in 1929.⁹² Nonetheless the cooperation continued. The effectiveness of the rifle club association is difficult to gauge. The Jess Report was positive,⁹³ and they could have been expected to complement existing facilities. Units also developed their own social and garrison facilities. Training facilities had generally deteriorated by the 1930s. The Jess Report indicates that the camps of the First AIF were cannibalised for materials.⁹⁴ Gavin Keating reflected on a rich social atmosphere in his biography of Stanley Savidge, commenting that he 'spent the whole of his army pay on improving the facilities in the Sergeants and Officers Messes in Surrey Hills and promoting their use'.⁹⁵ There are a number of examples of business and philanthropy meeting expenses for Militia training. These included the donation of food, transport and training facilities.⁹⁶ This assistance would doubtless have extended the very limited training budgets.

Institutional Developments

The voluntary Militia benefited from some limited institutional efforts to develop leadership. These included Australian doctrinal developments

that reflected local conditions and improved centralised courses and exercises. Collective training also improved slightly by the end of the 1930s, incorporating technological considerations.

Examples of Doctrinal Development in the Voluntary Militia

There is a small amount of evidence that the AMF made practical doctrinal efforts which fostered the development of leaders. The AMF produced some doctrine in the 1930s. Specifically, *Instructions for Training*⁹⁷ was released in 1933 and took the place of the UK publication *Training and Manoeuvre Regulations*.⁹⁸ The earlier publication took a prominent place in the development of a uniquely British operational art by providing an overarching framework for the conduct of training.⁹⁹ *Instructions for Training* replicated much of this content. But importantly it provided consideration for Australian conditions. Key principles were imported from the British document into Chapter 3 'Militia Force Training—General Instructions'. In contrast, the earlier UK document included separate considerations for territorials rather than devoting an entire chapter to them.¹⁰⁰ This difference reflects the primacy of part-time forces for Australia. It contradicts Palazzo, who has stated that the primary purpose of the Directorate of Military Training 'was to reissue British training publications and to conduct promotional examinations'.¹⁰¹ The key distinction is the precedence afforded by the Australian doctrine to the training of junior leaders and specialists, which Chapter 3 indicated 'is of paramount importance and will receive first consideration'.¹⁰² There is no real way of determining the prominence of *Instructions for Training* as there is no mention of it in any primary sources. However, it demonstrates that leadership development was prioritised in the AMF. The Jess Report also reflected this focus. It identified, largely anecdotally, several positive improvements. The nature of leadership changed: NCOs were appointed during the conduct of their Compulsory Military Training in the 1920s; many were in their late teens or early twenties. Jess regarded this as deleterious; older and more able personnel were less inclined to share NCO rank with these younger appointments. The return to a volunteer force saw the development of a pool of experienced, older NCOs typically at the Corporal level, who undertook longer periods of service.¹⁰³ The voluntary Militia doctrinally and organisationally improved the conditions for leadership development.

Formal Training Developments

The voluntary Militia gradually developed formalised structures for individual and collective training that enhanced the development of leaders and readiness. The establishment of a Command and Staff College at Randwick Barracks in 1938 under Major General Sir Henry Wynter demonstrates improved efforts towards professionalism. The course for promotion from Major to Lieutenant Colonel was originally six days long, was conducted at a number of locations, and consisted of lessons and TEWTs. The Chief of the General Staff asserted that few officers who completed the course ‘were fitted for the immediate exercise of command’.¹⁰⁴ The Command and Staff College taught a longer syllabus and, more importantly, centralised instruction. Pratten noted that from 1938:

*... in the Militia battalions the first members of a new generation of commanding officers, who were to benefit from such innovations as the Command and Staff School were beginning to break the monopoly of the First World War veterans.*¹⁰⁵

This reflects the value placed on the unit and the expectations the Army held for unit commanders.

Another area where the voluntary Militia demonstrated a gradual maturation was an increase in collective training. Long noted that ‘they were made to undertake complicated and arduous exercises’. The 1st Brigade conducted a coast defence exercise in October 1938 near Newcastle where ‘artillery fired over the heads of the infantry with accuracy and an air force squadron (No 3) cooperated’.¹⁰⁶ Neumann notes that there were TEWTs that incorporated armoured vehicles, anti-tank and anti-aircraft guns, and reconnaissance aircraft,¹⁰⁷ as well as field exercises where infantry were landed by Navy ships.¹⁰⁸ The developments in this area were tenuous, and their reception cannot be confirmed. However, they demonstrate that some of the positive personal accounts were not anomalous. Further, the voluntary Militia contemplated modern military developments. The improved training demonstrates that the increased professionalisation must have had some enduring benefits, as planners were incorporating contemporaneous developments. Further, the improved readiness doubtless provided more realistic opportunities to develop leadership. None of these collective actions resulted in a measurable enhancement of readiness.

Furthermore, they occurred so late that it is difficult to assess their actual success. However, they demonstrate that since the 1920s the Militia had advanced beyond ab initio and platoon training and was now capable of undertaking formation-level training. It likely positively influenced the development of the voluntary Militia's key leadership at a point where this influence was of importance in their preparations for the Second World War.

The Militia's Leadership Contribution

The voluntary Militia provided the foundations for the massive expansion of the AMF in the Second World War. It did this in two ways, largely simultaneously. Firstly, the initial officers and senior NCOs for the Second AIF were initially recruited from the Militia. The 2/2nd Battalion was formed on 24 October 1939 by the congregation of a commanding officer and an adjutant from the Militia and a quartermaster and regimental sergeant major from the regular forces.¹⁰⁹ The initial draft consisted of 12 officers, two sergeant majors, one sergeant and 41 privates, all recruited from the Militia.¹¹⁰ This force marched into Ingleburn camp on 2 November as an advance party for the substantive recruitment. This example demonstrates how the AIF relied on Militia leadership until they could employ their own graduates from officer training and internal promotion. Initially, half of the 6th Division's positions were reserved for the Militia. In the event, it contributed only a quarter.¹¹¹

However, virtually all the officers were from the Militia. The official history noted that in forming the 8th Division, '[i]n choosing their senior officers, the battalion commanders looked for those who had been in militia units'. Further, these officers were permitted to recruit up to three-quarters of their NCOs from the Militia.¹¹² This was an important contribution: a pool of vetted leaders trained in the fundamentals by First World War veterans. Pratten notes:

*As a military organisation, the pre-war militia failed in many ways, but it generally fulfilled its primary aim of providing a base of trained officers on which to found an expanded Army.*¹¹³

That four AIF divisions were raised, trained and deployed overseas in the first two and a half years of conflict, largely with Militia officers, reflects the utility of the leadership focus.¹¹⁴ The Militia also fielded its own units and formations for the defence of Australia and New Guinea. Certain CMF units were specially raised for full-time service; in September 1941 the force

numbered 173,000 men, with 45,000 in full-time service. Most of these men were called out for full-time service in 1942. The performance of the Militia from 1942 is contested; however, having regard to the serious shortcomings of the 1930s, it is perhaps surprising that it functioned as effectively as it did.

Conclusion

The voluntary Militia ultimately focused on producing leaders and, despite being negatively perceived, it accrued some positive achievements. There are positive appraisals of the Militia, but in the official literature and in popular and some academic accounts a negative perception has prevailed. The compulsory Militia was subsumed with maintaining its establishment by a constant throughput of short-service conscripts. Leadership development was subordinated to this training function, and the compulsory Militia failed to develop meaningful collective training standards and left minimal institutional developments. The voluntary Militia was similarly underfunded but, presented with the extraordinary circumstances of the 1930s, it would have struggled in any event to retain personnel and mechanise properly. Ultimately the voluntary Militia delegated a substantial amount of training responsibility to units, who were then able to draw on significant local resources and experience to develop and promote their own leaders. Gradually some doctrine and secondary sources reflected this focus. Further, the AMF was able to use the limited improvements of the late 1930s to promote more effective individual and collective training. The voluntary Militia was an organisation that focused on the development of leaders and used its limited resources to accomplish this task despite extraordinarily complex circumstances. The Australian Army should continue to examine the historical implementation of effective part-time training. The largest deployments of Reserve forces occurred on two occasions in 2020 and there is every indication that Defence will continue to draw on Reserve forces as it enters an unpredictable period.

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About the Author

Major Sam Baumgarten joined the Australian Army in 2003 and graduated with a BA (History and Politics) from ADFA before being commissioned as an RAA Officer in 2006. He served with 16th ADR and was deployed on Operations SLIPPER and CATALYST. He left the ARA in 2013 and transferred to RAE in 2014, serving with 8 ER and commanding 14th Combat Engineer Squadron. He currently commands A Coy, 1st/19th RNSWR in Wagga Wagga. He graduated with an LLB from the University of Newcastle in 2015 and was admitted as a solicitor in 2016. He currently works for the Office of the Director of Public Prosecutions. He is married with two children.

Actionable Concepts for Future Dismounted Combat Teams

Mr Nicholas Kempt, Lieutenant Colonel Scott Holmes,
Dr Matthew Richmond, Dr Matthew Sawers,
Mr Kim Tang

Abstract

This article describes our approach to developing and employing concepts to guide innovation efforts and investment for future dismounted combat teams, including a discussion of two possible future concepts. Our approach is underpinned by the philosophy that innovation should be guided by clear, conceptual aiming points in order to achieve step change in combined arms capability. We suggest this requires concepts to provide sufficient detail for a tactical setting, link to strategic guidance, and undergo a process of evaluation and refinement. We acknowledge that there is a clear tension between developing future combat team concepts that are too detailed and prescriptive, which could stymie innovation, and an abstract, non-specific approach that could lead to ad hoc or incremental advances in capabilities. Enduring efforts to trial, analyse and update concepts periodically will assist to alleviate this tension.

Introduction

Robotics, artificial intelligence, nanotechnology, and advances in biotechnology are but a few emerging technology areas whose influence on contemporary society remains opaque. Despite the challenges involved in assessing the influences of these technologies, it is imperative that the ADF is watchful for key changes in the character of warfare and takes advantage of new opportunities as they emerge.

This article describes measures underway between Army Headquarters (AHQ) and the Defence Science and Technology Group (DSTG) to explore emerging technologies. It covers three important issues. First, *actionable concepts* are described as a mechanism to convert creative thinking into *aiming points* for capability exploration. Second, two concepts to explore emerging technology adoption are described to demonstrate the current state of *actionable concepts* for dismounted combat. Third, this article explains how the concepts are enacted in practice through the Combat Application Laboratory (CAL) at the Combat Training Centre (CTC) in Townsville. Together, the *actionable concepts* and the CAL provide a means to iteratively inform concept and capability development as part of a connected learning process.

Actionable Concepts

DSTG and the Dismounted Combat Program (DCP) at AHQ collaborated to develop two concepts for future dismounted combat teams. The study explored post-2030 dismounted infantry operations in support of Army in its preparations for 'advances in sensing, precision attack, and decision-making that will alter the character of future conflict engagements'.¹ The developed concepts intend to inform the transformation of dismounted combat capabilities by providing a conceptual aiming point suitable to evaluate and guide new technologies at the earliest opportunity.

The collaborative project developed *actionable concepts*. By *actionable concepts* we refer to transformative concepts that can link strategic guidance into tactically actionable outcomes. The strategic guidance applied to the first *actionable concepts* developed were *Accelerated Warfare*,² *Army's Robotic & Autonomous Systems Strategy*³ and the *Land Operational*

Concept Document. These strategy documents provide long-term descriptive guidance but lack the detail and prescription needed to convert meaningful change into practice. Understanding and contextualising the risks and opportunities posed by emerging technologies requires well-articulated *aiming points* for future combined arms capabilities. Accordingly, the key objectives are to provide conceptual *aiming points* that will guide industry engagement and experimentation efforts.⁴ Such conceptual *aiming points* are important for several reasons:

- i. Step change in combined arms capabilities will be required for the future operating environment⁵
- ii. Resources are limited
- iii. Combat capabilities are complex
- iv. The number of potential combinations of new technologies contributing to the tactics, techniques and procedures that realise ‘capability’ is potentially paralysing. Too many ideas and too many unknown implications prevent a clarity of purpose for robustly assessing and validating options and future capability decisions.⁶

Actionable concepts seek to bridge the gap between potential and realisation; however, the nature of the future operating environment and the rate of technological innovation remains uncertain. Consequently, although actionable concepts are necessarily specific to support their practical application, their aim remains explorative: i.e. ‘begin with a question, an idea or a problem’ and ‘co-exist with other alternative ideas’.⁷ Note that we started with the problems of an ‘advanced engagement’ battlespace and developed multiple concepts for future dismounted combat within this context. Though the aim is producing a number of flow-on concepts for technology-enabled future combat teams capable of operating across a range of scenarios, these should not be seen as *the concept*. As our understanding of the future environment changes, so too should our concepts of fighting within it. Land Capability Analysis (LCA) at DSTG is developing an enduring relationship with the DCP to ensure *actionable concepts* will be updated periodically as new insights and results are obtained. Although it is expected that central design principles will be enduring, the specific make-up of future Combat Team (CT) designs will be iteratively assessed and updated based on experimentation results.⁸ A prescriptive, reductionist approach is avoided as this would stymie independent innovation. An abstract, non-specific approach is also avoided to ensure transformative, rather than iterative, innovation and capability development.

Building Actionable Concepts

The study applied a systemic design methodology that combined several analytical methods within a creative, participatory co-design exercise to generate novel and explorative concepts for the post-2030 close-combat force.⁹

The development of actionable concepts for future dismounted combat was guided by the question:

How will combinations of new and emerging technology transform the battlefield engagement capability of dismounted infantry in close combat?

A focus on dismounted close combat best facilitated the initial design process through a focus on a specific set of challenges. However, a key aim was to develop future combat team designs and concepts that are adaptable. Two concepts resulted from the systemic design process:

- i. Semi-autonomous combat team (SACT)—integrating a variety of uncrewed systems to boost capabilities at section level linked via a ‘combat cloud’¹⁰
- ii. Skirmishing mist—a top-down approach based on small independent teams operating disconnected, disaggregated, and decentralised while coordinating and delivering decisive multi-domain effects.¹¹

Both concepts feature paradigm shifts encompassing deep levels of adaptation in recognition that technology insertion and incrementalism is an inadequate response to the forecasted future operating environment. Following from anticipated technological maturity by 2035, combined with the enduring complexity and uncertainty of the environment, a starting assumption was that humans remain integral to close combat and that it remains a ‘collision between two living forces’—that is, close combat is not reduced to ‘robot wars’. To best facilitate rapid assimilation and immersion by participants, four scenarios based on historical analogues featuring unsupported dismounted operations against an advanced 2035 adversary in complex terrain were employed, specifically Tropical Battlefield (Borneo), Urban Battlefield (Marawi), Subterranean Battlefield (Cu Chi and Toronto), and Isolated Positions (Airmobile Entry).

Semi-Autonomous Combat Team

The SACT concept emphasises the integration of a variety of uncrewed systems (UxS), aimed initially at substantially boosting section-level capabilities as the smallest tactical building block possessing independent command and control (C2), fires, and manoeuvre roles, then extending upwards following a ‘bottom-up’ design process. The enhancements take four main forms:

- i. A multi-platform, layered, self-organising, persistent field of sensors
- ii. Armed small/medium semi-autonomous uncrewed ground vehicles (UGV) equipped for direct engagement and fire support, capable of movement and engagement
- iii. Small indirect capabilities organic to the section (via precision guided munitions and loitering munitions) with larger variants available at platoon level. This enables precise engagements and on-call cut-off without reliance on other echelons
- iv. Expendable ‘breachbots’ capable of undertaking high-risk roles, such as initial assaults.

At the core of this concept is a ‘combat cloud’ that enables human coordination and supervision of this diverse collection of UxS platforms and capabilities. Although individual intelligence, surveillance and reconnaissance (ISR) and UGV platforms are assumed capable of significant levels of semi-autonomous operation within the time frame, supervision remains necessary—and providing a critical safeguard and ensuring compliance with the laws of armed conflict. The combat cloud infrastructure—including data servers, core processing capabilities, and network bearers—is hosted within the section by UGV, providing responsive, resilient and reasonably assured C2 for the large number of UxS platforms, enabling the immediate levels of supervision required in contested electro-magnetic spectrum (EMS) environments.

Leveraging the combat cloud, a persistent, adaptive and self-managing ISR field surrounds each section, providing increased awareness of the battlespace and facilitating cued engagement by remote platforms. The various other UxS platforms in turn provide a robust and layered set of direct and indirect engagement capabilities capable of considerable overmatch when compared to a conventionally equipped section. Combined, the ISR field, armed UGVs and organic indirect fires enhance

engagement capability and lethality, significantly enabling the section to maintain an extended standoff simultaneous with greater firepower. Human section members reach across this standoff and act through their UxS platforms as platform operators and mission supervisors first, before they directly assume risk themselves.

The additions and adaptations at the section level translate upwards to inform the structure and behaviour of a full CT. The new CT structure retains comparable to the present-day form, outside of relatively minor alterations such as the extensive use of UxS. Specifically:

- A *SACT* retains the structure of three sections per platoon and three platoons per CT.
- Sections comprise two similar fire-teams, comprising a fire team sub-commander and two specialists, one each for platforms (UGVs) and systems (ISR / combat cloud). Each fire team controls a portion of the section's UxS assets and can detach to function independently, providing further flexibility.
- An autonomous fire support section (AFSS)—comparable to a manoeuvre support section (MSS)—provides self-deploying mortars, heavier loitering munitions, and other heavy weapons as appropriate. An AFSS falls under each platoon HQ, equipped with three medium UGVs fitted accordingly.
- CT HQ holds a reserve of medium armed UGVs controlled by the Company Sergeant Major.
- CT HQ roles remain comparable to the present but with reduced personnel.
- The exception is Signals, which expands in light of the considerably increased need for command, control and communications (C3), electronic warfare, and cyber.
- Other related tasks, such as the recovery of enemy platforms for data/intelligence extraction and exploitation, will also require additional specialist personnel.

Self-assessment and tabletop wargaming of the concept highlighted the following:

- The shift to human-machine teaming relies heavily on levels of supervised and delegated autonomy. This carries with it the need for appropriate levels of supervision and follow-on implications for human cognition. The level of autonomy and supervision requires further, more detailed analysis.

- Humans are no longer ‘first, last, and always’ —a significant change in approach from close combat. The concept features humans acting extensively through other platforms to direct the close fight, before engaging in it themselves where necessary. This, in turn, alters numerous tactical behaviours and assumptions.
- The inclusion of expendable UxS moves SACT several steps towards an abundance mindset facilitated by the more risk-tolerant UxS platforms. This contrasts sharply with scarcity and casualty aversion mindsets present today.
- Logistics remains a major limiting factor, however, though this is ameliorated by the extensive adoption of autonomous logistics systems. The full report explores this issue in greater depth.
- As a gauge of effectiveness, subject matter experts involved in the design process suggested that the expected increases in capability and lethality were likely to result in the offensive operations ratio shifting from 3:1 (with conventionally equipped forces) to 1:3. This is supported by the increases in survivability achieved through dispersion.
- The reality of an increasingly observed and sensor-saturated battlefield demands a matching shift in tactics, techniques and procedures (TTPs). Operating above the general detection threshold is unavoidable due to the size and the number of platforms employed. Instead, the concept aims to stay below the ‘targeting solution’ threshold through inducing and sustaining ambiguity.

Skirmishing Mist*

The *skirmishing mist* concept embraced the idea of a professional guerrilla Army operating disconnected, disaggregated, and decentralised. Small independent teams operating below detection threshold would infest the terrain, from which remote strikes and direct action could be taken throughout the depth of the battlespace. This conceptual work was considered of greater utility to future forces tasked with screening, reconnaissance, and area denial.

The operating paradigms developed for this concept were:¹²

- Skirmish to set favourable conditions for decisive action by manoeuvre elements
 - The concept is not the sole solution to everything; it is a key element of a brigade joint task force capability
- Operate disconnected, disaggregated and decentralised
 - Ability to operate in small modular teams that can survive the destruction of other groups
 - Ability to move and fight dispersed—the invisible water droplet, concentrating for specific operations to overwhelm a weaker enemy (cloud formation), then dispersing again (evaporation)
 - Ability to operate for long periods without orders (local decision-making) or direct communications with other groups, reducing the communications and electronic signature of the team and improving its survivability.
- Operate below the detection threshold
 - Ability to deliver pervasive awareness and cueing—being intelligence driven through strong ISR capabilities to find and fix
 - Ability to ‘infest’ the terrain by blending with the physical, social, informational and electronic environments (the enveloping mist)
 - Ability to control and manage signature by exploiting deception and concealment—hiding in plain sight
 - Ability to conduct remote strike capabilities to engage the adversary

* The discussion of the skirmishing mist concept is drawn directly from Ref 11. For further details, please see the full report.

- Do not hold terrain but destroy, disrupt, degrade, deny and deceive the adversary
- Only rise above the detection threshold and strike (multi-domain) for high pay-off
- Coordinate with adjacent teams and reach back for collaborative/synchronised effect
- Achieve time-sensitive attack through rapid effects generation
 - Systematically targeting the linkages and nodes that hold the force together
- Attack the adversary across all domains and locales, with emphasis on info-kinetic manoeuvre
- Carry out enduring attacks and harassment to dislocate, weaken and exhaust the mind of the enemy
- Avoid major combat—do not become decisively engaged in combat.

A conceptual metaphor for this idea is submarine warfare—independent submarine actions and the opportunity for collective attack by several submarines operating under broad direction and limited control. Submarine tactics are ‘dispersion, surprise, strikes where the enemy is weak’, then disappearing and continuing the degradation of enemy morale and resources.¹³ The concept also echoes, for example, the US Navy’s ‘Distributed Lethality Sea Control’ concept,¹⁴ the MITRE Corporation’s ‘Small Unit Operations’ (SUO) concept,¹⁵ the Defense Advanced Research Projects Agency’s ‘Mosaic Warfare’,¹⁶ and the writings of TE Lawrence.¹⁷

The low-signature model requires the small teams to operate for long periods without orders or direct communications with other groups. One-way theatre broadcast was the primary means of higher command communication supported by UAV e-courier systems. Deception and concealment across all sensor bands forms an essential ability of the small teams. A remote strike concept was developed whereby the small teams would tag targets (electronic or biometric) for prosecution by a flying arsenal UAV, smart-mines or remote sentry turrets. Low-signature sustainment was achieved through foraging, local manufacture and UAV-delivered support.

The teams only rise above detection threshold and strike for high-value effect (the decisive blows), either individually or as coordinated teams, enabled by strike reach-back for long-range point and area effects.

The *skirmishing mist* battalion contains approximately 25 teams under the command of an enlarged battalion HQ reliant on AI-enabled C2 systems to provide effective command and control of the teams. Each team comprises 20 soldiers grouped in five functional cells (four soldiers per cell—command, reconnaissance, pioneer, cyber-electromagnetic activities (CEMA), and strike. The team structure can be adjusted in size and/or augmented with supporting elements delivering psychological operations (PSYOPS), air defence, human intelligence (HUMINT) and medical capabilities, depending on the operation and tactical situation.

Self-assessment and tabletop wargaming of the concept revealed that it:

- was resilient, persistent, adaptable and flexible across multiple vignettes
- relied on and exploited the strong cognitive capabilities, leadership, flexibility and adaptability of the Australian soldier and officer ranks
- had significant organic find and fix abilities including electronic warfare sense, passive radar, retro reflection detection, and biometric collection and analysis
- supported creation of denial and control zones and engagement of time-sensitive targets by using persistent flying armoury, robotic sentries and smart minefields systems
- would enable operations to remain below discrimination threshold given advanced sensing capabilities and operating adjacent to and interacting with local populations
- had low organic combat mass and was vulnerable to being quickly overmatched if detected
- was difficult to bring together to generate coordinated actions, due to the desire to maintain low communications emissions and due to alternative means latency issues.

Discussion

The two concepts detailed above illustrate substantially divergent approaches to the problem set. One began with relatively routine technology insertion then explored the implications of that insertion on operating concepts and paradigms. The other began with high-level operating concepts shaped by fundamental shifts in the future operating environment—

that is, fighting against an above-peer, highly technology-advanced adversary, and new technological capabilities, followed by the development of a more detailed CT structure. This spread of explorative and analytical modes, evolution and revolution, affords an appreciation of the design space insofar as the workshop constraints permitted.

Key similarities between the otherwise divergent concepts offer further insights:

- The importance of dispersion, standoff, and signature management responses on an increasingly lethal battlefield
- The need for varied and fused sensor technologies to detect enemies in complex and extreme operational environments
- A shift to optional communications between echelons, rather than constant contact; a paradigm of periodic bursts rather than ongoing flows of information
- Leveraging data-ferrying UAV ‘carrier pigeons’, breadcrumbs, hand-off points, and other methods to bolster communications under arduous circumstances
- The utility of indirect fires cued remotely and asynchronously by lower echelons, often from ‘arsenal’ platforms
- Increasing reliance on self-managed UxS operating semi-autonomously with minimal direct human intervention in a wide variety of roles, from communications relays to remote arsenals
- The need for discreet UxS in a hostile/extreme environment capable of acting without detection by an adversary’s own increasingly sophisticated ISR.

Key differences were around sustainment models, the location of firepower and how the dismounted CT effectively opposed approaches to close combat. *Skirmishing mist* adopts an austere self-sustaining/foraging logistic framework in an attempt to preserve a low-signature posture. *SACT* meanwhile relies on a sizable increase in protected logistics afforded by the extensive employment of UxS for sustainment, extending mission duration and allowing remote resupply in contested spaces. In term of the locus of firepower, *skirmishing mist* is reliant on substantial brigade-level fires capability in direct support to achieve its application of a high volume of precision firepower. Alternatively, *SACT* features a significant increase in section-level organic firepower to minimise this requirement, while still being

augmented by greater fire support from other echelons where necessary. In terms of opposing approaches to close combat, *SACT* seeks primarily to bolster its ability to perform close combat through UxS augmented combat mass, while *skirmishing mist* opts to minimise the need for close combat in favour of dispersion and disaggregation, with brigade support supplying the bulk of its engagement capability.

Perhaps most telling, however, is that both concepts feature deep levels of adaptation when faced with the future—that is, challenges of the future operating environment are such that a steady incrementalism with little underlying innovative conceptual development is insufficient to achieve the necessary transformation in combined arms capability. While adopting new technology is important, alone it is insufficient to drive a fundamental shift in capability; for this, conceptual adaptation is necessary to transform the way Army operates.

Implementing ‘Actionable Concepts’

The development of the *actionable concepts* is underpinned by design and analysis methodologies. What is missing is an understanding of the effectiveness of tactical concepts under the conditions of a ‘collision between two living forces’. How do the technologies and people function under uncertainty and in all weather and complex terrain? What combination and volume of resources optimises the performance of the team? What limits exist on the performance across all operational roles, including humanitarian and counter-insurgency missions, compared to a warfighting role against a near peer or overmatch, which these concepts explored? How would these dismounted combat team concepts perform as part of a larger joint coalition force?

The next steps are part of the continuous process of employment and evolution central to *actionable concepts*. The first step is learning more of the innovative technologies included within the combat team concepts through experimentation and trials, both virtual and live. The second step is learning through evaluation of the operational effectiveness of the concepts at a combined arms level (as part of a larger force) across a broad set of operational roles and environments through modelling and simulation. Technology experimentation and trials will provide insights

into technical feasibility, and combined arms modelling will enable evaluation of operational effectiveness across a broad range of scenarios and force levels that would not be feasible by other means. In so doing, the *actionable concepts* are guiding innovation and are learning from it, while also being evaluated to ensure progress towards a future force that is adaptable to different operational roles, environments and potential adversaries.

Technology experimentation will initially involve the production of more TTPs to facilitate implementation of the concepts. The DCP is enabling this through the CAL, a platoon sized group at CTC who will be provided with the type of equipment and capabilities that the SACT concept describes. Work has commenced through TTP development workshops, equipment acquisition and simulations to enact the concepts with end users. The DCP's aim is to progressively develop a user community with sufficient expertise to inform concept iterations and understand requirements for the adoption of robotic and autonomous systems (RAS) in Integrated Investment Plan projects.

Beyond enabling a community of experts, it is also critical that the actionable concepts support a fast rate of learning and iteration between the conceptual design, the users and the modernisation enterprise that develops future capability options. Two elements are key in enabling fast exploration. The first is creating proximity between end users and the development teams in industry and academia who can deliver solutions. The second is creating an ecosystem not tied directly to the force generation cycle in which alternative tactics can be freely explored.

Proximity is critical for ensuring that expertise in the user group aggregates over time and does not fade between engagement opportunities. Traditional approaches to trials and concept development normally occur over extended periods and often engage different user communities. When the capability or equipment under evaluation is well known to the user community, such as an assault rifle, wide but shallow feedback is suitable and compensated for by the depth of expertise in the development community. Where the technology is new to the user community and its use within wider combined arms fighting systems is uncertain, both the user group and the development group lack vital information to optimise fast adoption. Developing deep understandings via *actionable concepts* or other suitable methods as early as possible is essential.

Enabling a consistent partnership between end users and the development community is needed, but difficult to realise under the rotational conditions of the Army's force generation cycle. The DCP has sought a partnership with CTC to establish the CAL, largely because it sits outside of the readiness cycle and enables a consistent approach to partnering. CTC's attributes as a data collection and analysis agency, expertise in contemporary combined arms close combat, and ownership of a threat force platoon designed to explore alternative tactics provided a sound context for practical realisation of the *actionable concept* and its further development. It is intended that in 2021 the CTC contemporary operating environment threat force (COEFOR) platoon will be equipped with materiel solutions that enable practical exploration of the SACT concept. This starting point will enable more expert user feedback on performance in CTC live exercises against a near peer adversary (the Australian Army as BLUEFORCE), to highlight strengths and weaknesses of the concept. Additionally, the use of the COEFOR platoon helps to analyse the present capacity of the Australian Army to defeat a RAS-enabled threat force.

The time and space to develop knowledge is an important factor of *actionable concept* success. An ecosystem that enables proximity and partnership supports a more consistent pathway towards knowledge development. Learning from the community of practice will inform concept iteration in LCA while concurrently informing user requirements for future capability acquisition. In this dual approach to learning, the DCP will seek to create the transformation of the dismounted combat capability 2020–2030. The *actionable concepts* approach is a centrepiece to realisation of this ambition.

In tandem with technology experimentation, LCA will evaluate the operational effectiveness of the actionable concepts force designs, initially at combat team level and eventually as part of larger forces, using mathematical modelling and simulation techniques including wargaming, Bayesian and systems dynamics modelling, and the *Combat XXI simulation environment*. These approaches can represent a combat team at different levels of fidelity, ranging from highly abstract to very detailed. This flexibility will enable the project team to determine the most appropriate level of fidelity to analyse future technology concepts in a responsive manner. This will allow models that span the scenario space to be developed and validated within a reasonable time period.

Conclusions

The collaborative efforts between the DCP and LCA are underpinned by a philosophy that explorative conceptual aiming points informed by higher-level guidance are critical to guiding innovation efforts and investment. However, the conceptual aiming point must contain sufficient detail to be actionable. If the *actionable concepts* cannot be readily applied to guide innovative efforts then their impact on future capability development will remain wanting. Furthermore, concept development without evaluation and refinement raises the danger of stymieing innovation rather than stimulating and guiding it. Enduring collaboration between LCA and the DCP, with planned updates to concepts periodically, will support this necessary ongoing evaluation and refinement. In closing, we note that these efforts are still in their early days. Our approaches to concept development will improve over time, as will their application, through the sustained effort and collaboration of LCA and the DCP.

Endnotes

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- 3 Commonwealth of Australia, Future Land Warfare Branch, 2018, 'Robotic & Autonomous Systems Strategy', at: https://researchcentre.army.gov.au/sites/default/files/2020-03/robototic_autonomous_systems_strategy.pdf
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- 7 BRIG Chris Smith, 2018, 'On Future Thinking and Innovation: How Military Concept Writing Can Unwittingly Suppress Innovation', *Australian Army Journal* XIV, no. 1: 121–140.
- 8 There has been a debate for many years about whether strategy is a result of deliberate planning or rather emerges over time—for example, whether Honda's entry into the US and UK motorcycle markets in the 1960s and 1970s was the result of deliberate planning or emergent strategy. The takeaway from this long-running debate is that effective strategy development involves both deliberate planning and emergent adaptations over time. See, for example, Ramon Casadesus-Masanell and John Heilbron, 2016, *Decision-Making by Precedent and the Founding of American Honda (1948–1974)*, Harvard Business School Working Paper 17-016. We view *actionable concepts* in an analogous manner—that is, deliberate guidance through innovative concepts is critical to transform a force but only in tandem with adaptation through bottom-up technological innovation and related experimentation. Overall, we view actionable concepts as defining a 'left and right of arc' for bottom-up innovation, not to stymie it but to guide and stimulate it: 'mission command for technological innovation'.
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About the Authors

Kim Tang is a System Analyst with the Defence Science and Technology Group, working in the Joint and Operations Analysis Division, Land Capability Analysis Branch, focusing on understanding the impact of emerging technology on force design. He has an Honours degree in Computer Science from Flinders University of South Australia.

Nicholas Kemp graduated from Curtin University with a Bachelor of Applied Science in Physics and Computing and a Postgraduate Diploma in Applied Physics, and has recently completed a Graduate Diploma in Management Studies and a Master of Project Management from UNSW at ADFA. Since joining the Defence Science and Technology Group in 1990, he has undertaken a diverse range of operations research, capability analysis, organisational and force design studies in Army, Air Force, Joint and Intelligence domains. Most recently, he has been conducting future technology concept exploration studies and designing novel land force structures adaptable to an uncertain future.

Matthew Sawers is an Operations Research Specialist with the Australian Defence Science and Technology Group currently working on future technology concept exploration. Dr Sawers holds a PhD in Political Science and International Relations from the University of Western Australia and specialises in research on novel and innovative warfare.

Matthew Richmond is the Group Leader Land Design and Analysis in the Joint and Operations Analysis Division of the Defence Science and Technology Group. He completed a PhD at the Research School of Chemistry, Australian National University in 1999. After 18 months as a postdoctoral fellow at the University of Ottawa, he joined the Defence Science and Technology Group in 2001. His research has focused on preparedness analysis, development of modelling and analysis tools, complex decision-making and organisational adaptability. He has completed postgraduate studies in operations research and scientific leadership.

Lieutenant Colonel Scott Holmes joined the Australian Army in 2003 and has served in diverse regimental, staff and training positions, including appointments at the 1st Battalion and 2nd Battalion, The Royal Australian Regiment. He has served on several operational deployments to Afghanistan and East Timor, and is currently Staff Officer Grade 1 in the

Dismounted Combat Program at Army Headquarters. Lieutenant Colonel Holmes has completed a Bachelor of Professional Studies and a Master of Emergency Management, and attended the Australian Command and Staff College in 2016, where he was awarded a Master of Military and Defence Studies. He is currently undertaking a doctorate at the University of New South Wales focused on the implications of a Fourth Industrial Revolution for the Australian Army.

The Atomic Division: The Australian Army Pentropic Experiment, 1959–1965

Dr Justin Chadwick

Introduction

The use of nuclear weapons during the Second World War heralded a new era in warfare. The battlefield of the future was envisaged by military planners to be one that included tactical nuclear weapons and thus required a new type of infantry structure. To accommodate these tactical changes, and the desire of the federal administration to reduce troop numbers, the US Army developed the five-sided pentomic divisional structure. The new structure, introduced in the early 1950s, was to have increased mobility and flexibility while offering the best protection against battlefield nuclear weapons. The Australian Army followed similar ideas at the same time. The Chief of the General Staff, Lieutenant General Sir Sydney Rowell, argued for reform that would better reflect the new tactical environment and allow greater connectivity with the US. A similar, five-sided divisional structure was adopted in Australia that modified the tropical establishment. This 'pentropic' structure, introduced in 1960, represented an increase in troop numbers by about half and much more firepower. However, like the US Army's, the Australian concept was not without detractors and impacted badly on the Citizen Military Forces (CMF). The pentropic divisional structure was abandoned in 1965 and replaced with the previous triangular structure. The experiment, lasting less than five years, had caused disruption and, in the case of the CMF, angst, for no perceivable advantage. Although the reform was intended to improve the Army, the result was far from convincing.

The New Atomic Battlefield

Considered by many historians to be a seminal piece of US security policy, national security policy paper NSC-68 greatly influenced the US military, particularly the Army.¹ Coinciding with the outbreak of the Korean War, the policy paper paralleled the Army's attitude toward strategy at the outset of the Cold War. Arguing that the Soviet Union would not provoke war until they could win it, it held that the imminent danger lay in war by proxy.² Containment of the Soviet threat was paramount and, to achieve this, rearmament was necessary.³

During Eisenhower's presidency, between 1953 and 1961, nuclear weapons became the centrepiece of US military strategy. The 'New Look' policy moved the military's manpower-intensive conventional ground forces approach to nuclear-capable forces, specifically the Air Force's Strategic Air Command.⁴ The rationale was that the threat of massive nuclear retaliation would act as an adequate deterrent to all aggression, allowing reductions in defence expenditure.⁵

Reinforcing this concept, John Foster Dulles's article 'Strategy for Security and Peace' appeared in *Foreign Affairs* in April 1954. Dulles argued that the Eisenhower administration decided on a new strategy of community-based power that was used as a deterrent to any aggressor by 'making it costly to an aggressor'.⁶ The free world was not in a position to match 'Communist forces, man for man and tank for tank, at every point where they might attack'.⁷ Thus a new strategy was required that utilised assets 'especially air and naval power and atomic weapons'. This new strategy needed to be flexible with 'a system in which local defensive strength is reinforced by more mobile deterrent power'.⁸ For Dulles, the 'potential of massive attack' would serve to quell aggression, allowing the New Look policy to provide peace and security.⁹

The US Chief of Staff, General Maxwell Taylor, before the Senate Armed Services Committee in early 1957 announced 'major changes in organization, tactics and weapons' in the Army.¹⁰ The new Army would be reorganised into 'pentomic', or five-sided, divisions that were smaller, with 13,800 men rather than 17,500. Taylor spoke of four principles that the new organisation was to be based upon: ready adaptability to the atomic battlefield; better use equipment; understanding of improved communications; and integration of improved arms and equipment.

Army Organisation for an Atomic Age

The tactical use of nuclear weaponry had been proposed as early as 1949. US Army General Jacob L Devers, on his retirement, recommended that to increase the efficiency of the Army's ground forces 'the atomic bomb be used as "a tactical weapon"', contrary to the prevailing military opinion that its only use was strategic.¹¹ His sentiments were reinforced by fellow senior officers of the Weapons System Evaluation Group. Major General James M Gavin, a member of the group, wrote 'The Tactical Use of the Atomic Bomb' for publication in the Bulletin of the Atomic Scientists in 1951;¹² this was followed by articles, by various authors, such as 'Notes on the Tactical Employment of Atomic Weapons',¹³ 'Atomic Weapons for the Battalion Commander',¹⁴ 'The Tactical Side of Atomic Warfare'¹⁵ and 'The Atomic Revolution in Warfare'.¹⁶ One of the first books published on the subject, *Atomic Weapons in Land Combat*, by George Reinhardt and fellow officer William Kintner, argued that atomic weapons 'tactically employed, should be incorporated into our first line of defense against any creeping aggression'.¹⁷ Reporting in the New York Times, Hanson Baldwin wrote on the tactical uses of the 'family' of atomic weapons available. The article highlighted some of the limitations of the strictly strategic use of nuclear weapons and, using a pugilistic analogy, how 'our atomic left-hand-lead could be used—as a boxer uses his left—to keep his opponent off balance, and to prevent the opponent from cocking his round-house right'.¹⁸

While future battlefields might include tactical nuclear weapons, one concern for senior officers remained force numbers. General Matthew Ridgway, following his appointment as Chief of Staff in 1953, was concerned that the US Army would be outnumbered in a future war and thus required a force multiplier, and that atomic weapons should be included.¹⁹ One reason for the concern was the pressure from the Department of Defense for fewer troops.²⁰ Ridgway was aware that though division capabilities and firepower had increased, their mobility had not. He believed, therefore, that in order to increase mobility and flexibility while reducing damage from atomic attack, improvements were required. He ordered that a study by senior officers, including General Maxwell Taylor, be conducted into the possibility of reorganising division structure and tactics. Simultaneously, exercises in Germany under Major General Gavin, commanding US VII Corps, revealed the limitations of the existing organisational structure, recommending independent dispersed battle groups.²¹ When Taylor became

Chief of Staff in 1954 he continued the study of a new organisation of Army divisions, concluding from his experience during the Korean War that the old triangular division was outmoded.²²

The outcome of this research was a new division structure called Atomic Field Army (ATFA), better known as ‘pentomic’.²³ The new divisional organisation comprised five (pentagonal) self-contained formations, labeled battle groups. Each of these groups consisted of four rifle companies, a mortar battery and headquarters and support elements, and two battalions of artillery.²⁴ The battle groups allowed greater depth and width than the traditional system, reducing targets during any atomic attack, and were designed to be ‘more pliable and sustainable than traditional battalions’.²⁵ To aid this more dispersed arrangement, Taylor believed that better communications equipment would allow commanders to control their troops and that the introduction of armoured personnel carriers would increase mobility. The changes resulted in a reduction in personnel by nearly 4,000 from each infantry division and 2,700 from an armoured division, thus complying with the Eisenhower administration’s demands.²⁶ Field tests commenced in 1954 at Fort Hood, Texas and Fort Benning, Georgia, with the first unit, the 101st Airborne Division, becoming ‘pentomic’ in 1956. At the completion of further tests and exercises²⁷ Taylor announced the conversion of all divisions to pentomic by mid-1958.

Reception of the new organisation was mixed. Some senior US Army officers queried the abilities of the new equipment touted by Taylor and highlighted conceptual flaws before conversion. Much of the new technology was yet to be issued and shortages of equipment caused concern. Small unit commanders, at platoon and company level, questioned the dispersal of units, particularly when only defending conventionally.²⁸ The division commander faced control problems due to the division’s size and the lack of adequate communications equipment.²⁹ In a speech given in Philadelphia in April 1958, General Willard Wyman stated that the new division structure ‘should not be viewed as the final answer in this business as there is no final answer’.³⁰

While tactical atomic weapons were a revolution in warfare, the pentomic division was not to last. One critique of the system argued that ‘pentomic divisions were relatively inflexible, without specific tailoring to adapt them to widely varying environments’.³¹ Another stated in an interview that every time he thought of the pentomic design he shuddered.³² Further field exercises

proved the pentomic system to be better suited for defensive operations, especially due to its heavy artillery and reduced troop numbers. Ultimately Wyman's words were prescient, and though it represented a radical break from the past³³ the pentomic experiment resulted in a move away from the 'emotional, traditional, and institutional aspects of military organizations, and creating new functional units that would meet the requirements of modern conventional or nuclear warfare'.³⁴

With the pentomic design's limitations becoming obvious, an alternative concept was required. Vice Chief of Staff General Clyde Eddleman directed General Herbert Powell, commander of the Continental Army Command, to formulate a new divisional organisation in late 1960. Within three months Powell's team presented the Reorganization Objective Army Divisions (ROAD) 1961–1965. This study proposed that infantry, armoured and mechanised infantry would have a common base for commanders to assign combat battalions. The divisional organisation would also be dependent on the type of manoeuvre battalions attached. This 'tailored' approach was designed to provide the greatest flexibility and was based on the previous triangular division.³⁵ But, like the pentomic design, ROAD was criticised by senior officers. General Adams commented on the allocation of radios, arguing that, at almost one for every five personnel, the number appeared excessive.³⁶ Regardless, the new President, John F Kennedy, after Chief of Staff approval in May 1961, announced to Congress the new divisional organisation. The new structure allied with Kennedy's 'Flexible Response' strategy, which maintained a powerful nuclear force with increased conventional forces, mainly in Europe, while dealing with counterinsurgency.³⁷ The change to the new organisation was to begin in early 1962 and be completed by the end of 1963. However, possibly learning from the pentomic experience, only two divisions were altered until field-testing was completed and equipment became available. Although the changes to ROAD were finalised in May 1964, only European-based divisions could complete the conversion as additional personnel were not made available.

Divisional Reform in Australia

Kalev Sepp, speaking at the 1996 Conference of Army Historians in Arlington, Virginia, was incorrect in his pronouncement that 'no other nation or service chose to emulate [the US Army's] unique adaptation

to the imagined nuclear battlefield of the future'.³⁸ The Australian Army conducted its own reforms at the advent of atomic warfare. A newspaper article published soon after the end of the war heralded 'the fourth age of war', as the 'atomic bomb is not simply a new weapon. It is a new kind of warfare, a completely new type of war'.³⁹ This sentiment was reinforced in the Australian Parliament as early as 1946 when Thomas White, Member for Balaclava, declared that the 'atomic bomb has completely revolutionized warfare' and that the 'defence factor stressed a decade ago by military and political leaders is very much out-dated today'.⁴⁰ Parliamentary concerns, though, concentrated more on the peaceful use of atomic energy until the Cold War became of greater importance.

By the mid-1950s the Australian Army began preparations for a future battlefield that included tactical nuclear weapons. Returning from a conference called by Field Marshal Sir John Harding, Chief of the Imperial General Staff, the Australian Chief of General Staff (CGS), Lieutenant General Sir Sydney Rowell, declared 'Army planning must be based on what will and might happen in atomic warfare'. In an interview with newspapers, Rowell spoke of four main problems: the need to disperse troops against nuclear damage; battlefield mobility to offset communications loss; resourcefulness in commanders of all grades; and simplification of administrative processes. He considered 'that in attack we will have to shape our tactics so that we will provide the enemy with a concentration that will give him an ideal target for nuclear bombs'.⁴¹ Rowell's replacement as CGS on his retirement in December 1954, 'Bomba' Wells, continued Rowell's thinking. Just before his appointment, having returned from commanding Commonwealth forces in Korea, Wells spoke of the need to develop new doctrine and said that it 'might take some years to find the answer to the problems'.⁴² The following year, the Army began training in atomic warfare, beginning with exercises for senior officers,⁴³ reflecting NATO tactical doctrine in Europe.⁴⁴ At the same time Lieutenant General Bruce Clarke, US Army Commander in the Pacific, while visiting Australia for Coral Sea Week in May 1955,⁴⁵ addressed the Military Board. Clarke discussed the pentomic doctrine of atomic warfare.⁴⁶ The Minister for the Army, Josiah Francis, wrote to the Prime Minister, Robert Menzies, informing him of the newly devised concept and the changes tactical nuclear weapons would pose on the battlefield of the future.⁴⁷

The initial work on a new divisional structure began soon after. A study group was formed comprising senior officers with experience in jungle warfare. In the first such study to be undertaken by the Australian Army, the group was to design an organisation that would operate only in South-East Asia against a numerically superior force; the Regular Army would act as a ready-reaction force until the Citizen Military Forces could be mobilised. The new organisation must have a high firepower ratio and be able to operate in all terrain in South-East Asia in conventional or nuclear war.⁴⁸

A new organisational structure was announced publicly in November 1959. In the House of Representatives, Minister for Defence Athol Townley told fellow parliamentarians of the proposal to reorganise the Australian Army 'on lines similar to the United States Army, which is based on the pentomic division'. These changes would 'produce regular and CMF forces well organized, trained and equipped, which will be able to play a prompt and effective part with our allies in any hostilities in which we may become involved'.⁴⁹ The new division, though not dependent for effectiveness, was to be 'capable, if necessary, of operating with nuclear weapons'.⁵⁰ Simultaneously, part of a new three-year Defence plan was the abolition of national service.⁵¹ The CGS, Lieutenant General Sir Ragnar Garrett, wanted to keep the funds spent on national service to be used for the modernisation of the Army.

Labeled pentropic for its five-sided structure and replacement of the tropical establishment, the new organisation was specifically designed for use in tropical regions and consisted of five air-transportable infantry units.⁵² Infantry battalions, of five companies each of five platoons, were 50 per cent larger than before, with twice the firepower. Support was provided by a reconnaissance squadron, an armoured regiment, five field regiments, a field engineer regiment, and a signals regiment, called a Combat Support Group. According to the initial article on the changes in the *Australian Army Journal* of February 1960, the pentropic division conferred 'much greater flexibility' for the divisional commander than previously. A battalion would be commanded by a full colonel, with a lieutenant colonel as second-in-command. At the opposite end of command, in the rifle companies, the platoon commander's task was 'made as simple as possible by removing all supporting weapons from his command and by adding an additional assault section to increase his flexibility'.⁵³ With the introduction of a new general-purpose machine gun, the machine gun platoon was removed, being replaced by anti-tank weapons.

Subsequent articles in the *Australian Army Journal* expanded on the concepts put forward. The role of armour in the Combat Support Group was to be similar to the old armoured car regiment, but with increased personnel and equipment in each squadron's headquarters and the inclusion of a surveillance troop. The new element was the addition of armoured personnel carriers 'to provide the infantry with the additional protection and mobility required in nuclear or conventional warfare'.⁵⁴ A Special Air Service (SAS) company, whose primary role was medium-range and long-range reconnaissance, as well as battlefield surveillance, would be attached to each Combat Support Group. The SAS company would be 'a versatile and highly mobile force' to rapidly collect accurate information.⁵⁵

The changes to the division were not limited to structure but also extended to equipment. New vehicles, weapons and other equipment were selected to maximise mobility, especially by air, maximise firepower and 'possess a nuclear potential'. Vehicles and weapons were to be 'a simplified family' that were compatible and standardised with US types. Rifle companies were to be armed with the L1A1 SLR (self-loading rifle) and M60 general-purpose machine gun, both firing standard NATO 7.62 mm rounds. Armoured vehicles were to include Saladin and Saracen armoured cars, the Ferret Scout car and the Centurion tank.⁵⁶

Command changes at divisional level were designed for greater flexibility and control. The divisional commander was to retain 'all the responsibilities for command in training and battle', but the 'complexity of divisional operations may well prevent the commander from giving personal attention to all the detailed matters of command'.⁵⁷ To fulfill command tasks in a more complex environment the commander would 'rely on his staff to a greater extent than before', with delegation important. The divisional commander was to be assisted by a deputy commander, who would contribute to policy and planning while also being task force commander. To the normal division headquarters was added a radiological centre to assist and advise on nuclear, biological and chemical matters, particularly radiological hazards.

The new structure consisted of three types of groupings: battle, task force and combined teams. A battle group was a battalion with other services or arms attached. Each battle group would include a field artillery regiment and a field engineer squadron, with aviation and additional artillery added when required. Like a battle group, a task force was to have no fixed composition but be organised to achieve particular tasks. Typically based

on two or more battalions, but potentially an infantry battalion and armoured regiment, the task force was either commanded by direct divisional control or run as an independent mission. Although there were nominal changes, the 'principles of handling a headquarters and for grouping within the division have not changed'—rather the changes increased flexibility.⁵⁸

Reform was not limited to direct warfighting. In January 1964 the article 'Public Relations in the Pentropic Division' appeared in the Australian Army Journal. Written by Captain A Dunne, Public Relations Officer, Northern Command, the article proposed a pentropic public relations war establishment to assist in the commander's public relations plan, collect material and liaise with media outlets.⁵⁹

The reorganisation was not limited to the regular Army but also affected the CMF. The disbandment of units to comply with the new pentropic structure caused angst amongst the citizen soldiers, with many becoming surplus to establishment.⁶⁰ In Parliament the Member for Parkes, Leslie Haylen, queried the Minister for Army, John Cramer, over the future of the CMF. Haylen referred to correspondence he had received from a unit commander whose unit was to disappear and be absorbed into other units.⁶¹ Haylen may have been overstating his case, though, when in March 1960 he said that the 'CMF are just a rabble of reinforcements for the pentropic forces'.⁶² Although the pentropic organisation had a negative impact on the CMF, change, as Dayton McCarthy wrote in his history of the CMF, was inevitable. Despite the problems of the implementation, the CMF did benefit from improved equipment and more integrated training with the regular Army.

The Pentropic Division in Action

Major exercises were held following the divisional alterations to test the new organisation. The first was the CGS exercise, held at the Royal Military College, Duntroon, attended by nearly 150 senior officers from all services. Delegates came from the US, Britain and New Zealand to observe new equipment that had been, or was soon to be, introduced into the Australian Army.⁶³ Three more CGS exercises followed, as well as three major field exercises: Icebreaker, Nutcracker and Sky High. The second of these exercises, Operation Nutcracker, involved 8,000 soldiers and included a task force of two battle groups, supported by armour, and CMF troops.⁶⁴

The final exercise, Sky High, involved Iroquois helicopters landing infantry and simulating casualty evacuation, and included 600 British troops.⁶⁵ According to Army comments, the pentropic structure, though 'new and different from any other national Field Force Organization' was classified as 'basically sound'.⁶⁶ This sentiment was supported by some officers. Major General Alan Morris, executive officer of 1st Battalion Royal Australian Regiment between 1962 and 1964, commented that, though initially difficult, once understood the pentropic system was simple. The five-company structure provided a reserve that could be used as an exploitation force and provide better echelon protection.⁶⁷

In October 1962 the Minister for Army, Athol Townley, announced a new Three-Year Defence Programme. Before Parliament Townley spoke of the requirement to increase defence expenditure in order to maintain 'highly trained forces of all three services, equipped with modern, conventional weapons and as self-contained as possible'. The forces were to 'be readily available to work either together or with allied forces in situations that might pose a threat to our security, wherever they might develop'. Citing the crises developing in Cuba and North-East India, Townley mentioned that South-East Asia was of 'primary strategic importance to Australia' and the region faced 'increasing Communist pressures'.⁶⁸ To accomplish the perceived tasks, the government decided to increase Army personnel by 17 per cent and continue equipment purchases.⁶⁹

The Demise

The pentropic division was not without its critics. An initial extreme reaction was from the Sydney Tribune, which claimed that the government's decision to form two pentropic divisions was 'the best possible means for making sure that from now on Australia is continually on the verge of intervening in an Asian country'.⁷⁰ Leslie Haylen, the Member for Parkes, expressed a similar sentiment. During parliamentary debate in March 1960 he queried the government's defence expenditure, claiming that the country had a 'curiously named pentropic force', 'a badly mauled and shattered CMF', 'a Navy with eight ships, with 300 cooks' and an Air Force 'comprising sixteen squadrons, most of which are obsolete or obsolescent'.⁷¹ In March 1964 Sir Wilfrid Hughes, Member for Chisholm, argued that the Army could be improved. He proposed three battle groups and urged:

*[For] goodness sake let us get rid of this pentropic organization which does not fit in with the American army, the British army or anybody else we may have to fight with in South-East Asia.*⁷²

By this time several arguments against the pentropic structure had become prevalent. These included that the US Army had abandoned the pentomic division; that the structure was not standardised with allied divisions; that the old system had worked; that the pentropic division was too unwieldy and therefore hard to command; and that Australia should not differ from larger allied powers.⁷³ All the arguments held a degree of validity but could also, equally, be rebutted. For the Army, though, the new structure resulted in a reduction of personnel in command administration, and training that caused anxiety. Commenting on the changes the CGS, Lieutenant General Reginald Pollard, stated that cuts were made on an arbitrary basis, rather than after 'detailed examination of minimum tasks required'. Certain cuts were 'excessive' and resulted in overloading that was 'serious', with certain essential administrative procedures 'falling behind'.⁷⁴

The debate within the military over the pentropic division was carried out in the *Australian Army Journal* during 1964. The Directorate of Military Training, unsurprisingly, argued for the structure outlined in the article 'King of the Jungle or Paper Tiger', claiming that the 'changes that were made were essential and inevitable', and that though there were imperfections they were 'neither great nor insurmountable'.⁷⁵ Brigadier RT Eason responded to the directorate's claims by saying that it lacked 'battle know-how' and the pentropic structure was 'a Paper Tarzan and like all wild creatures of the jungle, he will be hard to command and lacking in stamina'.⁷⁶ Colonels CMI Pearson and WJ Morrow opposed Eason's views, especially those put forward about unwieldy commands, countering that until 'the new organisation is tried in war we can do little but philosophise and exercise', but implored 'those who have the good fortune to serve in it to try and understand it, rather than to simply criticize it'.⁷⁷ What was apparent though was that the complexity of the structure made it more difficult to command. Platoon commanders, who were usually young and inexperienced, were required to command a larger formation. For the CMF the impact was great and resulted in the demise of many old units that had strong links to the local community. Although the new regiments were given the prefix 'Royal', the designation did not counter the belief among some CMF officers that the changes were in revenge for pre-Second World War friction with

regular officers. Added to this was the need to reorganise along British lines troops that were dispatched to Malaya as part of the British Commonwealth Far East Strategic Reserve.

The existence of the pentropic structure came under increasing pressure with the appointment of a new CGS, Lieutenant General Sir John Wilton, in 1963. Wilton had never been a supporter of the new organisational structure, stating later that it was ‘unwise to experiment with such a fundamental change at that stage, and we couldn’t really afford the effort in terms of time and manpower to test it thoroughly’.⁷⁸ Wilton had not been in the country during the pentropic implementation, making it easier for him to deconstruct the organisation on his appointment as CGS.⁷⁹ With the pentropic system incompatible with either the US or British divisional structures, and following public criticism, Wilton ordered a review in October 1964. The report, by Major General John Andersen, recommended a reversion to the previous triangular structure, but with the addition of aviation.⁸⁰ The Andersen Report, as it was named, was approved by the Military Board and Cabinet in December 1964 and January 1965, respectively.⁸¹ For Wilton this was ‘the quickest decision I managed to get taken by the Government in my time’ as CGS.⁸²

The demise of the pentropic organisation and the implementation of its replacement, the Tropical Warfare establishment, was timely. By the end of the year the Australian Government was informed of the possibility of US troops being deployed in South Vietnam ‘together with such ground forces as Australia and New Zealand might be able to provide’.⁸³ Soon after, US president Lyndon Johnson wrote to the Australian Prime Minister, Menzies, calling for expanded assistance from ‘our closest allies in the area, the Australians’.⁸⁴ The Chiefs of Staff, meeting two days later, advised the government that to counter increased guerilla activity ‘sizeable US and allied ground forces supported by air attacks’ would be required.⁸⁵ Before Parliament on 29 April 1965, Menzies announced that he had received ‘a request from the Government of South Vietnam for further military assistance’ and, in consultation with the US, decided that an infantry battalion would be dispatched.⁸⁶ Australia’s commitment to the conflict in Vietnam was sealed and with it the recently reorganised Army.

Conclusion

The pentropic divisional structure was ‘the most radical attempt at reorganization of the Australian Army in the 20th century’.⁸⁷ The resultant structure proved to be unwieldy and inflexible, however, with excessive reliance on combat support elements to provide the needs of policy planners. Although the pentropic structure was abandoned as a wasteful experiment, it did force the Army to assess all facets of the organisation and implement improvements,⁸⁸ while the Andersen Report highlighted the advantages of an aviation arm. The adoption of a structure and equipment similar to the US Army’s was an indication of the shift toward coalition warfare. But these positive outcomes failed to offset the disadvantages and confusion caused by the reforms, particularly within the CMF. The failure of the pentropic experiment was apparent in its inability to work with either the British or the US structures of the early 1960s, and in the speed of its replacement following the Andersen Report. The reversion to the previous triangular structure was made in time for Australia’s largest involvement in South-East Asia, Vietnam.

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About the Author

Dr Justin Chadwick is an Australian historian.

Beyond Joint ‘Land’ Combat: How We Might Creatively Integrate Prospective Strike Capabilities

Captain Will Leben

Abstract

Australia is a middle power that must find ways to ‘deter without escalation’; however, we are not yet able to offer military options in pursuit of this objective. How does Army tie into the joint force and our regional geography, remaining grounded in formation tactics while becoming an integral part of a ‘joint federated targeting system’? More simply: how can we become as dangerous and survivable as possible? This article suggests a force design that offers a radically different set of relationships among and between current force elements and prospective strike capabilities. This proposal is a highly dispersed and dramatically flattened network of nodes, aggressively interwoven with deception measures and capable of unconventional sustainment. It is envisioned as scalable and, arguably, offers advantages as a way of employing strike capabilities nested alongside more familiar tasks. A dual capacity for both close combat and strike needs to reside within the same task groupings; close combat enables strike options and strike enables close combat at different points in space and time.

Introduction

Radically different force designs and employment concepts are required to underpin the success of joint and whole-of-government efforts to shape and deter¹ in our region. It is unclear what the relationship between strike assets, like prospective land-based maritime strike missiles, and the joint forces conducting a broad range of potentially concurrent operations should be.

The 2020 Defence Strategic Update² has been rightly read by commentators as a 'sombre' document.³ Graeme Dobell has summarised it thus: 'Order suffers. Coercion rises. Geography is back'. War in the Indo-Pacific, 'while still unlikely, is less remote than in the past'.⁴ Importantly for what war might look like, there is an emerging consensus that defensive fires are ascendant or even dominant once again, particularly in the maritime.⁵

While much has been read into the changes present in the Strategic Update, as Rory Medcalf has observed:

... we should be under no illusions that this is a fully independent Australian defence strategy, there is still also that continued great reliance on the US and a whole range of partners in the region'.⁶

Moreover, in Brendan Sargeant's summary, we are still 'banking a lot on technology and we're banking a lot on the ability to create big effects with a relatively small, high-tech force'.⁷

In the last issue of this publication, Lieutenant Colonel Nick Brown highlighted the need for prospective long-range rocket artillery systems to be "tied in" with other defence capabilities and to their geography', with a particular emphasis on embedding such capabilities within our range of regional relationships and how deterrence effects need to be articulated accordingly.⁸ He also noted the need to manage the dilemmas of our technical relationship with the US.⁹

This article asks related questions: how does Army make itself nastiest and most survivable in our region? How do we hurt our adversaries at reach and then live to fight another day?¹⁰ What options do we offer with the rest of the joint force to 'hold potential adversaries' forces and infrastructure at risk from a greater distance, and therefore influence their calculus of costs involved in threatening Australian interests'?¹¹ How do we remain grounded in formation tactics while expanding the tactical bubble from 30 kilometres to 1,000

kilometres and integrating into what has been termed a 'joint federated targeting system',¹² inclusive of new missile systems?¹³ Moreover, we are a middle power that must off-ramp regional conflict and find ways to 'deter without escalation':¹⁴ we are not yet able to offer military options in pursuit of this objective.

In what follows I briefly sketch a design that proposes a radically different set of relationships among and between our extant force and prospective strike capabilities. This proposal is a highly dispersed and dramatically flattened network of nodes, aggressively interwoven with deception measures and capable of unconventional sustainment. It is envisioned as scalable and, arguably, offers advantages as a way of employing strike capabilities nested alongside more familiar tasks. My focus is on the parts of joint capability 'owned' by Army; however, there is clearly only a joint fight.

It bears noting that my initial draft of this paper was developed without reference to either internal Australian Army staff work on the future force, or the new US Marine Corps concept 'Expeditionary Advanced Base Operations' (EABO).¹⁵ That it bears similarities to the latter reflects the like adaption pressures facing other militaries, too. After revisions to this paper, EABO is now rightfully present in the discussion that follows.

One issue re-emerges very clearly in this paper on multiple occasions, and I return to it in the conclusion: any vision of operating strike capabilities north of the Australian continent faces huge political challenges vis-à-vis our neighbours and partners. Relatedly, capabilities aimed at deterrence play a role in prospective regional crisis dynamics. Unless government adopts a strategic posture in which land-based missiles are deliberately tethered to a continental, 'Fortress Australia' approach, then these challenges are clearly implied in the acquisition of missile systems.

This paper has two sections. In the first, I outline a proposal for a highly dispersed task group which integrates latent strike capabilities. In the second, I discuss some potential advantages of this proposal as well as some of the clear challenges it would face.

Highly Dispersed Task Groups and Latent Strike

Analysts have frequently called for the Australian Army to become 'more of a Marine Corps' in response to contemporary challenges.¹⁶ Such a change is not good enough, though we should pay heed to some of the dramatic changes allies and adversaries are making. It should raise alarm bells for Army as an organisation that key peer organisations are, for instance, doing away with heavy armour while we are reinvesting therein.¹⁷ The US Marine Corps is doing so as part of a serious shift towards contributions to joint sea denial as the principal task at hand.¹⁸ We should take heed of this shift but merely aping it will not do. In this section, I present a highly schematic and partial concept of operations for the archipelagic setting.

Figures 1 and 2, along with Table 1, summarise a force design which might underwrite the concept of operations, which follows in Figure 3. Readers should first familiarise themselves with these graphical summaries before reading on.

The concept might be summarised as follows. Robust but small combat team-approximate elements or nodes are dispersed in a maritime setting, paired with a mix of strike assets and deeply interwoven with decoy measures. To reiterate: I am not suggesting that within such constructs, long-range strike capabilities and infantry platoons will be working to the same immediate ends in the sense of traditional 'teaming'. I am articulating a possible way in which strike assets might be placed on the ground amongst other forces and other missions in a particular geography.

Perhaps initial deployment has occurred in the form of a disaster relief operation, and a small footprint of Australian forces have been left in situ after that initial activity because of concerns about the intentions of a competitor. Perhaps part of this task grouping has been deployed as part of a regular training rotation with a regional partner nation, or perhaps a regional confrontation or crisis is already rapidly developing, and a task group is deployed in direct response to that deterioration.

This dispersed posture offers options for concealing layered strike capabilities—in terms of both land-based missile systems and integration with other joint fires—within a joint grouping that may well be conducting a range of other taskings. Those strike capabilities might be openly demonstrated or remain veiled until being deliberately cued

or triggered. The posture on the ground includes the organic use of long-range reconnaissance elements as part of a sensor mix, though they are deliberately not depicted as Special Operations capabilities. Their pedigree is not important, and appropriately equipped reconnaissance elements organic to combat brigades could accomplish some such taskings.

Likely adversary responses might be gamed and manipulated, for instance, in the deliberate unveiling of certain friendly strike assets to enable counter-counter-strike. A simple example of this might be the purposeful exposure of a targeting radar or dummy headquarters to attract an adversary strike, in order to allow us to jointly target the scarce adversary asset that carries out that strike.

In these groupings, the close combat and strike capabilities can be seen as a pair with shifting responsibility for a 'protect' function or 'guard' task. The close combat force provides intimate protection for missile systems, opens options for deception, and allows the grouping as a whole to fight for position so strike assets can 'take the shot' if needed. (The capability 'taking the shot' might be an integrated land-based missile, but it might also be an F-35 or a naval platform). Under other conditions, strike capabilities protect the grouping from adversary strike capabilities and—necessarily tied in with other joint platforms and sensors—mitigate the risk of isolation in the maritime.

Critical nodes in both command and force terms are minimised. I propose that a number of equivalent command nodes should co-exist, operating either cooperatively within an established operational design or rotating supremacy as 'first among peer' headquarters. This is proposed both to provide a level of redundancy to adversary strike functions which will presumably target such nodes, and to reinforce the deception effect intended to be pervasive through this concept. This will be regarded by some as a 'magical' black box of a proposal and clearly needs development and experimentation. Nonetheless, we need to do something about the risk of isolation and destruction of any grouping in the maritime that relies on tenuous command links to a higher headquarters that solely retains key authorities.

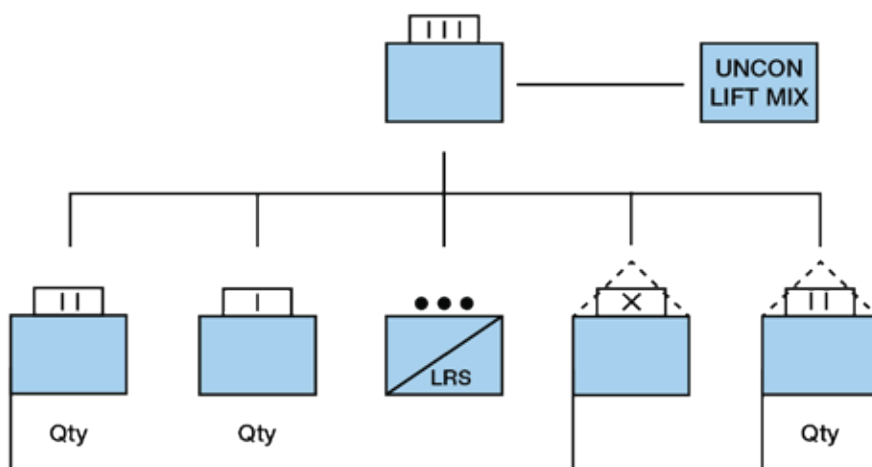
Inherent in this concept is a variable level of reliance on a civilian and military logistics mix, at least in terms of the large platforms used within the logistics architecture. What might the 'prospective lift mix' solution in this kind of concept actually look like? On the one hand, it may well look like the dedicated use of military and naval assets. If this kind of posture were

a national main effort, it is not hard to envisage how it might be emplaced and sustained using landing helicopter docks (LHDs), landing craft, C-17s and C-130s. Table 1 gives some idea based on very rough rules of thumb of how it might be achieved in circumstances where this kind of operation is a supporting rather than a main effort, or where scarce military assets are being husbanded, or where unconventional sustainment options might offer a means of deceiving or dislocating an adversary.

Unmanned platforms are not depicted in the organisational diagrams as it is taken as an assumption that such systems will be integrated within teams at all levels. There is opportunity here to team cheap and autonomous logistics platforms, for instance, as a way to sustain dispersed elements in the maritime. I have also not depicted the organisational integration of regional partner forces, which to varying extents will surely be a feature of our operations.

Uniformed readers will no doubt immediately note the use of the 'regimental' designator for this grouping, as well as the replication of the organisation in conventional 'tree' form alongside a non-hierarchical depiction. The former is an acknowledgement that, at least in an administrative capacity or in the force generation setting, some coordinating function is required. I mean little by it other than it probably should not look like a familiar formation headquarters. The latter is simply intended to mirror the above proposal for flat, co-existing command nodes.

1.1 Exemplar Task Group



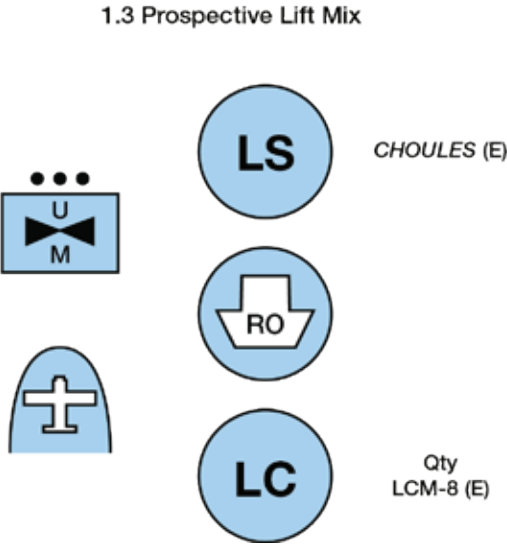
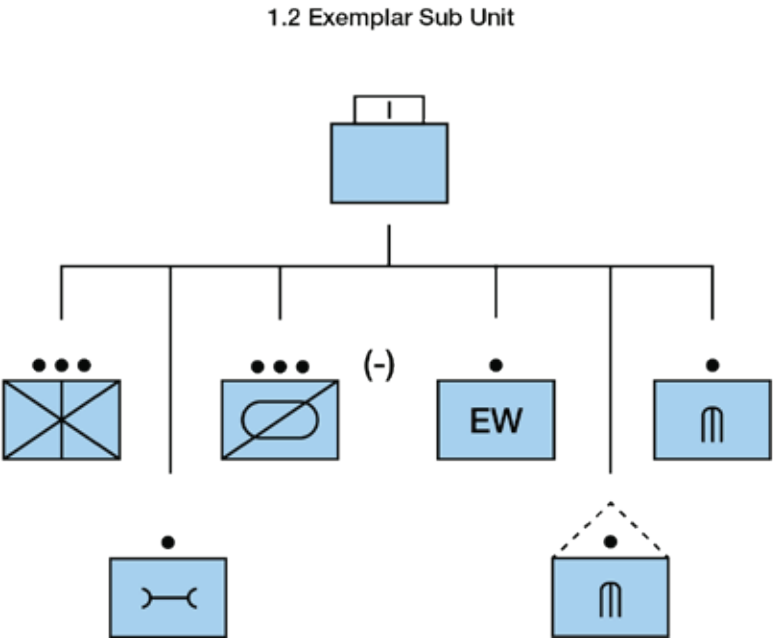


Figure 1. Exemplar task organisation

Missile systems integrated into low-level groupings though not tasked with the same immediate tactical ends

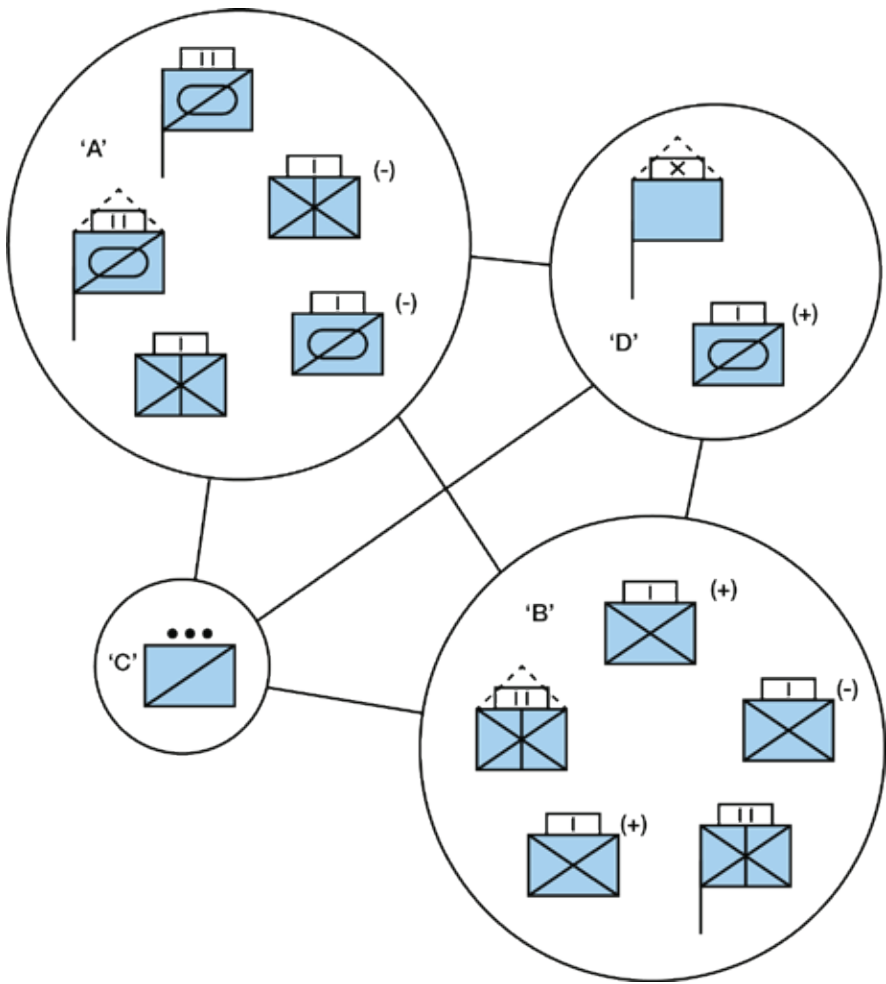


Figure 2. A representative 'flat' task grouping that lacks conventional command hierarchy

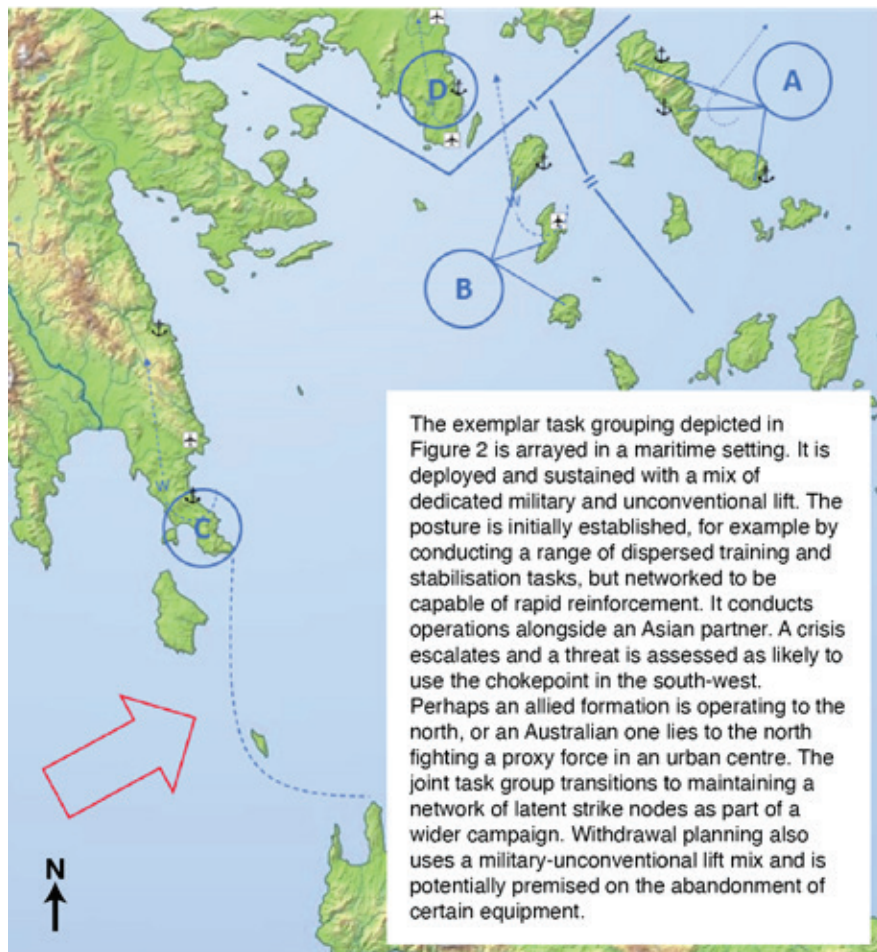


Figure 3¹⁹. Schematic concept of operations: dispersed, latent strike

Table 1. Generating a representative ~1000 pax lift with significant cargo capacity

| Lift asset | Indicative capacity |
|--|--|
| <i>Choules</i> (E) | ~350 troops or ~30 heavy A vehicles or ~150 light vehicles |
| Large commercial Roll-on/Roll-off vessel, e.g. <i>Tasmanian Achiever II</i> ²⁰ | 700 x 20-ft container equivalents, 70 civilian car equivalents and 70 civilian trailer equivalents |
| Medium-size commercial RO/RO vessel, e.g. <i>MV Minjerribah</i> | ~400 passengers and ~50 civilian car equivalents |
| 2 x 737-800 or equivalent | ~170 passengers each for ~340 pax |
| Single 737-300 freighter | Maximum of 17 340 kg of cargo |

Discussion

Clearly there are potential advantages and apparent challenges with this proposal. At least at this most abstract level, this concept attempts to offer a way of using forces that is relevant to the shaping and deterrence of potential regional adversaries. Further, a willingness to consider the use of unconventional logistics options offers opportunities to overcome a major constraint facing the joint force—our extremely constrained lift capacity across all the services—and the resulting limit on the options available to government.

Perhaps most importantly, this kind of concept arguably increases the strategic utility of many existing assets. This concept articulates how we might deliberately design and posture a force to achieve certain 'shape' and 'deter' effects, rather than simply uplifting conventionally generated minor joint task force and combat brigade-like formations and tasking them to do so. It is worth making clear here that I have an appreciation that both 'shape' and 'deter' are functions broader and more expansive than anything this concept can achieve; I am discussing a piece of the puzzle.

That aside, I tender that this proposal offers some degree of scalability and simultaneity in a campaign, and perhaps even the possibility of manipulating 'liminal' zones, to borrow David Kilcullen's language.²¹

What does this mean? First, it relates to scalability and simultaneity. The variable size and composition of each dispersed force element means that these elements could conceivably be established and maintained through non-specialist logistics platforms, including platforms the size of ships and airframes in the Australian commercial fleets. This offers the potential to establish this part of an integrated campaign without investing it with assets like LHDs.²² This might offer a degree of sustainability for those key assets over a drawn-out period. It might also mean that those assets could be allocated to an expeditionary effort elsewhere, for instance, or (particularly with regard to Air Lift Group) could remain allocated to the support of intensive air operations.

Some further brief notes are needed about the 'lift mix' canvassed above. To be clear: I am not suggesting that 737s or civilian vessels should be envisioned as continually flying in and out of contested operating areas. I am suggesting that in certain scenarios it is possible to deploy and sustain armoured vehicles, HIMARS-type²³ fires assets and personnel using a careful blend of dedicated lift platforms and non-specialist logistics capabilities. The 1999 Timor experience of sustainment using the catamaran *Jervis Bay*²⁴ is a good indication of what sustainment might look like for a posture potentially commencing as the dispersed conduct of stabilisation or training activities, but we could go much further than this example. We might also give serious consideration to what we envision withdrawing in extremis. For example, PMV and Hawkei type vehicles can probably be deliberately abandoned if necessary. I also do not wish to downplay the significant complexities involved with, for instance, freight handling and port facilities for commercial Roll-on/Roll-off vessels or freight aircraft. It would be madness, however, not to consider how we might stretch the commercial capacities we do have on hand if we were required to do so.

The potential for 'liminal' manipulation is linked to these considerations but quite different still. The establishment of a posture like this, somewhere in the region, need not begin as the establishment of a layered net of striking nodes. Rather, forces could (with or without deceptive intent) be emplaced in a given setting conducting tasks elsewhere on the spectrum of operations. Combat teams might be conducting training or stabilisation activities, for instance, in a deteriorated geopolitical context. Given a certain baseline of command-and-control systems it might be feasible to escalate this posture very rapidly from a relatively benign inception.

If national decision-makers did seek to more explicitly manipulate 'liminal' zones, this might be possible, too. The capability settings of a certain node might be deliberately ratcheted above the needs of a stated task, while the possession of high-end capabilities by others within a (latent) network might remain masked. Our adversaries have different political decision-making considerations, so this would not simply be a replication of what Kilcullen has suggested adversary approaches are doing to 'the West' and the vulnerabilities of our own political systems.²⁵ Nonetheless, this approach is a specific way of 'shaping' a threat, and would be aimed at creating uncertainty about the threat and risk level of prospective adversary courses of action, in the minds of both military commanders and political decision-makers. We need to offer a credible vision of how we could employ joint forces to shape a threat in a maritime setting, rather than merely targeting them after they have acted first.²⁶

This concept also, of course, presents a number of clear and marked disadvantages and challenges. First and foremost, the adversary gets a vote and their own influence. This is perhaps the most pressing concern raised by Ben Wan Beng Ho in his criticism of the US Marine Corps' EABO.²⁷ In short, EABO seeks to:

*... further distribute lethality by providing land-based options for increasing the number of sensors and shooters [available] ... They may also control, or at least outpost, key maritime terrain to improve the security of sea lines of communications ... and chokepoints or deny their use to the enemy, and exploit and enhance the natural barriers formed by island chains.*²⁸

A passive view of regional partners and their willingness to allow the basing of strike assets on their soil, implicit in EABO, is problematic,²⁹ and is also a real concern in relation to what I have sketched here. Two responses to this concern are apparent. First, this risk returns us to what Lieutenant Colonel Brown describes as the regional 'tie in'.³⁰ The thoroughgoing effort required to achieve and maintain potential host nation consent for an assertive Australian posture is clearly inescapable.

Second, there must be an emphasis on how strike capabilities are integrated within the full range of missions we might be conducting in the region. Part of the solution here might lie in the ability, latent or realised, overt or discrete, to nest strike within the range of other tasks we are likely to undertake in

the region. That is precisely why we need some conceptual grounding (like that proposed here) for how strike capabilities are deployed which is not divorced from the functions traditionally provided by the land force.

The 'operational concerns' identified by Ben Wan Beng Ho regarding EABO are also live concerns in relation to what I have sketched here: this is 'the conundrum of balancing lethality and signature management'.³¹ For example, 'the 110-plus-mile striking reach of the [Naval Strike Missile] will be for naught if the weapon system can receive data only from a ground-based radar with coverage of 18–25 miles', and any movement of missile platforms or additional connectivity with joint sensors rapidly increases their likelihood of detection.³²

Again there seems to be a twofold response to this concern. First, part of the challenge may be technically soluble, with the development of more discrete and secure communications links, for example, along with practised procedures which allow platforms to remain 'off' for as long as possible until their exposure if necessary. Second, we must double down on the unconventional aspects of the concept I have sketched. We can better eschew the blatant signatures of logistics platforms, for example, if we have a wider range of much more numerous, non-military sustainment options.

Perhaps the most significant challenge is the real vulnerability of individual nodes. We have our own ample historic experience of the isolation and loss of forces in the near region: the disasters of 'Sparrow Force' in Timor³³ and 'Lark Force' at Rabaul³⁴ in 1942 are sobering examples of the real risk of isolation and destruction facing disaggregated elements in the archipelago. There can be no disputing that fundamentally the constituent elements, and the aggregated land combat weight of the groupings, are weak. While in certain circumstances—for example, where we might choose to disperse multiple nodes on a single island—we might envision some useful concentration of forces physically for the purposes of land combat in the traditional sense. Even in this limited circumstance, however, the weight of a force-concentrated element is unlikely to muster more than a reinforced battlegroup. In this light, clear preconditions need to be established for the deployment of vulnerable forces. For instance, in facing an adversary with significant marine and airborne capabilities, perhaps persistent monitoring of known adversary high-mobility formations is required.

This challenge also reflects a dilemma that arguably makes force design even harder for Army than for its counterpart services: the tension between capabilities with the ability to have long-range strike and other 'strategic' impacts directly, and those that are likely to survive and win in a close fight. Brigadier Ian Langford's recent framing of the problem in terms of the need to reconcile 'close combat' and 'formation tactics' with the acquisition of serious strike capability is another way of saying this. This problem fundamentally influences professional debates about force design in often unspoken ways. It still remains the case, to once again borrow Brigadier Langford's words, that in many circumstances the 'entry price is a metre of steel'.³⁵

A dual capacity for both close combat and strike needs to reside within the same task groupings; close combat enables strike options and strike enables close combat forces at different points in space and time. The size of each element and the density of a posture like this would need serious adjustment depending on threat and geography, but it may well not be possible to calibrate acceptably at all.

The command-and-control innovations proposed to make this network posture more robust can also be seen to represent a significant risk. Hierarchical command-and-control arrangements exist for a reason and, when balanced, underwrite unity of effort and other consensus principles of military operations. Given that the object of this concept is not principally close combat, it does not seem completely outrageous to suggest that the 'Rule of Threes' and concerns about span of command are perhaps less pressing here than is conventionally the case.³⁶ Nonetheless the suggestion that unified action could be credibly threatened by a force lacking a single, clear commanding element is open to challenge.

My final and bleakest observation is that this may simply be a tactical response to a problem that is strategic in the highest sense. Our marginal benefit or comparative advantage in a regional setting (as White rightly points out, too³⁷) is never going to be a numerically heavy deployment of close combat forces alongside large Asian partners or against large Asian adversaries. This will always be the dilemma of 'walking amongst the giants', to use Ross Babbage's language.³⁸ But in a context in which prominent American analysts are concerned about their own ability to generate sufficient strike capabilities,³⁹ it bears noting that we may simply not be capable of credibly holding adversaries at sufficient risk.⁴⁰

Conclusion

We can provide utility to government by offering force options that hedge the risks inherent in our choice to invest in scarce, high-end capabilities, and by finding credible ways of operating in the maritime with prospective strike capabilities. In a markedly deteriorated near-future regional setting, such options probably look much different from our reflexive use of special operations and our nominal joint task groups and their combined arms formations.

This paper is intended as provocative and partial. If nothing else, it should draw attention to the political and systems costs that must be paid if we are to actually 'get after' long-range strike. The challenges present in what I propose here have broader implications that relate to missiles and our ambitions to shape and deter in the region generally. The challenge first and foremost is, rightly, one of regional sovereignty. Under what conditions are regional partners likely to allow us to deploy such potentially provocative capabilities on their soil? This draws us back to Lieutenant Colonel Brown's recent contribution in the first instance. Further, the way we envision employing capabilities is critical to evaluating our possible contribution to security dilemmas and our potential alliance commitments. For instance, are we willing to contribute to potentially disastrous crisis instability in the region through the deployment of such capabilities, which are (of course) not innately defensive?⁴¹ Even if we are, can we generate enough risk to an adversary that this is even worth doing? If we do not have good answers to these questions then it is not clear we have our ends, ways and means coherently aligned.

Regarding the details of this concept on its own terms, serious thinking would be required on, among other things, the limits of strike range bands and robust communications systems on dispersion; the linking of very low-level force elements and headquarters nodes with potentially sensitive, or at least scarce and protected, joint sensors; how that same integration can and cannot occur with regional partners who lack a requisite level of capability and security; how and where we might exercise these kinds of operations; and whether our force generation structure would be capable of underpinning such a concept of operations.

Endnotes

- 1 As of the 2020 Defence Strategic Update, 'shape' is now a central word in the articulation of Australian defence policy. I mirror that here and use it (imprecisely) to refer to the use of various levers of power to influence the strategic environment, short of the actual use of force. See Department of Defence, 2020, *2020 Defence Strategic Update* (Canberra: Commonwealth of Australia).
- 2 Ibid.
- 3 Graeme Dobell, 'Australia's strategic update by the numbers', *The Strategist*, 13 July 2020, at: <https://www.aspistrategist.org.au/australias-strategic-update-by-the-numbers/>
- 4 Ibid.
- 5 Jonathan D Caverley and Peter Dombrowski, 2020, 'Cruising for a Bruising: Maritime Competition in an Anti-Access Age', *Security Studies* 29, no. 4: 671–700. See also Albert Palazzo 'Deterrence and Firepower: Land 8113 and the Australian Army's Future (Part 1, Strategic Effect)', *Land Power Forum*, 16 July 2020, at: <https://researchcentre.army.gov.au/library/land-power-forum/deterrence-and-firepower-land-8113-and-australian-armys-future-part-1-strategic-effect>
- 6 Rory Medcalf, 'Australia's Defence Strategy Update', *National Security Podcast*, 8 July 2020, at: <https://nsc.crawford.anu.edu.au/news-events/news/17089/podcast-australias-defence-strategy-update>
- 7 Brendan Sargeant in *ibid*.
- 8 Nick Brown, 2020, 'Riding Shotgun: Army's Move to the Strategic Front Seat', *Australian Army Journal* XVI, no. 2: 5–24.
- 9 *Ibid.*, 19.
- 10 My thanks again to one of my reviewers for allowing me to borrow these phrases.
- 11 *Defence Strategic Update*, 27.
- 12 Both of these questions are posed in Ian Langford, 2020, 'Army Force Structure Implementation Plan' (seminar recording), 6 August 2020, at: <https://researchcentre.army.gov.au/library/seminar-series/army-force-structure-implementation-plan>
- 13 Acquisition announcements continue apace on this front. In addition to Army's prospective missile acquisitions, see further strike acquisitions for Navy: Department of Defence, 'Morrison Government Boosts Maritime Security' (press release), 25 January 2021, at: <https://www.minister.defence.gov.au/minister/lreynolds/media-releases/morrison-government-boosts-maritime-security>
- 14 Langford, 2020.
- 15 US Marine Corps, 'EABO', at: <https://www.candp.marines.mil/Concepts/Subordinate-Operating-Concepts/Expeditionary-Advanced-Base-Operations/> *Source is located on a restricted network and can only be accessed by individuals with access to the network.
- 16 Graham does so but instead with a welcoming view of the significant changes occurring in the USMC. See Euan Graham, 2019, 'Lessons for Australia in US Marines' New Guidance', *The Strategist*, 12 August 2019, at: <https://www.aspistrategist.org.au/lessons-for-australia-in-us-marines-new-guidance/>
- 17 Shawn Snow, 2020, 'The Corps is Axing All of Its Tank Battalions and Cutting Grunt Units', *Marine Corps Times*, 23 March 2020, at: <https://www.marinecorpstimes.com/news/your-marine-corps/2020/03/23/the-corps-is-axing-all-of-its-tank-battalions-and-cutting-grunt-units/>. British plans are less clear at this stage but see also Jonathan Beale, 2020, 'British Army Could Axe Ageing Tanks as Part of Modernisation Plans', *BBC News* (online), 25 August 2020, at: <https://www.bbc.co.uk/news/uk-53909087>

- 18 USMC, 2020, 'Littoral Operations in a Contested Environment', at: <https://www.candp.marines.mil/Concepts/Subordinate-Operating-Concepts/Littoral-Operations-in-a-Contested-Environment/> *Source is located on a restricted network and can only be accessed by individuals with access to the network.
- 19 Geographically minded readers will recognise the terrain used here as the Aegean Sea. This was chosen as a politically neutral maritime setting, at least for an Australian author.
- 20 The Australian-flagged shipping fleet can be explored by downloading the Australian Maritime Safety Authority Register and filtering for vessel types and sizes. See 'List of Registered Ships', accessed 24 September 2020, at: <https://www.amsa.gov.au/vessels-operators/ship-registration/list-registered-ships> Discussions have occurred on Australia's (lack of) commercial capacity—see Sam Bateman, 2019, 'Does Australia Need a Merchant Shipping Fleet?', *The Strategist*, 4 March 2019, at: <https://www.aspistrategist.org.au/does-australia-need-a-merchant-shipping-fleet/>. The Australian commercial aviation fleet can also be explored relatively easily by searching the Civil Aviation Safety Authority Register for relevant operators and types. See 'Aircraft Register Search', accessed 24 September 2020, at: https://www.casa.gov.au/aircraft-register?f%5B0%5D=field_ar_reg_op_name%3A32911
- 21 David Kilcullen, 2020, *The Dragons and the Snakes: How the Rest learned to Fight the West*, (London: Hurst and Company).
- 22 The Force Structure Plan does envision investment in our lift capabilities—the replacement of *Choules* with two vessels, new watercraft and new landing craft. We still face huge limitations, with a doctrinal 'Amphibious Ready Group' still representing a 'single shot' of our major lift capabilities, for instance. The return of capabilities that allow Army to independently project 'up the Sepik' is nonetheless noteworthy, as noted in Langford, 2020. For new capabilities see Department of Defence, 2020, *2020 Force Structure Plan* (Canberra: Commonwealth of Australia), 41, 45.
- 23 I am not concerned in this article with the exact missile systems Army is likely to acquire. I take HIMARS as representative enough for my purposes, though also note that some analysts have expressed concern about the details of a HIMARS mounted ASuW missiles. For example see 'US Marines Select an Anti-Ship Missile', *The Diplomat* (online), 9 May 2019, at: <https://thediplomat.com/2019/05/us-marines-select-an-anti-ship-missile/>. See also Beng Ho, cited below.
- 24 Royal Australian Navy, 2020, 'HMAS *Jervis Bay* (II)', at: <https://www.navy.gov.au/hmas-jervis-bay-ii>
- 25 Kilcullen, 2020.
- 26 While tangential to this paper, this is the biggest shortcoming of Hugh White's prominent attack on Australia's defence posture. While White offers a compelling analysis of region and our place within it, it is unclear what a campaign in the region looks like for White beyond the purchase of submarines and jets and their employment in an elegant targeting process from the Australian continent. See Hugh White, 2019, *How to Defend Australia*, (Carlton: La Trobe University Press).
- 27 Ben Wan Beng Ho, 2020, 'Shortfalls in the Marine Corps' EABO Concept', *Proceedings* 146, no. 7, at: <https://www.usni.org/magazines/proceedings/2020/july/shortfalls-marine-corps-eabo-concept>
- 28 USMC, 'EABO'.
- 29 Beng Ho, 2020.
- 30 Brown, 2020.
- 31 Beng Ho, 'Shortfalls'.
- 32 Ibid.

- 33 Daniel Minchin, 2017, 'Dutch Timor and Sparrow Force— 1942', *Virtual War Memorial Australia*, at: <https://vwma.org.au/research/home-page-archives/dutch-timor-and-sparrow-force>
- 34 Hank Nelson, 1992, 'The Troops, the Town and the Battle: Rabaul 1942', *Journal of Pacific History* 27, no. 2: 198–216. Of course, thankfully the Japanese in turn had their own experience of bypass and isolation. See also Jim Lacey, 'The "Dumbest Concept Ever" Just Might Win Wars', *War on the Rocks*, 29 July 2019, at: <https://warontherocks.com/2019/07/the-dumbest-concept-ever-just-might-win-wars/>
- 35 Langford, 2020.
- 36 See 'Chapter 6: Tactics and Organisations' in Jim Storr, 2009, *The Human Face of War* (London: Continuum).
- 37 White, 2019, 196–197.
- 38 Ross Babbage, 2008, 'Learning to Walk Amongst Giants: The New Defence White Paper', *Security Challenges* 4, no. 1: 13–20.
- 39 TX Hammes, 2021, 'The Navy needs More Firepower', *Proceedings* 147, no. 1, at: <https://www.usni.org/magazines/proceedings/2021/january/navy-needs-more-firepower>
- 40 Al Palazzo is among those who have commented on the required size of missile capabilities 'if regional powers are to take the capability seriously'—see Albert Palazzo, 2020, 'Deterrence and Firepower: Land 8113 and the Australian Army's Future (Part 2, Cultural Effect)', *Land Power Forum*, 21 August 2020, at: <https://researchcentre.army.gov.au/library/land-power-forum/deterrence-and-firepower-land-8113-and-australian-armys-future-part-2-cultural-effect>
- 41 For a worrying analysis of what we might be contributing to, see Caverley and Dombrowski, 2020.

About the Author

Captain Will Leben is an Australian Army officer and General Sir John Monash Foundation Scholar currently at Oxford.

iCan Help You: The Benefits of Artificial Intelligence to Military Forces Outside of Warfighting Operations

Captain Samuel White

Introduction

To take the King's hard bargain is a 'traditional description for the rendering of military service to the Crown, made inaccurate in modern times only by the gender of the current Sovereign'.¹ This bargain's hardness is multifaceted. It denotes that military service involves a unilateral agreement—that the member gives everything and expects nothing. It further represents that one takes an oath to serve within the profession of arms, whose *raison d'être* of warfighting is best highlighted through the role of the Royal Australian Infantry Corps:

*... to seek out and close with the enemy, to kill or capture him, to seize and hold ground and to repel attack, by day or night, regardless of season, weather or terrain.*²

In achieving this capability—warfighting—another aspect of the King's hard bargain becomes apparent, one that is not as readily taught at the Royal Military College of Australia as infantry minor tactics. The day-to-day administration of personnel constitutes a significant burden on any commander, detracting from the ability to conduct training to prepare for

combat, combat support or combat service support. This paper suggests a possible method for the Australian Defence Force (ADF) to help reduce the cognitive clutter surrounding its administration, policy and military discipline through the use of machine learning algorithms.

Automated decision-making systems are becoming more prevalent in government processes around the world, in areas as diverse as the administration of social security, taxation, criminal sentencing and migration.³ These systems are most likely to be deployed in branches of government that must cope with a high caseload, as well as repetitive assessments against prescriptive criteria. However, as will be shown below, automated systems can vary in nature, which is likely to have implications for the manner in which they are authorised or delegated, as well as for the risks that might be posed by indiscriminate use of those systems. Accordingly, this paper first canvasses the lexicon and meaning of terms such as artificial intelligence and machine learning, before discussing technical aspects of the processes and tools these capacities can produce. Next, it applies the solution to three problems: assisting individuals when sentencing ADF members within the military discipline system; assisting ADF decision-makers to make consistent decisions when imposing administrative sanctions; and assisting central bodies such as the Career Management Agency with posting plots and career plans. This paper will not deal with some of the more nuanced legal issues surrounding automated decision-making.

Artificial Intelligence and Machine Learning: What Are They?

Much has been written on artificial intelligence (AI) and machine learning (ML). Devi Li and Yi Du helpfully describe artificial intelligence as follows:

Intelligence can be defined as wisdom and ability; AI is a variety of human intelligent behaviours, such as perception, memory, emotion, judgment, reasoning, proof, recognition, understanding, communication, design, thinking, learning, forgetting, creating, and so on, which can be realized artificially by machine, system, or network.⁴

So do we need to meet all these criteria to take advantage of the developments in AI? The expectations of AI outweigh the current capabilities,⁵ but this is not to say that the ADF cannot use some of the developments in AI in promoting better, more organisationally useful and

methodologically transparent decisions. AI research has led to a number of methods that are already in wide use across many industries, and ML is one of those subsets.

ML as a subset of AI uses statistical methods to enable computers to improve with experience using non-linear processing.⁶ It has shown itself useful for particular tasks and activities such as sorting data, finding patterns and trends, and completing a high-volume of repetitive tasks quickly while minimising errors. These automated systems can assist administrative decision-making in a number of ways: they can make the decision, recommend a decision to the decision-maker, or guide a user through relevant facts, legislation and policy.⁷ Despite the ADF's organic tri-Service Military Legal Service (MLS) providing uniformed legal officers in relevant command formations, a majority of the ADF's decision-making is made by commanders, legally untrained, who are required to navigate through sometimes complex legal and policy frameworks. As will be seen below, ML can help ameliorate these issues.

Of benefit is that such algorithms improve over time as they are exposed to larger datasets, and can be refined as a matter of course (issues with data quality will be discussed later on). The issue is the initial dataset: the dataset that teaches the algorithm how to come to a decision based on reducing the likelihood of creating a false positive or false negative. This would require some initial investment from the Department of Defence, although much of the data is now digitised. A core method of development is supervised learning.⁸ Supervised learning involves using historical data that has already provided a decision, thereby showing what the desired outcome is. The machine thus learns to correctly identify the outcome types. This is very useful for organisations, like the ADF, that produce and collect large amounts of data and should aim to have consistent outcomes, such as within sentencing and administrative sanctions.

There are, however, definitive challenges with respect to ML. First, a specific ML technique trained on a particular labelled dataset may not be suitable for another dataset or data domain.⁹ This means that, at this stage, there would need to be an algorithm developed for each problem set of the ADF, especially if there is a narrow output required.

Another major challenge is the nature in which ML is to be trained. Current ML algorithms require large amounts of verified data to be able to do the same thing to the degree of a child. This creates a problem with designing algorithms—there is a need to have a large datasets, and a human to verify that dataset, to properly train and verify the output of the algorithm. Supervised learning uses four classifications:

True positive—Correct identification of a correct input

True negative—Correct identification of an incorrect input

False positive—incorrect identification of a correct input

False negative—incorrect identification of an incorrect input.¹⁰

Using the supervised learning method, the false negative and false positive are the key areas that must be verified by the supervisor. This is usually done through validated datasets and identifying how often the algorithm produces a false response. Depending on the classification method used (such as decision tree or Bayesian¹¹) the algorithm will require different levels of input. For example, a decision tree is a simple and fast method which supports incremental learning. However, it requires very accurate data and requires time-consuming training to get an effective output.

Another method is unsupervised learning which is where the algorithm uses unlabelled data and looks for patterns with limited human supervision. An example of this is cluster analysis, which groups common elements in the data and finds patterns based on the presence, or absence, of those commonalities. This method can discover features of a dataset but is less accurate than supervised learning.¹²

Gary Kline and Daniel Kahneman created a theory on the validation of the environment when it came to being able to intuitively predict an outcome in an environment based on the regularity of variables.¹³ This idea breaks down intuition and how it can and cannot be applied to different environments. Two extremes of this scale would be predicting how a house fire will act, and the price movement of a stock on the share market. A firefighter with many years of experience can use their intuition to determine whether it is safe to enter a building or even when to stop fighting a fire. This can be based on the number of variables that determine how a fire acts—this is easier to validate, and a person who experiences a large number of fires can learn to see what variables must exist to determine how it will act.

This is where fire modelling is used to determine flashpoints and how a fire will act, and can determine the action taken.¹⁴ This can be classified as a high-validation environment. The stock market, on the other hand, would be considered low validation as there are so many variables, from the economic to human behaviour, that it is currently impossible to develop intuition about the market. Applying this idea to ML brings up a question: can we ensure that all the variables that a human would consider can be entered into an algorithm to give us the best decision? The ADF collects a large amount of data that could be used to train and test/validate an algorithm, but it would need to ensure safe collection practices for data that is to be used in datasets.

Equally, bias in ML is a significant issue that can cause long-term effects on the organisation.¹⁵ Bias can be found in different parts of the algorithm development process, from the design of the algorithm to the data used to train it. Consideration must be given to methodologies to not only identify the bias but also mitigate the effects. This is particularly relevant to the potential use of ML when it comes to assisting summary authorities or superior tribunals with sentencing. An algorithm is developed with a particular outcome in mind, but the bias of those who develop the algorithm through the design process and how it is trained can affect how it produces an output. This is a commonly voiced concern within the field of lethal autonomous weapon systems.¹⁶ It further has been a subject of anxiety within the field of criminal law and sentencing. The data itself can have bias as well, as it may not have been collected specifically for training that algorithm.¹⁷ Equally, how that data came into being and the structure within which it was collected may have a bias built into it—for example, a dataset may have been developed to understand the likelihood of soldiers of a certain career length and rank committing a particular offence and deliberately exclude officers. This dataset has a larger number of soldiers who have served three years and not been promoted committing more assault. If an algorithm is trained on this data it may have a bias against soldiers who meet those criteria, regardless of many other variables.

There is opportunity in bias if it is deliberately introduced in a controlled way. Inductive bias can be used to help develop an algorithm that can deal with new situations. This is a human trait where we can come to a conclusion without knowing all the information about a situation. For a machine to do this, an inductive leap would need to be possible¹⁸ whereby it can deliberately invoke biases for choosing one generalisation of the situation over another.

A final issue with ML is the transparency and consistency of the data and algorithm that is being used. The vastness of the dataset, the complexity of the machine learning process, and the form in which the outcome is provided (with or without reasons) can make it hard to challenge legally, technically or morally.¹⁹ Unless you are a software engineer, how are you going to understand how the algorithm processed the inputs and got the decision it did? It is much harder to unpick the logic of hundreds of lines of computer code without specialist knowledge. The inherent trust placed in seeming objective, clinical AI systems creates a feeling of data sacrosanctity and undermines any perceived right of appeal. This creates a fear of the unknown and undermines trust in the validity of AI decision-making.

This issue is, moreover, compounded within the ADF, where policy makes clear that responsibility must lie with a decision-maker. This is how the redress of grievance system operates. Use of AI raises the question of where the line is at which the algorithm influences more of the decision.

These are all questions that, if ML assistance were introduced into the ADF, would require departmental or governmental positions upon. This is not, however, unique. Australian legislation is littered with delegated authority authorising the assistance of algorithms.²⁰ While valid, the issues raised above are not fatal to updating the ADF.

Military Discipline

Sentencing, or punishment, during military disciplinary proceedings is one area that is potentially amenable to ML assistance, despite sentencing occurring through human intuitive synthesis. At the sentencing stage of a hearing, most of the relevant facts have been already established, or are readily ascertained by the sentencing figure. Luckily, with the new implementation in 2020 of a completely digital transcript (Form C2) capturing the charge, personal data, conviction, sentencing, reasons and legality, the hard work of collecting data has become easier.²¹

Sentencing under the Defence Force Discipline Act 1982 (Cth) (DFDA) consists of relatively few variables: the relevant authority must give consideration to civilian sentencing principles²² and to the need to maintain service discipline.²³ Civilian sentencing principles include the person's rank, age and maturity; the person's physical and mental condition; the person's

personal history; the absence or existence in the person's case of previous convictions for service offences, civil court offences and overseas offences; the person's relationship with the victim (if the service offence involves a victim); the person's behaviour before, during and after the commission of the service offence; and any consequential effects of the person's conviction or proposed punishment. Noting that AI is underpinned by statistics, given the small dataset for Service matters there is also potential for use of civilian datasets.

These are all data points with which a sentencing algorithm, utilising ML, could assist a sentencing authority. The goal of such an algorithm would be to promote and ensure consistency—and the ADF would not be the first to use such an algorithm. Algorithms have been used in this way in the United States since 2013.²⁴ Judges informally refer to them for guidance.²⁵ Utilising an ADF-wide risk assessment algorithm as an aid to summary authorities and superior tribunals would help promote consistency, transparency and accountability. This would still allow the decision-maker to consider variables that were not entered into the algorithm. The data obtained could be inputted through the current practice of filling in the relevant pre-sentencing report, which outlines financial mitigating circumstances. Moreover, the algorithm could easily take into account service records, age, rank, time in rank, qualifications, previous convictions, spent convictions, and dependents.

The use of sentencing algorithms within the criminal justice system is neither novel nor unique. As noted above, bias in data is a particularly relevant concern when it comes to sentencing algorithms. A review of the publicly available data at the time of publication, with respect to superior tribunals reveals that, junior soldiers are charged, and found guilty, twice as often as non-commissioned officers (NCOs).²⁶ One factor could be that these soldiers are younger on average and therefore prone to more risk taking; another is simply that there are more enlisted members than commissioned. Yet this data, if fed improperly to an algorithm, would suppose that soldiers were statistically more likely to offend than NCOs or officers, and could potentially sentence them in a more severe manner. This can reflect bias reinforcement in the decision-making process: if a large number of soldiers have been sentenced and the algorithm learns to target soldiers from that dataset, then it becomes a self-fulfilling prophecy. This demonstrates the 'what you put in is what you get out' learning issue. Whether or not junior soldiers offend more than other classes of ADF members, or whether they are charged more, would not necessarily be reflected in the sentencing algorithm.

The High Court of Australia has recently held that ‘while there may be an area of concurrent jurisdiction between civil courts and service tribunals, there is no warrant in the constitutional text for treating one as subordinate or secondary to the other’.²⁷ This is rightly so. However, there are some distinguishing factors between civilian sentencing and military sentencing. As previously mentioned, relevant military sentencing principles include the need to maintain and enforce service discipline. This sentencing consideration provides flexibility to commanders, enabling them to exercise discretion—such as where compassionate circumstances exist, or circumstances that warrant considering the conduct as an aggravating factor in sentencing. This too is rightly so. However, it is not necessary that this discretion should remain completely unfettered. If an algorithmic approach is taken, further sentencing principles could be introduced.

Administrative Sanctions

Another branch of the military justice system is imposition of adverse administrative action.²⁸ Adverse administrative actions are designed to admonish and correct unsatisfactory or unacceptable performance and are initiated and then managed by more senior officers. In the military justice system, disciplinary offences are specified in the DFDA and cover a range of activities or offences. There are, however, many contraventions of rules and regulations that are not punishable under the DFDA but are nonetheless subject to administrative sanctions. Defence Manual ADFP 06.1.3 notes:

Adverse administrative action is usually initiated and/or imposed when the conduct or performance of a member is below the standard expected of a particular member and is not in the interests of the ADF. It is official action that reflects formal disapproval on a temporary or permanent basis.

In determining what, if any, adverse administrative action should be taken, the merits, the circumstances and the sufficiency of evidence in each case must be reviewed. A decision whether to impose adverse administrative action depends on the seriousness of each case and the interests of the ADF. It also requires a thorough understanding of the relevant policy.

The ADF policy frameworks surrounding triggers for adverse administrative actions are wide and convoluted. Despite recent efforts to streamline

the many manuals, the complexity of overlapping policy directions and constraints can lead to confusion. Take, for example, the Military Personnel Policy Manual (MILPERSMAN), the unclassified public copy of which is 745 pages. MILPERSMAN Part 4, Chapter 1 relates to the use and abuse of alcohol. This policy has differing thresholds across the three Services as to what administrative sanctions may, or must, be initiated on the basis of the number of alcohol incidents or the alcohol blood level. With respect to the Australian Army, commanding officers (COs) are given non-discretionary directions with respect to alcohol-related incidents.²⁹ For first incidents, a notice to show cause for a formal warning *may* be issued; for a second incident, COs *should* issue a notice to show cause for a formal warning or a reduction in rank; for a third incident, COs *are to* issue a notice to show cause for termination.³⁰ These notices do not automatically result in a termination decision being imposed.

From an Army perspective, the oversight of administrative sanctions at the unit level is often administered by the Adjutant—a senior Captain, whose exposure to military justice is less than that of the sub-unit and unit commanders imposing the sanctions. Navigating the policy, including knowing what conduct triggers certain non-discretionary administrative sanctions, may be difficult for the individual, notwithstanding the support of legal officers and senior commissioned and non-commissioned officers.

Here ML could further support ADF decision-makers, in a completely different way to sentencing considerations. ‘Automated systems’ can assist administrative decision-making in a number of ways—these systems can make the decision, recommend a decision to the decision-maker, or guide a user through relevant facts, legislation and policy.³¹ The last is most applicable here. The use of ML for automated guiding of policy is neither novel nor unique; the Australian Department of Veterans’ Affairs established a compensation claims processes system to automate certain aspects of its assessment and determination of compensation claims from veterans and their families.³² The system guides decision-makers in applying over 2,000 pages of legislation and over 9,700 different rules. The efficiency gains have been substantial. Veterans’ Affairs now determines 30 per cent more claims annually using 30 per cent fewer human resources in substantially less time, resulting in departmental savings of approximately \$6 million each year.³³ Accordingly, automated guidance has allowed for an increase in the overall workload of each decision-maker.

What might become harder to digitise is the notion of what ‘in the interests of the Defence Force’ means—often used as the basis for the termination of an ADF member’s service.³⁴ Reasons for something being or not being *in the interests of the Defence Force* include reasons relating to one or more of the following:

- a member’s performance
- a member’s behaviour (including any convictions for criminal or service offences)
- a member’s suitability to serve:
 - in the Defence Force
 - in a particular role or rank
- a member’s failure to meet one or more conditions of their enlistment, appointment or promotion
- workforce planning in the Defence Force
- the effectiveness and efficiency of the Defence Force
- the morale, welfare and discipline of the Defence Force
- the reputation and community standing of the Defence Force.³⁵

These are largely discretionary concepts, reflective of an earlier concept that service within the ADF is at the pleasure of the Crown. Accordingly, it may be that digitised triggers need to be created. These triggers could be divided into conduct that absolutely meets the concept of ‘service no longer in the interests of the Defence Force’, such as sexual-related criminal convictions, substantiated complaints of domestic violence, or high-range driving under the influence; and conduct for which termination is strongly recommended, such as theft, fraud or trust-related issues or, for Royal Australian Air Force members, prohibited substance possession.

Here ML could provide that when certain triggers are met, as defined by policy and law, decision-makers are notified of the appropriate administrative sanction that should be taken. The conduct could be entered into a decision tree, with each decision point assisting the decision-maker towards the correct policy. It could highlight the relevant policy, the discretion the commander has, where procedural fairness must be given,³⁶ and the time frames in policy or law that must be adhered to.³⁷ Further, it could highlight the relevant considerations that must be taken and, if refined with input from

relevant case law, highlight when an irrelevant consideration has crept in.³⁸ Such assistance to decision-makers could help minimise jurisdictional error, save costs on litigation, increase the timeliness of decision-making (benefiting both the decision-maker and those awaiting outcomes) and increase trust in the apolitical and impartial nature of the decision being made.

This could assist commanders in navigating the complex and esoteric maze of uncertainties of ADF policies. Using the ML algorithm in an assist function allows the decision-maker to deal with situations that an algorithm cannot handle. This ensures that a member is not unfairly treated as a result of their unique situation and that data can be fed back into the algorithm for future similar situations.

An example of the benefit of automated systems, and introducing trigger points for certain administrative sanctions, is shown through a hypothetical based on the facts of the recent Defence Force Discipline Appeals Tribunal decision in *McCleave v Chief of Navy*.³⁹ The matter was an appeal from a decision of a Defence Force Magistrate, and concerned the alleged dishonest submission of Reserve training days by a Reserve Navy legal officer, Lieutenant Justin McCleave. LEUT McCleave claimed to have trained for three days for his mandatory awareness training, and submitted fees to that effect.⁴⁰ It came out through the administrative process conducted by a paralegal, who checked to see whether the online courses had been accessed and completed, that LIEUT McCleave had failed to log into the Defence Protected Network at all on the days claimed, let alone done the work.⁴¹ After the alleged dishonest behaviour was discovered, consideration was given as to whether administrative or disciplinary action should be taken.⁴²

A decision was made by the chain of command that no disciplinary action under the DFDA would be taken. Rather, administrative action would be taken, with a formal warning being imposed on the member. As noted above, the administrative sanctions available to the decision-maker included initiating a termination notice. The basis for this termination notice would be that LIEUT McCleave's service was no longer in the interest of the Defence Force.

Now, disregarding the command decision to take administrative sanctions instead of disciplinary action, and the issues that may be associated with that, LIEUT McCleave's service could, to a reasonable mind, no longer be in the interests of the Defence Force.⁴³ This is informed not only by the accepted fact that dishonest behaviour is corrosive to the trust necessary

for disciplined forces,⁴⁴ and that the member was a commissioned officer who is meant to lead by example, but also by the fact that the member was a Reserve legal officer, whose dishonest and potentially fraudulent behaviour could suggest he be struck off the relevant roll.

There are benefits to taking a consistent approach to administrative sanctions and disciplinary proceedings, rather than leaving it fully within the discretion of commanders. It has been said that ‘Duty and Discipline do not march well with Discontent’.⁴⁵ The retention of ADF members is not likely to be aided when they are uncertain as to whether their actions are, or are not, in the interests of the Defence Force, especially when what would appear sufficiently poor conduct to merit dismissal is met with a low-level administrative sanction. Accordingly, amendments to s 6(2) of the Defence Regulations 2016 to the effect that convictions for lack of honesty (such as fraud) or lack of control (such as assault) will automatically be viewed as not in the interests of the Defence Force may impose a more consistent decision-making approach across the three Services, whose policy guidelines may differ substantially on matters such as these. Duty and discipline may continue to march in lockstep.

Career Management

An area where automated guidance in decision-making policy could enhance decisions and assist decision-makers is career management. Career management is a highly complex system trying to effectively achieve the needs of the organisation while managing the desires of an individual, to ensure the ADF has a highly effective workforce.

By conducting a thought experiment of applying ML to the Personnel Appraisal Report process (the annual work performance assessment of a subordinate report), we can look at how ML can improve the efficiency of the appraisal system. This thought experiment also highlights ways to mitigate some of the friction points in the process.

A key element of the annual appraisal system currently in use is that it is subjective. Appraisal is usually done in the form of notes on negative and positive counselling, work outputs or completed activities outside of the member’s mandated job description. The key weakness is reliance on the diligence of the individual supervisor to maintain a record of these

notes throughout the year in order to make an informed decision on the member's performance at the end of the reporting period. Although there are tools available, such as the platoon notebook or troop commander's notebook for Army, or COMPASS for Navy, to contemporaneously record performance, the system relies on the supervisor to use these tools effectively and apply their time equally to all subordinates. The annual cycle of the current system can be as brief as four months when supervisors and subordinates are posted in and out of positions outside of the appraisal cycle. ML works on the input of a constant supply of data, and the performance recording is a constantly updated dataset, but it is based on the individual preference for recording, which highlights a key weakness of ML—it requires the input of data in a consistent way.

A way to mitigate this weakness, and also negate the record-keeping weakness of varying individual reporting tools, is the use of an online database that requires consistent and timely small-form reporting that builds a larger picture of the individual's performance and can be analysed by ML. The ADF human resources program PMKeyS is a database that contains data on all personnel and links managers to their reports. It also has a notification tool that ensures that managers are held to account. For this scenario the online form is replaced with a PMKeyS employee-facing interface in the electronic Personnel Appraisal Reporting (ePAR) system. The input becomes a monthly input based on the performance, potential, experience and qualifications of the individual in the reporting month. This is where other reporting, such as records of conversations, can be held. This could be achieved with very specific drop-down inputs as to how the individual is performing, and by standardising what words can and cannot be used. This would allow the ML algorithm to conduct an analysis of their performance from a quantitative and qualitative perspective. This does bring up the issue of time—it would need to be designed so that the time spent each month doing the report is less than the time spent on maintaining reporting notes and completing an annual form. The threshold number of subordinate reports that would make this unworkable would need to be understood. If a manager has 10 reports and spends 15 minutes per person a month to counsel and complete the report, totalling 30 hours a year—is that comparatively less than the time spent on interim and annual reports? Time and quality indicates value. But is the extra time spent on reporting providing a more effective workforce through more accurate management?

The monthly appraisal could give better quality data on a person's performance across a defined period as it is recorded closer to each reportable instance like project completion, poor performance or improvement. This could also increase the actual reporting on an individual, as a monthly input means there are only two months (December and January) when a report would not need to be raised. The use of a predefined system also allows those who are not the direct supervisor to raise part of the appraisal. For example, if the member is attached to an external unit for two months, the external supervisor can raise the report and the member's home unit supervisor can see the report and approve it through PMKeyS.

This helps the manager provide a more accurate appraisal of the individual, as they do not have to try to build a picture from their own notes (or those of others) over a long period. If the appraisal is done month to month, the ML algorithm can moderate the individual across the years. In the annualised report, if a person has a poor few months before their appraisal, the supervisor may be biased by that poor performance instead of accurately weighing all the information recorded. There is a danger that subordinates become too focused on the reporting and try to appear more effective before the report instead of just consistently doing good work.

The second element is the consistency of this information being applied to the defined merit system. ML can assist to correctly identify performance improvements across the career management cycle by moderating more information across an entire rank performance time frame. The average captain time in rank is six years. The last five reports are used to determine their suitability for promotion. A poor report could impact their assessment, as each report has greater weight. Although there is human moderation, this is once again influenced by the amount of information decision-makers are able to assess in the time frame they have and the support from the chain of command they may be able to get.

An ML algorithm given monthly reporting inputs could conduct moderation quickly using more information for a Personnel Advisory Committee (PAC) overseeing an ADF member. A Captain could have 60 monthly reports of various levels across their career; this data can be used to show their trajectory of performance in greater detail in both a negative and a positive way. More detailed and accurate information on anomalies can be found, and the algorithm can even track how people report. This would provide more consistency on an individual's suitability to promote, since the

ML algorithm can assess the higher fidelity reporting and provide sound decision support to the PAC. Through the use of context algorithms ML can target key words and phrases that help delineate candidates who are similar.

As shown above, ML can be used to reduce the time to process appraisals and provide an accurate picture of personnel. The fidelity of the information on personnel is increased as a strong dataset is developed of each individual. This expedites the process, allowing for faster analysis and recommendations.

The process described above could allow for real-time changes as the needs or expectations of the ADF member evolve. These expectations could be included as data points for analysis. These data points could be overlain with the organisational plots to create an algorithm that can learn to place people in the best locations for Defence and for the member. Optimising Defence capability is the primary goal; however, minimising disruption may reduce personnel separation rates.

This would also help manage expectations. Individuals know that their preferences are plugged into a machine, removing an element of human bias that occurs in the current system. This ML-assisted decision-making could reduce the resources required to manage the posting plot.

Conclusion

These examples do not posit that ML has reached a stage where it would be advisable for an automated system to make the decision for the ADF. Yet it could very readily assist a decision-maker, either through recommendations or through acting as a guide for policy and law. This reduces the risk that decision-makers will blindly rely on ML for their decision-making because they do not want to take (or do not have) the time to ensure the decision is correct. It could thereby lead to a circumstance where a decision-maker, though not being able to query the decision inputs, is still held responsible for it and the outcome.

Consistency in decision-making is an issue not only in the ADF but also more broadly in public and administrative law.⁴⁶ By standardising the tests used for administrative sanctions, sentencing, or postings and promotions, the more the algorithm is used, the more data is available. The application

of ML could foreseeably result in quicker, more consistent decisions across the ADF. But to ensure the integrity of the system, any attempt to improve the standard and quality of decision-making must be tested.

Machine learning has significant potential to enhance the decision-making of the ADF, through reducing the cognitive clutter that an individual must sift through to reach an informed decision. The military justice system can benefit through allowing lay summary authorities to have consistent sentencing considerations, through a tool that has been utilised by qualified judicial officers in the wider community. Career management could have more useful information on, and greater fidelity with, how members are assessed, which would support decisions selecting the best personnel for future positions in the ADF.

There are a number of issues that must be considered when looking at how ML could be used to support decision-making that could have detrimental or unintended consequences. Utilising ML within Defence may require legislative support, and will require comprehensive policy surrounding accountability and ownership. There will need to be development of policy on how reviews are conducted, especially around decision accountability when there is a new grey area of how decision support is provided. This will take time as ML tools become more widely used. It could lead to the use of systems to review the systems, as there will be a point where a qualified person cannot review the code.

If implemented correctly and with due consideration of potential pitfalls, the use of algorithms to help synthesise information in various administrative and disciplinary functions could create a more efficient, more transparent and fairer system for the ADF.

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About the Author

Captain Samuel White has served both as a Royal Australian Infantry Corps and an Australian Army Legal Corps officer. In 2018, he was appointed Associate to Justice John Logan RFD of the Federal Court of Australia and current President of the Defence Force Discipline Appeals Tribunal. He is currently posted to the Directorate of Operations and International Law.

Secularism and Pastoral Care in the Australian Defence Force

NB: This article originally appeared on The Forge on 29 January 2021. It is reprinted here with the author's permission.

Colonel Phillip Hoglin, CSC

Slowly and progressively over the last decade, the Australian Defence Force (ADF) has become less religious. Although religion, particularly Christianity, is a part of many military customs and traditions and was once a routine part of ship and barracks life, the connection that Defence members have to any faith has decreased to a level where the majority of officers, sailors, soldiers and aviators are not affiliated with any religion. Since religion does not play the significant role in the lives of Australia's military personnel that it once did, the ADF can now take active and deliberate steps to transition toward a genuinely secular, diverse and inclusive organisation.

Unfortunately the ADF has passively resisted any transition to, or discussion of, its identity as a secular organisation. The continuation of overwhelmingly Christian-centric rites, traditions and pastoral care practices gives evidence of this reluctance to change. It is particularly evident in the provision of pastoral and spiritual care to ADF members and their supportive networks. This is partly due to an enduring view that either Defence's religious chaplains are able to set aside their religious beliefs, or members seeking support are ambivalent about or indifferent to the religious beliefs of those providing support. However, these assumptions are increasingly questionable, and emerging evidence

suggests that non-religious Defence members would not seek support from religious chaplains.¹ This means that a significant proportion of Defence members are effectively unsupported by the extant chaplaincy model.

This article will look at the importance and advantages of secularism in a modern ADF. Changes in religiosity that have occurred over the last few years will be highlighted, along with the emergence of gaps in pastoral care that have resulted from an exclusively religious chaplaincy model. Suggestions on approaches for the provision of secular wellbeing support such that pastoral care can remain relevant to non-Christians, the non-religious and the traditional Christian base alike will also be made. The importance of secularism in a national institution such as Defence will be a theme throughout this article, which ultimately aims to progress a discussion on the need for a secular pastoral care model for the ADF.

Benefits of a Secular Australian Defence Force

In Australia, all government departments are theoretically secular.² However, due to historical artefacts of tradition, customs, structure and its current pastoral care model, Defence remains one of very few state, territory or federal government departments that maintain a large number of ongoing positions for ordained ministers of religion as religious chaplains.³ Furthermore, it is the only department that has ministerially appointed non-Defence public office holder positions for the provision of religious advice to the department.⁴ Whether perception or otherwise, this status of religious influence means that the ADF is functionally, if not structurally, non-secular.

Further evidence of non-secularity in the ADF, in particular Christianity, is not difficult to find, although at times it is unconscious or unnoticed due to its normalisation. Aside from ministerially appointed advisers to Defence there are principal chaplains at the one-star level in all Service headquarters, senior chaplains in almost all formation headquarters, and chaplains at most training establishments. In addition to this visible presence, there are religious memorial ceremonies, commencement services and graduation services and ceremonies, and saying grace remains at most formal dinners. ANZAC and Remembrance Day services continue to maintain some fundamentally Christian elements, with even the Department of Veterans' Affairs advice suggesting prayers, hymns and bible readings.⁵ Laying up

of Colours, Standards, Guidons and Banners has a significant religious (Christian) component, as does the commissioning of new Her Majesty's Australian Ships. Character development lessons and curriculums at training establishments remain the domain of chaplains. New recruits may still choose to make an oath, and other subtle links to Christianity are threaded through badges, emblems and symbology.⁶ Finally, all major bases have at least one chapel or church, ranging in seating capacity from several dozen to several hundred.

Although a non-secular and dominantly Christian chaplaincy model seems to have served the ADF well for the best part of a century, over the last two decades the nation, its population, the nature of war, likely adversaries, possible allies and coalitions have altered from the conditions that existed when the doctrines of Defence chaplaincy were developed. These changes suggest that an exclusively religious chaplaincy model is no longer congruent with the contemporary requirements of the ADF and its members and that a move to a secular pastoral care model is necessary. The advantages of a secular model in the ADF context include:

- **Diversity and respect.** Religion remains a well-documented source of cultural division.⁷ With the release of Defence's common values in October 2020, replacing the separate values of the three Services and Defence Public Service, the value of respect is further entrenched. Respect is explained as the 'humanity of character to value others and treat them with dignity';⁸ this is a fundamentally secular description of respect. A transition to a secular military with a supporting pastoral care model directly supports Defence's values and provides the preconditions for religion not to be a source of division and conflict within the ADF itself.
- **Killing and the military.** There is an age-old philosophical conflict between religious views on killing and the role of military forces in warfighting.⁹ Theologians point to 'just wars' and much has been written on the topic; however, military members are still required to reconcile the dissonance between religious teachings and the act of killing.¹⁰ A secular military unambiguously separates religion from one of the most fundamental activities of a military at war: killing.
- **Operational bias.** Recent Defence White Papers are consistent in implying (through omission) that it is unlikely that the ADF will be deployed on warlike operations into a theatre that is exclusively

Christian or even culturally familiar.¹¹ Religion may be a key divisive factor in any conflict or peacekeeping operation in which the ADF could be involved, with adversaries and local populations in an area of operations adhering to different religions, denominations or belief systems. A non-secular, predominantly Christian military may project a bias, or at the very least may lead to a perception that the ADF favours one side in conflict to the detriment of peaceful outcomes. An openly and visibly secular military avoids this bias, which may assist with freedom of manoeuvre and the general conduct of operations.

- **Targeting of ADF members.** A non-secular military may provide an adversary that has a different religious view with a point of difference and therefore a theological reason to target ADF personnel. A secular military may remove a source of difference that is based on religious fundamentalist grounds.
- **Conservative perception of the ADF.** A perception that the ADF is conservative, arising from overt religiosity, may result in a view that the ADF is not representative of the population that it defends. Secularism would provide the ADF with social legitimacy and will become increasingly important for the reputation of the ADF as the religious affiliation of the nation's population changes.¹²
- **Enhancement of recruiting.** A visibly non-secular organisation is likely to present a barrier to entry to some potential recruits. It is reasonable to expect that a candidate who is Hindu, Sikh, Buddhist, Muslim, of another non-Christian religion, or even non-theist would not view a visibly Christian organisation positively or feel that their needs could be supported within that organisation. Removal of this perception, through secularism, may be sufficient to remove this barrier and enhance views of the ADF as a progressive and diverse, respectful and fair organisation.¹³
- **Wellbeing support triage.** A notable advantage of secularism is that the wellbeing needs of ADF members can be assessed individually and assigned to professionals who are the most appropriate based on need. The current religious chaplaincy model remains binary in execution: that is, a Defence member has the option to see a religious chaplain, or nobody at all. In contrast, a secular pastoral care model allows for the provision of wellbeing support to all members based on need, regardless of religion or belief system.

- **Consolidation of counselling services.** Secularism allows for all agencies responsible for wellbeing support and pastoral care to be consolidated and optimised to provide the most effective support possible. This may include coordination of psychiatry, psychology, counselling, social work, chaplaincy and other wellbeing support providers and practitioners. This allows wellbeing support to be oriented toward the needs of the population rather than attempting to fit non-secular chaplaincy to a secular and diverse population.
- **Member's preferences.** Secularism would provide for ADF members to have input into the kinds of wellbeing support services they would prefer from a range of possible options rather than being constrained to the current exclusively religious model. This would allow the ADF to optimise the wellbeing and pastoral care model to cater for the entire Defence population.
- **Misalignment between religion and policy.** Misalignment remains between the secular policies of the ADF (as made by the government from time to time) and doctrines of some religions. For example, some religious and denominational views on female reproductive rights and same-sex marriage differ from the policies of the ADF. A secular pastoral care model removes ambiguity between the policy position of the ADF and the religious views inherent in a religious chaplaincy model that is governed by religious practitioners.

While these are just some of the benefits of secularism for the ADF, they remain largely unrealised by an ADF that is tied to an exclusively religious chaplaincy model designed for a population that no longer exists. As will be described in the next section, the religious affiliation of Defence's population is deviating further from Christianity (and religion in general) each year. It is reasonable to suggest that, as this occurs, either Defence members themselves or broader society will eventually demand a secular chaplaincy model for the ADF. In the meantime the ADF continues to maintain a distinctively religious, and overwhelmingly Christian, chaplaincy model where the different theological beliefs and wellbeing needs of Defence members are not equally catered for by Defence.

Defence’s Changing Religious Affiliation

In less than two decades, the ADF has gone from overwhelmingly Christian to an organisation where a majority of its members have no religious affiliation. This observable march toward a less religious ADF is not new and has been observable in data since the mid-2000s. Over the last five years the number of members who are not affiliated with any religion has increased from 47 per cent on 1 July 2016 to an overall majority of 56 per cent on 1 July 2020, at a rate of between 1.5 and 2.5 percentage points per year.¹⁴

Figure 1 shows the extent and pace of the demographic change in religious affiliation in the permanent ADF. In 2003 over two-thirds of all personnel nominated Christianity as their religion. In 2020 this proportion had reduced to just over 42 per cent, with personnel not identifying a religious affiliation accounting for over 56 per cent (including non-religious members and atheists), and other non-Christian religions accounting for the remainder.

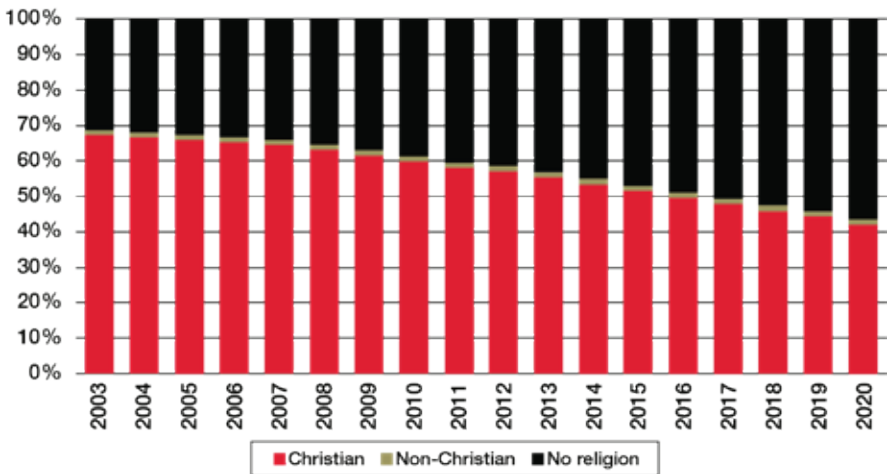


Figure 1. Religiosity of ADF permanent force members 2013–2020

This rapid change is driven predominantly by recruits at the entry level, where junior officer and enlisted ranks reflect (and amplify) known broader societal changes. As shown in Figure 2, almost 73 per cent of all current Privates (and their equivalents in Navy and Air Force) and 76 per cent of all Officer Cadets and Midshipmen are not affiliated with a religion. If future cohorts reflect the same religious characteristics, and as the newest Defence members proceed through their career, then the trend of decreased religiosity will inevitably continue. Based on these settings, Christianity will account for less than one-quarter of the ADF population by the end of 2030, and those with no affiliation will comprise an overwhelming numerical majority of almost three-quarters.

While the newest Defence members overwhelmingly have no religious affiliation, this has not always been the case. Figure 2 also shows that over 75 per cent of the ADFs current star-ranked officers (typically recruited in the early 1980s or earlier) are affiliated with Christianity, as are 67 per cent of Warrant Officers Class One (and other Service equivalents). This demonstrates that there is a generational difference within Defence, which partly explains the incongruence between the reality and the perception of religious affiliation, where senior leadership and structures maintain a Christian legacy, yet junior members are overwhelmingly non-religious.

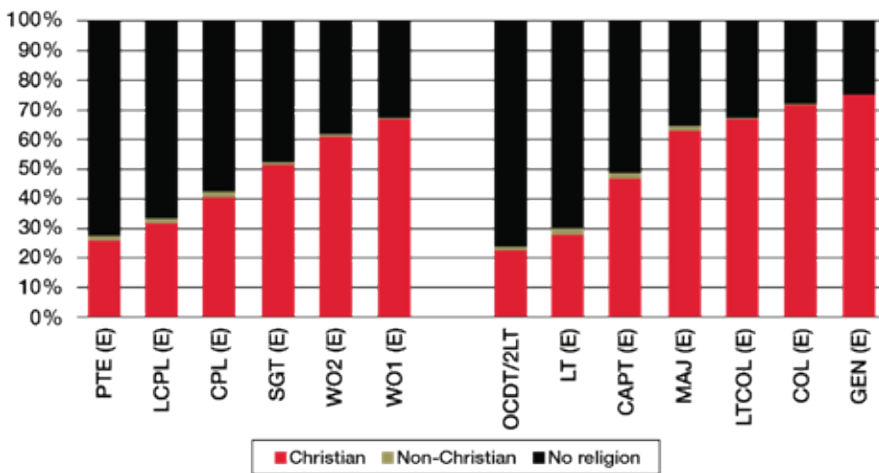


Figure 2. Religiosity of ADF permanent force members by rank on 1 July 2020

Table 1 further shows the change in religious affiliation through comparing

the 20 largest religious groupings/denominations in 2003 with 2020. The change in religiosity is self-evident. The proportion of Defence members affiliated with a Christian denomination has decreased across the board (only the catch-all ‘other Protestant’ has increased) while the proportion of other religions (with the exception of Judaism), atheism, agnosticism and ‘no religion’ has increased. Currently there is a combined strength of over 600 Buddhists, Hindus, Muslims, Sikhs and Baha’i, and a further 550 atheists. Hindus (now ranked 12th) and Sikhs (ranked 17th) are now firmly among the largest 20 religions, which was not the case in 2003, and declared atheists are the seventh largest ‘religious’ grouping.¹⁵

Table 1. Twenty largest religious groupings/denominations in 2003 compared with 2020 (data source PMKeyS)

| Religion/denomination | 2003 | | 2020 | | Change since 2003 | | |
|---------------------------------|------|-------|------|-------|-------------------|----------------|----------|
| | Rank | % | Rank | % | Rank change | % point change | % change |
| No religion | 1 | 30.83 | 1 | 55.08 | ↔ | 24.2 | 78.6 |
| Christian–Catholic | 2 | 25.82 | 2 | 17.95 | ↔ | –7.9 | –30.5 |
| Christian–Anglican | 3 | 24.99 | 3 | 11.72 | ↔ | –13.3 | –53.1 |
| Christian–Uniting | 4 | 5.41 | 5 | 2.13 | ↓ (1) | –3.3 | –60.6 |
| Christian–Other Protestant | 5 | 2.55 | 4 | 6.00 | ↑ (1) | 3.5 | 135.7 |
| Christian–Presbyterian/Reformed | 6 | 2.51 | 6 | 1.00 | ↔ | –1.5 | –60.3 |
| Christian–Other | 7 | 1.83 | 9 | 0.65 | ↓ (2) | –1.2 | –64.7 |
| Christian–Baptist | 8 | 1.34 | 10 | 0.63 | ↓ (2) | –0.7 | –52.9 |
| Christian–Lutheran | 9 | 1.31 | 8 | 0.72 | ↑ (1) | –0.6 | –45.0 |
| Christian–Salvation Army | 10 | 0.46 | 19 | 0.16 | ↓ (9) | –0.3 | –65.6 |
| Christian–Eastern Orthodox | 11 | 0.40 | 11 | 0.43 | ↔ | 0.0 | 6.8 |
| Christian–Pentecostal | 12 | 0.40 | 15 | 0.26 | ↓ (3) | –0.1 | –34.3 |
| Christian–Churches of Christ | 13 | 0.38 | 20 | 0.15 | ↓ (7) | –0.2 | –60.2 |
| Buddhist | 14 | 0.32 | 14 | 0.32 | ↔ | 0.0 | 0.9 |
| Christian–Latter Day Saints | 15 | 0.21 | 18 | 0.16 | ↓ (3) | –0.1 | –26.6 |
| Atheist | 16 | 0.17 | 7 | 0.92 | ↑ (9) | 0.7 | 428.2 |
| Christian–Seventh Day Adventist | 17 | 0.10 | 21 | 0.11 | ↓ (4) | 0.0 | 2.1 |
| Agnostic | 18 | 0.10 | 13 | 0.34 | ↑ (5) | 0.2 | 236.7 |
| Muslim | 19 | 0.09 | 16 | 0.18 | ↑ (3) | 0.1 | 102.3 |
| Judaism | 20 | 0.06 | 22 | 0.06 | ↓ (2) | 0.0 | –4.5 |
| Other | | 0.71 | | 1.02 | | | |

Gaps in Pastoral Care

The decrease in religiosity points to a large gap in the current pastoral care model where support is provided almost exclusively by Christian chaplains to a Defence population which is not majority Christian. An assumption that has existed for many years is that Defence's religious chaplains are able to adequately set aside their religious beliefs and provide wellbeing support to all those who might seek it.¹⁶ However, this assumption is increasingly questionable. While it might have been true in the days of a predominantly white Anglo-Saxon male dominated military where, if a member were not religious themselves they had an inherited affinity with Christianity, it is almost certainly not true given the diversity that exists in the ADF today.¹⁷

Given the observed change in religiosity, it seems unreasonable and unfair to have a wellbeing model where only the support of a religious chaplain is available. Emerging evidence exists to suggest that not only do non-religious people avoid seeking support from religious chaplains but also many religious people would avoid seeking support from a chaplain.¹⁸ If extrapolated to the Defence population, this means that a significant proportion of Defence members are effectively unsupported in the extant chaplaincy model and that it is no longer fit for purpose in providing for the pastoral care needs of all Defence members, or even a majority of them. Further, in 2030 the current model will only support a minority of members and will be functionally obsolescent unless it is fundamentally reformed.

Adding further concern to the appropriateness of the current model is the growth in the number of chaplains themselves. While the religious affiliation of Defence members has been decreasing, the number of chaplains has steadily increased in both proportional and real terms. In July 2020 there were almost 150 permanent force chaplains, which represents one for around every 400 Defence members or one for every 180 Defence members who are Christian. In July 2003 there were 90 chaplains, which represented one for every 560 Defence members or one for every 390 Defence members who were Christian. In other words, the ratio of chaplains to members has not only increased substantially since 2003 but also more than doubled relative to the number of members affiliated with Christianity.

In addition to a *prima facie* concern about the growth in the ratio of chaplains to members is the concern that they also represent one of the least diverse employment categories.¹⁹ Current and historical constraints

on marriage, female clergy and the time taken to acquire the necessary theological degrees may partly explain why chaplaincy is an older male dominated employment category. This lack of diversity may be perceived as problematic when wellbeing support and pastoral care is required for a Defence Force that is increasingly diverse, raising the question of whether a non-diverse category is best placed to support a diverse workforce.

Approaches to the Provision of Secular Wellbeing Support and Pastoral Care

Fundamentally the ADF is required to provide wellbeing support to members regardless of their faith. It is inevitable, given the changes in religiosity, that in the years ahead the ADF will be required to have the capacity to support not only Defence members with a diverse range of religions and beliefs but also personnel with no religion at all. In order to provide this support, a transition to secularism is essential.

Conceptually there are two broad models for the provision of secular pastoral care in Defence, which may be labelled as 'all' or 'nothing' approaches. It is assessed here that after more than 100 years of history, it is not yet pragmatic to suggest that the ADF is ready for a 'nothing' model where religion is removed from pastoral care in its entirety and religious chaplaincy ceases. Perhaps in 2030, when an overwhelming majority of Defence members and a simple majority of Australia's public are no longer affiliated with any religion, such a model can be considered. In the meantime, a model that provides wellbeing and pastoral care options for the entire ADF, inclusive of all religions and beliefs, is a model that would provide the greatest benefit and capability outcome for Defence.

Structuring a pastoral care model applicable to all ADF members is not theoretically difficult; however, unlike the current model, it would require fair representation of all belief systems, with sufficient redundancy both for the emerging secular demographic and to provide pastoral care for those who do not wish to receive support from religious providers. This can be achieved through six primary changes in the model:

- Development of a command and governance structure for the provision of wellbeing support and pastoral care across the entire ADF that is based not on religious chaplaincy but on secular approaches.

- Introduction of secular wellbeing support practitioners, such as social workers and counsellors, to provide support in parallel with existing chaplains as part of a greater wellbeing organisation.
- An increase in access to wellbeing support practitioners with more general belief systems, such as humanists.
- A reduction in the number of Christian-based pastoral care practitioners to a level proportionate with the population that might seek their support.
- Mandatory qualifications and experience in an appropriate wellbeing field for all pastoral care practitioners, including religious chaplains.
- A dynamic pastoral care workforce capable of both surging during periods of increased need and changing its representation in line with that of Defence.

The method that the ADF uses to transition to secularism will require a deliberate, sensitive and well thought out transition strategy. In many quarters of society the observance of religion, including the freedom to exercise no religion, remains a highly contentious and emotionally charged issue; therefore, a transition plan needs to consider a broad range of views so as not to disenfranchise any particular group. Fortunately, as exhibited by its gender and other diversity strategies, which had their own sources of internal and external resistance to change, the ADF is wholly capable of transitioning to a secular pastoral care model.

Conclusion

Secularism remains a topic that is not widely or actively discussed in Defence. The reluctance to address this topic, whether intentional or not, is not a sustainable position. With 56 per cent of Defence members no longer affiliated with a religion, a figure that is predicted to increase to three-quarters of the ADF permanent force population in 2030, the current religion-based chaplaincy model will soon be obsolescent in providing wellbeing support and pastoral care. Consequently there is a rapidly emerging requirement to transition away from an exclusively religious Christian-dominated chaplaincy model to a secular pastoral care model.

Reluctance and failure to adjust the chaplaincy model to the likely demands of the current and emerging military demographic has a range of detrimental outcomes. It risks continuation of a model that marginalises or does not support a numerical majority of members, distances the ADF from the Australian population that it purports to defend, and introduces a deterrent to potential recruits whose beliefs are increasingly divergent from those supported by the Defence institution. Of greatest single concern is that there could be, as there arguably are today, tens of thousands of currently serving members effectively unsupported by a chaplaincy model that does not cater to their needs, and possibly conflicts with their belief system.

It is relatively simple to visualise a pastoral care model that provides for the wellbeing requirements of all Defence members. In principle, it is a model structured around the spectrum of beliefs represented in the ADF rather than one based on religious chaplaincy alone. This does not mean the abolition of chaplains in Defence; however, it does suggest that religious chaplains should become just one of several groups of practitioners—alongside humanists, non-affiliated counsellors, social workers and others—governed by a command structure responsible for the provision of wellbeing support and pastoral care across the ADF. Once this is achieved, all Defence members, ranging from the most religious to the humanists and atheists, will have suitably qualified wellbeing support practitioners available to them to ensure that their pastoral care needs are met and that they remain able to contribute to Defence capability. Finally, without the inclusion of humanists, atheists, the irreligious and non-theists in a discussion on wellbeing support alongside religious chaplains, there will be a continuation of the disproportionate influence of religion on wellbeing support at a time when secularism is a more desirable objective for an effective pastoral care model.

Endnotes

- 1 Sue James, 'Chaplaincy Survey', Humanists Victoria, 31 August 2020, accessed 14 October 2020, at: <https://vichumanist.org.au/news/chaplaincy-survey/>
- 2 *Commonwealth of Australia Constitution Act* (Cth), s 116 (at: <https://www.legislation.gov.au/Details/C2013Q00005>) states that the 'Commonwealth shall not make any law for establishing any religion', which is frequently interpreted as defining secularity in Australia (see, for example, Carolyn Evans, 2015, 'Religion and the Secular State in Australia', 89, at: <https://classic.iclrs.org/content/blurb/files/Australia.1.pdf>
- 3 Some police and emergency service departments continue to have a small number of chaplains as employees or honorary appointments, or in a voluntary capacity.

- 4 The ministerially appointed non-Defence public office holder positions are listed in Australian Government Remuneration Tribunal (Remuneration and Allowances for Holders of Part-time Public Office) Determination 2020, 16 June 2020. Responsibilities are outlined in 'Memorandum of Arrangements Between the Commonwealth of Australia Represented by the Chief of the Defence Force and the Religious Advisory Committee to the Services', 2018.
- 5 Department of Veterans' Affairs, 'ANZAC Portal: Planning a Commemorative Service', accessed 14 October 2020, at: <https://anzacportal.dva.gov.au/commemoration/event-planning>
- 6 For example, St Edward's Crown, while a symbol of the monarch and head of the Anglican Church, is also a holy relic that adorns the badges of Navy, Army and Air Force, along with the corps of the Army.
- 7 Refer to the landmark article by Samuel Huntington, 1993, 'The Clash of Civilizations?', *Foreign Affairs* 72, no. 3: 22–49. See also James Jupp, 2011, 'Religion and Integration in a Multifaith Society', in Michael Clyne and James Jupp, *Multiculturalism and Integration: A Harmonious Relationship* (ANU e-press), accessed 14 October 2020, at: <http://press-files.anu.edu.au/downloads/press/p113381/pdf/ch082.pdf>; John Rees, 2017, 'Religion and Culture', *E-International Relations*, accessed 27 October 2020, at: <https://www.e-ir.info/2017/01/08/religion-and-culture/>
- 8 Australian Defence Force, 'A message from the Secretary and the Chief of the Defence Force: Defence Values—1 October 2020', email, 1 October 2020. See also Department of Defence, 'Australian Defence Force, Defence Values and Behaviours', accessed 14 October 2020, at: <http://drnet.defence.gov.au/People/Culture/Pages/Defence-Values.aspx> *Source is located on a restricted network and can only be accessed by individuals with access to the network.
- 9 For example, see Military Christian Fellowship of Australia, 2016, 'The Hard Questions Series—Topic One: Can You Be a Christian in the Military?', accessed 14 October 2020, at: <http://mcf-a.org.au/wp-content/uploads/2016/11/hardq1.pdf>; Defence Anglicans, 'Is It Right for a Christian to Serve in the Military?', accessed 14 October 2020, at: <https://www.defenceanglicans.org.au/qa/is-it-right-for-a-christian-to-serve-in-the-military/>
- 10 Refer to 'just war theory' for further information—for example, Seth Lazar, 2020, 'War', in *Stanford Encyclopaedia of Philosophy*, Spring 2020, accessed 14 October 2020, at: <https://plato.stanford.edu/entries/war/>; Alexander Moseley, 'Just War Theory,' in *Internet Encyclopaedia of Philosophy*, accessed 14 October 2020, at: <https://iep.utm.edu/justwar/>
- 11 Department of Defence, 2016, *Defence White Paper 2016* (Canberra: Commonwealth of Australia), accessed October 2020, at: <https://www.defence.gov.au/whitepaper/Docs/2016-Defence-White-Paper.pdf>; Department of Defence, 2020, *2020 Defence Strategic Update* (Canberra: Commonwealth of Australia), accessed 14 October 2020, at: <https://www.defence.gov.au/whitepaper/Docs/2016-Defence-White-Paper.pdf>
- 12 In the 2016 Australian Census, the most common responses for religion were 'No Religion' 29.6 per cent, Catholic 22.6 per cent, Anglican 13.3 per cent, 'Not Stated' 9.6 per cent and Uniting Church 3.7 per cent. Australian Bureau of Statistics, '2016 Census QuickStats', accessed 14 October 2020, at: https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/036?opendocument
- 13 Defence Force Recruiting marketing research indicates that as recently as the period of January to September 2020, only 42 per cent of males and 36 per cent of females in the marketing demographic of 15 to 35 year olds thought that the Navy/Army/Air Force had progressed. This provides strong evidence that the ADF is not accessed as a progressive organisation by a significant proportion of the Australian public. Defence Force Recruitment, 'Attitudes towards Services over Time FY-19–20–21', communications tracking by Hall & Partners – not publicly accessible.

- 14 According to Australian Bureau of Statistics Census data from 2016 and 2011, people with no religious affiliation increased from 21.8 per cent to 29.6 per cent of the population. In the eligible recruiting demographic of 18 to 29 year olds, the proportion of people indicating 'Secular Beliefs and Other Spiritual Beliefs' and 'No Religious Affiliation' was between 35 per cent and 42 per cent, suggesting younger Australians are less religious.
- 15 This observation is significant for two reasons. Firstly, atheists are more likely to reject religion-based customs and traditions and are more likely to openly advocate for secularism. Secondly, in the context of wellbeing support for themselves, they are more likely to abjectly refuse to see a religious chaplain due to fundamental divergence in belief systems and will therefore require the provision of alternative secular forms of support.
- 16 This assumption is derived from policy: Department of Defence, 'Australian Defence Force Chaplaincy Policy', 26 August 2020, para 1.13, states that 'chaplains are required to deliver chaplaincy services upon request, regardless of the faith or non-faith perspectives of the individual being supported'.
- 17 It may also be unreasonable and unfair to expect a member with differing religious views, or from a diversity group openly opposed by some religions, to approach a religious chaplain for support in full knowledge of the religious doctrine.
- 18 For example, in Sue James, 'Chaplaincy Survey', 66 per cent of non-religious people are fairly unlikely or very unlikely to access religious pastoral care, and 29 per cent of religious people are unlikely to access religious pastoral care. If extrapolated to the ADF this means that 47 per cent of the permanent force are not supported by the current chaplaincy model.
- 19 At 1 July 2020, 80 per cent of chaplains were married, 90 per cent were male, and their average age was almost 50. This contrasts with the broader Defence population, where 67 per cent are married, 46.5 per cent are under the age of 30, and 18.1 per cent are female.

About the Author

Colonel Phillip Hoglin graduated from the Royal Military College Duntroon in 1994, having completed a Bachelor of Science (Honours) majoring in statistics at the Australian Defence Force Academy in 1993. In 2004 he completed a Master of Science in Management (Manpower Systems Analysis) through the United States Naval Postgraduate School and in 2012 a Master of Philosophy (Statistics) through the University of New South Wales. He has had several appointments in workforce analysis, policy, strategy, management and Defence Force Recruiting.

From The Vault: The Basis Of Expansion For War*

Directorate of Military Training, AHQ

In time of peace no nation, with the possible exception of Russia, can afford to maintain at full strength the armed services required for the conduct of a war of the first magnitude. The most that can be done is to maintain an organization which does not impose an unsupportable strain on the national economy and which, at the same time can be expanded rapidly when war becomes imminent. So far as the Army is concerned the smoothness and rapidity of this expansion will depend on the provision and maintenance in peace of:

- i. An experienced staff.
- ii. A framework of units and formations on which to base the initial stages of the expansion.
- iii. The framework of an expandable training organization.
- iv. Trained reserves.
- v. Sufficient stores and munitions to equip the units and formations brought up to war strength or called into being in the initial stages of expansion.
- vi. The organization to convert industry from a peace to a war footing.

* This article was originally published in Volume 12 of the AAJ in May, 1950

The scale at which the foregoing elements are maintained in peace depends upon a number of factors, the more important of which are:

The time likely to be available between the outbreak of hostilities and the necessity for sending ground forces into action. Obviously a nation sharing a land frontier with a probable enemy will have to maintain its army at a much higher degree of readiness than a nation which, by reason of its geographical situation in relation to potential enemies, is not subject to immediate attack.

The necessity for striking a reasonable balance between security and the other interests of the community. Preparations for defence are neither more nor less than a national insurance policy. Like any other form of insurance the time, effort and money devoted to it should be nicely balanced against the estimated risks. Too little is too risky, too much is uneconomic.

Responsibility for the successive steps to determine the composition of a peace-time army are clearly defined. The Army, paying due regard to the implications of national policy and the trend of international affairs, makes an appreciation to determine probable military tasks in the event of an outbreak of war. From this appreciation there follows a further appreciation to determine the size and composition of the forces required to execute those tasks. In other words the Army has, firstly, to forecast what it is likely to have to do, and, secondly, what will be required to do it. The size and composition of the projected war-time army will, of course, be influenced by the manpower requirements of the other services and of industry, and by the type and quantity of equipment likely to be available. It is no use planning to use men and materials which cannot possibly be obtained.

The soldier then has to design a peace organization which will enable him to place the proposed wartime army in the field within the permissible time limit. In doing this he must curb his natural tendency to over insure by recommending an organization which the Government, in view of the many other pressing demands on national resources, obviously cannot approve. Subject to the limitations imposed by this consideration he seeks approval for the strongest organization obtainable. Responsibility for its acceptance, rejection or modification then rests squarely with the Government. The Government's decision becomes a policy directive which the Army, in conjunction with other Government Departments concerned, is responsible for putting into effect.

The preparation of the Army plan for presentation to the Government finally resolves itself into a compromise between several important considerations. For instance, a balance must be struck between personnel and equipment. It is not much use being able to put large numbers of trained men into the field if you cannot give them up-to-date equipment to fight with. Nor is it any use having on hand a mass of equipment and no trained men to use it. Again it is no use devoting all available resources to the preparation of fighting units and neglecting the administrative organization, which alone enables them to function. Nor can the Army wait until the outbreak of hostilities to conjure out of thin air the training organization-personnel, installations and equipment-to train the stream of re-inforcements which must begin to flow even in the early stages of a major conflict.

The Position at the Outbreak of World War 2

A comparison of the situation which existed in Australia on the outbreak of war in 1939 and that which obtains today is interesting and instructive, provided that the comparison is not made in a spirit of pharisaical virtue. It is at once the strength and weakness of our democratic system that no Government can run counter to public opinion, nor even get very far ahead of it. Australian Governments of the 1930's reflected Australian public opinion, which, in common with public opinion throughout the English speaking world, flatly refused to believe that another great war was imminent. Anyone who reflects on the temper of those years may well marvel that the Australian public, which caught only an occasional faint echo of the storm gathering on the other side of the world, consented to spend any money at all on the Army.

In 1939 the Regular Army comprised only a few staff officers and warrant and NCO instructors. There were no regular field units, whilst installations and fixed defences were manned by maintenance parties only. The administrative units and echelons required for base and of Cooperation did not exist even in skeleton form. There were practically no officers available for war planning.

On paper the Militia Forces comprised a respectable array of formations and units. On the ground, however, these formations and units were too weak to provide useful experience for the leaders and not much more than elementary training for the troops.

The Army had no mechanical transport worth mentioning, and no fighting vehicles at all. Its most up-to-date field gun had been made in 1914, but it did have two or three Brens on exhibition at the Small Arms School. Engineering and signal equipment was about on the same level.

The Reserve of Officers consisted of a list of names in a book. Its members received no training or instruction of any kind. Many of them had been completely out of touch with military affairs since they were demobilized in 1919-20.

The Army Schools in existence at the beginning of 1938 were:

- Royal Military College.
- School of Artillery.
- Small Arms School.
- School of Signals.
- School of Anti-Aircraft and Fortress Engineering.
- ASC School.

During 1938 the Command and Staff School was established to run short courses for senior staff and regimental officers, and Command Training Depots were set up to conduct courses for junior officers and NCO's. These establishments, however, had run only a few courses before the outbreak of hostilities.

The Army Today

After World War 1 there seemed, every reason for believing that an era of universal peace had at last dawned. This feeling, with its consequent effect on public opinion, was particularly marked in Australia and other countries are removed from a centre of possible conflict. World War 2 has not been followed by similar hopes. On the contrary it is quite apparent to everyone that a major war could start at any time in half a dozen places, some of them uncomfortably close to this country. Consequently Australian public opinion is favourably disposed towards the maintenance of reasonable defence services. Nevertheless there are many other pressing demands on the public purse, and the defence services have to work strictly within the limits of the money which can be allotted to them.

Working within these limits the Army has designed, and very largely brought into being, an organization which can rapidly be expanded to a formidable field army.

For the first time since Federation we have a balanced regular field force of all arms. Admittedly this force is only a Brigade Group, but it forms an extremely valuable training ground for regular officers and NCO's. In addition we have established on a regular basis many of the administrative units on which the speed and smoothness of expansion depends.

Army Headquarters and formation staffs are much bigger than they were at any time during the last peace, and contain elements of practically all the sections required in war. There is a world of difference between expanding an existing staff section, even if it contains only a few trained and experienced persons, and starting it from scratch amidst the stress and urgency of mobilization. From Army HQ downwards provision has been made for the inclusion of CMF staff officers where they can usefully be employed or given worthwhile experience.

In the post-war plan the peace strength of the Citizen Forces was fixed at 50,000. It was considered that better training value would accrue to all ranks if the CMF were organized in a relatively small number of strong formations and units rather than spread very thinly over a vast array of "paper" units. The method of recruiting CMF personnel, and recruiting them in a way that will produce an adequate trained reserve, is of course a matter of Government policy. (At the time of writing the recently-elected Commonwealth Government has not given the Army a direction in this matter.)

In any case the new CMF units are much more lavishly equipped than they were before the war. Units now possess an adequate allotment of mechanical transport, weapons and equipment. In addition the Regular Army staffs of CMF formations and units are much bigger than they were in pre-war days. There is no comparison between the equipment situation of today and that of 1939. Then we had nothing much more than rifles and bayonets; now we have reasonably good stocks of first-class equipment. Of course we cannot rest on that. The equipment will have to be kept up to date and this will absorb a fair proportion of Army funds.

Army Schools

At present the following Army Schools are in operation:

- Royal Military College.
- Staff College.
- School of Tactics and Administration.
- Armoured School.
- School of Artillery.
- School of Military Engineering.
- School of Survey.
- School of Signals.
- School of Infantry.
- RAASC School.
- RAAOC School.
- RAEME School.
- RAAF School of Land/Air Warfare (Army Component).
- Transportation Training Centre.
- Technical School.
- Apprentices' School.

The Army Schools are so organized that they can be converted rapidly from a peace to a war basis.

Before the war Australia had to depend for the higher staff and command training of her regular officers on the few vacancies she could obtain at the Staff Colleges in the United Kingdom and India. Not more than three or four vacancies a year could be obtained. Now we have our own Staff College designed to take an average of 30 officers for a ten months' course each year. The teaching at this college is closely coordinated with that at staff colleges in the United Kingdom and other countries of the British Commonwealth so that a common doctrine is taught throughout the British system. In addition students are exchanged on a reciprocal basis with the other colleges. Thus this year's course at the Australian Staff College comprises 27 Australian students, two from the United Kingdom,

and one each from Canada, India and Pakistan, while an Australian student is attending the staff colleges in each of those countries. Besides the course itself the pre-entry studies are on a common basis throughout the Commonwealth.

Overseas Training

To enable the AMF to keep abreast of overseas developments, a number of officers and other ranks is sent abroad every year for training and experience. The Overseas Training Schedule for the year 1949-50 provided for 50 officers and nine other ranks. Actually a number of additions were made to the list to meet unforeseen requirements.

In Australia every avenue is being explored to obtain appropriate experience in civil establishments for selected personnel. The system of "civil schooling" being developed aims at broadening the knowledge and experience of regular officers and other ranks of the technical arms and services.

Conclusion

If we compare this brief outline of Australian Army organization as it exists today with the basic requirements for rapid expansion listed in the opening paragraph of this paper it will be seen that we have:

- i. An experienced staff, together with the schools and facilities to increase its knowledge and broaden its experience.
- ii. The framework of units and formations on which to base the initial stages of expansion.
- iii. The stores, munitions and equipment required in the early stages of expansion.

Thus four of the six requirements exist as efficient going concerns. Within the limits imposed by existing Government policy a trained reserve is being created, but, in any case, time is required to build it up to the required strength. Meanwhile, selected members of the Reserve of Officers are being trained and kept up to date in the duties they will be expected to undertake in war.

The sixth requirement the means to convert industry to a war footing is thoroughly organized and was described fully in the article “Higher Defence Organization in Australia” in Australian Army Journal No.8.

Thus, having due regard to the time required for the build-up of reserves, it can be said that the Australian Army is well on the way to fulfilling its peace-time function of maintaining a firm and broad foundation for expansion in war. Its ability to meet an emergency is to day infinitely greater than it was in 1939.

Book Review

Anatomy of a Soldier

By Harry Parker

Alfred A Knopf, 2016, ISBN 9781101946633, 310pp

Reviewed by Dr Jordan Beavis

Situated within a growing body of creative literature on the coalition wars of the 21st century, *Anatomy of a Soldier* is a novel that follows the story of British Army Captain Tom Barnes (also referred to as BA5799). A platoon commander operating out of a forward operating base in Afghanistan during the insurgency, Barnes is grievously injured in an IED strike, leading to the amputation of both legs. Throughout the book equal weight is given to recounting incidents during Barnes's deployment in Afghanistan and subsequent long recovery from his wounds. Frustration is a key theme within this work; in Afghanistan Barnes is unable to influence the human terrain on the ground, while the sometimes tortuous slowness of his recovery is a source of continued exasperation. Out of a praiseworthy desire to show both sides of the conflict and indicate the cycles of violence involved in the war in Afghanistan, Parker also sympathetically presents several chapters from the perspective of Afghan civilians and insurgents, each of whom, according to their own motivations, supports or opposes the Western presence.

Although a novel depicting fictional events and characters, Parker's book has autobiographical aspects. Himself a British Army veteran of Afghanistan and Iraq, Parker suffered similar injuries to the protagonist and wrote this work as a way to think about his injuries and his experiences in the Army.¹ In writing from his lived experience, Parker taps into his own sense of trauma, loss, pain and frustration, but also strength and perseverance. For example, his depiction of Barnes's semi-consciousness immediately following the explosion of the IED that removed substantial parts of his legs (Chapter 43) is vivid and highly personal, and it requires little imagination on the part of the reader to wholly empathise with both the character and the author.

Beyond the praiseworthy plot the book is laudable for a litany of reasons. Not written from Barnes's or any other single character's perspective, some chapters are from the vantage point of an item—as miscellaneous as a bandage, a bullet and a handbag, or as specific as an intubation tube, *the* IED and an army-issue civilian compensation form. Personification is used to make each item aware of its surroundings while also being privy to the innermost thoughts and feelings of the novel's principal characters, yet not in an anthropomorphic sense as they have no agency of their own. As items they underscore the different stages of Barnes's journey; they are used and then thrown away (or set aside), their purpose complete and the plot line advanced. This unusual style can initially be jarring to the unprepared reader but its value as a creative device is all too evident. Parker should also be praised for his clear creative abilities: his chapters are well crafted and his depictions of trauma, pain and 'force' are continually vivid (see Chapter 42). The book shines its brightest when Parker is clearly writing from his own experience. Despite largely being a story of an injured soldier, the novel is also refreshingly free of a clichéd romantic plotline between Barnes and a healthcare professional.

Weaker, however, are the chapters presented from the perspective of the Afghan insurgents and civilians. While it is a credit to Parker that he decided to include such viewpoints in the work, they contain little insight into the motivations of civilians or insurgents to support or oppose the Kabul government and Western forces beyond stereotypical monetary, nationalist or religion-based impetuses. Parker does present well-crafted and sympathetic depictions of Afghans, informed by his own service as a company-level 'influence officer' during a 2009 deployment to Afghanistan (where he was wounded), but the lack of an actual Afghan's voice is all

too evident. That said, Parker's presentation is without malice and avoids cultural appropriation, while generally adding to the work's value instead of detracting from it.

Anatomy of a Soldier would find a happy home on the shelf and in the minds of many. The general reader will enjoy a semi-autobiographical insight into the war in Afghanistan, while the sympathetic treatment of Afghan insurgents and civilians will perhaps change perspectives on the conflict. Veterans (serving and retired) who may also be dealing with post-deployment injuries or trauma will readily empathise with the central character, while soldiers without such experience will perhaps find a greater understanding of the human cost of war. To the family and friends of servicepeople it provides a glimpse into the all-too-real military worlds of their loved ones. Raw in its presentation and impactful in its telling, Parker's *Anatomy of a Soldier* offers a very human insight into one of modernity's longest-running conflicts.

Endnote

- 1 Harry Parker, interview by Jordan Blackwood, *Army@TheFringe*, 25 August 2020, at: <https://www.facebook.com/armyatthefringe/videos/1693855584098029>

Book Review

Warfare and Culture in World History

Eds: Wayne E Lee

New York: New York University Press, 2020. ISBN 1479800007

Review by Mr John Mackenzie

In the second edition of this work Wayne Lee has updated and expanded the range of essays that he offers as examples of applying ‘culture’ as a tool to analyse the conduct of warfare. Lee’s analysis of military history through a focus on culture has challenges that I assess he, and the essayists, do not always successfully address. Despite this, I commend *Warfare and Culture in World History* to anyone in this journal’s audience who is serious about seeking to learn from history to prepare for future warfare.

Lee acknowledges that ‘culture’ is a ‘vast, amorphous and potentially troublesome word’. I encourage you to challenge aspects of Lee’s definition, which he acknowledges is ‘cobbled together’, and of his framework for levels of culture, but read it with an open mind. This work takes on an important topic—culture’s impact on the conduct of warfare. The effect of culture on action intuitively makes sense, and this is a topic with particular relevance for readers in the Australian Army in the wake of the recent allegations of misconduct allegedly committed by ADF members on operations in Afghanistan.

The book opens with Wayne Lee's essay, where he argues for the utility of a cultural approach to understanding warfare and that the cultural approach applies to analysing warfare more broadly than the Western experience. The breadth of the examples (across time and geography) is expanded in this edition by adding examples of Mongol and Spanish conquests and a German colonial war. Lee highlights the cultural level of analysis applied in each essay in the collection. It is an eclectic mix and his broad selection is a thought-provoking exploration of culture's influence on warfare across time and around the globe. The challenge comes when moving from the broad application of the approach to drawing specific judgements.

Lee's essay lays out a definition of culture (pp. 3–4) and five levels of culture for military historians to use to guide their investigation: societal, strategic, organisational, military, and soldiers (p. 6). He highlights six elements of the utility of using culture as the framework for analysis: it shapes individual vision, exists in actions and symbols as well as words, requires transmission (through policy, doctrine, and training), requires consideration of hidden assumptions that may contradict stated policy, works at multiple levels and demands that we investigate the role of all these aspects of culture in shaping choices; for the military historian, that must include operational or battlefield choices.

The essays are all engaging reading but each of them should prompt the reader to consider the challenges in this approach to analysing history. For example, Lee's selected essays focus on one or more of the five cultural levels outlined in his framework, but I consider they do not sufficiently make the case for their focus on the chosen level(s). In relation to each essay I encourage readers to consider the interaction across Lee's *societal*, *strategic*, *organisational*, *military* and *soldiers* levels of culture and examine the broad questions posed by interaction between those cultural levels. Can Lee's five levels be clearly identified and separated? Which of the five levels dominated the choices made on the battlefield(s) in the particular example? Whose culture was it that most influenced the conduct of the war discussed in the essay—that of the protagonist, their allies or their opponent? Melville's essay on the fall of the Assyrian Empire acknowledges that data from the era is incomplete, and this should prompt readers to consider what data/artefacts should be relied on to determine the characteristics of culture and then determine its subsequent influence on choices and events? Is culture static? How quickly can it develop or change?

More specific contemporary questions are raised by some essays that are of direct relevance to Australian Army readers. Does Silbey's essay on the influence of Commonwealth nations' aims have contemporary lessons for Australia's approach to contributing to coalition operations? Are there parallel lessons for Australia to draw from Lewis's examination of the American 'Culture of War'? A pressing question is: what does history have to tell us about the development of a *soldiers' culture* that, in the example of the Brereton Report, appears to reflect Lee's *hidden assumptions that may contradict stated policy*?

These criticisms and questions might seem mean in light of the importance and breadth of the subject that this work attempts to address. I acknowledge that I do not subscribe to the hype of the blurb on the paperback, which states that '[m]ilitary history today is cultural history or it isn't anything at all'. However, my criticism does not diminish the relevance of the work as an inclusion in your professional reading. *Warfare and Culture* should prompt consideration of the development of culture in order to better understand how culture develops, interacts at different levels and influences the conduct of warfare in a future where, as Lee frames it, ideas about violence and its use 'may prove far more threatening than any new weapons'.

Book Review

On Contested Shores: The Evolving Role of Amphibious Operations in the History of Warfare

Eds: Timothy Heck and BA Friedman

Marine Corps University Press, Quantico 2020, ISBN 9781732003149

Reviewed by Lieutenant Colonel Mark Tutton

On Contested Shores provides a timely analysis of a broad range of historical amphibious operations and future amphibious concepts. The book is heavily contextualised through a United States Marine Corps (USMC) lens, but is nevertheless highly relevant to the Australian Defence Force. Australia, like its neighbours, is vitally dependent upon the surrounding seas and oceans for security and prosperity—we are a maritime nation in a maritime region. Sea routes and ports remain strategically significant for us into the foreseeable future. However, *On Contested Shores* reminds us that there is far more to amphibious operations than just large-scale amphibious assaults—the Normandy landings or those carried out in the Pacific during the Second World War, for instance. Instead, the editors seek a broader understanding of the full range of amphibious operations—the assault, the withdrawal, the raid, the demonstration, and amphibious support to other operations—and their relevance for the future.

The book is in three sections—two historic and one future. The first section (chapters 1 to 7) provides an analysis of amphibious operations during the age of sail, and the genesis of amphibious doctrine. This section begins with an examination of the night attack on Porto Ercoleto (1555) and the attack by land and relief by sea of the Siege of Leiden (1574) during the Eighty Years War. These examples, in addition to providing the modern practitioner a range of relevant lessons on tactics, techniques and procedures, demonstrate how an amphibious operation can unhinge a broader defensive plan to achieve operational success. Chapter 3 focuses on the birth of amphibious doctrine during the Seven Years Wars (1756–1763) through Thomas More Molyneux and his work *Conjunct Expeditions*. Molyneux used naval superiority as the assumed starting point for all operational planning, and ‘bounded his understanding of amphibious operations within three headings: the landing, operations ashore, and the re-embarkation’.

The final four chapters of this section address the Delaware River Campaign (1777), the Siege of Vera Cruz (1847) during the US war with Mexico, the Battle of Santa Rosa Island (1861), and the US Navy and USMC in Korea (1871). Of particular interest to contemporary practitioners is the last of these case studies, which examines the ‘interplay between diplomatic and military objectives during peacetime amphibious operations’ and ‘the methods used by the U.S. Navy and Marine Corps’ in a great power competition.

The second section (chapters 8 to 17) covers amphibious operations in the 20th century. This section begins with Estonian amphibious operations in the Eastern Baltic (1918–2020), before turning to the study of Gallipoli and the study of amphibious warfare more generally at the Marine Corps Schools from 1920 to 1933. Such study:

... laid the foundations for the famous island-hopping campaigns of 1942 to 1945, and ensured the Marine Corps Schools provided the United States with leaders able to defend Pacific islands against Japanese landing forces ... and fight the proxies of a triumphant German Reich.

Chapters 11 to 16 focus on an analysis of the Second World War amphibious operations across the European and Pacific theatres. Of particular contemporary relevance is the examination of Operation Weserübung (Germany's assault on Denmark and Norway), which is delivered through the lens of today's US Army 'Multi-Domain Operations' concept, the purpose of which is the penetration and disintegration of an anti-access area-denial defence.

Chapter 17 concludes the 20th century section with an examination of the Turkish amphibious operation in Cyprus (1974). This case study highlights that while the operation was mostly successful it was not without several challenges. The identification of these challenges reinforces the 'importance of inter-service interoperability ... the difficulty in applying theoretical knowledge in practice ... and that the amphibious operation does not end with the landing, but rather needs consolidation and exploitation'.

The final section (chapters 18 to 23) addresses the future of amphibious operations. Heavily weighted towards the context for, and conduct of, US amphibious operations ('Naval Strategy and the Future of Amphibious Operations', 'The Role of Amphibious Operations within the Multidomain Operational Construct', 'The Role of Naval Special Warfare in the Great Power Competition', and 'The U.S. Marine Corps and Advanced Base Operations'), it offers alternative perspectives through both Chapter 20 ('Russian Perspectives and Amphibious Assault Potential in the Arctic Near Future') and Chapter 22 ('The United Kingdom's Approach to Amphibious Operations: From the Cold War to the Information Age').

While all chapters are worthy of careful consideration for the development of Australian concepts and doctrine, it is perhaps the final chapter, on USMC advanced base operations, that provides the most contextual similarity to the situation the ADF finds itself in today. Indeed, as Walker D Mills says in this chapter:

Marine Corps leaders recognised that the Service was not prepared for the challenge of LOCE (Littoral Operations in a Contested Environment) and EABO (Expeditionary Advanced Base Operations). The Marine Corps was optimized for large-scale amphibious operations and counterinsurgency.

On Contested Shores provides a timely reminder that there is a wealth of relevant history on amphibious operations from which we can learn. The lessons are that amphibious operations will continue to be a critical part of military operations into the foreseeable future; and that we must constructively challenge orthodoxy to continuously evolve our thinking (concepts) and application (doctrine and training) to generate relevant and credible 'Future Ready' amphibious forces. Simple—but the simplest things are often extraordinarily difficult.

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