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- What Did We Learn from the War in Afghanistan?
- Only the Strong Survive — CSS in the Disaggregated Battlespace
- Raising a Female-centric Battalion: Do We Have the Nerve?
- The Increasing Need for Cyber Forensic Awareness and Specialisation in Army
- Reinvigorating Education in the Australian Army

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CALL FOR PAPERS

By 2017, the Army will have implemented a number of structural changes through Plan Beersheba. Plan Beersheba is intended to optimise the Force Generation Cycle by restructuring the 1st, 3rd, and 7th Brigades into Multi-role Combat Brigades (MCB) that include armour, artillery, communication, engineer, infantry, and logistic elements. Under Plan Beersheba, the Army Reserve will also be restructured to deliver specified capability and support to Army preparedness and operations.

As Plan Beersheba is implemented, Army will also take steps towards becoming a digital, networked force with a deep understanding of amphibious operations in a joint coalition framework. To this effect, Army is engaged in a number of modernisation projects that will be the basis of an agile, adaptable world-class organisation.

Army must now consider the organisation that will be needed beyond Plan Beersheba. The *Australian Army Journal* is accepting submissions related to Army's modernisation as it builds on Plan Beersheba. Areas of interest include but are not limited to:

- Exploiting new and emerging technologies
- Command, Control and Communication
- Digitisation
- Situational Awareness
- Force Protection
- Logistics
- Human Performance
- Army Culture
- Organisational Structure

While we are particularly interested in articles that address these topics, we also welcome other articles. Submission deadlines are 31 August for the 2014 Summer edition and 28 February for the 2015 Winter edition. Please send submissions to dflw.publications@defence.gov.au.

LESSONS LEARNED

What Did We Learn from the War in Afghanistan?

Captain Gareth Rice

ABSTRACT

After 12 years of conflict, it is not surprising that many are beginning to ask what Australia has achieved in Afghanistan and whether Australians have really made a difference. The latter question is less pertinent for the Australian Defence Force (ADF) as, what happens in the years to come is largely a matter for the population of Afghanistan. What should concern the ADF however, is what it can learn from its longest war and its most dynamic foe. This article seeks to build on James Brown's commentary for *The Age* of the same title.¹ The analysis presented is supported by research and personal experience and seeks to encourage debate on the manner in which the ADF conducts such operations. The ultimate conclusion is that Australia's commitment, while successful, suffered from a limited strategic vision that descended into restrictive campaign plans and ultimately a confusing and conflicting tactical application of the ADF's own counterinsurgency (COIN) doctrine.

You can be tactically brilliant and operationally superb, but if you have no strategy, you end up in Stalingrad, in winter.

Dr David Johnson, US Army colonel (ret'd)

Introduction

In 2006 Australia's conventional force commitment to Afghanistan began with the deployment of the first of 13 task forces to Uruzgan province. Uruzgan was an ambitious area of operations for the ADF. As the birthplace of Mullah Omar and the centre of the Pashtun heartland, Uruzgan was beset by issues related to poverty, narcotics and security. Initially, the ADF was praised for tackling a violent area of southern Afghanistan rather than choosing a more developed province to the north.² While the circumstances that led to the ADF's involvement in this conflict were clear, what was critically missing was a purpose and a clearly articulated outcome that the ADF sought to achieve from its intervention in Afghanistan.

At the time of its initial deployment to Afghanistan, the ADF was also heavily involved in Iraq, East Timor and Solomon Islands and was thus, understandably, restricted in its ability to initially apply any worthwhile COIN campaign plan to Uruzgan. Australia's was also only a contributory effort to an International Security Assistance Force (ISAF) strategy in Uruzgan.³ Yet, even as the operational importance of Afghanistan began to increase, a strategy that employed effective COIN doctrine remained noticeably absent. The contributory strategy initially appeared to involve providing a low risk deployment that would perform the tasks typical of the 'soft' aspects of COIN while allowing the Special Operations Task Group (SOTG), the US and Dutch forces to assume the more dangerous roles of fighting the insurgency.

As the task groups began to increase in size over the years and finally take the lead in Uruzgan, this role changed slightly; yet the task groups were often still considerably restricted by their mission parameters of reconstruction, mentoring and, finally, advising. These operational restrictions significantly reduced the ADF's ability to apply its own COIN doctrine, resulting in a tactical approach that ignored key aspects of the operating environment such as the influence of the narcotics trade and the poverty of the population. The focus of this article is thus the ADF's operational application of COIN in Uruzgan and how this was implemented at the tactical level. This article will argue that the implementation of Australia's strategy in Afghanistan placed significant restrictions on deployed force elements and equipped them to do little else but fight. This drastically reduced their capacity

to develop grassroots solutions to issues of local security, and to perform other roles within the operating environment and, ultimately, to defeat the insurgency in Uruzgan.

COIN theory in the ADF

In its simplest form, COIN is a contest of wills for the support of the population.⁴ The ADF's approach to COIN relates to the principle of 'shape-clear-hold-build' which is translated as lines of effort rather than the set phases of an operation.⁵ This approach also acknowledges that, while COIN is a lengthy process, it can succeed given the appropriate strategy and national effort. After all, insurgencies almost always fail in their objectives.⁶ Terrorists are even less successful. Yet, where they are often successful is in survival. The insurgency adapts, evolves and often innovates to maintain its profile. The Chief of Army, Lieutenant General David Morrison, recently acknowledged this in a speech to the Lowy Institute in which he stated, 'we recognised that our enemies adapted and innovated more quickly than we did.'⁷

The insurgent is rarely fighting an asymmetric war by choice. Fighting as an insurgent requires significant funding, clear political objectives and the support of the population. Perception is just as important as reality to the insurgent.⁸ While the insurgent attempts to undermine the legitimacy and will of the counter-insurgent, that same counter-insurgent is trying to clear him from his area of operations without alienating the people. This is a notion that recognises victory as requiring a collective military and government approach capable of fighting the insurgent, but seeks to defeat him in other ways. The application of violence is therefore important and necessary but not essential.

While extremists are unlikely ever to be persuaded to lay down their arms, from what is known of the insurgents in Uruzgan, ideology is far from the key motivator in the continuation of hostilities.⁹ On the contrary, the average 'Taliban' combatant is far more concerned with sourcing an income and bringing pride to his family, tribe and village. He cares very little for political issues and the various power struggles in Kabul. Why should he? Such events are far removed from the fragmented, violent and poverty-stricken societies that often define southern Afghanistan. Rather than die for a losing cause, the Pashtuns are far more likely to switch sides mid-conflict to place their families in a more advantageous position.¹⁰ The Taliban will not lose this conflict unless they become irrelevant in the eyes of the Afghan population.

To both the insurgent and the counter-insurgent, money is ammunition.¹¹ The link between poverty and the recruitment of young combatants is well documented.¹² At the political level, COIN needs to demonstrate to the population that there are tangible benefits in supporting the government that an insurgency is incapable of providing. In its application at the tactical level, this implies the capacity to support local government and security forces through investments in local infrastructure that are sustainable and promote economic growth. For his part, the insurgent requires a significant and continued source of funds in order to sustain hostilities.¹³ For some insurgencies, this comes from a foreign government. For others, it comes from the control of an illicit trade.

The pool of potential combatants needs to be degraded by providing employment that is both meaningful and financially more beneficial than joining the cause of the insurgent. The economic development of the host nation is therefore one of the most important tasks in COIN. However, there is a constant risk of creating a false economy that is unsustainable once the counter-insurgent is gone.¹⁴ As former British MP Rory Stewart observed, 'when you put \$125 billion a year into a country like Afghanistan where the entire revenue of the Afghan state is \$1 billion a year, you effectively drown everything.'¹⁵

The ADF's COIN doctrine has proven its worth in Afghanistan. Indeed, anecdotal evidence would suggest that it is widely accepted at all levels and corresponds with the doctrine used across ISAF. It is also used widely within Army training establishments. However, its conflicting tactical application within Afghanistan is puzzling to say the least. As a prelude to discussing this shortfall, it is important to understand the basis of Australia's strategy in Afghanistan.

The strategy

The ANZUS alliance has long been important to Australia's security and, following the events of 9/11, Australia's support during the war in Afghanistan assisted the US in its bid to establish moral authority.¹⁶ After a particularly low risk commitment to Iraq, the Australian government demonstrated a willingness to become more committed to supporting the operation in Afghanistan.¹⁷ The overarching ISAF goal of denying Afghanistan as a base to harbour or train terrorists in the future was rapidly achieved in the early days of the conflict. Many terrorist groups moved across the border to Pakistan or left the region altogether.¹⁸ The ADF's goal in Afghanistan then appeared to shift and continued to do so throughout the period

of its commitment. While avoiding a combat focus initially, this changed rapidly for elements such as the SOTG.¹⁹ Counter-narcotics was also briefly on the agenda, only to be quietly ignored soon after.

Initial task groups were heavily restricted by geographic and mission constraints and were also ill equipped to influence the situation outside the Uruzgan capital, Tarin Kowt. The period 2006 to 2010 saw a steady increase in troop numbers despite the Australian government's repeated refusals to commit to such an increase in response to requests from ISAF. When the Dutch subsequently withdrew from Uruzgan in 2010, the Australian government refused the opportunity to take ownership of the province, only to finally do so two years later.²⁰ At the strategic level, Australia's politicians seemed to accept that the ADF was committed to Afghanistan but could not articulate the goals of the deployment or the anticipated cost.²¹ Afghanistan was a political mission above all else, yet the goals of that mission were constantly amended or often in some way reduced.²²

Supporting the ANZUS alliance was an important and necessary goal that was largely reinforced by Australia's involvement in Afghanistan. However, the ADF's minor role within this conflict meant that important decisions such as any handover or timeline for withdrawal would largely be made in Washington rather than Canberra.²³ Yet within Uruzgan, the ADF had relative freedom in deciding how to fight this war within the confines of a wider ISAF strategy. While Uruzgan was by no means decisive terrain in Afghanistan, it was nonetheless an important piece of a larger puzzle for which Australia had (arguably) become responsible. Determining how seriously Australia took that responsibility is of course difficult and will undoubtedly invoke strong views in the years to follow.

The operational application of COIN

The ADF could be forgiven for commencing its operations in Uruzgan with a Reconstruction Task Force rather than first trying to secure the province. There appeared to be an assumption that someone else would take responsibility for security. However, given the sheer size of the Uruzgan battlespace, this proved an unfortunate assumption. Australian task groups were targeted by the Taliban from the outset and large areas of the province remained in Taliban control.²⁴ This continues to be true for some areas today. Deciding whether or not to seek out and close with those insurgents appeared to be driven more by the personality of key commanders rather than as part of a directed strategy or campaign plan.

In the early years of the conflict, the ADF possessed the capacity to shape and build — albeit little else. The SOTG, later enabled by an effective rotary wing, developed the ability to shape and clear many areas of Uruzgan but had no capacity for the hold and build aspects. Their efforts were also only occasionally linked to the efforts of the conventional task groups. As these groups began to extend their influence in the province, combat team-sized forward operating bases and even platoon houses were employed; yet very few areas were ever permanently held in any dominating capacity.²⁵ Valleys were cleared numerous times, only to be filled again by the Taliban once the force elements left the area.

Reconstruction Task Forces were replaced by Mentoring and later Advisory Task Forces. The very name of the task force often highlighted the restrictive nature of the campaign plan. The Uruzgan operating environment was large and significant and the ADF could never hope to extend a meaningful influence across the entire province given the size of the force elements deployed. This was further hampered by the reluctance to risk deploying small groups of soldiers to live among the populace. The ADF's acceptance of the fact that Uruzgan Province could never be secured in its entirety allowed the insurgents to continue to access various safe havens across the operating environment. It also promoted uncertainty over the benefits of projecting force into these areas if there was no capacity to hold and build.

Reference to dealing with the insurgency was often expressed in words such as 'degrade' rather than 'defeat', 'neutralise' or 'destroy'. To degrade an insurgency is an arbitrary task for a deployed force element. Insurgencies are easy to degrade — but they are much harder to defeat. If the goal was not to defeat the insurgency, then the obvious question is — what was it? Given that the ADF had focused its efforts on developing the Afghan National Army (ANA), it could logically be argued that the ADF's goal was, in fact, to enable the ANA to defeat the insurgency. While this is a sound strategy in theory, it took a number of years for the ANA to become capable of taking on the Taliban. This left a long period of nurturing and mentoring in which the ADF would be expected to fight the war on its own.

Throughout this process, the insurgency continued to evolve and increase in lethality. In 2006, the Taliban began to use suicide attacks as a weapon in Uruzgan. In those early days, the improvised explosive device (IED) threat was considered far less dangerous than it would become only a few years later.²⁶ If these observations demonstrate anything, it is that the ADF (like all militaries) must fight wars quickly. The longer its forces remain deployed, the more its ability to respond to other threats is diminished, and the higher the costs. The more casualties the ADF takes, the more the enemy will transform, often into something far uglier than the form in which it was first encountered.

While the Government of the Islamic Republic of Afghanistan has consistently struggled to influence the remote areas of Afghanistan in the Pashtun heartland, the ADF sought to extend its influence through the mentoring of ANA company and battalion groups in these areas. However, this strategy encouraged the creation of a national army that is unsustainable in both size and geographic displacement. More importantly, it also sought to create a strong army without first creating a strong Afghan state.²⁷ Remote ANA patrol bases are plagued by difficulties with resupply and an inability to project any worthwhile force into their areas of operation.²⁸ The ANA is also far too expensive to sustain without significant foreign aid. The security solution must be sustainable and it needs to occur at the grassroots.

Defining progress in Uruzgan was an unenviable task for those required to do this. Taliban commanders were often replaced when killed or released once detained. The narcotics trade continued to expand and there were very few signs that the ADF was making Uruzgan a better place for the local populace.²⁹ Infrastructure was one success story. By 2013, over 320 kilometres of roads had been built or improved, and 166 schools and 20 public health care facilities had been constructed.³⁰ However, these figures only tell part of the story. When this infrastructure was not tied to a cohesive COIN strategy, roads would be mined and schools sit empty. Concerns were raised that the ADF legacy would be one of building facilities, but not developing the province. If economic development was central to ADF COIN theory then the underlying aspects of the Uruzgan economy were being ignored.

Stopping the drugs

*'COIN forces will be required to clear insurgent forces and eliminate the infrastructure that supports them.'*³¹

In Afghanistan, the insurgent's infrastructure is drugs. It is thus unlikely that history will look favourably on the ADF's efforts to halt the narcotics trade in Uruzgan. Yet, for many commanders and politicians today, the impact of this failing has yet to be realised. The reality, however, is that conflicts with insurgencies that are tied to an illicit trade last five times longer than those that are not.³² The Taliban today is an unfortunate manifestation of that reality. It is a far less ideological, far more profit-driven enterprise in which peace is simply an obstacle to increased profits. Achieving any type of ceasefire is therefore likely to involve the sacrifice of key areas of southern Afghanistan, namely those surrounding the 200,000 odd hectares of poppy and marijuana fields.³³

The ADF has always been fully aware that the Taliban was tied to the opium trade. Insurgent activity drops significantly during the nesh (harvest) when Taliban commanders and fighters become traffickers and drug lords. Provinces with the highest production of narcotics also produced the highest incidence of attacks.³⁴ Yet the ADF often chose to ignore these key facts, as did most of ISAF, and they have continued to be ignored, either because of the perceived enormity of the task of tackling the drug trade, or because the sheer value of this commodity was never communicated properly to the highest levels. While most post-operation reports identified narcotics as an issue, the resounding response involved turning a blind eye in order to focus 'on the larger issue of removing the Taliban and the insurgents' as Major Michael Scott identified in 2007.³⁵ This failure to link the trade to the insurgency or at least acknowledge its importance has been an unfortunate legacy of the ADF's time in Uruzgan.

While Afghanistan has produced opium for decades, it was not until the Taliban was ousted from power in 2001 that opium production began to soar.³⁶ Today, Afghanistan's drug trade is a \$3 billion enterprise and accounts for over \$400 million in annual revenue for the Taliban — a 49% increase from 2012.³⁷ While Afghan National Security Forces have adopted limited strategies to stem the flow in Uruzgan, their efforts have often been hampered by corruption and ineffective eradication techniques.³⁸ Despite this, Australian mentors were generally advised not to become involved in this process and were relegated to the role of reluctant bystanders.

While the SOTG has invested in counter-narcotics with the Drug Enforcement Administration in recent years, this effort was targeted solely at the traffickers and drug labs. After all, to target the farmers would invariably threaten the ADF's 'hearts and minds' campaign. Yet this approach fundamentally misses the point. Farmers are growing poppies because it is financially viable to do so. If that same farmer could earn twice as much working in the bazaar, he would be unlikely to continue to grow poppies. While there are cases of Taliban threatening locals and forcing them to produce narcotics, their own 'hearts and minds' campaign is just as important for them as it is for ISAF. Unlike ISAF, however, the Taliban relies on the local populace for sustainment and protection, commodities that would surely dry up if a better alternative was provided. Targeting traffickers will therefore only stem the flow; it will not cut the supply.

While the Taliban are unlikely ever to return to government in Afghanistan, if they continue to control the narcotics trade they will undoubtedly survive and may even flourish for the foreseeable future. Similarly, if the government of Afghanistan cannot transition to a licit economy, it is unlikely to boast a GDP that can pay for its

significant security expenditure. Most concerning of all for ISAF are the large sums of money that are leaving the conflict zone, often through the intricate Hawala financial network. Considering that the 9/11 attacks were believed to have cost no more than \$500,000 to orchestrate, such movement of funds between terrorist groups should comprise a significant cause for concern.³⁹

The key to eradication and therefore defeating the insurgency is employment. As Ashraf Ghani (a candidate for the 2014 national elections) once commented, 'countries that have a legal per-capita income of more than \$1000 simply do not produce drugs.'⁴⁰ Presumably this was an operational failure rather than a strategic one. While tactical approaches to the eradication of the drug trade could be implemented, they would be largely ineffective without an operational strategy. Foreign investment would need to be encouraged, alternative crop programs developed and a tactical approach implemented that provided the necessary security to protect the populace and interdict traffickers.

Fighting the Taliban at the grassroots

*'One of the very difficult things for a regular army to understand is that an undefeated army can lose a war. ... [But] while losing every battle ... [the insurgent] is winning the war.'*⁴¹

For the soldiers engaged in this conflict, the notion of 'a careful war' has become a popular catch phrase.⁴² Numbers of casualties shaped the minds of many when determining what approach each task group would adopt. Such aversion to casualties may leave an interesting legacy for future ADF deployments. Yet, when a force element is tasked with achieving an immeasurable goal, a commander is naturally reluctant to take additional risks. Measuring that acceptable risk became an enduring feature of the ADF's time in Uruzgan. The perceived futility of the mission at the lower levels almost certainly added to this confusion.

Arguably, Australia had become accustomed to deploying soldiers to various theatres around the world without taking casualties. In 2008, Major Jim Hammett's highly publicised article criticising the Australian Army's reluctance to use infantry in their principle role struck a chord with many in Army.⁴³ In Afghanistan the Australian government proved that it was prepared to take casualties in the pursuit of its strategic goal; yet a noticeable hesitation in the application of all types of military operations remained. While it was common for coalition partners and certainly ANA to patrol in un-armoured vehicles or lack combat engineer support, ADF elements were forbidden from taking such risks.⁴⁴

The ADF had also become a victim of its own tactical success. As a military organisation, the Taliban was simply no match for the ADF's training, technology and application of force. Yet, as Lieutenant Colonel Chris Smith noted in his post-operation report in 2012, the Taliban is a poor adversary on which to judge the ADF's fighting skills.⁴⁵ Unlike the Mujahedeen of the Soviet-Afghan war, the Taliban lacked the substantial support of foreign governments. Their weapons and ammunition were poor and in limited supply and they had little understanding of basic military tactics. Yet, if the Taliban taught the ADF anything, it was that even an illiterate farmer with a ten dollar home-made IED can score significant tactical success against a modern military unit. As David Kilcullen once wrote, '... the East has solved the riddle of the Western way of war.'⁴⁶

The IED threat fundamentally crippled the ability of junior commanders to demonstrate tactical prowess. The lack of tactical air mobility, notably from the absent Australian Black Hawks, did not help.⁴⁷ In some valleys in Uruzgan, the Taliban had dug fighting pits orientated towards a single approach, confident that ISAF forces would invariably follow the same path each time unless they moved by air. To do otherwise would often draw criticism from higher headquarters, or would be impossible due to limited counter-IED support or would be too much work for the ANA. The ADF's tactics with the ANA were therefore simple and often repetitive.⁴⁸ Fortunately, so were the Taliban's.

The pursuit of insurgents remained a key goal for many Australian force elements despite the mission constraints. This was often achieved in spite of an intuitive understanding at every level that 'we cannot kill or capture our way to victory' as Robert Gates observed.⁴⁹ The issue was primarily not simply one of training, but also of mindset. Teaching 'hearts and minds' to combat soldiers is effective in principle, but it will never deter them from understanding their core role and purpose in life — combat. A soldier who experiences combat is likely to be far more satisfied with his operational tour than one who does not, regardless of the long-term merits of such endeavours. In a conflict that had few measures of progress, pursuing insurgents at least provided visible and tangible outcomes to the soldiers on the ground.

According to Abraham Maslow's law of the instrument, 'when your only tool is a hammer, everything looks like a nail'. In this context, Maslow's law is an important one to remember. While soldiers can be taught cultural awareness and the basic principles of COIN, the reality is that they are prepared and equipped to do little else but fight. While they have a basic understanding of the country and its culture,

they have no concept of how to create jobs and build a credible government — both of which are far more successful methods of defeating an insurgency.⁵⁰ The result is that many of our soldiers know no other way to defeat insurgents than to kill them, and those who know better are not afforded the tools to do so.

Recent studies into the success of US Army Green Beret teams (ODAs) in Uruzgan deserve closer analysis.⁵¹ The ODA program, run by small teams of US Special Forces soldiers, sought to create a local police force in these remote locations rather than a large, cohesive military force. These small teams of ODA (permanently based among the populace) were also equipped with significant resources, funding and weapons to influence every aspect of their area's political and security infrastructure. The result was a small footprint of soldiers wielding a significantly disproportionate effect in the battlespace that created a grassroots approach to security. Comparatively, the Australian platoon and company groups working in the same areas had far less influence over the Afghan populace and were often restricted by their mission parameters and limited funds for projects.

While there are benefits to having a larger force within such areas, if that force is equipped to do little else but fight it has only limited application in COIN. As US Navy Admiral James Stavridis remarked, 'we will not deliver security purely through the barrel of a gun.'⁵² While combat teams were equipped with the capacity to produce limited aid programs, these were often poorly executed and highly criticised by OXFAM for the limited evaluation of their effectiveness.⁵³ While Provincial Reconstruction Teams had a greater strategic effect, they were also hindered by a poor understanding of aid distribution and limited obligations to work with military teams already based in those locations.⁵⁴

Why is this important?

As a defence force, the ADF's inherent objective is the defence of Australia and its national interests. Within that ideology, the ADF focuses significant effort on defeating state actors; yet it also recognises that it is far more likely to be called on to defeat an insurgency.⁵⁵ After all, any smart adversary is likely to continue to remain unconventional until Western militaries prevail in conflicts such as this.⁵⁶ A quick analysis of the various asymmetric groups in Australia's region shows numerous similarities to the insurgency in Afghanistan. At a risk of being too dismissive of the ADF's lessons from this theatre, a repeat of the loss of corporate knowledge following the Vietnam War is appearing increasingly likely.⁵⁷ To have to learn these lessons again would be frustrating and costly.

While the ADF should aim to fight wars quickly, it must equally accept that defeating an insurgency can be a lengthy process.⁵⁸ If Australia is going to continue to involve itself in conflicts such as this, the ADF needs to become better at state-building. It is naïve to think that the ADF can achieve its goals through military might and the creation of an indigenous force to replace it. Kinetic actions must be supported by non-kinetic as part of a clearly articulated strategy. To do otherwise risks almost inevitable failure.

Conclusion

If insurgencies almost always fail, the ADF's objective should be to make them irrelevant. They may survive, as many do, yet their continued ability to hinder state-building will be reduced. The Taliban is no exception to this logic. If an adequate strategy, backed by a suitable force and national effort, had been employed from the outset, the Taliban in Uruzgan may have been degraded far more efficiently and potentially defeated. By focussing on some aspects of the COIN battle and ignoring others, the ADF was effectively making its job harder and more protracted.

At the tactical level, soldiers and junior commanders must be empowered to fight an insurgency at the grassroots. To do this requires the ability to live among the populace, in small teams, equipped with the training, resources and strategy to create a disproportionate effect. Australian soldiers are capable of achieving this if the ADF is prepared to accept the risk and allow increased freedom of action. Strategically, Australia must have the will to do what needs to be done and accept that it will take time, money and ultimately young Australian lives. If the Australian government is not prepared to do this, then there was little point in committing to the war in the first place. ■

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MODERN BATTLEFIELD

Only the Strong Survive — CSS in the Disaggregated Battlespace

Major Dean Clark

ABSTRACT

Recent operations would have us believe that Combat Service Support (CSS) personnel have not previously been required to protect themselves. On closer examination it seems that throughout history, support services of armies have been targeted by enemy forces. These lessons are somewhat conveniently forgotten as armies only equip and train their fighting echelons for close combat while largely ignoring the requirement in CSS units. Contemporary and past operations have demonstrated that danger is everywhere not just on the front lines. Sadly, the ADF continues to equip its fighting echelons with modern equipment, while expecting CSS units to operate with equipment that is aging and not fit for purpose. There is also a lack of close combat training across CSS units within the ADF at both the individual and collective levels. This does not prepare soldiers to operate within a highly lethal disaggregated battlespace.

You have not forgotten to remember; you have remembered to forget. But people can forget to forget. That is just as important as remembering to remember — and generally more practical.

Idries Shah¹

Introduction

The first principle of logistics must be survivability, for if logistic units are destroyed there is no point to the remaining principles. Throughout history, survivability of logistics is a lesson relearned and then promptly forgotten or ignored until the next conflict. The lure of a soft target has always encouraged belligerents to strike lightly armed logistic units, often resulting in high casualties and a shortage of supplies for combat operations.

The increased disaggregation of the battlespace, coupled with multiple casualties during recent operations, has driven our coalition partners to redefine the nature of the logistician. However, the ADF continues to largely ignore the requirement to train and equip Combat Service Support (CSS) soldiers and officers to fight to protect themselves and their precious supplies. These requirements are often neglected by commanders in the mistaken belief that there will be sufficient combat units to allocate as escorts and protection parties.

This article will analyse the effectiveness of contemporary foundation warfighting training in preparing CSS personnel for operations within a disaggregated battlespace. Contemporary and historical examples will be used to provide evidence of the requirement to train CSS personnel in close combat and equip them to predict, prevent and protect themselves from enemy action. While all logistic activities within contemporary operating environments carry risk, the greatest risk to logistic operations has consistently occurred in distribution. As such, this article will focus primarily on distribution operations.

The disaggregation of the battlespace

With the evolution of the battlespace into a non-linear area with no defined front or rear, logistic units have become increasingly vulnerable. The growing lethality of modern sensors and weaponry has forced combatants to operate below detection thresholds within complex terrain. Combatants attempt to defeat this modern

technology by manoeuvring in smaller force packages capable of sheltering within both physical and human terrain.² This presents a significant threat to CSS convoys moving through such complex terrain, a fact highlighted in Iraq in 2004 when more purple hearts were awarded to troops operating along the lines of communication than to combat forces.³ It is through this complex terrain that the almost continuous flow of logistics must traverse to their often dispersed dependencies.

With the disaggregation of the battlespace, logistic personnel have been faced with the requirement to predict, prevent and protect themselves from threat force actions within complex terrain. Coalition forces in the Middle East learnt that insurgents, frequently equipped with the ability to generate highly lethal effects, regularly targeted logistic operations at the small-team level in fleeting surprise engagements.⁴ The resulting casualties led to the acquisition of enhanced distribution equipment and the development of new training and procedures to repel such attacks.

Lessons from operations

The casualty toll from both Iraq and Afghanistan prompted recognition of the requirement to equip and train logistic units to protect themselves and their valuable supplies. The lure of soft logistic convoys and the asymmetrical nature of contemporary conflict are highlighted in statistics reported by CNN: 'Over 3000 American soldiers or contractors were killed in fuel supply convoys between 2003 and 2007 in Iraq and Afghanistan.'⁵ During Operation Iraqi Freedom, US Army logistic units lost 126 soldiers to enemy action — the equivalent of 17% of all US Army casualties over the same period.⁶ It was clear that insurgents had learnt that logistic units did not possess the concentration of weapons found in combat units or the ability to coordinate the same level of response.⁷ Casualty rates, coupled with the continual loss of supplies, produced the need to innovate and reinvent the way logistic units were equipped and trained.

The mounting casualties and the critical requirement for reliable logistics often resulted in CSS units developing their own procedures to defeat insurgent attacks. In October 2004, 18 National Guard soldiers refused to deliver urgent supplies of fuel, arguing that, without protection from combat units or suitable armour, the risks involved in conducting the mission were far too great.⁸ With casualties mounting and soldiers refusing to complete missions, Australia's coalition partners were forced to revolutionise resupply convoys from the bottom up by developing

unprecedented tactics, techniques and procedures. Bond highlights this rapid change, asserting that the US logistic and, in particular, transport soldier, has evolved into '... one of the premier warriors of the nonlinear and nonconventional battlefield.'⁹ The ADF is currently acquiring CSS vehicles capable of firing, communicating and protecting supplies and personnel, yet has not identified the need to train CSS soldiers to the standard of those of other coalition members.

The experiences of our coalition partners in Iraq and Afghanistan also led to the development of combat logistic patrols (CLP). Many authors believe that the rapid advance of vanguard operations has led to logistics becoming vulnerable along lines of communication that had not been, and arguably could not be secured.¹⁰ This was the environment in which CLPs rose, emerging from the wreckage of destroyed vehicles and lost supplies. Tusa believes that CLPs signal an operational change that has led to logistic units planning to 'fight' a convoy to its destination.¹¹ The entry of CLP into logistic nomenclature does not change the fact that a CLP is merely a protected convoy of supplies or personnel. The nomenclature also wrongly implies that the CSS element actively seeks combat, when in reality the CSS convoy attempts to avoid contact whenever possible.

CLPs are a reinvention of lessons lost from previous conflicts. During the first Anglo-Afghan War in 1839, British army supply convoys were attacked continuously by marauding tribesmen. As a result, convoys moving between India and Jalalabad were heavily armed.¹² More recently, large convoys and armoured 'gun trucks' were employed throughout Vietnam, particularly in movement through the notorious 'Ambush Alley' where US forces suffered heavy casualties.¹³ Vietnam certainly proved that there was a requirement to train and equip convoys to repel enemy attacks.

ADF response to coalition lessons

While the ADF has acknowledged the need for increased protection within the disaggregated battlespace, it is yet to incorporate appropriate training for CSS within its individual or collective training. The 2013 Defence White Paper highlights the need for increased survivability:

*In response to the increasing complexity and lethality of land operations, the Government is committed to acquiring deployable protected and armoured vehicles offering improved firepower, protection and mobility compared to existing systems. This will include new medium and heavy trucks to replace Army's existing ageing fleet.*¹⁴

The acquisition of 'hardened' fleets is only a partial solution to addressing the survivability of logistics. CSS personnel must also be trained to predict, prevent and protect themselves against enemy threats within a disaggregated battlespace. Success within this non-linear battlespace relies on well-trained, educated and conditioned officers and soldiers.¹⁵ While doctrine supports well-trained and well-equipped CSS, the reality does not match the theory.

According to the Defence White Paper, force protection and the provision of appropriate equipment for ADF personnel to enable the conduct of difficult and dangerous tasks is the government's highest priority.¹⁶ In 2004, Australian Army officer Colonel Condon returned from a deployment to the Middle East and immediately recommended revising doctrine, training and resource allocation to enhance CSS survivability in complex terrain. He was promptly seconded to Coalition Headquarters in Iraq in a move that appeared to promise progress in the enhancement of CSS survivability.¹⁷ However, some years later, the on-line Combat Service Support Team (CSST) continues to train with first generation body armour used in East Timor and does not possess sufficient armour for all its soldiers. Furthermore, drivers are not issued chest webbing, forcing them to remove their webbing before mounting their vehicles.¹⁸ Combat units, however, all have access to the latest body armour and chest webbing — even for training prior to deployment. The lack of suitable personal equipment to train for operations not only hinders training, but also demonstrates to CSS soldiers that there is a view that they are unlikely to require such equipment. If a cultural shift within CSS units is necessary, simply filling the walls of units with posters proclaiming 'every soldier an expert in close combat' is clearly insufficient. Resources must be allocated to CSS units to enable the development of specific combat skills designed to protect CSS functions.

Contemporary foundation warfighting training for combat service support

Disaggregated battlespaces are not unique to insurgencies; rather, the increased lethality of weapons and the ability to detect targets make a disaggregated battlespace just as likely within conventional operations. The Army *Future Land Operating Concept* reinforces this likelihood, stating that, 'While traditionally these trends were thought to apply only to an irregular enemy, it applies equally to combat between peer competitors and/or conventional forces.'¹⁹ While the ADF acknowledges that logistics will face threats from both insurgencies and in near-peer conflicts, the current training regime does not prepare CSS personnel for combat from either source.

The threat of the disaggregated battlespace is clearly described in Army's keystone doctrine; however, realisation of those training outcomes embedded within foundation warfighting training remains in its infancy. In 2013, only one of the three regular Combat Service Support Battalions (CSSBs) conducted any form of infantry minor tactics, improvised explosive device training or counter-ambush training.²⁰ These elements clearly form part of foundation warfighting which comprises the skills, knowledge and attitudes to successfully conduct the full spectrum of sustained operations, yet were not practised by two of the three CSSBs. It is the execution, frequency and content of training that is under-preparing CSS units for the rigours of modern conflict and thus endangering dependencies' ability to sustain joint land combat.

The Army Training Continuum for CSS personnel focuses on logistics and not survivability, resulting in the belief that a CSS unit's role is largely administrative. This produces a focus on supporting dependencies' training rather than preparing CSS personnel to survive and achieve missions within a highly lethal environment. It is within both individual and collective training that CSS must be prepared to meet threats associated with disaggregated battlespaces. Foundation warfighting is a suitable vehicle for training CSS soldiers; however, the training of these soldiers in specific combat skills must be incorporated within both collective and individual training. Although logistic units primarily support combat units, they do not regularly design or execute training to defeat enemy action against convoys or logistic nodes. Indeed, during a recent 1st Brigade exercise, there were no threat actions against logistic organisations and the Ready Battalion Group's CSST moved unimpeded throughout the area of operations.

The individual training continuums within logistic streams do not provide the skills or expertise required to conduct logistic operations within disaggregated battlespaces. Convoy operations are most commonly associated with transport units; however, recent observed lessons within contemporary operations have highlighted the fact that any logistician may find him/herself involved in defending a convoy or forward operating base. This was clearly demonstrated when the US 26th Brigade Support Battalion created its 'Top Flight' Platoon consisting of fuellers, ammunition handlers, mechanics, welders and medics to provide much-needed security for convoy operations in Iraq.²¹ Having observed US operations in Iraq, Colonel Condon lamented the lack of combat training for ADF logisticians within urban environments.²² Despite this, the ADF has yet to develop a logistics training continuum to meet the threats associated with the disaggregated battlespace.

There is an emerging requirement for CSS soldiers to possess skills usually associated with combat corps. One lesson learnt by our allies in Iraq and Afghanistan was that logistic convoys required heavier weapons such as .50 calibre machine-guns and 40 mm grenade launchers.²³ The British army's Brigadier Hickson, Director of the Royal Logistic Corps, believes that transportation has become 'sexy', with commanders now acquiring links to ISTAR, fast air and other support not previously possessed by logisticians.²⁴ Wood reinforces these sentiments, arguing that personnel conducting CLPs must be trained to the same standard as tank and mechanised scout platoons.²⁵ The US has revolutionised its training for CSS units by integrating convoy defence procedures into its Joint Multinational Readiness Center.²⁶ Somewhat more impressively, US logistic units consistently outperform combat units in motorised fire and manoeuvre exercises.²⁷ If we are to learn from recent Coalition experiences, the ADF must review its logistic training continuum to include selected skills which were previously the domain of combat corps.

CSS convoys are particularly vulnerable and often an attractive target in any level of conflict. The current training for Royal Australian Corps of Transport (RACT) drivers does not address the requirements of the modern battlespace, or prepare for training within a combined arms environment. The Army Initial Employment Training (IET) for RACT drivers allocates a mere 60 minutes to motor transport ambush drills which are assessed by written or oral questioning rather than practical testing.²⁸ While the course does include firing the Steyr and Light Support Weapon from a Unimog cupola, range practices are conducted from the shoulder in a light-skinned vehicle.²⁹ Somewhat more encouragingly, the RACT Subject 4 Corporal Course contains improvised explosive training and convoy planning. This training is embryonic in nature and, although its inclusion is cause for optimism, its needs to be further developed and coupled with collective training serials.

The training of logistic officers is also inadequate to prepare them for employment within a CSS unit operating in a disaggregated battlespace. No logistic officer is exposed to convoy command with trucks, protected vehicles or soldiers during the Logistic Officers' Basic Course. As a result, officers complete their training and are deemed competent in convoy operations having never led a CSS convoy in a threat environment. Logistic officers require training and testing to job standard and, to achieve that job standard, they require vehicles and soldiers to command within a simulated threat environment. This issue can be addressed by the synchronisation of IET courses with logistic officer courses allowing new officers to plan and execute convoys with newly trained IETs and their instructors. This requires the Army School of Transport to provide personnel for logistic officers'

courses — surely not an onerous demand given that such training could save lives. RACT officers will require further training to ensure that they are the experts in convoy operations.

Implications of Plan Beersheba

Plan Beersheba directs the CSSB to provide the combat brigade with the transport capability to move dismounted forces, supplies and equipment where unit mobility is unavailable. In the future, CSSBs will achieve this through the use of both L121 vehicles and the protected mobility vehicle (PMV). The PMV is currently used by 1 CSSB to provide protected mobility to dependencies within the combat brigade, and 3 and 7 CSSB are also establishing a similar capability. The integration of these very capable vehicles within the CSSBs to conduct personnel lift represents a leap forward in the delivery of transport support within the ADF. These vehicles are much more than 'just a truck' and represent a very capable platform for the delivery of essential support.

While these highly capable vehicles, coupled with well-trained and equipped CSS soldiers and commanders, will enhance the survivability of CSS, they will not change the role or mission of CSS units. The use of PMVs during contemporary operations and within combat units such as 6 RAR and B 3/4 Squadron has led some manoeuvre commanders to believe that the PMV is a suitable alternative to armoured fighting vehicles (AFVs). While the vehicle is well protected from ground blast, it does not have protection, firepower or mobility commensurate with that of the modern AFV. To use the CSSB PMVs in a similar role to AFVs in conventional operations against a near-peer adversary would probably lead to ADF casualties. However, the vehicle does provide CSS with enhanced survivability and the ability to project CSS into medium to high-threat environments where contact with the enemy is either unlikely or not immediately imminent.

In order to equip CSS officers and soldiers to employ these new vehicles in a threat environment, there must be graduated training that encompasses weapons, command and control, communications and defensive tactics. These skills are vital to ensuring CSS can survive on the modern battlefield and support dependency manoeuvre. The challenge is to establish a culture of trust between combat commanders and CSS commanders. While CSS units must develop their skills, the supported combat commander must trust the CSS commander to provide protected mobility and other CSS as far forward as assembly areas.

Historically, manoeuvre commanders have been responsible for commanding any response to enemy action when embarked in soft-skin vehicles. This is no longer practical if there are no escorts allocated to protected mobility convoy operations. Manoeuvre commanders must accept that the transport convoy commander is best placed and equipped to command any initial response to interdiction while mobile. This requires the manoeuvre commander to relinquish a degree of tactical control when embarked. Doctrine, SOPs and habitual training relationships must be developed to ensure that, if required, command of the response can transition to the manoeuvre commander, once his force is adequately positioned to conduct a handover. This trust must be earned through CSS demonstrating competence and tactical acumen during raise, train and sustain activities.

Unfortunately, the realisation of a CSS capability able to meet the demands of a disaggregated battlespace is being hampered by manning and resource constraints. This is most clearly demonstrated by the failure to consider gunners or co-drivers essential to the operation of the vehicles within 1 CSSB. The 1st Brigade Plan Beersheba unit entitlement does not include PMV co-drivers or crew commanders within the CSSB, despite the fact that the vehicles have weapon systems, battlefield management systems and communications. This ignores operational lessons, as there will be no soldier manning the weapon station when troops are not embarked. In addition, the embarked troops will be required to man the weapon station and may not have the required expertise or close working relationship with the PMV section commander. It seems that the lessons learnt are being largely ignored so as to reduce training burdens and to remain within directed personnel caps. The establishment of positions for co-drivers within the CSSB unit entitlements is critical to the CSSB creating and maintaining a credible capability within the combat brigade.

Recommendations for preparing logistic soldiers for the disaggregated battlespace

The ADF must ensure that CSS can survive within a disaggregated battlespace in order to sustain combat units. Training to predict, prevent and protect CSS must be taught throughout all career development schools and culminate during collective training events. The training of logistic soldiers and officers in foundation warfighting activities must include area and convoy protection. This need was highlighted in Iraq when logisticians unilaterally conducted convoy support and base defence because combat units had other priorities.³⁰ Most CSS units use

infantry minor tactics as the primary vehicle for training soldiers in close combat. This training focuses on soldiers conducting infantry training and does not fully prepare CSS officers and soldiers for combat from vehicles or supply bases. Close combat training for CSS units must focus on their own fight, not that of their dependency.

The logistic training continuum must progress through individual and collective training, culminating in force preparation. The optimum outcome is to produce logistic force elements that can successfully conduct operations in disaggregated battlespaces. A modulated logistic individual training continuum with an increased focus on defending logistic nodes and convoys offered during career development courses would also be of immense value. Collective training serials must result in logistic capabilities that can survive within complex terrain against a near-peer enemy. As such, foundation warfighting is the most appropriate training environment for logistic units. In order to realise consistent change it is also essential that CSSBs have common collective mission essential task lists linked to the force generation cycle.

The appropriate training and equipping of logistic units will only occur in the ADF if the ability of combat units to conduct operations remains unconstrained by a lack of mobility, supplies or distribution. Army's principal role is the organising, training and equipping of forces for operations and contingencies.³¹ If logistic corps are to be prepared for these operations and contingencies, they must be trained to fight while conducting logistic functions. This training needs to be focused and incremental, culminating in combined arms foundation warfighting activities in which logistic lines of communications are regularly interdicted within complex terrain. Successful interdiction serials must result in a failure to deliver the combat unit's supplies. This will provide a clear and concrete demonstration to combat units and commanders of the importance of providing effective training, equipment and protection to logistic functions. This realisation is the only way perceptions of logistics, and consequently resource allocations, will change.

Conclusion

Clearly the ADF will continue to encounter a disaggregated battlespace whether it is conducting peacekeeping operations or conventional warfighting. Belligerents will continue to seek high pay-off targets that are considered softer than combat units. If logistics can be successfully targeted then dependencies will be denied freedom of manoeuvre, potentially resulting in mission failure. These attacks must be defeated through command and control, protection and firepower. This requires training and resources not yet evident in ADF logistic units.

The lessons from Iraq and Afghanistan are already being forgotten as the ADF builds future force structures in which vehicles are not crewed or equipped appropriately. If it is to learn from its coalition partners, the ADF requires a paradigm change in the way it trains and equips its CSS. All CSS soldiers must be able to fight from their vehicles and defend logistic nodes against attack. If we choose to continue to ignore lessons and do not develop our training and procedures, the next conflict will result in more loss of life and mission-essential supplies as we relearn the same logistic lessons.

The ADF has indentified the need to train soldiers to contend with a disaggregated battlespace, yet still does not train logistic soldiers in the requisite skills. Such a training regime must include individual and collective training that equips soldiers with the ability to fight from their work areas whether it be a Q Store or a convoy. The change is cultural and has begun with the allocation of armoured and enabled vehicles. Alterations in perception and expectation are also required by both CSS and combat units. The risk now is that training and resources will not follow and that a true capability will not be realised. Close combat training for CSS units must focus on their fight, not that of their dependency. ■

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MODERN BATTLEFIELD

Raising a Female-centric Infantry Battalion: Do We Have the Nerve?

Lieutenant Colonel Luke Carroll

ABSTRACT

Army's incremental approach to the ingress of women into combat roles is arguably incompatible with its objective of achieving increased operational capability. This approach will also take too long to make a meaningful contribution to operational capability. This article argues that Army should consider altering its current approach by raising a predominantly female infantry battalion instead of relying on an incremental model. This would deliver a more tangible capability in a shorter time-frame while also expanding and accelerating experiential opportunities for female combat soldiers to contribute to the Army of the future.

If nations rise because they have a better gender balance, if organisations prosper because of that, then Army must be a better Army if we make our women more prominent, give them greater opportunity and encourage their involvement across our organisation. It makes perfect sense to this male.

Lieutenant General David Morrison, AO, Chief of Army, 2012¹

The culture and structure of military organizations, their policies of recruitment, training, education, materiel procurement, doctrine writing, and deployments, all need to be carefully studied and potentially reconsidered. This involves the traditional 'truths' about the nature of unit cohesion and the optimal capabilities of individual soldiers and officers. The issue of women in combat should not be approached through the lens of damage control, but rather with an emphasis on maximizing the effectiveness of military organizations in the contemporary context.

Robert Egnell, 2013²

Introduction

With the removal of combat employment restrictions for female soldiers, the Australian Army stands at a watershed, its practices now changing to accord with contemporary expectations and requirements. The complexity inherent in this transition is obvious in both the lengthy domestic and international debate on the employment of women in combat roles, and by government confirmation that implementation of the Australian response will occur over a five-year period.³ Australia's approach has been informed by a range of organisational imperatives including the development of operational capability, sustainable human resourcing, and the implementation of the 2012 Pathway to Change strategy.⁴ Thus, the Australian Army is currently proceeding with an implementation plan for progressively integrating women into its combat arms.

In the spirit of disruptive thinking, this article questions the nature of the Australian Army's incremental approach to the integration of female combatants. The query concerns not the fact that women may be employed in infantry or the other combat arms, but rather whether Army should be expanding its consideration of how that might occur. The article makes the assumption that the raising of a female-centric Australian infantry battalion is sufficiently credible to warrant debate and is not so far-fetched or audacious as to be dismissed out of hand. It also does not eschew the potential validity of other combat arms units as alternative or better test beds. However, largely for the sake of brevity, that idea is left for others to develop.

This article argues that the Australian Army should consider raising a gender-integrated, but predominantly female infantry battalion as a means of delivering a more tangible and far-reaching capability than is likely under the current incremental model. The article has four components. First, it briefly examines modern historical examples of female combat experience that are broadly germane to the proposal. Second, it examines the context of Army's current situation and the rationale for raising a predominantly female unit. Third, it considers possible employment options for such a unit and some of the opportunities that it could create. Finally, the article considers and comments on the vulnerabilities of the proposal.

Historical examples

There is no shortage of evidence of female participation in combat roles, both as individuals and as members of integrated or discretely female units. There is also a substantial body of literature opposing their employment.⁵ In 2001 one of the more strident opponents of women in combat roles, Martin Van Creveld, argued that historically, female combatants have been proportionately small in number and their contributions operationally insignificant.⁶ This view is generally accurate if raw proportion in the fight is the only consideration; however it is immaterial in relation to debate over their actual presence. It is also a view that is arguably becoming defunct in the context of more recent events and decisions. Whether in disguise as men, as members of warlike tribes, as partisans or insurgents, or conventionally in either integrated or discretely female units, women have long been apparent as combatants.

Nineteenth-century cases

As many as 400 women are rumoured to have disguised their gender and fought on both sides during the American Civil War, many enlisting and fighting alongside (or even against) their husbands.⁷ Confederate soldier Laura Williams personally raised and led a company in the 5th Texas Volunteers, participated in several actions, was wounded, captured and, while a prisoner, disavowed the attempts of her husband (a Union officer) to have her renounce the Confederacy.⁸ In the late nineteenth century, the French fought two campaigns against the West African kingdom of Dahomey which maintained a rigorously trained and disciplined regiment of female warriors, constituting approximately one-third of the kingdom's army.⁹ These women 'underwent intense physical training accompanied by education in their traditions, use of weapons, gymnastics, and all they needed to know to be outstanding warriors.'¹⁰ Nevertheless, Anthony King describes aspects

of the Dahomey which may limit their efficacy as an example for contemporary purposes.¹¹ However, the members of this regiment were reputed to have been superior in skill and bravery to their male counterparts and were described by the French troops who ultimately defeated them as having fought with remarkable courage and ferocity.¹² Woodfork further emphasises that, considering the outdated weapons with which they fought, Dahomian forces inflicted considerable casualties on a modern French army.¹³

The World Wars

During the First World War, Russian women initially fought in much the same (disguised) way as American women during the Civil War. Following the abdication of the Tsar, the Provisional Government raised a number of female infantry units, largely as an exercise designed to lift the flagging spirits of front-line male troops and to inspire (or shame) them into continuing the fight against the Germans.¹⁴ The 1st Russian Women's 'Battalion of Death' fought creditably at Smorgon on 9 July 1917, although ultimately this and the other female units were disbanded.¹⁵

The Second World War marked something of a turning point, with much larger numbers of women becoming involved in combat. While not necessarily in extensive 'close' combat, many nonetheless fought, killed and died in the same way as their male counterparts. As early as 1938, investigations were initiated in the United Kingdom which, by September 1943, led to over 56,000 women serving in mixed gender anti-aircraft units in which women outnumbered men.¹⁶ At the time, these steps were viewed as 'breath-taking and revolutionary', and were also operationally significant in releasing corresponding numbers of men for overseas service.¹⁷ Similarly, by the end of the war, Germany had between 65,000 and 100,000 women serving in Luftwaffe anti-aircraft units.¹⁸ The US also raised mixed gender anti-aircraft units as an experimental activity which, before being shelved for politico-operational reasons, proved that these units were superior in performance to male-only units.¹⁹ The Russians trained women as infantry combat commanders and experimented with female units up to formation level.²⁰ From 1943, a Polish female infantry battalion saw action with the Red Army,²¹ and Soviet women were also active and effective as snipers,²² machine-gunners, aircrew in three dedicated female Red Air Force regiments, in anti-aircraft units and as partisans.²³ In the latter role, women in Italy, Yugoslavia, France and elsewhere also fought in large numbers.²⁴ The most widely known (and highly decorated) Australian female combatant of the war was Nancy Wake, initially a courier in the French Resistance and later a Special Operations Executive officer in occupied France.²⁵

Contemporary ‘reinforcement’ of recent history

Contemporary deployments have seen female Australian soldiers feature in a broader array of conventional roles than in the past. Notwithstanding the obvious differences of scale, this experience is compatible with US and other forces. Burrelli writes that, in approximately ten years of combat operations in Iraq and Afghanistan, over 238,000 female US military personnel have been ‘deployed’ at a cost of over 130 fatalities and more than 800 wounded. Many women have been decorated for heroism.²⁶ So it is that both recent historical and more contemporary examples demonstrate that female soldiers have and can fight, regardless of prevailing culture, circumstance or restrictions. Given the ‘changing character of war, women are already “in combat”’ and, in the past, where the ‘necessity’ arose, they have fought independently or alongside men.²⁷ British Second World War integrated anti-aircraft batteries were particularly effective. That they were initially regarded as ‘breathtaking and revolutionary’ by the decision-makers of their time is worthy of contemplation as the Australian Army considers the way forward.

Context leading to an individualised response

In 2011 and 2012 the Australian Defence Organisation conducted a series of cultural reviews as a result of the so-called ‘Skype Incident’ at the Australian Defence Force Academy.²⁸ These reviews were announced by the then Minister for Defence in a media release which also heralded ‘the opening up of all roles in the ADF to women, including combat roles, on the basis that determination for suitability for roles in the ADF is to be based on physical and intellectual ability, not gender.’²⁹ The reviews constituted an enormous body of work, delivered 130 recommendations and led to a consolidated response from Defence in the form of the Pathway to Change strategy (released on 7 March 2012) and the ‘Implementation Plan for the Removal of Gender Restrictions on Australian Defence Force Combat Role Employment Categories’ (released on 11 October 2012).³⁰

The corresponding Army implementation plan was released on 23 July 2012 and is underwritten by the introduction of new Physical Employment Standards based on common trade tasks performed by all soldiers and officers regardless of their age or gender.³¹ As a result, the plan focuses at the individual level and ultimately rests on a dictum of gender-neutral requirements which are designed to maintain standards, ensure safety and to prevent the degradation of combat readiness.³² This is a logical approach in the sense of Army’s need to achieve a directed outcome in a specified time-frame, but it is also potentially indicative of

what Egnell infers when he cautions against female combat employment being viewed through a lens of 'damage control'.³³ Cloutier argues for example, that the adoption of gender-neutral physical requirements will effectively keep women out of combat positions whereas entirely female platoons could be designed around women's strengths.³⁴ The counter-argument to the standards approach is thus that there could plausibly be very little change to the status quo if the standards simply become the new barrier. Should this be the case, it seems reasonable to surmise that the effect or outcome of the planned Australian approach will probably approximate what the Canadian Army has implemented to date (noting that the Canadians have been 'fully integrated in all occupations and roles for over 20 years') — 2.4% of Canadian combat arms soldiers are female.³⁵ The Canadians are justifiably proud of the grit, professionalism and achievements of their servicewomen, including those occupying infantry command positions at platoon and company level in Afghanistan. While acknowledging laudable individual achievements, is it possible for the Australian Army to build on rather than mirror the Canadian lead?

Why consider a unit rather than an individual focus?

Sir Basil Liddell Hart once remarked that 'the principles of war could, for brevity, be condensed into a single word: concentration.'³⁶ Ultimately, success in battle depends on achieving sufficient concentration of effort at a decisive point. It is somewhat telling that the Review into the Treatment of Women in the Australian Defence Force Phase 2 Report (the Broderick Review) identifies the need for a critical mass of women in mixed gender teams.³⁷ The accompanying Community Guide also points out that 'ADF women strongly believe that when they are singled out, it makes it harder for them to fit in.'³⁸ Broderick is at pains to emphasise the need for critical mass in the viable employment of women in combat roles, and recommends that policy planners 'Focus on one combat unit/work section/platoon/company in each Service where effective performance in mixed gender environments has been achieved.'³⁹ However the report does not consider whether this could be achieved (or assisted) by the establishment of a predominantly female Army unit (or units) rather than replicating and hopefully enhancing those areas of Army in which women are already professionally established. The absence of discussion about female-centric combat units in recent history and their potential viability is little short of extraordinary.

This is problematic because the feedback received in the course of the Review and an examination of 'comparable' militaries described as part of the report, envisage that few women are likely or expected to seek combat employment.

The contradiction in accepting this as a *fait accompli* is that small-scale representation is arguably at odds with the nub of the entire reform initiative, which is increased capability. The approach adopted by Army might therefore be considered too dispersed, too small and at odds with the scale of the necessary outcome. It also risks perpetuating a key limitation which Broderick earnestly believes must be avoided — a reliance on ‘trailblazing’ individuals making their way (in what are anticipated to be small numbers) through a major cultural change.⁴⁰ The missing questions are: why would individual women continue to do this? Why would the organisation continue to make it the only way for them to try? If Army’s ultimate goal is a combination of capability generation, operational excellence and equal opportunity for an exciting and equitable career, why would we not look closely at ways to potentially accelerate this and broaden the experience of those involved? There are some diverse contemporary examples and imperatives which should encourage us to consider doing so.

Israel’s Caracal Battalion

The first example is the Israeli Defence Force’s (IDF) predominantly female operational infantry battalion known as the Caracal Battalion — the existence of which appears to have escaped Defence despite the broad sweep of the recent cultural reviews.⁴¹ This unit was formed in 2000, has reportedly varied between 60 and 90% female and performs a light infantry function in a border region under the IDF Southern Command.⁴² Observing IDF integration of female combatants, Cawkill, Rogers, Knight and Spear describe a command-level acknowledgment that women ‘often exhibit superior skills in areas such as discipline and motivation, maintaining alertness, shooting abilities, managing tasks in an organized manner and displaying knowledge and professionalism in the use of weapons.’ Notably, at a broader level, they also mention continued (male) attitudinal issues, ‘negative messages from high ranking officers’ and a recognition (as is also strongly emphasised by Broderick) that the attitude of individual commanders is key to success.⁴³ Of further note, the period of service for IDF conscripts is three years for males and two for females but (demonstrative of a higher level of commitment in its members) the Caracal Battalion is an exception to this as its female members are also required to serve for three years.⁴⁴ Finally, while referring to a single incident, media reporting of the 2012 battlefield gallantry of a female Caracal Battalion NCO also offers insight into the competence of the battalion’s junior leadership⁴⁵ and the level of political acknowledgement resulting from ‘success’.⁴⁶

Limitations and their riposte

Like most comparable armies, the Australian Army is a volunteer force which does not draw from a conscript pool. Thus, an Australian equivalent of the Caracal Battalion could be perceived as vulnerable to personnel sustainability issues, both in generating and sustaining numbers. However Australia also has a much larger population and a much smaller army than Israel. This implies that, as a minimum, Army should research the Caracal Battalion and should also test whether prospective female infantry soldiers, their families, and the broader community would regard the opportunity for women to serve in integrated, but female-centric infantry unit(s) as more appealing than 'trailblazing' service in male-centric units.⁴⁷ Subject to the results of such research, Army should trial a number of models including a single year enlistment period for women in a female-centric combat unit in the Army.⁴⁸ A second option involves lessons from the former Ready Reserve Scheme of the 1990s in which infantry battalions progressively trained rifle companies in a single year and then transitioned them to the Army Reserve.⁴⁹ A third opportunity could utilise the extensive experience and expertise Army has acquired in training and mentoring Iraqi and Afghan units from a low capability base. There is no doubt that Army has the ability to focus effort on a primarily female combat unit and to train such a unit to perform well in a combat role.

How past ideas might fuel the future

Of these possibilities, Army's experience with the Ready Reserve Scheme is potentially the most instructive. This scheme was introduced in 1992 and was designed to increase the depth of available trained units and personnel in an emergency and to improve ADF capability to respond to emergencies at short notice.⁵⁰ The scheme was highly attractive to women, a significant number of whom were reported to have been 'of an exceptionally high standard'.⁵¹ Yet, because of the employment restrictions in place at the time, a 'large number' had to be turned away. The Ready Reserve Scheme delivered infantry (and other) soldiers to the Army in a very short time-frame. They were trained to a Regular Army standard and then transitioned to the Reserve, where they completed 50 days' service over each of the following four years.⁵² The scheme was regarded as a cheap means of generating capability — a notion intrinsically attractive to Army and also to government in terms of current fiscal pressures.⁵³ Grey observed that the scheme 'drew heavily on those intending to enter tertiary education [80% of those in the Army component], an educated pool of recruits not normally attracted to full-time military service.'⁵⁴ Moreover, in terms of capability, Grey identified that:

*The focus within the Army component of the scheme upon infantry battalions provided precisely the capability that the Army has drawn on so heavily in East Timor and which the Ready Reserve Scheme could have supplemented with relatively little effort.*⁵⁵

At an individual level, a former infantry battalion commander of Ready Reserve soldiers recently reflected that:

*... cohesion was not their only strength. They were remarkably motivated and resilient ... with extraordinary levels of initiative. Especially at section level, they showed an ability to adapt and problem solve that I never saw in any other unit. The level of education must have played a part but I also suspect the upfront nature of their training and cohort system helped meld the most dynamic group of infantrymen I've ever seen. To my mind it was a model that should have been embedded in the Army a long time ago ... [it was] an approach that was the most effective training system we have ever had and one adapted to the new social environment in which we live.*⁵⁶

This narrative is not intended as an argument for the resurrection of the Ready Reserve, but rather as an indication that the Australian Army has previously been very creative when challenged to innovate with its infantry and to build a fresh capability which, in this case, also strengthened the Reserve. However, the relevance of the Ready Reserve to the case for female-centric units lies in emergent organisational recognition of a growing demand for increased workforce and operational flexibility. Indeed in 2013 the ADF launched Project Suakin, designed to enhance the employment elasticity of the entire force.⁵⁷ Earlier in 2013, the then Prime Minister and Minister for Defence also announced Plan Beersheba, a restructuring of the Australian Army in which the 1st, 3rd and 7th Brigades will have fundamentally common combined arms team structures and the 2nd Division will support these brigades, providing additional capacity from the Reserve.⁵⁸ Combined with the requirements of Pathway to Change, the 'drawdown' from Afghanistan and residual commitments, the Army operating environment remains both complex and extremely busy. Under such circumstances the urge to maintain a set course is compelling. But there are potential long-term benefits in reconsidering the principles and recommendations of the Broderick Review, carefully assessing the implications of Project Suakin and Plan Beersheba and potentially marrying them with other successes to provide Army more opportunities than offered by an incremental approach to the ingress of women into combat roles.⁵⁹ Army must examine alternatives as the delay and scale implicit in its current approach may eventually undermine rather than preserve the 'strong combat culture' referred to by the Chief of Army as vital to success.⁶⁰

Employment and opportunities

*The role of Infantry is 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.*⁶¹

'Conventional' thoughts

In its mature state, a primarily female battalion could have many roles in addition to that traditionally considered core for the infantry. The key challenge lies in ascertaining its potential and testing ideas and the synchronisation of their possible outcomes. Role definition may therefore be expected to evolve over time. Could such a unit be a permanent fixture on the order of battle, just an otherwise 'standard' battalion within one of the Plan Beersheba Multirole Combat Brigades which simply happened to have more women in it than men? Or on the other hand, once trained, could its sub-units be distributed between the brigades, giving each one a slice of an alternative capability comparable to the Female Engagement Teams used in Afghanistan, but with the innate capacity to fight beyond self-protection? Could it perform a designated opposing force function, in which differences of approach that may arise through gender might be valued and encouraged, to harden or diversify the test for those being assessed? Alternatively, might this be simply a time and function-limited unit, more strategically designed to assist the rapid generation of larger numbers of female combat soldiers who (ideally remaining in Army past their initial period of service) would then move out into other units (both Regular and Reserve) in formed drafts not unlike the Ready Reserve concept?⁶² This need not be restricted to infantry, as members of the battalion who have completed an 'infantry year' might take this experience to other corps, thereby broadening the footprint of female combat arms experience throughout Army. This would in turn more meaningfully operationalise the foremost of Army's espoused nine core behaviours under the 'I'm an Australian Soldier Initiative' — that 'Every Soldier (is) an Expert in Close Combat'.⁶³ Regardless, the chosen role(s) of the unit would be a major factor in its marketing to young women (and for that matter, men). This is a concept that would attract immediate attention and that, if successfully implemented, would provide Army long-term capability-based benefit.

Further opportunities

Alternatively, such a battalion could form the nucleus of a permanent Australian United Nations (UN) battalion which could be routinely committed to UN operations. If not an entirely Australian battalion, it could form part of a UN battalion populated

by a collective of contributing nations. Given the presence of Norwegian female infantry in the United Nations Interim Forces in Lebanon from 1978–98⁶⁴ or the call by former UN Secretary-General Boutros Boutros-Ghali as long ago as 1995 for a target of 50% women in UN field missions, this concept appears far from being as ‘breathtaking and revolutionary’ as the British WW2 antiaircraft batteries were once perceived.⁶⁵ According to the recently issued United Nations Infantry Battalion Manual:

*To enhance the role played by women in the maintenance of international peace and security, the UN Security Council has, to date, adopted four specific resolutions on women, peace and security: resolution 1325 (2000), resolution 1820 (2008), resolution 1888 (2009), resolution 1889 (2009) and resolution 1960. These mandates require that peacekeeping missions boost women’s participation in post-conflict decision-making processes, prevent sexual violence, protect individuals, including women and girls, increase the presence of female peacekeeping personnel, and systematically train all peacekeepers to address gender issues in their work.*⁶⁶

While UN operations are not a determinant of Australian Army force structure, the new UN doctrine displays an applicable generic battalion structure. The manual also contains numerous references to the importance of female involvement in achieving mission success, both in terms of outreach and engagement with the local population and increased involvement of female military personnel. While the manual indicates that ‘Deployment of women as part of the battalion is particularly essential, for example, in areas affected by mass displacement, abductions, and conflict-related sexual violence’,⁶⁷ imagine the gravitas of Australia’s offering up, or contributing in part, to a predominantly female infantry unit. Not without its risks and limitations, this would nonetheless comprise a unique and powerful statement. It could provide intense focus for concept development, and as a concept it is not without potential strategic significance vis-à-vis Australia’s current membership of the UN Security Council.

A variation of this concept is the use of female-dominant combat teams (or smaller attachments) to augment male-centric infantry units in operational, cultural or environmental circumstances that mitigate against the use of a predominantly female unit. The principle remains the same: the more female combat soldiers we can generate in the shortest period of time, the greater our flexibility, the deeper our selection pool and, in turn, the more potent our capability in the future. The potential of a dedicated unit to create a cadre for increased female

participation cannot be overemphasised. The same principle applies to longer term potential for ultimately growing Special Forces (SF) candidates as women are far more likely to join SF if there is a centre of gravity from which they can start.

Other opportunities may also arise as a result of concentrating effort which may be less likely to emerge from a dispersed, smaller scale approach. Rather than focusing on barriers which essentially only *permit* the ingress of women, this mindset could be broadened to *encourage* them, with commensurate capability benefits for the whole force.⁶⁸ For example, this could create the impetus for technology responses to overcoming upper body limitations in female (and male) combat arms candidates.⁶⁹ Such technology would be equally beneficial for infantry soldiers regardless of their gender. Individual Load Carrying Equipment, for instance, could use lighter and tougher material, thus reducing the physical impact on and energy use by both male and female soldiers. If this principle were extended to weapons and other equipment, the effect could cascade to other corps. The overall result could be an increase in the pool of eligible personnel, improvement in performance and potentially a reduction in training injuries, leading to reduced costs, decreased personnel wastage and smaller overall recruiting liabilities. If we are only thinking of female infantry soldiers as women who can match infantrymen as they are now, we are limiting ourselves to the present when our capability design needs to include the future.

Vulnerabilities and mitigation

There will be no shortage of volunteers to identify vulnerabilities in a proposal such as this. This article will therefore briefly examine just three of these 'issues': that women will be unable to meet the physical demands of infantry service; that there is no operational 'burning platform'; and that military culture will conspire to prevent the rise of female combat arms soldiers.

Physical demands

King identifies 'female accession to the infantry' (which he describes as 'the most demanding military occupation') as the most complex barrier confronting the successful integration of women into the combat arms.⁷⁰ He considers however, that past focus on masculinity has been diminished as a source of cohesion by the move away from mass citizen (conscript) armies to all-volunteer, professional forces in which collective performance relies more on training and professional competence than personal characteristics. On this basis, he believes that a very

small minority of physically capable women could be incorporated into the infantry if they are judged on their performance not their gender. This essentially reflects the standards argument once again and, importantly, it signals the likely outcome for our Army (already mirrored in Canada) if no alternative vision is offered.

Observing a 1980s West Point physical fitness test in which only 23% of females passed, King also believes there is little evidence that physical disparities between average men and women have 'changed significantly in the past three decades'.⁷¹ Haring, on the other hand, contends that a percentage of women are just as physically capable as men and describes more recent West Point data (from 2011) showing that 52% of females passed at the male standard.⁷² Wojack observes dramatic advances in female athletic achievements towards the end of the twentieth century which he believes show a 'true picture of women's athletic potential'. For example, in the 30 years that the men's world record for the marathon went from 2:09 to 2:05 (a 3% improvement) the women's record improved from 3:01 to 2:18 (an almost 24% improvement). The pole vault was closed to women until 1992 because 'authorities considered women either to be too weak or the event too dangerous'; yet, between 1992 and 2002 the female record improved by 16% as opposed to .04% for the male record.⁷³ Egnell questions why physical standards are treated as 'sacrosanct' and suggests that:

*... it is, therefore, time to discuss not only what success means in contemporary operations, but also what successful units look like, how they are trained, what unit culture they possess, and what their cohesion is based on. At the individual level, it is also time to question traditional standards – cognitive or physical – and examine what soldiers and officers need to succeed on the "battlefield", or what is probably better described as the complex field of deployment.*⁷⁴

No 'burning platform'?

Some may say there is no 'burning platform', no operational or social necessity (such as those faced by the Dahomey, the Soviets or currently by the Israelis) to warrant consideration of a female-centric battalion. Yet the Dahomey capability evolved over a lengthy period, the Soviet capability arose through crisis, and the Caracal Battalion probably had politico-legal rather than operational origins⁷⁵ but continues to evolve nonetheless.⁷⁶ The point is that the notion of a 'burning platform' is nuanced. If anything, such a view fails to recognise that we are already on the platform in the shape of the Pathway to Change strategy, the ADF Implementation Plan for the Removal of Gender Restrictions, Project Suakin

and Plan Beersheba. The platform is the recognition that an all-volunteer force needs access to the largest possible talent pool in order to meet the vision of the Implementation Plan, which is ‘... ultimately about ADF capability (and) attracting capable people from a broader proportion of the Defence and Australian community.’⁷⁷ The only issue is whether concentration is a better way of achieving this than a method that seems destined to result in a trickle flow. Tucker observes that ‘... no insight into the nature of World War II can be complete without coming to terms with this fact: the victors of the war were those countries that most successfully mobilized their women.’⁷⁸ We should not need the ‘platform’ to combust beneath us as a precondition to improving our methods or extending our vision.

Culture as an obstacle

Cultural vulnerability is probably the most acute argument against the concept of a female-centric battalion, although this is more an issue of implementation. The Broderick Review argues that:

Driving cultural and structural reform of the scale intended by the Review’s recommendations carries inherent risks. Some people will embrace the changes and see merit in the arguments and strategies. Others will not. There will be strong resistance to some measures, such as targets, which could result in a backlash against women. Women’s place within the ADF may be called into doubt. They may be ‘accused’ of attracting special treatment. Their merit may be questioned. Their contribution may be undermined. Behaviours of exclusion or harassment may intensify and these behaviours may come from both men and women.’⁷⁹

It remains instructive to reflect on the Soviet example as an insight into the power of culture. Cottam describes Soviet women as having a qualitative impact on morale which was out of all proportion to their numbers. They increasingly established themselves in non-traditional roles, they fought, and they assumed command. The result was that mixed-gender teams worked harmoniously and all-female groups developed team spirit previously only associated with comradeship among men. Yet after the war, the belief that women should only serve in time of crisis reasserted itself.⁸⁰ Similarly, while women in the IDF reportedly constitute over 50% of officers, there are indications that they are still under-represented at higher ranks and that (male) attitudinal issues and the example of high-ranking officers are a pervasive negative influence.⁸¹ The Australian Army is itself no stranger to gender prejudices although, in a now-famous YouTube address to the Australian Army, the Chief of Army has made his position on the importance of female soldiers and

his expectations of their male colleagues unmistakably clear.⁸² This emphasises the extent to which the cultural risk identified by Broderick applies and perhaps foreshadows just how distant our horizon actually needs to be. Once again, Egnell offers useful advice in this respect:

*Integrating women with the aim of minimizing damage to the existing structure and culture of the organisation provides a negative starting point for these processes. Instead, the introduction of women in combat units – or the implementation of a gendered perspective in military organizations – should be seen as an opportunity to revise the culture and structure of the armed forces for increased effectiveness in contemporary warfare.*⁸³

Conclusion

The recommendations of the Broderick Review, the Pathway to Change strategy, organisational employment-offer imperatives under Project Suakin, and our envisaged post-Middle East operational stance under Plan Beersheba all combine to suggest that we face a compelling need to change. This article has argued that Army's current plan may be too narrow and is unlikely to deliver a result on the scale required. It contends that the plan should seek to look beyond reflecting the Van Creveld view of operational insignificance. If this does not occur, the outcome will be incompatible with the stated goal of increased capability. The lack of debate over reversing the approach of sending small numbers of women into combat units is telling and the alternative — the formation of a predominantly female unit — appears to have been largely ignored. The fundamental imperative for this is to concentrate effort in order to build a critical mass and infuse it through the whole force in a manner which is more attuned to the ADF's long-term interests and to Broderick's goals. With an eye on Liddell Hart's logic, concentration has an appealing allure.

Ironically, even if Army were unable to generate sufficient numbers of women to sustain a female-centric battalion (or another alternative combat arms unit), it will be arguably no worse off for trying because the current plan of 'those who pass' is premised on the hope of acquiring just those extraordinary few. That is not an increase in capability. The real vulnerability, the strategic loss, is to accept such a position as being inviolate without even testing it. The challenge before Army is therefore to risk that test, if necessary piloting it on a smaller scale, and even possibly in partnership with allies — but it must possess a vision larger than a handful of brave individuals. So can we be bolder, generative and cut to the chase?

Do we have the courage, initiative, respect and teamwork to even talk about raising a primarily female infantry battalion? As long ago as 1928 Hughes observed:

We have handicapped ourselves by numerous man-made technical definitions of such things as Combat Zone. . . . Some of us conclude that women have no place in the Theater of Operations, others that women have no place in the combat zone. We fail to consider that the next war is never the last one. We forget, for example, that what was the Combat Zone during the World War may be something else during the next war. We use technical terms that are susceptible to individual interpretation, and that change with the art of war, to express the idea that women should not participate here, there, or yonder. We are further handicapped by man-made barriers of custom, prejudice and politics, and fail to appreciate how rapidly and thoroughly these barriers are being demolished.⁸⁴

And, to allow the Broderick Report the last word:

Meaningful change is never easy – it takes courage to set aside the status quo. When that status quo, however, perpetuates marginalisation and loss of personnel, when it threatens the future capacity of the organisation, new and innovative ways of thinking must be embraced.⁸⁵ ■

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ENDNOTES

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- 7 'Women in combat? Been there, done that' at: http://www.catholic.org/national/national_story.php?id=49944 accessed 2 March 2013; 'The women who fought as men: Rare American Civil War pictures show how females disguised themselves so they could go into battle', at: <http://www.dailymail.co.uk/news/article-2285841/The-women-fought-men-Rare-Civil-War-pictures-female-soldiers-dressed-males-fight.html> accessed 14 April 2013. Skaine indicates that exact numbers are unknown but identifies individual cases in *Women in Combat – A Reference Handbook*, ABC-CLIO, Santa Barbara, 2011, pp. 20–21. Frank argues that scholars have documented hundreds of cases but the difficulty of accurate calculation arises from their gender only being revealed when they are killed or wounded. See L. Frank, 'Women and the American Civil War' in Bernard A. Cook (ed), *Women and war: a historical encyclopedia from antiquity to the present*, ABC-CLIO, Santa Barbara, California, 2006, p. 116.
- 8 Frank, 'Women and the American Civil War'.

- 9 Reports of these troops date from as early as 1725. The regiment reached its peak around 1850. See E. Abbott, *A History of Celibacy*, Lutterworth Press, Cambridge, 2001, pp. 238–39; Woodfork, 'Dahomey, Women Warriors' in Cook, *Women and war*, p. 141, advises that the female regiment ranged in strength from 4000–5000 although some estimates went higher.
- 10 Woodfork, 'Dahomey, Women Warriors', p. 143.
- 11 These include their physical resemblance to men, celibacy, and the existence of exceptional political circumstances. See A. King, *The Combat Soldier – Infantry Tactics and Cohesion in the Twentieth and Twenty-First Centuries*, Oxford University Press, Oxford, 2013, p. 378; A. King, 'The Female Soldier', *Parameters*, Vol. 43, No. 2, Summer 2013, p. 24. On the 'political' dimension however, Woodfork (p. 141) argues that, while Fon (Dahomey's dominant ethnic group) society was male dominated, some arenas gave women '... a surprising amount of power. In all aspects of the national government and military, there were parallel positions for men and women.'
- 12 M. Dash, 'Dahomey's Women Warriors', 2011, at: <http://blogs.smithsonianmag.com/history/2011/09/dahomeys-women-warriors/> accessed 7 December 2013 and 16 January 2014.
- 13 Woodfork, 'Dahomey, Women Warriors', p. 143.
- 14 J. Mathers, 'Women and State Military Forces' in C. Cohn (ed), *Women and Wars*, Polity Press, Cambridge, 2013, pp. 132–33.
- 15 L. Stoff, 'Women Soldiers in Russia's Great War', at: http://russiasgreatwar.org/media/military/women_soldiers.shtml accessed 6 April 2013.
- 16 Van Creveld, *Men, Women and War*, p. 139, indicates that the typical mixed anti-aircraft battery consisted of 189 men and 299 women.
- 17 D. Campbell, 'Women in Combat: The World War II Experience in the United States, Great Britain, Germany, and the Soviet Union', *The Journal of Military History*, Vol. 57, No. 2, April 1993, pp. 306–309. Campbell indicates (p. 309) that 389 women were killed or wounded in action. See: <http://americanhistoryprojects.com/downloads/ww2/combat.pdf> accessed 13 April 2013.
- 18 *Ibid.*, p. 315. Training for these roles commenced from mid-1943, so the rate of growth is significant. It should be noted, however, that female auxiliaries did not fire the guns. Kummel cites Seidler in arguing that around 450,000 women were recruited into the Wehrmacht Assistance Corps in which 'tens of thousands of them were assigned combat functions' that were not officially recognised. See G. Kummel, 'Complete Access: Women in the Bundeswehr and Male Ambivalence', *Armed Forces & Society*, Vol. 28, No. 4, Summer 2002, pp. 555–73.
- 19 Campbell, 'Women in Combat', pp. 302–306.
- 20 In April 1943, the Riazan Infantry School graduated 1388 female commanders, of whom 704 became rifle platoon commanders, 382 became machine-gun platoon commanders, and 302 became mortar platoon commanders. Prior to this, in autumn 1942, the Soviets formed a female rifle brigade and trained more than 5000 women as infantry privates, specialists and commanders (approximately 4000 soldiers, 1000 NCOs and 300 officers). The final training exercise occurred that spring, involving a 75-km approach march in 24 hours and the use of all brigade-level weapons. The formation was then divided, and its units assumed rear area security functions. An unspecified number of junior officers were assigned to front-line command of male troops. A. Krylova, *Soviet Women in Combat: A History of Violence on the Eastern Front*, Cambridge University Press, New York, 2010, pp. 164–67. Krylova relates that the file containing this information was made accessible to her at the Russian State Archive of Socio-Political History (RGASPI) but was taken away two hours later without warning or explanation.
- 21 Between 1943 and 1945 the Emilia Plater (Polish) Independent Women's (infantry) Battalion served in the Polish component of the Red Army. The unit drew its name from a female Polish patriot who, ironically, fought against the Russians in the 1830s. The battalion appears to have primarily been used in what would now be termed rear area security tasks, although a

- sub-unit participated in the Battle of Lenino where Private Aniela Krzywon (who was killed in action) became the only female Polish soldier awarded Hero of the Soviet Union, the highest Soviet military decoration. The battalion strength was approximately 500 with some 70 killed in the course of the war. See <http://what-when-how.com/women-and-war/polish-independent-womens-battalion-emilia-plater-combatantsmilitary-personnel/>, accessed 5 February 2014.
- 22 Krylova, *Soviet Women in Combat*, p. 253, asserts that female snipers 'gradually became known quantities as combatants' who were respected for being courageous and combat smart. Their activities did not stop at duelling and surveillance, participation in 'trench-level fighting together with rifle soldiers – holding off enemy assaults, covering up reconnaissance and infantry offensives – also belonged to their list of duties.'
 - 23 Campbell, 'Women in Combat', p. 319; Krylova, *Soviet Women in Combat*, p. 3, indicates that during the war '520,000 Soviet women had served in the Red Army's regular troops and another 300,000 in combat and home front antiaircraft formations – a level of female participation far surpassing that in the British, American, and German armed forces.' See also endnote 78.
 - 24 Janda indicates that women comprised 12 to 20% of the French Resistance and, although the numbers are difficult to determine with any accuracy, the French government recognised more than 200,000 after the war for their service. In the Soviet Union an estimated 200,000 women fought with the partisans, 100,000 in Yugoslavia and in Italy, 35,000 (a third of the Resistance). See L. Janda, 'Women in World War II' in S.C. Tucker (ed), *Encyclopedia of World War II: A Political, Social and Military History*, Vol. IV, S-Z, ABC CLIO, Santa Barbara, 2005, p. 1653.
 - 25 P.L. Gray, 'Nancy Wake' in Cook, *Women and war*, pp. 637–38. Nancy Wake was born in New Zealand.
 - 26 D. Burrelli, 'Women in Combat: Issues for Congress' in R. Hunt and V. Mills (eds), *Women in Combat and the Armed Forces – Policies and Perceptions*, Novinka, New York, 2012, p. 1.
 - 27 Address by the Chief of Army, Lieutenant General David Morrison, AO, at the United Nations International Women's Day Conference, 8–9 March 2013, at: <http://www.army.gov.au/Our-work/Speeches-and-transcripts/United-Nations-International-Womens-Day-Conference>, accessed 23 March 2013.
 - 28 This incident occurred in April 2011. Two male cadets were subsequently found guilty of civil offences relating to the incident. See <http://www.abc.net.au/news/2013-11-09/adfa-cadet-sacked-over-skype-sex-scandal/5080834>, accessed 17 January 2014.
 - 29 The Hon. Stephen Smith, MP, Minister for Defence, 'Sex Discrimination Commissioner to lead review of the Australian Defence Force Academy and the Australian Defence Force', 11 April 2011, at: <http://www.defence.gov.au/minister/Smithtpl.cfm?CurrentID=11678>, accessed 17 January 2014.
 - 30 The final reports can be accessed at: <http://www.defence.gov.au/pathwaytochange/>.
 - 31 See: <http://www.defencejobs.gov.au/women/NewphysicalstandardsopenpathsforwomeninDefence/16/>, accessed 17 January 2014.
 - 32 This standards approach is typified in a recent article by Major Len Tracey in the *Australian Infantry Magazine* and essentially indicates that those women who meet the required standards will be able to join the combat arms. See L. Tracey, 'Women in the Infantry', *Australian Infantry Magazine*, October 2011/April 2012, pp. 96–100. This article is a worthwhile read for anyone seeking a succinct and clearly articulated perspective from an Australian infantryman.
 - 33 Egnell, 'Gender Perspectives and Fighting', p. 41.
 - 34 Cloutier in Skaine, *Women in Combat*, pp. 72–73.
 - 35 Government of Canada, *Backgrounder - Women in the Canadian Armed Forces*, dated 8 March 2013, at: <http://www.forces.gc.ca/en/news/article.page?doc=women-in-the-canadian-armed-forces/hie8w7rm>, accessed 1 February 2014. Full integration excluded submarine service until March 2000. However, in *The Combat Soldier*, p. 25, King argues that less than 1% of Canadian infantry soldiers are female.

- 36 <http://www.au.af.mil/au/awc/awcgate/milquote.pdf> , p. 180, accessed 27 April 2013.
- 37 Australian Human Rights Commission, *Review into the Treatment of Women in the Australian Defence Force Phase 2 Report*, 2012, p. 195.
- 38 Australian Human Rights Commission, *Review into the Treatment of Women in the Australian Defence Force - Community Guide*, 2012, p. 2.
- 39 Australian Human Rights Commission, *Review into the Treatment of Women*, p. 39. The text cited is only part of Recommendation 11. See: <https://defencereview.humanrights.gov.au/report-review-treatment-women-australian-defence-force>, accessed 17 January and 2 February 2014.
- 40 See E. McDonald, 'Major mum proudly blazing a trail', *Townsville Bulletin*, 7 March 2013, accessed 5 April 2013, at: http://www.townsvillebulletin.com.au/article/2013/03/07/376831_defence.html, in which the language describing what is actually a success story still unavoidably reflects this issue. Note, as at 7 March 2013, there were 25 female soldiers serving in 3RAR, including the XO (the subject of the article).
- 41 Israeli Defence Forces, Glossary, <http://www.idf.il/1561-en/Dover.aspx>, accessed 2 February 2014.
- 42 Anon, 'Infantry: Two Battalions That Should Never Meet', 30 December 2012, at: <http://www.strategypage.com/htm/htinf/20121230.aspx>, accessed 2 February 2014.
- 43 Paul Cawkill, Alison Rogers, Sarah Knight and Laura Spear, *Women in Ground Close Combat Roles: The Experiences of other Nations and a Review of the Academic Literature*, 2009, pp. 25–26, at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/27406/women_combat_experiences_literature.pdf, accessed 4 April 2013.
- 44 Stein, 'Women in the Israeli Military' in Cook, *Women and war*, p. 318, indicates that Israeli women wishing to serve in combat units must serve the same three-year initial term as men and accept an obligation in the Reserves through to the age of 43.
- 45 'Female IDF Soldier Gets Medal for Stopping Terrorist Attack from Egypt', at: <http://www.algemeiner.com/2012/12/25/female-idf-soldier-gets-medal-for-stopping-terrorist-attack-from-egypt/>, accessed 4 May 2013. The NCO shot and killed an insurgent wearing an explosive vest.
- 46 'Border shootout proves mettle of mixed-gender IDF unit', at: <http://www.timesofisrael.com/mixed-gender-idf-unit-proves-its-worth/> accessed 2 February 2014, which notes that Prime Minister Benjamin Netanyahu boasted about the work of the unit and also provides more insight into the role and the challenges faced in the development and employment of the battalion.
- 47 It should also be noted that the female members of the Caracal Battalion are volunteers, and undergo a two day selection process. According to the IDF, the training of the Caracal Battalion is 'strenuous and identical to that of any other exclusively male battalion'. See: <http://www.idf.il/1561-en/Dover.aspx> .
- 48 Department of Defence, 'Minister for Defence Science and Personnel – Army launches new recruitment drive for women' dated 14 March 2013, at: <http://www.minister.defence.gov.au/2013/03/14/minister-for-defence-science-and-personnel-army-launches-new-recruitment-drive-for-women/>, accessed 2 February 2014.
- 49 The author served as a regular sub-unit commander in 6 RAR in 1992–93, observed the training of the inaugural 6 RAR Ready Reserve (RRes) company in 1992 and in early 1993 commanded an integrated company group of Regular and RRes soldiers on an overseas exercise with the NZ Army. Because of the numbers involved, line units in the 6th Brigade took on substantial responsibility for the training of RRes soldiers, providing drafts of officers and NCOs as the training staff who then transitioned to their 'normal' functions of command as the drafts matured into functioning companies. There is no reason a similar approach could not be taken to the provision of training staff from units if a female-centric unit were raised.

- 50 The Hon. R.J. Hawke, 'Speech by the Prime Minister, Launch of the Ready Reserve Scheme and Recruiting Campaign, Brisbane, 2 October 1991', at: <http://pmtranscripts.dpmc.gov.au/transcripts/00008342.pdf>, accessed 2 February 2014.
- 51 J. Coates and H. Smith, *Review of the Ready Reserve Scheme*, University College, UNSW, Canberra, 1995, p. 33.
- 52 N. James, "'Gap Year" program aimed at the future', 13 August 2007, at: <http://www.abc.net.au/news/2007-08-10/gap-year-program-aimed-at-the-future/636432>, accessed 2 February 2014.
- 53 Coates and Smith, *Review of the Ready Reserve Scheme*, p. viii.
- 54 J. Grey, 'Land Force Reserves and Homeland Security: Lessons Learned from the Australian Experience', *Journal of Military and Strategic Studies*, Winter 2004, Issue 2, p. 10.
- 55 Ibid, p. 11.
- 56 Discussion with former commanding officer of an Army Reserve infantry battalion which received a company of Regular trained Ready Reserve soldiers, 23 January 2014.
- 57 Department of Defence, 'Assistant Minister for Defence – Launch of Project Suakin by Stuart Robert at HMAS Harman', dated 26 November 2013, at: <http://www.minister.defence.gov.au/2013/11/26/launch-of-project-suakin-by-assistant-minister-for-defence-stuart-robert-at-hmas-harman/>, accessed 2 February 2014; presentation by Major General J.E. Barry, AM, MBE, RFD, ED (ret'd), National President Defence Reserves Association, to the Royal United Services Institute of Victoria Inc. on 29 March 2012, 'ADF Reserves Capability - Where to now?' at: https://www.rusi.org.au/states/vic/Documents/transcripts/Barry_Reserves_29Mar12.pdf, accessed 2 February 2014.
- 58 Department of Defence, 'Prime Minister and Minister for Defence – 2013 Defence White Paper: "Plan BEERSHEBA" – Restructuring the Australian Army', dated 3 May 2013, at: <http://www.minister.defence.gov.au/2013/05/03/prime-minister-and-minister-for-defence-2013-defence-white-paper-plan-beersheba-restructuring-the-australian-army/>, accessed 2 February 2014; Australian Army, 'Plan BEERSHEBA – Army's future structure', at: <http://www.army.gov.au/Our-future/Projects/Plan-BEERSHEBA>, accessed 8 February 2014.
- 59 Broderick based her recommendations on five principles: Principle 1: Strong leadership drives reform; Principle 2: Diversity of leadership increases capability; Principle 3: Increasing numbers requires increasing opportunities; Principle 4: Greater flexibility will strengthen the ADF; Principle 5: Gender based harassment and violence ruins lives, divides teams and damages operational effectiveness. See Australian Human Rights Commission, *Review into the Treatment of Women in the Australian Defence Force Phase 2 Report*, pp. 29–48.
- 60 David Morrison, 'Army After Afghanistan', *Australian Army Journal*, Vol. IX, No. 2, Winter 2012, p. 13.
- 61 Australian Army, 'Royal Australian Infantry Corps', see <http://www.army.gov.au/Who-we-are/Corps/The-Royal-Australian-Infantry-Corps>, accessed 9 February 2014.
- 62 As early as 2002 a junior US Army (combat arms) officer suggested concentration and cohorts in training and mentoring once in units by a field grade officer (i.e. a Major). The scale he was proposing was smaller but the principles are the same. See A.N. Wojack, 'Integrating Women into the Infantry', *Military Review*, November–December 2002, p. 74.
- 63 Australian Army, 'I'm an Australian Soldier', see <http://www.army.gov.au/Our-history/Traditions/I-am-an-Australian-Soldier> accessed 8 February 2014.
- 64 K.H. Karame, 'Military Women in Peace Operations: Experiences of the Norwegian Battalion in UNIFIL 1978-98', *International Peacekeeping*, Vol. 8, Issue 2, November 2001, pp. 85–96.
- 65 Ibid., pp. 92–93. Karame notes that Boutras-Ghali was probably referring to both civil and military presence but notes that, over the years, female military presence has increased to little more than 4%. Current indications suggest this may have since declined. See: <http://www.un.org/en/peacekeeping/issues/women/womeninpk.shtml>, accessed 9 February 2014.

- 66 Department of Peacekeeping Operations, Department of Field Support, *United Nations Infantry Battalion Manual*, Vol. 1, August 2012, p. 23, at: <http://www.un.org/en/peacekeeping/documents/UNIBAM.Vol.I.pdf>, accessed 13 April 2013.
- 67 *Ibid.*, p. 139.
- 68 In the event that Australia moves beyond the line of permit-encourage to a worst case scenario of compel, such preparation could prove telling. In 2013, the Norwegian Parliament decided to introduce conscription for women. Norwegian women have had access to all military roles since 1984. While they can currently be conscripted on a voluntary basis, from 2015 this will be a duty, not a choice. See E. Elster, 'Conscription for Women in Norway', dated 25 July 2013, at: <http://www.wri-irg.org/ConscriptWomenNorway>, accessed 17 February 2014; B. Henderson, 'Norway votes to extend conscription to women', dated 17 June 2013, at: <http://www.telegraph.co.uk/news/worldnews/europe/norway/10124998/Norway-votes-to-extend-conscription-to-women.html>, accessed 17 February 2014.
- 69 Such technologies are already under development. For example, 'Valkyrie' is a US proposal for a semi-autonomous mobile robot for the recovery of battlefield casualties. See: <https://www.sbir.gov/sbirsearch/detail/203536> accessed 17 February 2014.
- 70 King, 'The Female Soldier', *Parameters*, Vol. 43, No. 2, Summer 2013, pp. 13–14.
- 71 *Ibid.*, p. 21.
- 72 E.L. Haring, 'What Women Bring to the Fight', *Parameters*, Vol. 43, No. 2, Summer 2013, p. 27.
- 73 Wojack, 'Integrating Women into the Infantry', p. 68. The pole vault did not become an Olympic sport for women until the Sydney Olympics in 2000.
- 74 Egnell, 'Gender Perspectives and Fighting', pp. 35, 37.
- 75 See http://www.jewishvirtuallibrary.org/jsource/Society_&_Culture/femcom.html, accessed 7 December 2013. The trend arguably commenced in 1994 with the case of Alice Miller, a South African émigré who successfully challenged her gender-based exclusion from IDF flight-training exams. This case bore similarities to the 2000 European Court of Justice ruling in favour of Tanja Krei which led, from January 2001, to the opening of all roles in the Bundeswehr to women (see Kummel, 'Complete Access: Women in the Bundeswehr and Male Ambivalence', pp. 556–58).
- 76 This evolution appears to have seen the Caracal Battalion grow initially from a company to a battalion over the period 2000–2004 (however there is some contradiction between references). IDF reporting from late 2011 indicates that the unit conducted its first battalion-level training in 2011. The point is that Israel now has a growing number of women who have been thoroughly grounded in the operation of an infantry battalion and who could competently fill roles in either male or female-centric units. See: <http://www.idfblog.com/2011/12/20/mixed-female-male-battalion-holds-first-joint-drill/>, accessed 2 February 2014. Further reporting indicates that members of the battalion are reaching junior officer rank. See: <http://www.idfblog.com/2011/10/27/meet-the-new-female-combat-officers-of-the-idf/>, and <http://www.idfblog.com/2013/07/11/setting-the-bar-from-gymnastics-champion-to-idf-commander/>, accessed 2 February 2014.
- 77 Department of Defence, Vision Statement. See: <http://www.defence.gov.au/women/docs/Implementation%20Plan2.pdf>
- 78 Tucker, *Encyclopedia of World War II*, p. 1654. To focus this point specifically on combat employment, Krylova, *Soviet Women in Combat*, p. 10, claims that of the half-million women in the Soviet field army there were 120,000 young women actually in combat on the Eastern Front, and that in contrast, not much more than 800,000 American male soldiers participated in extended combat in World War II. She suggests that this figure is 'about 5 percent of the total American armed forces'.
- 79 Australian Human Rights Commission, *Review into the Treatment of Women in the Australian Defence Force Phase 2 Report*, p. 23.

- 80 Cottam in Cook, *Women and war*, p. 548.
- 81 L. Abramson, 'Women In Combat: Some Lessons From Israel's Military', dated 16 May 2013, indicates that almost 50% of Israel's lieutenants and captains are women. See: <http://www.npr.org/blogs/parallels/2013/05/16/180045066/Women-In-Combat-Lessons-From-The-Israel-Defense-Forces>, accessed 2 February 2014. M. Jaffe, 'Women of Power: Female IDF Soldiers Shatter Contemporary Infantry Lines', dated 17 January 2014, indicates that 57% of all officers in the Israeli army are women and attributes this advice to the IDF. See: <http://www.algemeiner.com/2014/01/17/women-of-power-female-idf-soldiers-shatter-contemporary-infantry-lines/> accessed 2 February 2014.
- 82 Chief of Army message regarding unacceptable behavior dated 12 June 2013, see: <http://www.youtube.com/watch?v=QagpoeVgr8U>, accessed 14 June 2013 and 13 February 2014. As at the latter date, the clip had attracted over 1.4 million hits.
- 83 Egnell, 'Gender Perspectives and Fighting', p. 34.
- 84 Campbell, 'Women in Combat', p.323, quoted by Major E.J. Hughes in 'Memorandum for the Assistant Chief of Staff, G-1. Subject: Participation of Women in War', dated 21 September 1928.
- 85 Australian Human Rights Commission, *Review into the Treatment of Women in the Australian Defence Force Phase 2 Report*, p. 1.

CYBER

The Increasing Need for Cyber Forensic Awareness and Specialisation in Army

Captain Nathan Mark

ABSTRACT

Threat forces are becoming increasingly familiar with the capabilities of information and communications technology devices. Given their ability to store and rapidly disseminate data and information, these devices will only become more prevalent in the battlespace. While they have been exploited as methods of intelligence-gathering and within intelligence-led operations, little attention has been paid to the potential use of digital evidence in the prosecution of offenders. This article will argue that Army must continue to learn from the experience of recent deployments and develop an awareness of cyber forensic operations to support indigenous forces and the prosecution of threat forces in criminal investigations. This article will further argue that the Royal Australian Signals Corps is best placed to lead the development of a cyber forensics capability in Army.

Cyber-, a prefix popularly used to indicate a connection with computers or the world of computing.

Forensics, having to do with courts of law or legal proceedings.¹

Introduction

On 16 February 2012, the Army newspaper published an article entitled 'Beyond the Battle' which described the initiatives of the Special Operations Task Force's Rule of Law Cell.² The cell had conducted training designed to 'improve coordination between justice officials in Uruzgan province by increasing the evidentiary understanding between the police, prosecutors and judges.'³ Ultimately, the aim was to provide law enforcement officials with the skills and knowledge to collect and handle evidence within legal processes. Given that the course duration was nine days, it is reasonable to assume that cyber forensic investigations were not covered in any significant detail due to the technical nature of collecting such evidence. With the drawdown of forces in Afghanistan, Army's learning and adaptation cycle will draw on lessons learned to inform future force structures and capabilities. This presents a significant opportunity for supporting corps to advance their roles in the battlespace from those of passive support providers to active force multipliers.

This article seeks to enhance understanding of one key area associated with the emerging technological battlefield. Given the highly technical nature of the concepts proposed, the discussion will not address specific themes associated with introducing and sustaining this capability. Instead, the article will describe and discuss the relevance of the processes and the challenges involved in identifying, recovering, securing, examining, analysing and preparing digital evidence from information and communications technology (ICT) equipment. This discussion will address general understanding and awareness and attempt to demystify digital evidence by debunking the myths associated with cyber forensics. The article will then describe the processes involved in cyber forensic investigations before briefly considering some of the readily available, open-source tools and techniques that can be employed in a stand-alone capacity and adapted to develop and understand this capability.

The crux of this article is that Army's personnel must be familiar with, if not professionally trained, in the methods and techniques associated with cyber forensic investigations. These investigations are highly technical in nature and,

due to the increasing use of and reliance on technical devices by threat forces (in particular), the importance of cyber forensic investigations as part of the judicial process cannot be understated.⁴

General awareness and presumptions

By definition, forensics is a legal process. Cyber forensics therefore deals with the legal investigation into the use and misuse of ICT equipment. Cyber investigations may be conducted to examine cases involving industrial espionage, harassment through the distribution of electronic media, policy violations, copyright infringement, hacking, fraud, criminal activities or, in short, any inappropriate use of computing resources.⁵ For Army, this includes the extraction of data as evidence of criminal activities in support of partnered forces or enabling host nation police prosecutions.

In Australia, cyber forensic investigations are conducted in public law enforcement cases by private organisations or by contracted practitioners. In a deployed context, Australian forces and those they mentor are unlikely to have immediate access to the requisite knowledge and resources to conduct these highly technical investigations. The prevalence of ICT services in Defence and the battlespace suggests the increasing need to ensure that Army is equipped with the knowledge and skills to support cyber forensic investigations and, where necessary, conduct technical exploitation of ICT equipment in a manner that does not jeopardise judicial processes.

In the deployed environment, the Royal Australian Signals Corps (RA Sigs), as the lead technical specialist, is well placed to join Army's subject matter experts including legal officers, the Military Police and intelligence personnel. In this role, RA Sigs would work to assist investigators to source admissible evidence from the digital world. At this point, awareness should be promoted and discussion of the capabilities and techniques should be advanced. Ultimately, specialist training continuums should be developed to formalise these processes and procedures.⁶

Some may argue that this is merely an attempt to expand the role of RA Sigs into the area of law enforcement. This is not the case, as the scope of the capabilities identified are beyond the expertise of the Military Police while, on the other hand, RA Sigs lacks the requisite expert knowledge to become involved in law enforcement. However, a partnership between the two corps would provide Army a potent capability in the fight against cyber crime.

This article thus proposes a ‘combined arms team’ — although not in the usual manoeuvrist sense. RA Sigs is well suited to develop and foster Army’s technical understanding of the associated capabilities thereby providing a ‘first port of call’. However, the corps cannot develop this capability in isolation. Investigative expertise must be drawn from the Military Police and formal advice and expertise from Army’s lawyers is critical in understanding evidentiary processes. The collection of actionable intelligence is also vital to the building of prosecution cases. Intelligence personnel must have access to the results of evidence produced by these capabilities to ensure that the best possible intelligence picture is developed.

Commanders at all levels are likely to have a passing familiarity with the concept of cyber forensics and the role of digital evidence as part of civilian prosecutions. Domestic law enforcement organisations and strategic assets are well versed in these evidentiary processes. Arguably, however, military commanders are not and this may lead to failed prosecutions if evidentiary processes are not understood and followed correctly.

Digital evidence and cyber forensics

The term ‘cyber’ is a buzzword that has gained broad acceptance and associates computer hacking, system penetration and disruption. However, the concept has been popularised by Hollywood and has thus generated considerable misunderstanding. While there is a role for the development and application of these capabilities, this should remain the remit of strategic organisations. There is no role for the land force in this space and any attempt to pursue such capabilities is misguided. The capability is far too resource intensive, dynamic and specialised to be employed without strategic objectives and direct oversight.

To that end, a clear distinction must be drawn between cyber in a warfare sense and cyber in a forensic sense — a point often missed by the casual observer. Forensics deals with evidentiary processes associated with legal proceedings. This is relevant to the land force because of the prevalence of land-based communication and data storage devices in the modern battlespace. However capturing and exploiting the content of these devices should not be driven by intelligence collection alone. Army must understand the increasing role digital evidence will play in justifying the detention of personnel and during judicial proceedings.

The distinction of digital evidence

Computer data is created in the binary number system as 1s and 0s.⁷ Computer processors, memory chips and data storage devices are built with transistors and circuit boards to create Boolean algebraic equations that process and store the 1s and 0s as binary code. Computer operating systems and applications translate the binary data into user-friendly functions through various applications, graphical user interfaces and storage mediums.⁸ It is from these processes and storage devices that digital data is created, manipulated and deleted. Equally, it is from these processes that digital evidence can be retrieved.

Digital evidence is data that can be used to prove behaviour, actions or a significant link between a perpetrator and victim.⁹ The pervasion of ICT systems has generated many digital mediums that store data which can be extracted, analysed and presented as evidence.¹⁰ Some key forms include: the common computer correspondence mediums of email and social network posts; data-basing applications; administrative documentation applications such as Microsoft's 'Office' suite; digital photographs; mobile telephones; internet browsers; and surveillance systems.¹¹ Like physical evidence, digital evidence must be complete, authentic, accurate, and admissible to be applied to judicial processes.¹²

Collecting digital evidence for judicial processes is distinct from the collection of digital information for intelligence purposes. While the value of such information is undeniable, the raw data must be collected in a manner that does not compromise its use as part of a judicial process. Intelligence personnel will still play a key role in this area as their training ensures that they are well placed to determine the relative value of information through a quick assessment of known targets or names, document interpretation and by correlating data content with key events.

Digital forensic investigations are a natural extension of the principles of physical domain investigations.¹³ In the physical world, evidence is generally documentary or verbal and can be obtained through tried and tested procedures and rules. These include the instruments and procedures associated with the seizure of property, chain of custody documentation and the conduct of interviews. In the cyber world however, evidence comprises data and data cannot necessarily be seized, documented or obtained through these processes as readily as in the physical world.¹⁴

Digital files by their nature can be divided into two categories. The first category describes files referred to as 'born digital' which contain data that was created only in digital format. The second category refers to files described as 'made digital'.

These data files have been converted from a physical document to a digital file. For the investigator, the devil is in the metadata. Metadata is information about information and it provides a key source from which to validate findings and provide further avenues for evidence collection and analysis.

The danger in digital evidence

Digital storage is not infallible. Research suggests that there are three core groups of threat to digital storage: natural threats, technological threats and human threats.

Natural threats are those threats that occur as a result of the forces of nature, including natural disasters and extreme weather events. While often unavoidable, the cyber investigator needs to be aware of the impact of these events on data. Wherever possible, collected data should be stored off-site.

Technological threats include those threats that can compromise data holdings as a result of equipment failure or error. Examples include hardware failure or software error. Such malfunctions may see data lost or compromised through power fluctuations or incorrect write procedures. In other cases, the rate of technological change may simply outpace capability.¹⁵ For example, the retrieval of data from a system used in the 1980s would require equipment that is capable of accessing it and these systems may not be readily available. Accordingly, technological aspects are likely to challenge investigators. Specifically, the investigator may be forced to undertake painstaking data recovery through file carving or even manipulation at the electron level.

Human threats encompass those threats that are created by human interaction with computer systems and data storage devices. Specific examples include the manipulation of digital files, deliberate acts of sabotage, hacking, data theft, malware creation and distribution or simply human error.¹⁶ The greatest threat to digital data stored as part of an investigation is arguably incorrect evidence handling. Regardless of the method chosen (manual or software based), 'the important thing is to maintain a chain of custody to demonstrate that you have positive control of the evidence.'¹⁷

Digital evidence may be obscured through a number of processes that are usually software based but human initiated. These methods 'obscure the true nature or meaning of some data, typically by changing its name or its contents.'¹⁸ These techniques may be as simple as renaming a file extension or employing compression software; they may also be highly complex and employ file-shredding

or encryption software such as TrueCrypt.¹⁹ When these anti-forensic techniques are employed, the cyber forensic investigator must develop workable systematic options to locate and select the evidence.

Cyber investigators must therefore be sufficiently flexible to view the investigation objectively. This requires specialist investigative skills and training, and represents a management and oversight role for the Military Police. A fundamental aim of any investigation is to identify a perpetrator. If a perpetrator is captured with a device in hand, he/she is linked to that device. However, in the cyber environment, it is often difficult to link a suspect directly with a computer.²⁰ This presents challenges that can be overcome through collaboration between key specialists.

RA Sigs personnel are trained to understand digital data and its associated threats. Unfortunately, the corps does not currently build on this knowledge to generate technical capabilities that will allow it to assume a more active role as a subject matter expert in cyber forensics for Army. Despite the lack of development in this area, RA Sigs remains well positioned to transfer this knowledge and some associated skill sets to support cyber operations in the barracks environment and, more importantly, to act as cyber forensic subject matter experts in deployed environments. To achieve this, RA Sigs should implement a road map designed to dispel myths and evolve training and capabilities.

Deciphering the mystification of cyber forensics

The main issue in cyber forensics concerns the method used to obtain data in a form that can be presented as credible evidence.²¹ The craft of the cyber forensic investigator has evolved as a consequence of the need to address this problem. Leading civilian experts have identified the increasing use of digital devices in illegal activities as the impetus for colleges and universities to expand their programs to prepare professionals to meet the growing demand.²² Army is no different.

There are five principles of cyber forensics with which commanders should be familiar and that can be taught by the Military Police and members of the Australian Army Legal Corps. According to these five principles, the evidence must be admissible, authentic, accurate, complete and, finally, it must be convincing to a judge/jury. Adhering to these principles will ensure that the evidence is preserved without alteration, it is analysed in a manner that accords with the rules of evidence (noting jurisdictional variations) and that the analytical processes can be replicated.²³

In a civilian judicial setting, a number of additional rules exist to support the presentation of evidence in an Australian court by cyber forensic investigators.²⁴ These additional rules include minimal handling of the original; accounting for any changes to the data; complying with the rules of evidence; and ensuring that the investigator never exceeds his/her knowledge.²⁵

Attainment of these principles when handling digital evidence in the conduct of computer forensic investigations may not be achievable in today's Army. However, measures to increase awareness of the legal fundamentals should be introduced, particularly for those Army personnel who may be required to handle computer data in an evidentiary process. Arguably, few if any of Army's people would be in a position to guarantee that their actions are in accordance with the rules of evidence (regardless of the jurisdiction) during the collection stages. To redress this shortfall, short-course packages could be developed and delivered in consultation with the Military Police and Legal Corps, utilising their expert understanding of handling physical evidence.

Given their technical nature, cyber forensic investigations should only be conducted by technically proficient personnel. While commanders are trained in administrative and disciplinary investigations, there are no specialist investigators capable of conducting a cyber forensic investigation within Army. The distinction between different types of investigations is crucial and clarifying the relevant terminology is vital to an understanding of the scope and conduct of cyber forensic investigations. Specifically:

*... a digital investigation is a process to answer questions about previous digital states and events, whereas a digital forensic investigation is a form of digital investigation in which the process follows rules that allow the results to be entered into a legal court.*²⁶

This is an important distinction. Digital investigations are conducted to determine why events occurred. These investigations are the realm of technical computer professionals who, for example, can review a system event log to determine why a particular process occurred. A digital 'cyber' forensic investigation, however, is a process that generates a product that can be admissible as evidence in legal proceedings — that is, evidence to prove or disprove an allegation or fact.²⁷ These investigations must be conducted by technically proficient personnel who either understand the legal processes and procedures of evidence collection and use, or under the guidance of those who do.

As an emerging field of expertise, cyber forensic investigations and their principles are by no means conclusive. For this reason, while RA Sigs is well placed to capitalise on the emerging technical practices and procedures, the corps will be required to work in consultation with others to ensure that high-level skills are developed, applied and maintained. These skills could be employed in a number of key areas including the capture and exploitation of intelligence and in support of a brief of evidence to enable the prosecution of threat forces.

Cyber forensic investigations

The cyber investigative continuum.

Cyber forensic investigations seek to reconstruct the events that triggered the investigation or source data as evidence.²⁸ To be admissible, digital evidence derived from a cyber investigation must conform to chain of custody requirements and adhere to the steps prescribed for six stages:

1. preservation of the crime scene,
2. location of the evidence,
3. selection of the critical evidence,
4. analysis of the evidence,
5. validation of the evidence, and
6. presentation of the evidence pursuant to evidentiary processes.²⁹

The chain of custody is the path through which the evidence moves from the time of discovery to its presentation in court.³⁰ The cyber forensic investigator must be able to prove that the evidence remained uncontaminated throughout the continuum.³¹ There is a particularly important role for the Military Police in the preservation stage; however, since they rarely deploy forward, this presents a challenge to processes that occur within a field environment.

Stage 1 — preservation of the crime scene

In general terms, there are four steps in the preservation stage.³² First, the storage media and system design must be identified. At this point, the investigator is seeking a 'carbon copy' of the environment he/she is analysing.³³ In most cases, the key 'will be recovering the computer used to launch the attack'.³⁴ However, as discussed earlier, this may be problematic for a deployed force in the field or when only certain devices are captured.

A 'live analysis' may be required to conduct a quick assessment of the environment which may serve to focus the investigation.³⁵ A live analysis is conducted while the operating system is still functioning and carries the risk that the system or its data may be inadvertently modified by the user. A 'dead analysis' is generally preferable. A dead analysis is conducted when the data is obtained without the use of the operating system.³⁶ This is generally performed with the use of a write-blocking device and calls for a high degree of technical skill and expertise.

Once the investigator has determined the preferred method, the preservation can commence. There are a number of documented procedures to lead an investigator through this process.³⁷ The key points in these procedures include documentation of the preservation; ensuring that the image creation process does not alter the data; and ensuring that the image is complete.³⁸ Metadata is essential for validation and authentication and can be used to prove that the image created is identical to the original data.³⁹ Generally, 'to reliably image drives, halting the target system is common.'⁴⁰ However, this may lead to the loss of volatile data.⁴¹ Once created, the forensic image and associated hardware must be stored in a manner that ensures the chain of custody cannot be questioned.

Stages 2 and 3 — locating and selecting the evidence

This phase of the continuum is driven by a detailed and systematic analysis of the network (live) or preserved system (dead). Unfortunately, 'there is no magic program we can plug our evidence into that automatically extracts just what we need for our case.'⁴² So, typically, an investigator will review the system to familiarise him/herself with the content and structure of the system. The examination must be documented for later reference and consider an evaluation of the system configuration, types of media stored, web browsing history, email correspondence and installed applications.⁴³

The investigator has a number of options when searching for evidence. Some investigators may rely on their knowledge of the system. This may work well for small systems but is arguably less than ideal for networks due to the large data holdings of modern systems.⁴⁴ To facilitate evidence location on networks or to rapidly analyse large storage media, the investigator may rely on forensic search applications. The advantage of such applications is that they save an enormous amount of time.⁴⁵ Automated processes assist the investigator to quickly select the evidence required.

The investigator may also be faced with data and files that cannot be retrieved or accessed without the use of specialist programs.⁴⁶ Such programs enable the investigator to access password-protected files, breach encrypted files, counter steganography (the practice of concealing data, information or a picture within another file), or carve files from deleted data.⁴⁷ The internet is heavily populated with sites and tools to support these processes. However, from an academic perspective, little has been published to formalise the utility and accuracy of these tools.

The evidence itself is selected during the locating phase. Essentially, having discovered the evidence, the investigator's next task is to select which evidence requires further analysis. Clearly, using the skills of RA Sigs personnel in conjunction with trained investigators during this phase presents an optimum solution. Techniques used at this stage may also be useful as intelligence-gathering tools without the need to adhere to processes in support of judicial procedures.

Stage 4 – analysing the evidence

The evidence analysis phase occurs in conjunction with the first three phases but must also be considered a distinct phase because of the analytical processes employed. During the processes of locating and selecting the evidence, the investigator will begin to formalise and categorise the evidence against hypotheses.⁴⁸ Throughout this stage, the investigator will use tools and document findings to assist in interpreting the evidence.⁴⁹

Evidence analysis is a specialist skill that also requires oversight. Army has professionals who can advise in this area and who can assist the investigator to place significant events along a timeline, structure relationships and/or networks and ultimately, reconstruct the crime or events being investigated.⁵⁰ In doing so, the investigator is cataloging the identified and selected evidence and correlating it to provide an overview of the events.⁵¹ At a micro level (individual machine or device), this process can be coordinated locally.

Stage 5 – validating the evidence

Once the cyber forensic investigator believes the events have been suitably reconstructed against a viable hypothesis, the evidence must be validated to ensure its admissibility.⁵² It is this role that has particular relevance to RA Sigs personnel. No other corps' skill set is as suited to digital evidence validation. Formally enhancing the tacit knowledge of RA Sigs personnel would represent a relatively small evolution of their skills and knowledge. The key limitation would lie in ensuring the skill set is developed through an understanding of the broader legal implications.

During the validation stage, the investigator seeks to prove that the evidence that has been located and selected is actually authentic.⁵³ The processes for validating (physical) documentary evidence are well established. However, due to the difference between physical documents and digital records, these established processes are not necessarily suitable for digital validation:

There are two main problems inherent with electronic documents that make them more difficult to analyze than paper documents. First, they are easy to copy and modify. If a blackmailing letter is stored as a file on a suspect's personal computer, the suspect may argue that the document was planted into their computer after the computer had been seized by the law enforcement agency. Secondly, it can be argued that the document had been modified by the law enforcement agency. One solution to this problem is to use special purpose computer forensic software tools to verify the file system integrity of the suspect's computer, after it has been seized by the law enforcement agency [author's emphasis].⁵⁴

For these reasons, the ability to prove the authenticity of the evidence is crucial. To achieve this, the cyber forensic investigator can rely on readily available evidence on the system or employ a range of automated specialist tools. In doing so, the cyber forensic investigator is proving that the evidence was retrieved from the suspect system without alteration, or that a particular file was created using a particular device. To prove the latter, the investigator may examine the metadata associated with the file type and employ fields such as the date created or modified to prove that the file was created on the suspect system. Another method to prove that the preserved crime scene is an exact replica is to conduct a hash analysis.⁵⁵ This involves comparing an extracted hash sequence (mathematical representation of a data sequence) against known reference datasets to determine whether alterations have been made.⁵⁶

Stage 6 – presenting the evidence

Regardless of the compelling nature of the evidence collected, it is likely to be worthless if it is not presented in a manner that is clear, concise and convincing to juries. Military Police and Army lawyers will retain their specialist role in this area because:

being able to write a clear, concise, and factual report is one of the more difficult aspects of the job for a technically orientated person, because your audience is not technical, so they will not understand all the terms and technology that you have employed in your investigation and may not be able to understand the impact of the "smoking gun" you found.⁵⁷

While there are a number of report templates available for reference, the format of an 'internal' report should be used in training.⁵⁸ A brief is also a suitable document. This method calls for the investigators to compile their evidence for submission to a legal expert or the chain of command for subsequent legal analysis and preparation. The strength of this method is that the technical cyber forensic investigator is (often) untrained in legal processes and, as such, does not have to consider the fundamentals of law or the legal argument.⁵⁹ This practice would considerably reduce training overheads.

Cyber investigative techniques unravelled

Research into cyber forensic investigative techniques presents a multitude of technical documents and vendor websites advertising the functions and performance of proprietary tools. For clarity, this section will focus on some key tools that are available to support the core functions of cyber forensics identified within this article. A snapshot of capabilities for professional development will also be included.

Research has found that the emerging standard, solid-state drives can completely remove stored data without instructions from the computer.⁶⁰ This presents a significant hurdle for cyber forensic investigators because tools commonly used to carve deleted data will require redevelopment or may in fact become obsolete. File carver programs are identified as 'a mainstay of modern forensics' that 'attempt to reconstruct the disk contents without using the OS's meta-level information.'⁶¹ With the advent of solid-state drives and their eventual integration into mainstream computing, cyber forensic investigators are likely to lose a key tool of their trade.⁶²

Some experts argue that the best method to 'quickly and efficiently screen data' is through hash-based techniques.⁶³ Hash-based tools account for the single biggest issue in cyber forensic investigations — scale. Using software, the 'approach validates the forensic target's integrity by comparing before-and-after results at important points in the investigation and, in doing so, can be used to eliminate known files (such as the OS and applications) or identify suspect files.'⁶⁴ These tools are very useful for investigators handling large volumes of data, a live network analysis or during the preservation phase.

The authors of the article 'Live Analysis – Progress and Challenges' present an assessment of a number of approaches to live analysis.⁶⁵ They claim that, for static analysis, 'investigators commonly use free (often open source) offerings as well

as commercial products such as Guidance Software's EnCase or AccessData's Forensic Toolkit (FTK). Both EnCase and FTK provide a wide variety of capabilities in one environment, while other products tend to focus on a limited number of specific tasks, such as detecting rootkits (malicious software designed to evade detection while providing an avenue of exploitation to a remote user) or identifying steganography.¹⁶⁶

Imported utilities are another option available to forensic investigators. Microsoft has developed a preloaded USB drive aimed at automating live analysis operations. While not a complete solution, the device — the Computer Online Forensic Evidence Extractor (COFEE) — represents another valuable resource for law enforcement agencies.⁶⁷ The available research suggests that significant funds continue to be spent in the research and development of these tools.⁶⁸

The Digital Evidence Search Kit (DESK) is the product of the Hong Kong Police Force and other law enforcement agencies. Its main value 'is to assist the law enforcement agency to quickly examine a subject machine, and to make a quick decision of whether a full-scale and time consuming investigation of the subject machine should be carried out.'⁶⁹ Some of the key capabilities of the system include a text pattern file search, hash value database, deleted file search and a logical search which 'makes use of the information about the file system'.⁷⁰

Recent research of particular interest is also contained in the paper 'Lest We Remember: Cold Boot Attacks on Encryption Keys', in which the authors claim that:

*contrary to popular assumption, DRAMs (volatile computer memory) used in most modern computers retain their contents for several seconds after power is lost, even at room temperature and even if removed from a motherboard ... we show that this phenomenon limits the ability of an operating system to protect cryptographic key material from an attacker with physical access.*⁷¹

The researchers were able to construct a number of memory-imaging tools to boot a system and extract the contents of its memory from either a warm or cold reset state.⁷² In doing so, they were able to exploit the Preboot Execution Environment of most modern PCs, USB boot functions and Macintosh systems.⁷³

However, what was most interesting was their ability to install 'memory imaging tools on an Apple iPod so that it can be used to covertly capture memory dumps without impacting its functionality as a music player. This provides a plausible way to conceal the attack in the wild.'⁷⁴ The paper also presents the authors' findings on encrypted disks.

Of particular note is the researchers' ability to exploit TrueCrypt, 'a popular open-source disk encryption product for the Windows, Mac OS, and Linux platforms.'⁷⁵ Their techniques provide valuable insight for the cyber forensic investigator who may be challenged by popular open-source encryption platforms. Although too lengthy for reproduction here, the research indicates that these commonly employed encryption techniques can be exploited with the right tools and techniques, including the hypo-cooling of RAM chips to below -50 degrees Celsius for the purposes of transfer and exploitation.⁷⁶

These tools and techniques provide a brief snapshot of the increasing number available on the internet. They are all open source or readily available at a price. Their prevalence and relative ease of use provides further weight to the call for professional training and certification of cyber forensic competencies within RA Sigs.

Conclusion

The global reliance on ICT systems is unlikely to diminish in the near future. Criminal elements (both domestic and threat forces) are adapting and increasingly utilising technology as a means to both conduct business and cover their tracks. As the research suggests, 'for many organisations, identifying, tracking and prosecuting these threats has become a full-time job'.⁷⁷ There are no signs that this trend will abate — clearly this is a discipline that is likely to continue to experience significant growth.

Cyber forensics remains a young but growing discipline. ICT systems are continuing to pervade modern societies and militaries often at a rate faster than training and adaptation can accommodate. The reliance on digital evidence in the legal system has generated greater demand for professionally trained practitioners. The private sector, like the military, has been particularly slow to embrace cyber forensic capabilities.⁷⁸ This is due to issues of perception and the associated costs involved with large-scale network analysis.

This article has sought to provide an understanding of the relevance of cyber forensics to Army in general, and to RA Sigs in particular, as potential subject matter experts. Fundamental aspects have been researched, described and discussed. The vehicle for this consideration has been the processes and challenges involved in identifying, recovering, securing, examining, analysing and preparing digital evidence from a crime scene as part of a cyber forensic investigation. It is time for Army to understand and embrace these capabilities. With greater awareness and understanding, these techniques can be incorporated and developed into a potent capability for the future. ■

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REVIEW ESSAY

Reinvigorating Education in the Australian Army

Brigadier Chris Field

... our leaders ... do their troops a disservice by not studying (studying, vice just reading) the [warfighters] who have gone before us. We have been fighting on this planet for 5,000 years and we should take advantage of their experience. 'Winging' it and filling body bags as we sort out what works reminds us of the moral dictates and the cost of competence in our profession.

Major General (later General) James N. Mattis, USMC, 2004¹

This review essay argues the case for the reinvigoration of education in the Australian Army based on the ideas and concepts articulated in the work of Williamson Murray, Allan Millett and Thomas Ricks. The central thesis of these three volumes is that professional military education complements training. This essay applies that thesis to the Australian context, arguing that combined excellence in education and training is critical if the Australian Army is to remain a pre-eminent warfighting organisation, particularly in the post-Afghanistan era.

Military Innovation (Murray and Millett), *Military Adaptation* (Murray) and *The Generals* (Ricks) provide useful continuities in thinking and discussion on professional military education with much of relevance to the Australian Army. *Military Innovation* (Murray and Millett) and *Military Adaptation* (Murray) analyse the reasons for the success and failure of military education in peace and war. *Military Innovation* focuses on the interwar period between World War I and World War II while *Military Adaptation* focuses primarily on World War II. In *The Generals*, Ricks examines the challenges, failures and achievements of US Army generals from World War II through to the current period. Ricks links his timeline to those of Murray and Millett through his post-World War II historical analysis. Ricks also connects ideas from Murray and Millett on the value or otherwise of professional military education.

Since 1999, Army's fundamental base — its foundation warfighting skills — has been degraded by 15 years of deployment and conflict in Australia's neighbouring region and the Middle East. For over a decade the Australian Army has trained its soldiers for specific operations. As a result, few soldiers have had the time to undertake broader education, training or practice in the four phases of war: advance, attack, defence, withdrawal. In addition, many soldiers, non-commissioned officers and officers have missed the opportunity to attend and pass career courses. In 2014 many career courses, particularly for officers, remain significantly undersubscribed. For Army's people, these courses represent an essential element of their professional military education.

Instead of foundation warfighting, the Australian Army has adapted to multiple complex operational environments throughout the world. Through innovation and adaptation, Army has trained and performed well. However, as operational deployments end, Army's focus has necessarily turned to regaining unpractised foundation warfighting skills. In 2010 this drive to regain unpractised skills led to the launch of Exercise Hamel — Army's premier annual combined arms warfighting exercise.² The exercise is named after the Australian Corps' World War I battle on 4 July 1918 to capture the French town of Hamel and its surrounding areas.³ Exercise Hamel is designed to develop, confirm and evaluate the foundation warfighting skills of Army's reinforced combat brigades within a joint task force setting.

While the Australian Army trains hard and is working to improve its foundation warfighting skills, the three books in this review essay serve as a warning. Training is what armies, including the Australian Army, do well and the Australian Army,

despite 15 years of deployment and conflict, remains a pre-eminent training organisation. Education is a far more difficult prospect and, within the Australian Army, education requires substantial reinvigoration.

Definitions

While training and education are complementary, there are significant differences in the expected outcomes of the two. Training is functional and practical. Education aims to extend, develop and change people's behaviour and thinking. Training is designed to enable people to perform tasks effectively; education develops people's critical problem-solving skills. Training focuses on psycho-motor skills, replicating performance standards based on past experience. Education focuses on cognitive skills — comprehension, analysis, synthesis, communication and evaluation.⁴

Training is 'the action of teaching a person a particular skill or type of behaviour'. The word itself has Middle English origins derived from the Latin *trahere* to 'pull, draw'. Education is a mid-16th century Latin word from the verb *educere* to 'lead out'. *Educe* means to 'bring out or develop ... something latent or potential', while *educate* means to 'give intellectual, moral, and social instruction to someone'.⁵

Training thus relates to 'pulling, drawing' trainees towards a skill or behaviour, while education 'leads and develops' people's potential. Thomas E. Ricks in *The Generals* neatly summarises the US Army's 1970s, 1980s and 1990s emphasis on training over education. In those post-Vietnam decades the US Army 'emphasised training, which prepares soldiers for the known, far more than education, which prepares them to deal with the unknown ... the unpredictable, and the unexpected'.⁶

In the context of this paper, 'Army education' refers to the approach, systems and programs through which Army educates its people. Murray and Millett observe that establishing innovative and adaptable militaries requires senior leaders to 'inculcate the requisite intellectual atmosphere and institutional processes within the military societies involved'.⁷ Education is one method of creating the 'requisite intellectual atmosphere' within the Australian Army.

Australian Army Education: 1984–2014

Education in the Australian Army in 1984 differed enormously to that offered in 2014. In 1984, junior officers were assessed on their ability to write effectively. Officers with identified difficulties in written communication were required to complete the Army Effective Writing Program. In 1984, every corporal and sergeant was required to pass the Subject 3 (Maths, English and Social Studies) examination for promotion to sergeant and warrant officer. Officers, sergeants and warrant officers who did not pass Army-administered exemption tests were required to attend and pass education courses.⁸ In 2014, the Effective Writing Program and Subject 3 (Maths, English and Social Studies) are no longer a requirement for Army's junior officers, sergeants and warrant officers.

In the late 1980s, a soldier or non-commissioned officer without sufficient Year 12 grades could apply to enter the Royal Military College, Duntroon (RMC), as an officer cadet. If selected, the soldier attended a full-time Year 12 bridging course conducted by the Army which sought to raise the candidate's level of qualification to that required for entry to RMC. In 2014, Year 12 bridging courses are part-time and are outsourced to state technical and further education colleges and institutes of technology.⁹

In 1984, Army operated the Army Command and Staff College, Queenscliff, which conducted a course designed to educate Army officers at the rank of major, preparing them for future demanding command and staff appointments. In 2014, Army officers attend the joint Australian Command and Staff College (ACSC).

In addition to a joint curriculum, ACSC perpetuates a cognitive dissonance of three separate 'single service' curriculums. Diverting joint education resources at ACSC for 'single service' curriculums suggests an educational shortfall in ADF officers, implying that ADF officers are not sufficiently educated by their own service prior to attending ACSC. If true, this educational shortfall needs rectification. For example, the three services may need to expand professional military education for their officers earlier in their careers and prior to attendance at ACSC. Australia's Navy, Army and Air Force aspire to fight as joint, and increasingly whole-of-government, multi-sectoral and coalition forces. Education in the ADF must match this reality.

It is of concern that, just as the Australian Army has changed or eliminated education opportunities for its people, education standards have also fallen in Australian schools and workplaces. For example, 'while Australia remains a high-achieving nation in education, our overall performance has fallen in the last

decade.¹⁰ 'Australia now ranks 25th out of 29 advanced economies in terms of public investment in universities.'¹¹ In addition, more students in Australia are 'finishing Year 12, but attendance rates are falling and literacy and numeracy scores have stagnated among high school students.'¹² This is a key concern for the Army, as language and literacy are foundation capabilities for cognitive capacity.¹³

The Australian Industry Group estimates that '4.2 million Australians, or 40 per cent of the workforce, are below the minimum language, literacy and numeracy standard needed to function in a knowledge economy.'¹⁴ These warnings concerning diminished education standards in Australia indicate that Army cannot assume that all soldiers will enlist with a reasonable standard of education.

In 2014, there are indications that the government may cut the ADF's budget despite some observers commenting that 'defence spending as a proportion of Gross Domestic Product (GDP) has fallen to its lowest level since 1938, at 1.56 per cent of GDP.'¹⁵ Facing similar fiscal pressures through funding sequestration, the Commandant of the US Marine Corps, General James F. Amos, observed that 'this is no time to do business as usual'.¹⁶ Sharing a similar view, physicist Ernest Rutherford reportedly quipped, 'we haven't got the money, so we've got to think.'¹⁷ In these financially austere circumstances, it is crucial that the Australian Army champions enhanced education of its people as an asymmetric advantage in driving Army innovation and adaptation.

In summary, the Australian Army has no choice but to continue focussing on providing soldiers and leaders opportunities for education and training. Perhaps Army should reflect on Michael Howard's description of the British Army in the interwar period of 1919–1938. The British Army in those years viewed 'soldiering as an agreeable and honourable occupation rather than as a serious profession demanding no less intellectual dedication than that of the doctor, the lawyer, or the engineer.'¹⁸

This is not to suggest that the Australian Army should return to the structure and policies of 1984. Much of Army's education in 1984, particularly for officers, was delivered in a single service stove-pipe. This essay argues that the Australian Army's ability to educate its people should be as strong as its ability to train its soldiers. The three books examined in this review essay explore why education is important for militaries, including the Australian Army.

Military Innovation in the Interwar Period

Published in 1998, *Military Innovation in the Interwar Period*, edited by Williamson Murray and Allan R. Millett, comprises seven essays, and concludes that:

A significant portion of innovation in the interwar [i.e. between World War I and World War II] period depended on close relationships between schools of professional military innovation and the world of operations. The United States (US) military lost its belief in professional military education after World War II [during the Cold War] ... despite the connection between success in World War II and education at Leavenworth [US Army Command and General Staff College] and Newport [US Navy's College of Naval Command and Staff].¹⁹

Importantly, the period between World War I and World War II saw military institutions in France, Germany, Japan, the United Kingdom and the United States 'come to grips with enormous technological and tactical innovation during a period of minimal funding and low resource support ... some succeeded ... others were less successful ... and some resulted in dismal military failure.'²⁰ There were seven specific areas of innovation during the interwar period: armoured warfare, amphibious warfare, strategic bombing, tactical bombing, submarine warfare, carrier aviation, and the development of radar.²¹

Murray and Millett argue that, without education, bureaucratic process and organisational inertia predominate. Indeed, according to Rosen, bureaucratic dominance stunts innovation. He notes that, because bureaucracies, including military bureaucracies, seek routine, repetitive and orderly processes, they 'are not supposed to innovate'.²² Citing barriers to innovation including the military hierarchy, traditionalism, romanticism and the lack of peacetime tests of effectiveness, Rosen explains that, 'if left to themselves, military innovation must be the result of civilian intervention.'²³

The ADF also has its share of bureaucratic processes leading to inertia in education. One obvious example is the vision for professional military education articulated in *Defence White Paper 2013*. On page 105 of the 129-page document, *Defence White Paper 2013* devotes just three paragraphs to ADF 'Training and Education'. The *Defence White Paper 2013* vision for professional military education is:

*Education ... is important in positioning Defence for the challenges in the decade ahead ... Engagement with the wider national security community will be increased, including by enrolling students from other Departments and Agencies in Defence's educational programs, and by Defence participation at the National Security College.*²⁴

As an alternative approach to establishing a vision for professional military education, Murray and Millett note that armies or defence forces seeking to 'institutionalise their new forms of warfare', should ideally perform a combination of three actions:²⁵

1. Institute innovative approaches in the service school system, such as via non-commissioned officer and officer education programs.
2. Write doctrinal manuals on the new form of warfare, such as the German Army *Truppenführung* [Troop Leading] (1933), US Marine Corps *Tentative Manual for Landing Operations* (1934), German Luftwaffe manual *Conduct of the Air War* (1935), US Army Air Force manual *Delivery of Fire from Aircraft* (1939) and US Marine Corps *Small Wars Manual* (1940). For the Australian Army in 2014, opportunities for an innovative approach to future war include the development of manuals on amphibious operations and the employment of the armoured cavalry regiment. The importance of doctrine development cannot be overstated, as noted by General Alexander Vandegrift:

*... despite its outstanding record as a combat force [in World War II] the Marine Corps' far greater contribution to victory was doctrinal; that is, the fact that the basic amphibious doctrines which carried Allied troops over every beachhead of World War II had been largely shaped – often in the face of uninterested and doubting military orthodoxy – by US Marines, and mainly between 1922 and 1935.*²⁶

3. Enable operational units to perform new wartime missions. For the Australian Army in 2014, the conclusion of the current suite of operational deployments should provide opportunities for the conduct of robust experimentation, exercises and simulation to replicate wartime missions. The 1920s US Navy provides a good example of innovation in an austere funding environment. During this period the US Naval War College in Newport conducted wargaming which provided insights into 'the potential that the aircraft carrier might possess at a time *when the [US] navy did not possess a single carrier*'.²⁷

Military Adaptation in War: With Fear of Change

Written 13 years after *Military Innovation in the Interwar Period*, Williamson Murray's *Military Adaptation in War: With Fear of Change* makes a further case for education. Murray asserts that, in time of peace, militaries can only innovate; in war they adapt or fail:

*... one cannot replicate in peacetime the conditions of war. In the case of innovation, there is always time available to think through problems, whatever their nature, but peacetime invariably lacks the terrible pressures of war as well as an interactive, adaptive opponent who is trying to kill us. In the case of war, on the other hand, there is little time, but there is the feedback of combat results, which can suggest necessary adaptations, but only if lessons are identified **and** learned, the latter representing a major "if".*²⁸

Murray's thesis of adaptation in war relies on educating military leaders. Through examining adaptation on the Western Front (1914–1918), the opening battles of World War II, the Battle of Britain (June 1940–May 1941), the Air War (May 1940–May 1945) and the Yom Kippur War (1973), Murray argues that, without the education of military leaders, adaptation through lesson identification *and* learning will be limited.

Emphasising educational requirements, Murray argues that 'successful innovation [in peacetime] has depended on the organisational culture, the imagination and vision of senior leaders, and the seriousness with which military organisations have taken the intellectual preparation of future leaders through an honest and intelligent study of the past.'²⁹ He claims a direct correlation between 'the willingness of military institutions to emphasise empirical evidence in the processes of peacetime innovation and their ability to recognise the actual conditions of war, [as the] the first step to serious adaptation.'³⁰

Murray also asserts that 'war inevitably involves issues at the political, strategic, operational and tactical levels ... [and] that spread of perspective invariably presents contradictory choices to military leaders.'³¹ This point is crucial for military professional education. Developing officers to span this breadth of intellectual challenge is an inexact process.

Officers who show considerable promise at the tactical level may falter at operational levels and above. Others may demonstrate greater skills when dealing with higher level challenges. However education is essential throughout the entire

span of an officer's career if he or she is to succeed. This is expensive. It is also prone to disruption. As noted earlier, many career courses for officers remain significantly undersubscribed during busy operational periods. Regardless, an effective military education system must continuously seek to educate its officers and non-commissioned officers to meet the challenges of the most demanding future warfighting scenarios.

As Millett and Murray observed in 1988, 'mistakes in operations and tactics can be corrected but political and strategic mistakes live forever.'³² For those currently serving in the Australian Army, Murray warns that:

As was the case with the experiences of the Vietnam War, time will wash out those experiences of the recent past in Iraq and Afghanistan. This time, it will be doubly tragic if there were not a change in the fundamental view of how officers view their profession ... one needs to rethink professional military education in [three] fundamental ways:

1. Develop close relationships between schools of professional military education and the world of operations.
2. Ensure professional military education remains a central concern *throughout the entire career of an officer* [and non-commissioned officer] [italics in original].
3. Promote to the highest ranks [those who] possess the imagination and intellectual framework to support innovation [and adaptation].³³

The Generals: American Military Command from World War II to Today

In *The Generals: American Military Command from World War II to Today*, Thomas E. Ricks examines the warfighting abilities of 24 generals, primarily from the US Army. Throughout *The Generals*, Ricks emphasises the importance of education in developing military capability. He agrees with Murray and Millett's analysis that 'the US military lost its belief in professional military education after World War II.'³⁴

In 1965 for example, Peter Dawkins, a West Point graduate and Rhodes scholar, noted that, instead of emphasising professional military education, the US Army sought individuals with 'zero defects', preferring those 'who [had] done so little – who [had] exerted such a paltry amount of initiative and imagination – that [they have] never done anything wrong.'³⁵

According to Lewis Sorley, weaknesses in professional military education in the US Army saw the rise of US Army leaders such as General William C. Westmoreland, Commander of the US Military Assistance Command in Vietnam from 1964 to 1968. Sorley describes General Westmoreland as ‘... an organisation man more educated in corporate management than military affairs. He was an odd combination of traits: energetic and ambitious, yet strikingly incurious ... [who] made no effort to study, read or learn.’³⁶ General Westmoreland did not attend Command and General Staff College or War College. He was, according to Stanley Karnow, a ‘corporation executive in uniform’.³⁷

In the 1960s and during the Vietnam War, US Army professional military education was at a low ebb. Neil Sheehan notes that ‘there was a lack of willingness among general officers to examine their own performance’ while the dominant characteristics of senior leadership in the US armed forces had become ‘professional arrogance, lack of imagination, and moral and intellectual insensitivity.’³⁸

The US Army required rebuilding following Vietnam. The first step was to establish the US Army Training and Doctrine Command (TRADOC) in 1973, led by Major General William DePuy. TRADOC united, for the first time, the US Army’s ‘efforts on training, research, and doctrine’.³⁹ Doctrine described ‘how the [US Army] thinks about how to fight’ and, under Major General DePuy’s leadership, the US Army published FM 100-5, *Active Defense*, in 1976.⁴⁰

DePuy ‘made the drafting of doctrine – once considered drone work for second-rate midcareer staffers – a core function, the business of generals.’⁴¹ DePuy’s new emphasis forced the US Army to consider ‘basic strategic questions: *Who are we? What are we trying to do? How are we to do it – that is, how should we fight?*’⁴² Current pragmatic doctrine is the key to educating an army, and the US Army made doctrine ‘one device by which it sought to reassert its professional self-worth.’⁴³

However, one criticism of FM 100-5, *Active Defense*, and the US Army’s 1982 revision of FM 100-5, *AirLand Battle*, is that these are ‘flawed products ... of the late Cold War ... [that] emphasised training, which prepares soldiers for the known, far more than education, which prepares them to deal with the unknown.’⁴⁴ Given a ‘predictable enemy’ – the Soviet Union – and the fact that ‘even the ground on which a confrontation with forces of the Warsaw Pact would take place was known ... there was little need for [US] generals who were strategic thinkers, because the strategic threat at the time was obvious.’⁴⁵

Ricks argues that, as a result of concentrating on training rather than education, the US Army produced a generation of officers who 'tended to be tactically adept, proficient as battalion commanders, but not prepared for senior generalship – especially when the Cold War ended and they faced a series of ambiguous crises.'⁴⁶ Indeed, as Colonel Paul Yingling notes, 'from 1982 the National Training Center [NTC, Fort Irwin, California] was the intellectual home of the Army, not the War College or West Point.'⁴⁷

According to Ricks, this focus on tactics and the operational level of war resulted in the US Army leadership ignoring strategy. These leaders lacked the ability to embrace 'political, economic, and psychological means for the attainment of war aims'.⁴⁸ Hew Strachan agrees, noting that 'the operational level of war appeals to armies: it functions in a politics-free zone and it puts primacy on professional skills.'⁴⁹ For example, Ricks argues that US Army officers led four operations – Panama (1989), Iraq (1991), Afghanistan (2001) and Iraq (2003) – 'without a notion of what to do the day after their initial triumph, and in fact believing it was not their job to consider the question.'⁵⁰ The 'fixation on winning day-long battles in a two-week NTC rotation may well have distracted an entire generation of combat officers from learning or even thinking about, how to turn short-term tactical victories into long-term strategic results.'⁵¹

In response to the US Army's post-Vietnam inability to educate strategic thinkers, the US Army established the School of Advanced Military Studies (SAMS) in 1984. SAMS is designed to provide staff college-qualified majors 'the opportunity of a lifetime to study their profession in depth, in a no-holds-barred arena where their best ideas were put up against the best ideas of other people and, where they were used to winning arguments, they were now losing arguments.'⁵²

Through SAMS, the US Army seeks to ensure that 'more officers [are] educated in theories and principles which will make them adaptive and innovative.'⁵³ To paraphrase Murray, the US Army sought, via SAMS, the ability to innovate in peace so that it could adapt in war.⁵⁴

The ADF has long recognised the value of a SAMS-type education for its officers. Since 1991, the ADF has sponsored 37 officers to undertake USMC, US Army, US Air Force and US joint advanced warfighting programs. While 12 graduates are now retired, of the other 25 graduates, one Royal Australian Navy, 19 Australian Army, and five Royal Australian Air Force officers remain serving in the regular ADF. Graduates range in rank from major general to squadron leader.⁵⁵

Yet, despite the establishment of SAMS courses, the US Army remained unable to ensure that its education systems matched its training systems. Following tactical and operational victory in the 1991 Gulf War, the US Army faced more uncertainty. The Cold War was over. A peace dividend cutting the US Army by 40 per cent was mandated. The Information Age had arrived. Programs such as SAMS were accorded lower priority in favour of US Army digitisation.⁵⁶ The US Army effectively outsourced its thinking: 'MPRI [Military Professional Resources Inc.] wrote our doctrine, we had retired colonels as instructors, and we didn't have battlefield feedback shaping doctrine ... It cost us in the decade of war [2001-2011].'⁵⁷

As the US Army faced new challenges in the late 1990s, so too did the Australian Army. From 1999 the ADF deployed to East Timor, Iraq, Solomon Islands and Afghanistan. The Army contributed most troops and suffered most casualties. Simultaneously, as described earlier, Army's opportunities for foundation warfighting training — particularly in the four phases of war — were limited. In addition, the Australian Army modified or phased out education opportunities for its people. Concurrently, education standards fell in Australian schools and workplaces.

Despite these challenges, in the first decade of the twenty-first century, the Australian Army performed well in multiple deployed environments. John Blaxland notes that:

*... the Army sought to maintain a culture of learning ... [however] there was still a difference between education and experience and the Army tended to value experience over education, but it recognised the need to blend education and experience (and initiative) to develop its leaders, as well as a desire to learn from others. The more operations the Army was involved in, the more capable it became.*⁵⁸

Notwithstanding its past success, the Australian Army cannot afford future complacency. Sustaining excellence in an army requires robust and innovative training and education. In this regard, the challenges faced by the US Army beyond 2003 serve as a warning.

Approaching the 2003 Iraq War, US Army leadership had created a 'well-trained, professional, competent force'.⁵⁹ The US Army could fight. But, as Colin Gray observes, when 'war is reduced to fighting':

... the logistic, economic, political and diplomatic, and sociocultural contexts are likely to be neglected. Any of these dimensions, singly or in malign combination, can carry the virus of eventual defeat, virtually no matter how

*an army performs on the battlefield ... When a belligerent approaches war almost exclusively as warfare, it is all but asking to be out-generalled by an enemy who fights smarter.*⁶⁰

In Iraq, the US Army faced 'an insurgency that appeared to have few if any generals – but had a better concept of how to wage war in Iraq.'⁶¹ For the US Army, adapting from a conventional war against a known army to an insurgency against an unknown threat was fraught with difficulty.

Ricks describes two solutions the US Army developed in Iraq to unshackle itself from General DePuy's post-Vietnam model of excellence in training at the expense of professional military education. First, soldiers and junior leaders independently adapted as they fought an innovative and equally adaptable enemy. While centralised US Army operational guidance faltered, various US divisions in Iraq, 'waged more or less independent campaigns.'⁶²

Second, officers such as General Martin Dempsey, General James Mattis, USMC, General Raymond Odierno and General David Petraeus, were leaders who 'were not officers who fit the relentlessly tactical mode developed by DePuy but rather [leaders] who had, *on their own*, found [an] alternate mode ... [as] flexible commanders able to think independently ... and critically [*italics added*].'⁶³

Ricks concludes *The Generals* with advice on how to use education to produce critical thinking and independent leaders in the US Army of the future. This advice, while not exhaustive, is germane to the Australian Army when considering the reinvigoration of Army education. Ricks counsels:

1. Develop critical thinking in Army leaders. Instil a professional military education habit of 'closely studying military and cultural history'. Send leaders to 'pursue advanced degrees at elite civilian institutions, where many of their basic assumptions will be challenged.'
2. Educate leaders to write clearly. The modern era is dominated by 'PowerPoint bullet-point briefings ... which lack verbs and causal thinking and all too often confuse a statement of goals with a strategy for actually achieving them.'
3. Encourage leaders' contributions to professional discourse through professional military journals.
4. Send leaders for a 'sabbatical' in regional countries. Follow the Australian Army's lead in creating outplacement opportunities for high performing leaders with elite civilian businesses.

5. Instil more rigour in military staff colleges. Ricks recommends staff colleges adopt 'selective entrance examinations, frequent paper-writing assignments, and reading loads equivalent to those at civilian graduate schools.' He adds that 'the taxpayer is entitled to nothing less, especially in an era of tightening defense budgets.'⁶⁴ Notably, ACSC has adopted an educational approach similar to that of Ricks. ACSC students can now undertake more demanding work and earn a Masters degree in their staff college year.

Conclusion

While emphasising the benefits of a robust professional military education, the three books in this review essay also provide examples of gaps in education that led to failure in war. Education comes in many forms and not all of these forms are, or need to be, expensive. Perhaps most critically, an organisation must collectively recognise, create and nurture opportunities for education. A common theme in these three books is that poor education of military leaders increases the risk to a nation's security.

Education in the Australian Army requires reinvigoration. Like the US Army in the 1970s, 1980s and 1990s, the Australian Army is a first class training organisation. However there are signs, both from within Australian society and within Army itself that, as a result of reduced educational opportunities, the Australian Army's education programs need dramatic revitalisation.

Through Exercise Hamel, the Australian Army renewed its focus on training in foundation warfighting skills — perhaps Army should also renew its focus on enhanced professional military education. The centenary of World War I in 2014 and the Gallipoli landings in 2015 provide an excellent opportunity for a renewed emphasis on education. Campaign studies of key Australian World War I operations in the region, the Middle East and Europe, with accompanying study and examination requirements, represent just one approach. The return of the Effective Writing Program for officers and English, Maths and Social Studies education for soldiers and non-commissioned officers would also provide a reinvigoration of Army education. Further opportunities include the development of Army manuals on amphibious operations and the employment of the armoured cavalry regiment.

The ultimate aim of this review essay is to generate debate on the future of education in the Australian Army. This is a debate in which all serving members of the Army have a vested interest. Ultimately, future strategic challenges and conflict involving Australia will test the effectiveness of the Australian Army's training *and* education. ■

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BOOK REVIEW

Journey to Peace: A True Story of Forgiveness and Reconciliation

Adam Joe Lawton, Troubador Publishing, 2012,
ISBN 9781780883182, 284pp, £9.99

Reviewed by Captain Andy Brayshaw

In April 1982 when Argentina invaded the British overseas territory of the Falkland Islands, Adam Joe Lawton was a 17-year-old junior seaman serving on HMS Sheffield, a type 42 destroyer. At that time, Sheffield was on her way home following protection duties in the Iran-Iraq war. With the invasion of the Falklands, Sheffield was redeployed to the South Atlantic as part of the British task force hastily assembled to retake the Falklands.

Journey to Peace follows the author's journey through his baptism of fire when HMS Sheffield was hit and sunk by an Exocet missile, becoming Britain's first casualty and resulting in the deaths of 20 of her crew. For a young man of Lawton's age this was an appalling turn of events, an unimaginable horror that would haunt him for many years and see him change from a pleasant young man to one filled with hate, anger and uncontrollable aggression.

Like many veterans returning from the Falklands War, Lawton had difficulty adjusting to a peaceful existence. He was unable to grieve for his friends and fellow sailors who had died on Sheffield and turned to alcohol to try to block his appalling memories. However his alcohol-induced aggression would often see him involved in fights usually fought for the most trivial of reasons. This spiral into self-destruction would have continued indefinitely had it not been for a navy lieutenant to whom he was paraded following one of his bouts of drinking and fighting. The lieutenant took an interest in Lawton, noting his road to probable destruction, and prompting him to assess his situation and the limited future that he faced. As a result, Lawton began to arrest his descent and worked hard to recover from his alcohol addiction and its destructive aggression.

The memories of those eventful months in 1982 gradually began to fade and, by 1995, Lawton had left the navy and emigrated, living the Australian dream in Brisbane. In 1988, however, the memories that had been locked away for so long suddenly began to recur. That unseen killer of so many war veterans — Post Traumatic Stress Disorder (PTSD) — had arrived in Lawton's life. What followed was a journey of reconciliation and forgiveness as Lawton faced his demons, returning to the Falklands and then travelling to Argentina to meet some of the Argentinian pilots who had been involved in the attack on Sheffield.

In 1982 Lawton had been the third-youngest sailor on Sheffield; of the two who were younger at the time, one took his own life and the other remains in psychiatric care. The British forces lost 258 personnel during the Falklands War. In the 30 years since the end of the war more than 350 ex-members have taken their own lives as a result of PTSD. The most recent of these is ex-Para Stephen Hood, who featured in iconic film footage celebrating victory at the battle of Goose Green. Hood committed suicide on 3 January 2013. *Journey to Peace* is a compelling and inspiring book for those men and women of all ages who have served their countries and are dealing with the demons that such service brings. ■

BOOK REVIEW

Total Destruction of the Tamil Tigers

Paul Moorcraft, Pen and Sword Publishing, 2013,
ISBN 9781781591536, 184pp, £19.99

Reviewed by Major Chris Buckham, Royal Canadian Air Force

Dr Moorcraft has written a very enlightening book about a war that received, relatively speaking, little to no coverage in the West; nor has it been the subject of much post-war attention. The conflict between the minority Tamils of northern Sri Lanka and the majority Sinhalese lasted 26 years from 1983 until 2009.

A mixture of asymmetric and conventional fighting, it was unique in that funding for the rebels came primarily from the Tamil diaspora and they were able to build a force that included structured and disciplined air, sea and land elements. It was also unique in that, for a majority of the conflict, the Tamils enjoyed the upper hand, only to be utterly crushed by the government following a final and incredibly violent three-year campaign known as Eelam War IV (2006–2009).

Moorcraft's book provides detailed historical analysis of the causes and execution of the war over the entire period of the conflict. Particular attention is paid to the development and expansion of the war from both the Tamil and government perspectives. This is important because it provides context to the reader and goes a long way to explaining the success of the Liberation Tigers of Tamil Eelam (LTTE)

and the government's struggle to defeat them. Moorcraft also discusses the key international players and the impact of the international environment on the struggle; in this case, the main external influence came from India.

This latter point is interesting as the traditional players, the United States, United Kingdom and Russia, had very little influence on activities in Sri Lanka. While the Sinhalese government paid lip service to the suggestions of international bystanders, it was well aware that it had to respond to pressure from India, the local superpower. Moorcraft clearly identifies and deftly analyses the impact of Indian intervention on the conflict and the complexity of that relationship (with both sides). He also explains the convoluted role of the Indian peacekeeping force in its efforts to influence the final outcome and the lessons learned by the Tamils (and the Indians) from that interaction.

The development of capacity at each doctrinal level (tactical, operational and strategic) by the two sides is also investigated and described in this account. This aspect is quite fascinating as the Tigers represented a unique non-traditional force that became increasingly more effective because of its flexibility and adaptability and also due to the fact that it remained under the sole direction of an acknowledged military genius (Tigers' leader, Prabhakaran). The Sri Lankan forces, hamstrung by changing governments, a concerted effort to keep their own forces weak and a lack of cooperation between the elements, struggled until they, too, were finally able to coordinate and focus their efforts in the penultimate war of 2006–2009 in which they achieved total victory. The Tigers, despite early and protracted successes, were unable and unwilling to transfer their military success into an effective negotiated and political settlement. Combined with a series of strategic blunders such as the assassination of Indian Prime Minister Rajiv Gandhi and the use of 'mafia'-style techniques to ensure funding from the diaspora, the Tigers ultimately provided their adversaries common cause and isolated themselves internationally.

Moorcraft's work provides many lessons for the professional military officer and amateur enthusiast alike. These include:

- the challenges of conducting a combination of conventional and asymmetric warfare simultaneously
- the strengths and weaknesses of domestic and autocratic government in conducting long-term operations
- the impact of the international community on outcomes (ie the 9/11 attack)

- small unit conventional and special forces tactics
- the requirement to maintain the vision and goal of operations and the critical necessity of understanding when to focus on political vice military methods

Overall, *Total Destruction of the Tamil Tigers* is an excellent book and is both engaging and entertaining. The production quality of the book is very high and the text easy to read. Moorcraft has also provided a detailed bibliography with copious footnotes. I thoroughly enjoyed this book and strongly recommend it to those seeking to expand their knowledge of operations in the Far East.■

BOOK REVIEW

No Easy Day: The Firsthand Account of the Mission that Killed Osama Bin Laden

Matt Bissonnette (alias Mark Owen), Dutton Adult, 2012,
ISBN 9780525953722, 316pp, US\$26.95

Reviewed by Lieutenant Jacob Choi

No Easy Day is one of the many stories told in the aftermath of the manhunt for Osama Bin Laden. Although it seeks to clarify some of the misinformed reporting in the days that followed the 'raid of the 21st century', the author makes it clear that he had a defined target audience in mind — a demographic not unlike the high school student he once was, aspiring to be a US Navy SEAL.

With that in mind, the book is written for the common reader. Military slang and acronyms are explained within a style of writing that reflects a military memoir trying to connect the dots of the news flashes common in the popular media. 'Mark Owen', later revealed to be Matt Bissonnette, begins the story with a portrayal of his early life, guiding the reader through his upbringing in Alaska, through DEVGRU selection and into the missions that defined recent SEAL history.

Rather than delivering a full dissection of the raid to kill Bin Laden, Bissonnette spends time lamenting bureaucratic stalling, not unlike that evident prior to the successful rescue of Captain Richard Phillips in the *MV Maersk Alabama* hijacking. Readers seeking a memoir detailing the tactics of the Bin Laden raid may be disappointed to find that the author confirms what the media previously reported. The key players on the ground were unaware that one of the helicopters had crashed — this may have been an elite team, but it was not immune from the effects of the chaos of war.

The author has since cast off his pseudonym and has been identified as one of three assaulters who were first on the floor to see the dead Osama Bin Laden. However his account has recently been criticised, apparently by some of his teammates and a number of Pentagon officials. For the discerning reader, this story is worth reading in conjunction with other accounts of the same raid as told in *Zero Dark Thirty* and an account in *Esquire* magazine of 'The Shooter', another SEAL in the raid.

For those who are curious about the inner workings of the intelligence gathered for the raid, the book presents an overview of the techniques that were combined to provide the 100% assurance required for confirming the target. Bissonnette writes that the intelligence deduced a great deal of information about the target compound that was eventually confirmed in the air assault. He also highlights the intensity of training and simulation for the raid, culminating in a full rehearsal performed in front of senior military leaders.

One theme that Bissonnette emphasises closer to the end of the book involves what he refers to as the 'good idea fairy', a notional character that represents bureaucratic attempts to unnecessarily complicate the mission. The SEALs are subject to ideas generated from higher levels that understandably frustrate the men, particularly given the extent of collective experience evident in this hand-picked team. Most ideas involve contingency planning and are clearly well-intentioned, and the SEALs treat the majority with a degree of humour.

Readers may wonder how the American government planned to handle the diplomatic ramifications of the raid into Pakistan (a friendly ally) should it be compromised, as it represented a clear intrusion into Pakistani sovereign territory. The answer from higher up, according to the author, was that two dozen SEALs, an interpreter and an assault dog had been sent in to recover a downed UAV.

Military readers will appreciate the humour, frustration and excitement as Bissonnette shares his experiences in training, operations and everyday life. He tells readers that SEALs are still ordinary humans who are misunderstood by the outside world. He writes of his team returning home from the Bin Laden raid to resume family life without their spouses realising the extraordinary enormity of their actions.

Although the world now understands more about Operation Neptune Spear, the unique perspective offered by *No Easy Day* highlights what makes the Bin Laden raid as remarkable as the Entebbe hostage rescue (Operation Thunderbolt by Israeli forces) and the Iranian Embassy siege (by British SAS forces). It allows the reader to gain a unique insight into the SEAL community, while also preserving the mystique traditionally associated with the personalities and activities of such teams.

That mystique is deliberately preserved by the author so as to build aspiration within his younger readership. His avowed intention was to write a piece of recruitment literature for another high school boy who would dream of becoming a special forces operative. As military members, this is a story well worth reading as it adds to the lessons we can learn from others in uniform. ■

BOOK REVIEW

Anthropologists in the SecurityScape: Ethics, Practice and Professional Identity

Robert Albro, George E. Marcus, Laura A. McNamara, and Monica Schoch-Spana (eds), Left Coast Press, 2011, ISBN 9781611320138, 277pp, US\$34.95

Reviewed by Scott Flower, University of Melbourne

The importance of understanding the social and cultural dimensions of complex operational environments has become more evident to Western militaries through recent counterinsurgency campaigns in Iraq and Afghanistan. Since 2006, American, British, Canadian, Australian and New Zealand forces have become increasingly aware that better understanding of local populations' cultures and societies is necessary in order to win the battle for 'hearts and minds'. More recently, socio-cultural knowledge has been sought to help reduce 'green on blue' insider attacks by Afghan forces on ISAF troops, a factor which has contributed to improvements in cultural awareness education generally within pre-deployment training.

With anthropologists often perceived as 'experts' in the study of culture, it is perhaps not surprising that militaries have actively sought their advice to improve operational effectiveness and reduce casualties. The US military's increased interest

in anthropology polarised and divided the anthropological community in America and contributed to the American Anthropological Association's Commission on the Engagement of Anthropology with the US Security and Intelligence Communities (CEAUSSIC). *Anthropologists in the SecurityScape* evolved in part as a response to the CEAUSSIC process which examined the alleged 'weaponization of anthropology' and the ethics of anthropology's renewed engagement with the US military.

Thankfully, this US-centric book does not rehash the ethical issues previously covered by CEAUSSIC. Instead, the volume provides an informative understanding of the wider role of anthropology and anthropologists by drawing on the discipline's unique methods of self-reflexivity and ethnography.

The book contains 16 highly granular personal accounts of the complex and varied work of cultural, physical, and linguistic anthropologists and archaeologists employed in their professional capacity to work with and advise the military in both military and civil-military environments. The contributors' range of roles and backgrounds in the so-called 'SecurityScape' include professional military education, intelligence analysis, academia, non-government organisations, government research institutes and positions within the US defense bureaucracy itself.

Anthropologists in the SecurityScape uses an innovative, reflective method with chapters formulaically structured as a dialogue. Each chapter begins with an anthropologist reflecting on his/her own experience working in the 'SecurityScape'. Each author's auto-ethnography is then critically appraised by the editors, and followed with a rebuttal by the anthropologist. This process generates a dialogue about the practical, ethical and civic responsibilities that come with scholarly knowledge of other cultures. The chapters are free of discipline-specific jargon and easy to read. Despite the subjectivity of each chapter, I was struck by how seamlessly the chapters talk to one another, a result of careful work by the editors.

The withdrawal from Afghanistan is underway and Western military and intelligence communities are restructuring for the twenty-first century in an era of austerity. This book therefore provides a timely and important contribution to the wider debate on the role and capabilities of social scientists in national security, and their place in a 'whole of nation' approach to security.

Anthropologists in the SecurityScape could have been improved in three major ways. First, statistics showing or discussing the total number of anthropologists working in the SecurityScape would have enhanced the reader's empirical

understanding of the scale of anthropology's engagement with the military. Second, the book could have discussed whether the US military has derived 'lessons learned' from its recent closer engagement with anthropology and the study of the cultural dimensions of military operations. Third, the book could have discussed whether the socio-cultural capabilities developed through recent counterinsurgency campaigns will be sustained post-Afghanistan and how current capabilities might be reconfigured for military operations other than war, such as for stabilisation, peacekeeping and conflict prevention ('phase-zero').

This book is refreshing in the way it demonstrates the varied and applied ways in which anthropology can be taken as a vocation outside the discipline's largely academic form. It will be of equal interest to anthropologists following the debate over the discipline's 'weaponization' and to those professionally employed within the national security and defence establishment. ■

BOOK REVIEW

Uncommon Soldier: The Story of the Making of Today's Diggers

Chris Masters, Allen & Unwin, 2012,
ISBN 9781741759716, 400pp, \$49.99

Reviewed by Iain Henry, Australian National University

Australia's military involvement in Afghanistan now represents the longest conflict in our nation's history, yet the tactical and operational details of that involvement are often denied to the public. In May 2013, Defence allowed operational commanders to brief the media on a series of engagements that took place in the Shah Wali Kot area of Tarin Kowt. There is little doubt that Australian soldiers performed admirably — the valour of one was recognised by the award of the Victoria Cross. However, from one perspective the briefing was no cause for pride — it had taken almost three years for the Australian public to learn significant details of these events, which took place in June 2010. Almost a century on from the horrors of Gallipoli, our grandparents and great-grandparents received more detailed and contemporaneous reporting. In this context, Chris Masters' *Uncommon Soldier* can make an important contribution to Australia's understanding of the military deployment in Afghanistan. Best described as a series of short stories told from the tactical perspective, it provides much-needed colour to the official, anodyne Defence narrative of the conflict.

Masters contextualises these stories by first examining the training processes for Australian soldiers — both officers and other ranks. He identifies and explains many of the transformative elements of military training, including the indoctrination process of the fostering of shared expectations and identity. This section of the book is perhaps the best account of Australian military training in print today.

The main effort of the book — an explanation of modern soldiering in an ancient society — will enlighten those readers unfamiliar with the Army and its operations in Afghanistan. In this sense, the book is a valuable contribution to public awareness, making accounts of heroism, bravery and sacrifice accessible to the average reader. The narrative is frank and uncensored, replete with dark humour, expletives and an atmosphere of suspense. At the other end of the spectrum, Masters is sensitive and respectful in describing Australian casualties — the account of Sapper Darren Smith's death is particularly moving.

For those looking for more than this, the book might disappoint. The strategic context of Australia's involvement is left unassessed, and the adaptability and efficiency of Australia's broader Defence machinery is often questioned, but not seriously examined. Most frustratingly, given his authoritative position as one of Australia's relatively few foreign correspondents, Masters skirts around the issue of media reporting on Australia's commitment, never quite offering a satisfactory explanation as to why so little detail emerges from such a protracted conflict. While he notes that 'the persistent excuse that operational security counted more than transparency had become less convincing by the year', he does not fully analyse why restrictive media practices and hostile attitudes persist, nor why Australian practices differ so markedly from those of our allies.

Even the structure of Masters' narrative hints at the difficulties he may have encountered in writing the book: many of the short stories revolve around engagements that resulted in soldiers receiving gallantry awards. If even a journalist has to resort to the Australia Day and Queen's Birthday Honour Lists as primary sources, then the time has come to re-examine the validity of the 'operational secrecy' catch-cry. For reasons left unexplained to the reader, Masters exonerates those senior ADF leaders responsible for managing such issues, instead praising their eventual willingness to grant him a greater level of access.

Another critique is that, at times, the book has a very hagiographic feel. The introductory chapter describes Masters' own struggle to resolve the ANZAC myth with a 'concern about a stretching of the truth' (p. xvii). While he ends the chapter by concluding that Australians are indeed 'uncommon soldiers', it is unclear

precisely what quality or attribute warrants this distinction. It is certainly possible, without diminishing the praiseworthy conduct of many individual Australian soldiers in Afghanistan, to subject Australia's involvement to a more rigorous and objective analysis.

While some readers will find that this book raises more questions than it answers, the average reader is likely to learn much about Australia's deployment to Afghanistan. Masters has performed a significant service in making these personal, confronting and authentic stories so easily accessible, and on this basis the book is both a timely and important contribution. ■

BOOK REVIEW

Indian Foreign and Security Policy in South Asia: Regional Power Strategies

Sandra Destradi, Routledge, 2012,
ISBN 9780415721240, 200pp, \$39.95

Reviewed by Ash Khan

India is mentioned in foreign policy circles almost exclusively in three contexts: as an emerging great power, as Pakistan's perennial enemy, and as China's long-term challenger. This makes Sandra Destradi's book, *Indian Foreign and Security Policy in South Asia: Regional Power Strategies*, a rare book that seeks to illuminate India's troubles closer to home and, for all the talk of India's growing power, describe how New Delhi has struggled to assert itself with its much smaller neighbours. The result, however, is a book that is burdened by its past life as a PhD thesis and ultimately this limits the degree of analysis of India's South Asia policy and its value for the general reader.

Destradi invests heavily in her theoretical framework in order to mount her argument. The result is a heady serving of critical theory; those readers interested in Indian foreign policy and South Asian security rather than international relations theory are advised to skip immediately to page 57. For others interested in

constructivist approaches to empire, hegemony and leadership, Destradi offers a useful academic review of the terms in a long first chapter that delineates hegemony from the more benign role of leadership and a more coercive imperial approach. Too often, these theoretical discussions are drawn out beyond a useful point, such as Destradi's dedicating several pages to defining broadly accepted terms such as 'region' or 'South Asia'.

Destradi's focus on India starts with Chapter 3, where she extrapolates an outline of India's foreign policy from public statements made by the Ministry of External Affairs and interviews she held on the ground. In this chapter, a rather paltry seven pages compared to the 40 spent on theoretical discussions, Destradi presents the enormous scale of India's preponderance in South Asia and New Delhi's five regional goals: stability, security, economic growth, democracy and preserving its regional influence in the face of competition from China and Pakistan. Destradi is careful to note that, '[w]hile economic interdependence might be helpful, security issues clearly remain in the forefront'.

In the chapters that follow on Sri Lanka, Nepal and Bangladesh, Destradi offers a broad history of India's relations with these countries to demonstrate the successes and failures of India's purported hegemonic strategy. These chapters provide brief and useful, but often clumsy introductions to the history of relations between India and its smaller neighbours. Destradi sweeps through India's disastrous military involvement in Sri Lanka's civil war to the painful democratisation that led to a Maoist government in Nepal and New Delhi's frustration with the emerging security threats from and poor relations with Bangladesh. Destradi seeks to demonstrate a linear connection between India's 'hegemonic strategies' with these countries and its successes and failures. However, in offering this broad sweep of history, Destradi rarely presents a cogent analysis of the drivers of the relationships.

Critically, Destradi fails to place India's South Asia policies within the framework of its grand strategy which is heavily skewed towards Pakistan, China, non-alignment and its great power ambitions. Moreover, there is a distinct failure to mention, let alone explore, shortcomings within India's foreign policy, such as poor planning, lack of a regional vision, insularity and influence of vested ethno-religious interests, which have resulted in some of New Delhi's failures in Sri Lanka, Nepal and Bangladesh. But Destradi's greatest flaw is that she fails to explore the deeper ethnic and religious drivers of India's relationship with these three countries. Without examining these issues, even Destradi's narrowly focused central thesis of demonstrating India's hegemonic foreign policy cannot be fully assessed or

explained. The result is a book that, while it demonstrates that India has largely failed to translate its overwhelming power into influence as a hegemon in South Asia, makes a limited contribution to a thin body of literature on India's South Asian policies that is in dire need of some meat. ■

BOOK REVIEW

The Australian Army from Whitlam to Howard

John Blaxland, Cambridge University Press, 2013,
ISBN 9781107043657, 434pp, \$59.95

Reviewed by Bob Lowry

As the title neatly encapsulates, the Army is an instrument of politics and this book concerns the use of the Australian Army during the period embraced by these two political leaders. As Blaxland clearly articulates, armies do not exist in isolation; they are a microcosm of their own societies and operate within their own and other societies in conjunction with other forces — friendly, hostile, and vacillating under conditions at home and abroad that demand constant adaptation and change.

Blaxland describes the way the Australian Army adapted from the end of 'forward defence' to 'continental defence' post-Vietnam to a hybrid version of these two concepts in the Howard era to meet economic and political imperatives. However, this book is not about defence policy or grand strategy. It is not concerned with whether forces should have been committed to Afghanistan or Iraq or elsewhere except in so far as this shaped the nature of the forces deployed and the conditions under which they operated.

The Australian Army from Whitlam to Howard is based on secondary sources, interviews, peer reviews and contributions, and the author's own experience as an Australian Army officer. Blaxland is a Senior Fellow at the Strategic and Defence Studies Centre at ANU, holds a PhD in War Studies, and is a 28-year Army veteran with service in East Timor, the US, Thailand and elsewhere. Because of its contemporary nature he did not have access to primary sources.

Blaxland deftly outlines how the Army maintained its professionalism during the lean years which saw it shrink to four operationally ready infantry battalions and then gear up to meet the intensifying challenges from 1999 onwards. He also captures the dedication and courage demonstrated by those committed to operations without descending into chauvinism.

He ascribes the Army's success to five main factors, the first of these the quality of individual training and the deepening of joint service officer education and training along with a belated capacity to capture and incorporate lessons learned. To these he adds a continuing commitment to collective training and exercises designed to validate doctrine and individual education and training. Other factors include the maintenance of the tribal professional corps and specialisations that are the building blocks of the Army. Ties with allies and regional partners that prevented the Army from becoming inbred during the lean years enhanced its capability and provided invaluable understanding and contacts when the shock of 1999 stretched the Army to its limits. The final factors identified are the Army's societal roots which provide its volunteers and nurture its families in times of stress.

Howard's election in 1996 gave the Army no reprieve until Indonesia decided to resolve the East Timor question under UN auspices. When Indonesia permitted foreign forces to assume responsibility for security following the ballot, the Army deployed as the lead element of a 22-nation UN-authorized interim coalition. Although the success of INTERFET validated much of the Army's doctrine and training and its investment in alliances and regional relations, it also highlighted glaring inadequacies, particularly in command and control and logistic support.

The government subsequently allocated more money to bolster the Army, particularly after 9/11 (2001), while operational commitments to 'wars of choice' and regional peacekeeping ushered in a period of intense operations that has only recently abated. These operations also saw a return to classic counterinsurgency doctrine with the emphasis on undermining the legitimacy of the insurgents, winning hearts and minds, and hunting down the insurgent leadership.

Blaxland also points to tensions within the Army resulting from political constraints as the government sought to balance its international obligations with its imperative not to trigger conscription or imperil its electoral prospects due to an unacceptable rate of casualties. This sometimes affected morale and international status when, for example, troops on one occasion could not go to the assistance of British forces in Iraq because of restrictive rules of engagement or advisers in Afghanistan were not permitted to accompany their forces on operations.

Blaxland covers many other debates and the Army's extensive domestic and overseas operations and commitments in this well-written and comprehensive work. *The Australian Army from Whitlam to Howard* will be of interest to members and the families of those who have served in the Army in this period, military buffs, and citizens interested in the practicalities of using the Army as an instrument of national policy. It will serve as a valuable basic reference book for years to come. ■

BOOK REVIEW

Every Nation For Itself: Winners and Losers in a G-Zero World

Ian Bremmer, Portfolio Penguin, 2012,
ISBN 9780670921058, 217pp, \$22.99

Reviewed by Ben Moles

In *Every Nation For Itself: Winners and Losers in a G-Zero World* Ian Bremmer, President and founder of the political risk research and consultancy firm Eurasia Group, offers an insightful overview and useful guide for the general reader and armchair enthusiast of international affairs as to what he perceives as the fundamental challenge to the extant international system and explores the implications of this in an uncertain future — *a G-Zero World*.

Bremmer's thesis paints a rather bleak realist portrait of an anarchic global environment and international system that, over the next decade and perhaps slightly beyond, will be characterised by a deficit in (US) global leadership, a lack of cooperation between states and institutional paralysis within major global institutions in a world. At the same time, there will be a shift in the nature of threats likely to face states, and the emergence of predominantly non-traditional security challenges that, like globalisation, will transcend international borders. In essence, this is the world of the international relations realist — this is *every nation for itself*.

Bremmer predicts that the problems inherent within the uncertain transformations of the current international system — with an absence of (US) leadership being paramount and the inability to cooperate being secondary — are likely to have a greater impact on the severity, magnitude and effects originating from these emerging non-traditional security challenges. In stark contrast to the stability of the post-World War II US-led Western liberal international world order we have known to this point, he contends that this will be a G-Zero World in a state of ‘tumultuous change’. Yet, what will inevitably be viewed as risks by some countries, companies and organisations will present opportunities for others; ultimately, choice, he asserts, is the key that will separate the *winners and losers*.

Every Nation For Itself is structured in six chapters and follows a progressive line of argument commencing with an explanation of Bremmer’s concept of the G-Zero. The second chapter presents a slightly long winded history of how we arrived at the G-Zero beginning at the end of World War II. The third assesses the impact of the G-Zero on a diverse set of issues ranging from the global market and interstate/intrastate conflict to climate change and natural resource security before progressing to the fourth, highlighting what this will mean and how this will determine the winners and losers in a G-Zero World. For this reader, the most interesting chapter is the fifth, which asks ‘What comes Next?’ The chapter then proposes, examines and evaluates four ‘likely’ plus one ‘wild card’ future scenarios that will stem from it, concluding that a fragmented ‘world of regions’ is most likely. The sixth and final chapter, ‘G-Zero America’, is unquestionably aimed at the intended target audience of this book — those in the US, in particular those walking the corridors of power, and a wider ‘Western’ audience more generally.

The message of this book is quite clear. Almost drawing a direct parallel to the choice the US was left facing at the end of World War II between ‘retreating into isolationism or expanding its power abroad’, Bremmer subtly alludes to the point that, yet again the US stands at a crossroad but, ‘Invictus’-style, reassures the reader that the US is master of its fate that, to quote Thomas Paine, ‘We [the US] have it in our power to begin the world over again.’

As enjoyable a read as *Every Nation For Itself* is, there are a few criticisms worthy of mention. First: Bremmer adopts a slightly romanticised, or at least extremely US-centric view concerning both the success and benevolence of US global leadership/stewardship and the achievements of international institutions/cooperation, neither of which particularly detracts from the quality of the analysis overall.

Nevertheless, following this point is a subsequent criticism. Because of the US-centric view he adopts, the main premise of the argument seems to be that, at the heart of the problem (an inability to cooperate in the face of emerging non-traditional security challenges) is a deficit in (US) leadership and that therein can lie its solution. However, this argument could very easily be turned on its head: the key change is not necessarily a decline in (US) leadership exacerbating these challenges, but the very different nature of these emerging non-traditional security challenges themselves (within a globalised environment), impacting on and leaving the concept of (US) leadership moribund.

Finally, the main criticism: in his introduction to the book, Bremmer qualifies 'This book is not about the decline of the West. America and Europe have overcome adversity before ... Nor is this book about the rise of China and other emerging-market players.' However, as the book progresses, this theme slowly but surely emanates from the pages so obviously that it makes the reader question the inclusion of the statement to the contrary at all to begin with. Despite protestations otherwise, this book is, in fact, thematically addressing the question surrounding the decline of the US and the rise of China.

Every Nation For Itself is an easy read and the argument is coherent, straightforward and simple to follow; this is certainly not a book furnished with scholarly terminology in which a degree in international relations or economics is a necessary prerequisite. In recommending this book, I would add that, in supplement and complementary to it, those who have had their interest whetted by the themes Bremmer explores but are left wanting more should also refer to the US National Intelligence Council's recent publication 'Global Worlds 2030: Alternative Worlds'. ■

BOOK REVIEW

The Valley's Edge: A Year with the Pashtuns in the Heartland of the Taliban

Daniel R. Green, Potomac Books, 2012,
ISBN 9781597976947, 288pp, \$29.95

Reviewed by Timothy Moore

Modern Western militaries arguably need political capability — not to ensure internal ideological purity, but to identify, analyse and engage the politics of an operational area and secure peace. A successful war degrades foreign government, and the burden of stabilisation and restoration often falls on occupying forces. Possessing a political capability allows that force to move towards a sustainable peace. *The Valley's Edge* by Daniel R. Green is a book about America's political operations in Afghanistan which argues for a political capability in the modern Western military force.

The Valley's Edge spans the decade that began with the attacks of 11 September 2001 and Green recounts his experiences as a newly appointed Pentagon public servant during the attacks. The narrative then moves quickly to America's operations in Afghanistan. The book draws from Green's journal and official reporting to vividly portray his time as a civilian political advisor with a Provincial

Reconstruction Team (PRT) in Uruzgan province from 2005 to 2006. The final section describes Green's return to Afghanistan as an officer in the US Marines from 2009 to 2011.

Green's story focuses on the decisions and activities of his PRT and their place within the wider US effort. He offers war stories of missions and projects, provides character sketches and also explains the historical context of the operation. The stories capture the essence of front-line decision-making, constrained by both intelligence and time. Green intersperses the stories with his thoughts and comments on the events, US policies and characters of Afghanistan. His observations are a mix of contemporary reactions and retrospective commentary.

The power of *The Valley's Edge* lies in its structure as a memoir. It is easy to read and draws the reader along effortlessly. Green delights in describing the landscapes and people he encountered. He does not lecture on counterinsurgency theories. Instead he portrays the way diplomats, aid bureaucrats, political advisers and military forces worked together — and failed to work together — in Afghanistan.

Green's writing is a mix of strident patriotism, informed criticism and sympathy for Afghans. He introduces himself as a former Bush presidential campaign worker convinced of the justice of the Afghanistan war. At every stage he hopes for US success. However he is not blind to the US failures he has lived through and displays genuine sympathy for the Afghans. Despite this, Green remains committed to his patriotic convictions throughout. He is neither a myopic warmonger nor an anti-war activist. His interest lies in the achievements of the US and its allies in Afghanistan, successful or otherwise, and how these could have been improved.

The main lesson that Green draws from his experience is the need to understand and engage with local politics to win lasting peace. He makes a compelling case for political capability to be integrated into military operations. This capability must understand and engage often complex and intransigent local and regional polities during the operation. Green then argues that achieving this capability requires the combination of public and military services. His work as both a public servant and military officer lends authority to this point.

Green recognises the contributions and limitations of both public and military services. The laundry lists of USAID-funded projects which give no consideration to indigenous capability or sustainability are duly criticised. The US infantry and Special Forces are praised for their work creating a 'security bubble' for his PRT. At the same time he notes the military's inclination to do what it does best: kill the enemy and destroy their networks. For that reason he does not believe that the military, acting alone, can secure peace in Afghanistan.

The Valley's Edge provides readers with food for thought from the perspective of a man with unique experiences. It shows political capability at work in a complex war. The narrative of the memoir acknowledges the complexity of the situation, avoids theorising and draws out important lessons. Australian Army commanders and planners would do well to read this book as it will assist them to understand how best to exploit and support the Australian Defence Organisation's political capabilities on operations. ■

BOOK REVIEW

*Pacific 360°: Australia's Battle for Survival in World War II*¹

Roland Perry, Hachette, 2012,
ISBN 9780733632778, 512pp, \$50.00

Reviewed by Wing Commander Mark Smith

When I first pick up a book I usually read the cover flap to gain some understanding of its subject matter. The cover flap of Roland Perry's *Pacific 360°* told me that, 'In the dark days following the 1941 fall of Singapore ... Churchill was demanding our troops stay in North Africa and Greece ...' This did not bode well!

Next, with books of this ilk, I read the preface and introduction to gauge the themes, premises and arguments the author intends to convey to the reader. This sets a framework that I can use to judge the success of the book and how well the author achieves his aim. I was to face further disappointment with this book which contained neither preface nor introduction.

So what is this book about? According to the cover flap, it is '... an intensely revealing account of Australia's role in the Pacific War ...' Considering that the book contains only 465 pages of narrative, I wondered how it could cover such a complex subject with any degree of depth. Unfortunately, my verdict was ultimately that this the book had failed in its stated mission.

Pacific 360° attempts to augment the recent populist theory that a 'Battle for Australia' was waged in the Pacific region, a theory ably discounted by Dr Peter Stanley.² Perry makes much of the dispute between the Japanese Army and Navy over plans to invade Australia. Some of his points in this discussion are unreferenced and it can only be assumed that these are his own conclusions. The book's 93 chapters are divided into eight parts with parts four and six titled 'The Battle for Australia July – September 1942' and 'The Battle for Australia 1943' respectively, reinforcing this theory.

At times the writing tends towards a 'Boys' Own Annual' style with Australians described as 'ANZAC warriors', while their opponents the Japanese 'slinked away'; aircraft are 'the bigger beasts of the air', the enemy is 'duped' and 'pulverised' — just a few of the highly colourful phrases that occur throughout the book. Perry attempts to tell his story in conversational style, emulating authors such as Peter Fitzsimons; however, this approach becomes confused as this book attempts to describe too broad a range of action and, consequently, does none of these actions justice.

The Battle for Kokoda is essentially placed at the forefront, occupying the bulk of the book, some 100 pages. But even here Perry has succumbed to some of the myths of Kokoda, primarily that the Australian forces were significantly outnumbered.³ Unfortunately other equally important engagements are glossed over, their complexities and the achievements of their protagonists diminished in comparison. The enormously significant Milne Bay, Gona, Buna and Sanananda are limited to a few pages each. Sections covering Wau and the ensuing fight through to Salamaua are also short, as are details on Nadzab, Lae, Finschhafen and Sattelberg. There is no mention of the coastal trek from Finschhafen north and west through Sio to Madang. Even Shaggy Ridge is restricted to one short paragraph. While numerous place names are mentioned the book, the only map is a large-scale map of the Pacific Ocean divided into the operational areas. This is a significant omission given the level of detail the author is trying to convey to the reader.

For anyone with an interest in the RAAF and RAN operations in this theatre, the book falls woefully short on detail, often limited to mentions of support provided by 'allied' air forces or naval units. While the author describes various actions resulting in the award of the Victoria Cross, Flight Lieutenant Newton's award is an obvious omission considering that the book '... takes you inside the horrors of Australian POW camps ...'

Pacific 360° would have benefited from some thorough proof-reading to eliminate fundamental errors such as the glaring mistake on the cover flap and a reference to John Curtin '... missing eight hours, wandering around ... Mt Ainslie, a few kilometres away ... across Lake Burley Griffin'. Lake Burley Griffin, of course, was not constructed until the early 1960s. Further, on page 371, the author refers to '... Eather's 25th Battalion ...' entering Lae. Eather commanded the 25th Brigade which included the 2/25th Battalion, not the 25th Battalion, a totally different unit. Finally, from an Air Force perspective, on page 408, "There are drawbacks in the lines of communication between [Air Vice Marshal] Jones and [Air Vice Marshal] Bostock," Blamey said, referring to the chiefs of the United States' and Australia's air forces.' There were certainly difficulties between Jones and Bostock, but both were senior leaders in the RAAF, neither being chief of the United States' air forces.

Overall, I found this book disappointing in that it failed to provide '... an intensely revealing account of Australia's role in the Pacific War ...' primarily because it glossed over an enormous number of actions and issues that were as important to the allied victory as Kokoda. I would hesitate to recommend this book to anyone with even a modicum of interest in the Pacific War, even as a primer. ■

ENDNOTES

- 1 The paperback version of this book is titled *The Fight for Australia: From Changi and Darwin to Kokoda - Our Battle for Survival in World War II*
- 2 See Peter Stanley, 'What is the Battle for Australia?' *Australian Army Journal*, Vol. iv, No. 2, pp.17 -33.
- 3 See Peter Williams, *The Kokoda Campaign 1942 - Myth and Reality*, *Australian Army History Series*, Cambridge University Press, Melbourne, 2012.

TITLES TO NOTE

Anzac's Long Shadow

James Brown, Redback, 2014,
ISBN 978163956390, 192pp, \$19.99

Defence analyst and former army officer James Brown believes that Australia is expending too much time, money and emotion on the Anzac legend, and that today's soldiers are suffering for it. Vividly evoking the war in Afghanistan, Brown reveals the experience of the modern soldier. He looks closely at the companies and clubs that trade on the Anzac story. He shows that Australians spend a lot more time looking after dead warriors than those who are alive. We focus on a cult of remembrance, instead of understanding a new world of soldiering and strategy. And we make it impossible to criticise the Australian Defence Force, even when it makes the same mistakes over and over. None of this is good for our soldiers or our ability to deal with a changing world. With respect and passion, Brown shines a new light on Anzac's long shadow and calls for change.

Justice in Arms: Military Lawyers in the Australian Army's First Hundred Years

Bruce Oswald and Jim Waddell (eds), Big Sky Publishing, 2014,
ISBN 9781922132505, 575pp, \$49.99

Justice in Arms brings to life a fascinating and important element of Australia's legal history — the role of Army legal officers in Australia and in expeditionary operations from the Boer War to 2000. This is a comprehensive and absorbing history which describes the dynamic interaction of institutional and political imperatives and the personalities who managed this interaction over the decades. It is populated by colourful characters and legal luminaries and demonstrates that military justice is rightly concerned with discipline and cohesiveness. Reflecting broader societal norms, it is also concerned with the rule of law and respect for the rights, liberties and fair treatment of those who serve in the armed forces.

Justice in Arms describes the extraordinary contribution of Army legal officers to both the profession of arms and the development of the law, charting the evolving personal and structural relationships between Army legal officers and command dictated by the changing legal needs of the Army and the broader Australian Defence Force. Today Army legal officers apply, adapt and shape the law to meet evolving needs in peacetime and during armed conflict and peace operations, ensuring the legitimacy of military action and the maintenance of domestic and international support for national objectives.

Redeployment

Phil Klay, Allen & Unwin, 2014,
ISBN 9780857864239, 291pp, \$29.99

Redeployment takes readers to the frontlines of the wars in Iraq, asking us to understand what happened there, and what happened to the soldiers who returned. Interwoven with themes of brutality and faith, guilt and fear, helplessness and survival, the characters in these stories struggle to make meaning out of chaos. Written with a hard-eyed realism and stunning emotional depth, *Redeployment* grapples with the human costs of war.

Big Guns, Brave Men: Mobile Artillery Observers and the Battle for Okinawa

Rodney Earl Walton, Naval Institute Press, 2013,
ISBN 9781612511306, 264pp, US\$36.95

Intended as a springboard for an amphibious invasion of Japan, the conquest of Okinawa was the largest, bloodiest battle of the Pacific War and the greatest air-sea battle in history. The scope and intensity of the desperate 82-day battle, however, were overshadowed by the euphoria of VE day, the sudden, terrifying end of the war with Japan following the dropping of atomic bombs on Hiroshima and Nagasaki, and history's focus on the dramatic fight for Iwo Jima. While other books about Okinawa have emphasised the role of infantrymen, armour and US Marines, this work takes a fresh perspective by focusing on the vital role of the US Army's forward artillery observers. These men were the eyes and ears of the American artillery and among the least-recognised heroes of the war. Divided into teams consisting of four or five men led by an artillery lieutenant, these observers would spend three days on the front lines directing artillery against enemy positions, return to their artillery battery for three days, and then rotate up to the line of battle again. While trying to maximise the damage inflicted on the enemy, the men also had to deal with the ever-present possibility of firing on their own forces. The ability to shift artillery fire throughout the battlefield was a new development in World War II, and its evolution is fully examined in this book. Ultimately, author Rodney Walton demonstrates that US artillerymen matched Japanese gunners in intensity and surpassed them in effectiveness because their forward observers were able to provide a much shorter response time to requests for artillery support.

War Dog

Damien Lewis, Hachette, 2013,
ISBN 9780751553475, 304pp, \$29.99

After he was shot down in the skies over France during a daring mission over the trenches in the winter of 1939, airman Robert Bozdech stumbled across a tiny German shepherd puppy while engaged in his own nail-biting escape from no man's land. He hid the dog, which he named Ant, inside his jacket, and from that

moment an unbreakable bond was formed. In the years that followed, Robert and Ant would save each other's lives many times over. They flew together with Bomber Command over targets in Germany and beyond, both wounded in the line of duty and, when Ant was eventually grounded by the RAF top brass, he waited patiently on the runway for his master and his fellow pilots to return from each and every sortie. Perhaps inevitably, Ant became the mascot for Robert's squadron, the only such mascot to fly on combat missions, or to suffer so many brushes with death under enemy fire. While French by birth, but British by his master's adopted nationality, by the end of the war Ant had become a very British hero — and it was only right that he should be awarded the Dicken Medal, the 'Animal VC'.

Fred's War: A Doctor in the Trenches

Andrew Davidson, Short Books, 2013,
ISBN 9781780721811, 318pp, \$39.99

Fred's War tells the extraordinary story of the 1st Cameronians, who achieved fame not solely for their illustrious deeds on the battlefield, but also for selling the Great War's earliest front-line photographs. As the title suggests, the book also describes the exploits of Fred Davidson, their 25-year-old medical officer, one of the first doctors to win the Military Cross. His pictures are seen here for the first time, alongside those taken by his friend Lieutenant Robert Money and fellow officers. Using a unique approach blending 250 original photographs with contemporary narrative, the author, Fred's grandson, pieces together the story behind the pictures that have passed through his family for three generations, describing the men who fought with Davidson, the conditions in which they served, the battles they fought and the horrors they witnessed. From the parade ground at Glasgow's Maryhill to the brothels of Armentieres, the book offers an unusually intimate portrait of life within a band of brothers — the same men who later proudly dubbed themselves the 'Old Contemptibles'.

Secret Warriors: Key Scientists, Code Breakers and Propagandists of the Great War

Taylor Downing, Little, Brown, 2014,
ISBN 9781408704219, 448pp, \$32.99

The First World War is often viewed as a war fought by armies of millions living and fighting in trenches, aided by brutal machinery that cost the lives of many. But behind all of this a scientific war was also being fought between engineers, chemists, physicists, doctors, mathematicians and intelligence gatherers. This hidden war was to make a positive and lasting contribution to how war was conducted on land, at sea and in the air, and most importantly life at home. *Secret Warriors* provides an invaluable and fresh history of the First World War, profiling a number of the key figures who made great leaps in science for the benefit of 20th Century Britain. Told in a lively, narrative style, *Secret Warriors* reveals the unknown side of the war.

Lone Survivor

Marcus Luttrell with Patrick Robinson, Sphere, 2014,
ISBN 9780751555943, 400pp, \$22.99

In June 2005 four US Navy SEALs left their base in Afghanistan for the Pakistani border. Their mission was to capture or kill a notorious al-Qaeda leader known to be ensconced in a Taliban stronghold surrounded by a small but heavily armed force. Less than twenty-four hours later, only one of those Navy SEALs was alive. This is the story of team leader Marcus Luttrell, the sole survivor of Operation Redwing. Blasted unconscious by a rocket grenade, blown over a cliff, but still armed and still breathing, Luttrell endured four desperate days fighting the al-Qaeda assassins sent to kill him, before finding unlikely sanctuary with a Pashtun tribe who risked everything to protect him from the circling Taliban killers.

Stubborn Buggers

Tim Bowden, Allen & Unwin, 2014,
ISBN 9781743314425, 272pp, \$29.99

There was a place far worse than Changi - Singapore's Outram Road Gaol. For the POWs who endured it, deprivation here was so extreme that there really was a fate worse than death. *Stubborn Buggers* is the little known story of twelve Australian POWs who fought and survived the action in Malaya before the fall of Singapore and endured captivity and slave labour, then the unimaginable hardships of Outram Road Gaol. It is a story of how they dealt with the brutality of the Japanese military police, the feared Kempeitai. And it is the story of how they found a way to go on living even when facing a future of no hope and slow death.

The Chiefs: A Study of Strategic Leadership

Nicholas Jans with Stephen Mugford, Jamie Cullens,
and Judy Frazer-Jans, Centre for Defence Leadership and Ethics,
Australian Defence College, 2013, ISBN 9780987495860, 127pp

The objective of *The Chiefs* is to describe the leadership processes and culture at the most senior levels of the Australian military profession. This five-year study focused on the experiences of current and recently serving 3-star and 4-star officers in the Australian Defence Force. The study breaks fresh ground, not just in Australia but internationally. The vast majority of senior military leadership studies focus on what is done in the operational context. In contrast, *The Chiefs* analyses the senior role in the 'corridors of power' of the Australian military organisation and the central elements of the Department of Defence. *The Chiefs* is dedicated to the current and future senior teams who shoulder a significant responsibility as the stewards of the Australian military profession.

Jungle Warriors

Adrian Threlfall, Allen & Unwin, 2014,
ISBN 9781742372204, 320pp, \$32.99

Adrian Threlfall's *Jungle Warriors* is a unique examination of Australia's involvement in jungle warfare. Many historians agree that the Australian Army's World War II transition from the desert to the jungle was extremely challenging. There is also an acknowledgement that Australians are among the best jungle fighters in the world. But how did the Australian Army rise to the challenge? Many years ago, the eminent British military historian Michael Howard asked how an army adapts to the 'utterly unpredictable, the utterly unknown'. In 1941 jungle warfare was the 'utterly unknown' to Australian troops. The scale of the transition and the level of accomplishment by the men of the Australian Army over the course of the Second World War is clearly articulated by Threlfall in his *Jungle Warriors*. Threlfall examines the men's passage from the training camps in Australia to the battlefields of North Africa to Milne Bay, Kokoda and final victory over the Imperial Japanese Army in Borneo, Bougainville and New Guinea. Like any serious research in this field, *Jungle Warriors* also inevitably reveals the inadequate planning that resulted in the unnecessary deaths of so many Australian men. ■

NOTES FOR CONTRIBUTORS

The editors of the *Australian Army Journal* welcome submissions from any source. Two prime criteria for publication are an article's standard of written English expression and its relevance to the Australian profession of arms. The journal will accept letters, feature articles, and review essays. As a general guide on length, letters should not exceed 500 words; and articles and review essays should be between 3000 and 6000 words. Readers should note that articles written in service essay format are discouraged, since they are not generally suitable for publication.

Each manuscript should be submitted to the *Australian Army Journal* email address, dflw.publications@defence.gov.au. For more information see www.army.gov.au/Our-future

Please make sure your submission includes the following details:

- Author's full name
- Current posting, position or institutional affiliation
- Full mailing address
- Contact details including phone number(s) and email address(es)

Please also include the following fields in your submission:

- 100-word article abstract (please see the following abstract guidelines)
- 100-word author biography (please see the following biography guidelines)
- Acronym/abbreviations list

The article must be presented in the following format/style:

- Microsoft Word (.doc) or Rich Text Format (.rtf)
- 1.5 line spacing
- 12-point Times New Roman
- 2.5 cm margin on all sides
- Automatic word processed endnotes

General style

All sources cited as evidence should be fully and accurately referenced in endnotes (not footnotes). Books cited should contain the author's name, the title, the publisher, the place of publication, the year and the page reference. This issue of the journal contains examples of the appropriate style for referencing. When using quotations, the punctuation, capitalisation and spelling of the source document should be followed. Single quotation marks should be used, with double quotation marks only for quotations within quotations. Quotations of thirty words or more should be indented as a separate block of text without quotation marks. Quotations should be cited in support of an argument, not as authoritative statements. Numbers should be spelt out up to ninety-nine, except in the case of percentages, where Arabic numerals should be used (and per cent should always be spelt out). All manuscripts should be paginated, and the use of abbreviations, acronyms and jargon kept to a minimum. Australian English is to be used.

Abstracts

The most immediate function of an abstract is to summarise the major aspects of a paper. But an excellent abstract goes further; it will also encourage a reader to read the entire article. For this reason it should be an engagingly written piece of prose that is not simply a rewrite of the introduction in shorter form. It should include:

- Purpose of the paper
- Issues or questions that may have arisen during your research/discussion
- Conclusions that you have reached, and if relevant, any recommendations.

Biographies

Your biography should be a brief, concise paragraph, whose length should not exceed eight lines. The biography is to include the contributor's full name and title, a brief summary of current or previous service history (if applicable) and details of

NOTES FOR CONTRIBUTORS

educational qualifications. Contributors outside the services should identify the institution they represent. Any other information considered relevant—for example, source documentation for those articles reprinted from another publication—should also be included. ■